Stream and Riparian Areas Restoration Plan

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THE WATERSHED COMPANY

FINAL

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City of Issaquah
Stream and Riparian Areas Restoration Plan

1. INTRODUCTION

Salmon and preservation of riparian resources have long been legacies of the City of Issaquah and its citizens - from the native peoples who fished in the headwater streams of Lake Sammamish to the preservation of the Issaquah Hatchery to the annual Salmon Days Festival and City-sponsored stream restoration projects. The City established the Issaquah Creek WaterWays Planning Team to ensure that City policies and projects are maximizing efforts towards resource enhancement. The group, consisting of staff from the Parks and Recreation, Planning, and Public Works Engineering Departments, initiated this *Stream and Riparian Areas Restoration Plan.*

The purpose of this study is to evaluate and describe existing conditions along the major streams in the City and to identify areas in need of restoration. The study identifies and scores 74 potential projects; conceptual restoration designs are included for 28 of those projects (Appendix A). Site-specific needs are considered, as well as actions which would improve overall system-wide ecological functions. For this study, the term “site-specific” covers a range, varying from streambank sections 40 or 50 feet long up to sites many acres in size and including broad floodplain areas in addition to stream channels and banks.

The streams included in this study are Issaquah Creek (main stem), North Fork Issaquah Creek, East Fork Issaquah Creek, Tibbetts Creek, Laughing Jacobs Creek, and Lewis Creek (see overview and inset maps, Figures 1a-1f). Human activity and development have significantly altered the natural resources in the Issaquah area. Early settlers cleared and farmed the area, drained wetlands and channelized creeks. Coal mining, forestry, the construction of Interstate 90 (I-90), the lowering of Lake Sammamish from Sammamish River dredging and lake outlet reconfiguration by the U.S. Army Corps of Engineers, and ongoing urbanization have had significant impacts on the natural environment and overall character of the local stream systems.

Issaquah Creek has been identified by government agencies (Washington Department of Fish and Wildlife, Washington State Parks, City of Issaquah, WRIA 8 Forum and Steering Committee, King Conservation District), tribal organizations (Northwest Indian Fisheries Council), and non-profit organizations (Mountains to Sound Greenway Trust) as a high priority area for restoration. This study identifies, evaluates, and ranks specific prospective project areas within the City for restoration of stream and riparian corridors, including wetlands, shorelines, floodplains, and associated buffers. Where applicable, these potential projects are cross-referenced with other previous efforts.

2. METHODS

This *Stream and Riparian Areas Restoration Plan* was initiated with a review of existing information provided by the City of Issaquah, including maps; aerial photos; resource inventories of streams, wetlands, soils, flooding, and other natural processes; as well as goals and management issues identified through other planning efforts. Field maps were prepared that showed restoration projects identified in previous studies, including the 2003 *Stream Inventory and Habitat Evaluation Report* prepared for the City by Parametrix, and the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*

(WRIA 8 Steering Committee and Forum 2005), as well as existing wetland inventories. Reach systems used in these previous studies also were shown.

The existing information and literature review was followed by a comprehensive and systematic on-site evaluation of each of the stream sections included in the study. The entire lengths of Issaquah Creek, including the main stem, North Fork, and East Fork within the City limits, were inventoried, photographed, and examined in terms of restoration needs. Similarly, sections of Tibbetts Creek, Laughing Jacobs Creek, and Lewis Creek within the City limits also were evaluated. In particular, the lowermost sections of Lewis Creek were scrutinized since they have only recently been annexed into the City, and the City does not have much history with or accumulated information about them.

Previously identified restoration projects were reviewed and new prospective restoration needs identified. This resulted in a preliminary list of potential restoration projects. Proposed projects were defined as In-stream (S), Wetland (W), Riparian Areas/Buffers (B), and/or Shoreline of the State (SMP) projects, with most being a combination of several types. After input and initial review from the City representatives, additional field work was conducted to complete the evaluation, refine design concepts, and further define project reaches and site-specific locations. A project summary field form/checklist was completed for each prospective project. These are included in Appendix D of this report.

After identifying and describing projects throughout the City on various streams and stream reaches, each proposed action was ranked using evaluation criteria developed for this study with City staff input and compiled on a questionnaire form. Evaluation criteria were grouped into three sections: ecological considerations, feasibility considerations, and other considerations/ public benefits. Scoring was based on assumptions and project understanding within the context of conceptual level project elements, needs, and requirements. Provision for a weighting factor was included in the event that it was appropriate to give certain criteria more or less emphasis than others. The weighting factor was not used in the initial ranking and each of the criteria was given equal weight, though such weighting may come into play at a later time. For example, grant funding is often directed towards certain goals and objectives such as endangered salmon recovery, community involvement, or outdoor recreation. There is also a provision for any overriding, compelling reasons to either do or not do a particular project. This provision and the weighting factor could be used in the future to select and match particular projects to specific funding sources or to address priority needs and interests as they are identified.

A sample ranking form is included as Figure 2 and overall ranking results are summarized in Table 1 in Section 5 of this report. The individual ranking forms with tallied scores for each project are included in Appendix C of this report. Final rankings for project priorities determined which projects would be developed to the conceptual plan level.

A total of 74 projects were identified and scored, and 28 were selected for the next phase of conceptual design. Concept plans were developed and include a vicinity map, brief narrative, photographs, property information display, and conceptual drawings, with design details and cross-sections as applicable. These concept plans are included as Appendix A of this report.

Potential Stream and Riparian Areas Restoration Projects in the City of Issaquah

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Site	Name	Type*
1	Right Bank Stabilization @ Sammamish Park Boundary	BS
2	Right Bank Secondary Channel @ Sammamish Park Boundary	CC/BS
3	**Microsoft Streambank Repair**	**BS**
4	**Issaquah Creek Log Placement below SE 56th Street**	**LWD/R/BS**
5	**Pickering Streambank Repair**	**BS/LWD**
6	**Pickering Cascades**	**CC**
7	**Bush Lane Properties**	**BS/LWD/R**
8	**Pickering Reach**	**LWD/BS/R**
9	**Pickering Wood Cover to Scour Hole**	**LWD/BS**
10	**Lower Issaquah Creek Bank Fabric Repair/Replacement**	**R**
11	Right Bank Riparian, I-90 to Gilman	R/LWD/BS
12	Left Bank Riparian, I-90 to Gilman	R
13	Main Stem Riparian, Gilman to Juniper	R/LWD
14	Left Bank Riparian Below Juniper	R/W
15	Riparian Enhancement @ Juniper Street Bridge	R
16	**Riparian Enhancement Upstream of Juniper**	**R/W**
17	**Log Structures @ School District Offices**	**LWD/BS**
18	**Backwater/Wetland @ School District Offices**	**R/W/CC**
19	**Cybil-Madeline Park**	**R/W**
20	**Armor Reduction & Wood Placement Below East Fork**	**BS**
21	Armor Reduction, Right Bank Below Dogwood	BS/LWD/R
22	Armor Reduction, Right Bank Above Dogwood	BS/LWD
23	Main Stem Armor Reduction Typical, Dogwood to Sunset	LWD/BS/R
24	Issaquah Riparian Neighborhood	R
25	Issaquah Apartments Riparian & Bank Stabilization	R/BS/LWD
25.5	Main Stem Riparian @ Newport	W
26	**Wildwood Trail Invasives Removal & Wood Placement**	**R/LWD**
27	**Johnson Property (Guano Acres) Floodplain Restoration**	**W/R/CC**
28	**Hatchery Intake Weir Modifications**	**CC**
29	Issaquah Right Bank Erosion Repair	BS/LWD
30	Main Stem Reach Scale Wood Above Diversion Weir	LWD
31	Left Bank Issaquah Bank Stabilization	BS/LWD/R
32	Right Bank Issaquah Side Channel	CC
33	South Issaquah Greenway Below Sycamore	R/LWD/CC
34	**Sycamore Backyard Revegetation**	**R**
35	**Squak Valley Park North**	**LWD/CC/W**
36	Wood Above Sycamore	LWD
37	Issaquah Left Bank Broken Culvert	CC
38	Issaquah Right Bank Off-Channel	CC
39	Issaquah Left Bank Riparian	R
40	**Squak Valley Park South**	**W/R/LWD/CC**
41	**Squak Valley Connector**	**W/R/LWD/CC**
42	**North Fork Reach Scale Riparian**	**R/W**
43	**NF Wood & Riparian @ E. Lake Samm.**	**W/R**
44	**NF Large Wetland @ Wellhead**	**W/R/CC/LWD**
45	**Front Street Interchange**	**CC**
46	NF Sedimentation Reduction @ Gravel Pit	CC
47	**NF Spawning Channel @ Gravel Pit**	**CC/LWD**
48	**Parks Maintenance Facility**	**LWD/R**
49	East Fork Riparian @ Rainier	BS/R/CC
50	East Fork "Darigold" Riparian, Rainier to Front Street	R
51	East Fork Backyard Revegetation	R
52	East Fork Back Yard Armor Reduction Typical	BS/LWD
53	East Fork Right Bank Office Riparian & Logs	R/LWD
54	East Fork Left Bank Riparian, Both Banks Wood	R/LWD
55	East Fork WSDOT - 4 Trees	R
56	Kelly Ranch Riparian	R/LWD
57	Tibbetts Bank Stabilization @ Carlson Site	BS
58	Squak Mountain Nursery Buffer	R/LWD
59	Tibbetts 0171 Trib. Passage @ SR 900	CC
60	Tibbetts Riparian SE 82nd, SE 83rd Area	R/BS
61	Coal Mine Tailings Revisited	R
62	Tibbetts Log Weirs Below SR 900, Wood for Cover	CC
63	**Lower Laughing Jacobs Creek**	**R/LWD**
64	**Laughing Jacobs Rock Berm Removal**	**BS/W**
65	Hans Jensen Campground Buffer	R
66	Lewis Creek Backyard Revegetation	R
67	Lewis Creek Backyard Armor Reduction Typical	BS/LWD
68	Lewis Creek Failed Bank & Yard Waste	BS/LWD
69	Lewis Creek - Gabions	LWD/BS
70	Lewis Creek - Gabion Ghosts	LWD/BS
71	Spooner Property, Lewis Creek Fish Passage	CC
72	Lewis Creek Eroded Bank Repair	BS/LWD
73	Lewis Creek Interstate 90 Fish Passage	CC

NOTE: Priority projects indicated by ***bold font***

*W=Wetland; BS=Bank Stabilization; LWD=Large Woody Debris; R=Riparian Vegetation; CC=Channel Creation/Relocation/Restoration

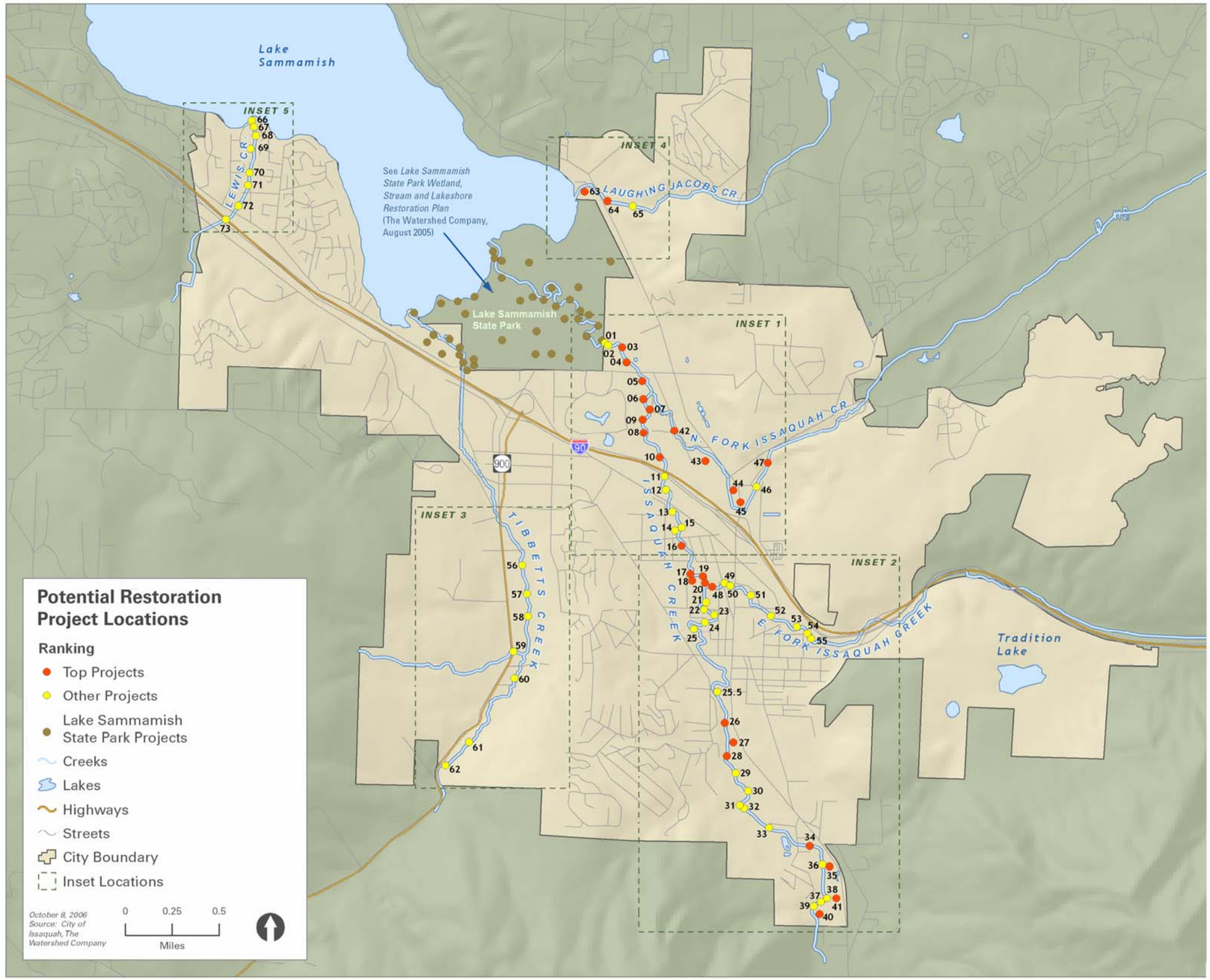

Figure 1a. Potential stream and riparian areas restoration projects in the City of Issaquah - overview.

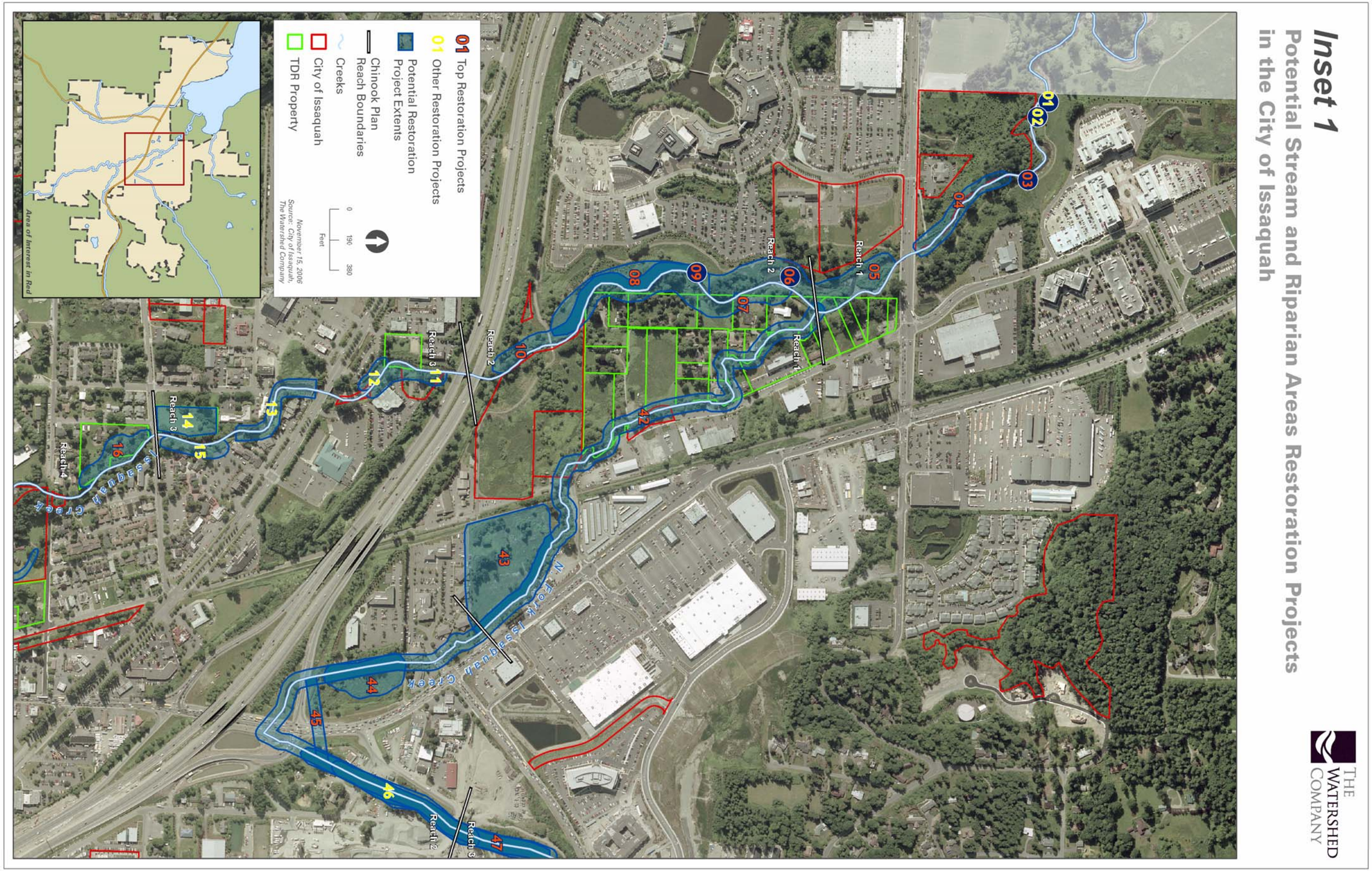

Figure 1b. Potential stream and riparian areas restoration projects in the City of Issaquah – Inset 1.

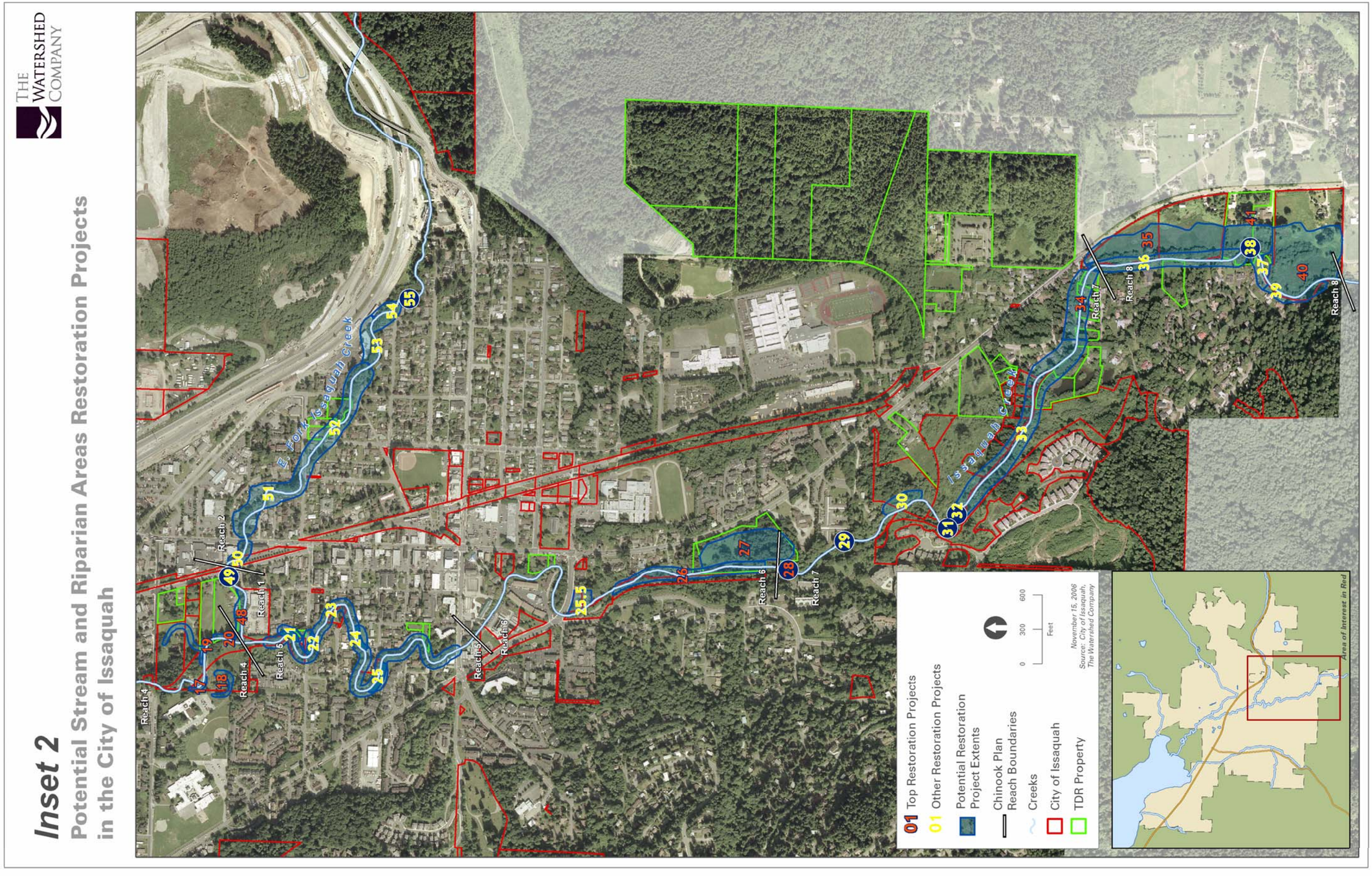

Figure 1c. Potential stream and riparian areas restoration projects in the City of Issaquah – Inset 2.

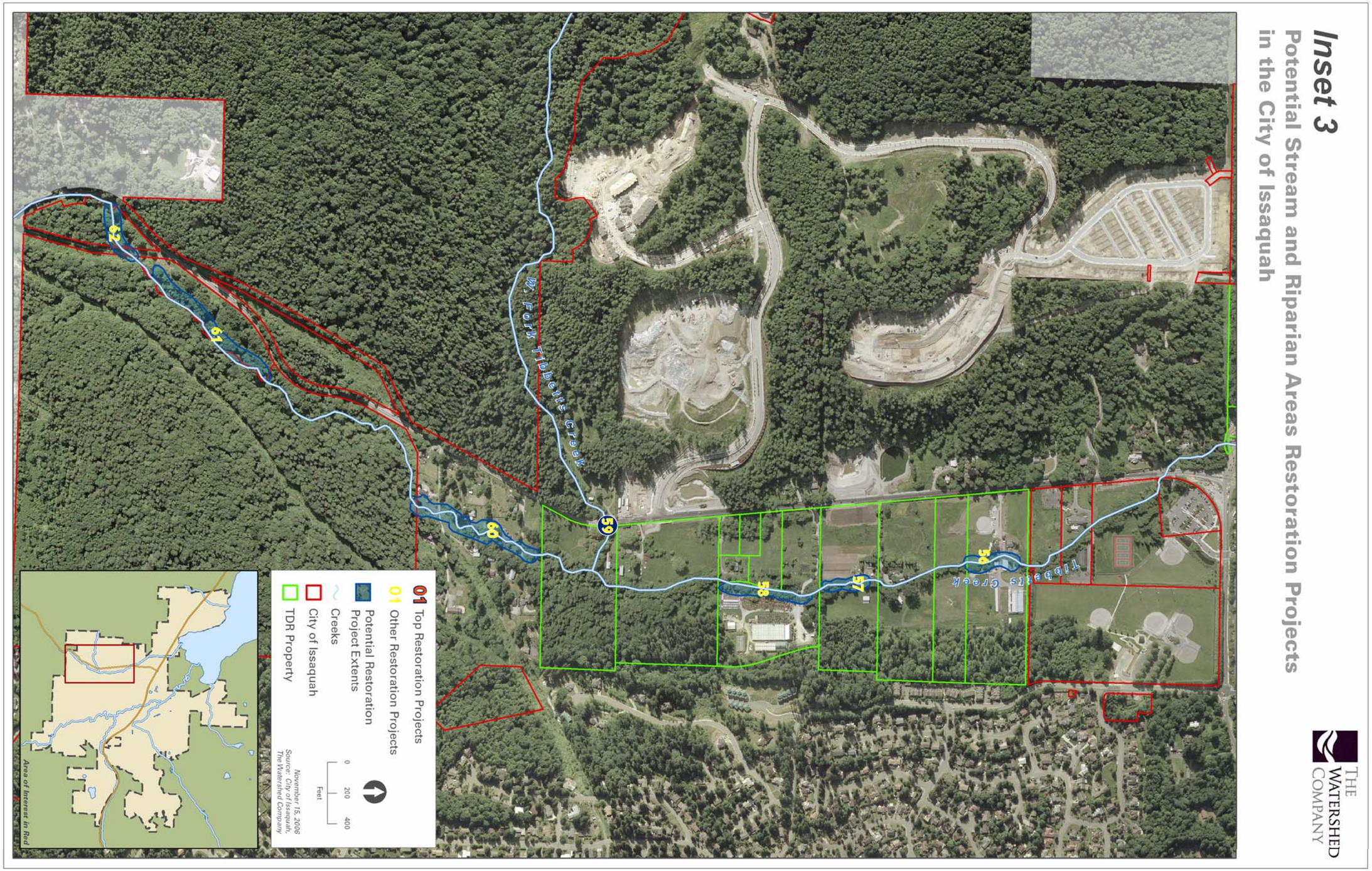

Figure 1d. Potential stream and riparian areas restoration projects in the City of Issaquah – Inset 3.

Figure 1e. Potential stream and riparian areas restoration projects in the City of Issaquah – Inset 4.

Figure 1f. Potential stream and riparian areas restoration projects in the City of Issaquah – Inset 5.

EVALUATION FOR _____ ISSAQUAH STREAMS RESTORATION PLAN

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)			
2. Potential for riparian habitat improvement (high = 5, low = 0)			
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)			
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)			
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)			
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)			
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 3, negative impacts/flooding/erosion = 0)			
SUB-TOTAL:			
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)			
9. Is the success of other projects dependent on this project? (yes =5, no = 0)			
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)			
11. Relative cost effectiveness (high = 5, low = 0)			
12. Relative maintenance/repair costs (low = 5, high = 0)			
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)			
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)			
SUB-TOTAL:			
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)			
16. Flood improvement potential (high = 5, low = 0)			
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)			
18. Amenable to education or interpretive uses (yes =5, no = 0)			
19. Amenable to community involvement (yes = 5, no = 0)			
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)			
SUB-TOTAL:			
GRAND TOTAL:			

Is there any overriding or compelling reason to do this project?	☐ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	☐ **No**	☐ **Yes**

Describe: _____

Figure 2. Sample ranking form.

3. OVERVIEW OF EXISTING CONDITIONS

As stated above, the study area included Issaquah Creek (main stem, North Fork, and East Fork), Tibbetts Creek, Laughing Jacobs Creek, and Lewis Creek within the City limits. The primary ecological need of the City's riparian corridors is an increase in overall biodiversity of plant communities and land cover types, which will contribute to proper stream functioning and enhance and encourage use by a variety of native wildlife species. Removal and management of invasive plant species, revegetation with native plant communities, improvement of fish habitat, restoration of wetland functions, and restoration of natural stream and floodplain hydraulic functions are the means to achieving this result.

As for streams throughout the region, City of Issaquah streams have been impacted by the entire spectrum of land use changes and attendant urbanization which has occurred over roughly the last century and a half. Land use in the Issaquah Creek and other City basins has been modified considerably from its original, old-growth forested condition. Although significant areas of second- and third-growth forest remain, single-family and multi-family residences, business and office parks, light industry, shopping centers, roadways including state highways and freeways, and some pasture and hobby farm areas now also comprise significant and ever-increasing land uses. These changes and impacts have occurred on all sides of the City's boundaries and at a variety of scales. Local problems include clearing and other land disturbances; development and increased impervious surface areas; channel encroachments; filling of riparian areas, wetlands, and floodplains; loss of native riparian vegetation; fish passage problems at road crossings; and increased stormwater runoff. Upstream and basin-wide problems include rural land use changes throughout the basin, such as deforestation that affects stream hydrology and water quality, groundwater withdrawals that affect base flows, regional spread of invasive and non-native vegetation, erosion and subsequent sedimentation, and others.

3.1 Issaquah Creek and Tributaries

The Issaquah Creek basin is located within the Lake Sammamish Watershed (as are all of the stream basins partially or wholly within the City) and encompasses approximately 61 square miles, including the North Fork, East Fork and Tibbetts Creek (Figure 3). Tibbetts Creek is referred to as a sub-basin of Issaquah Creek in the *Issaquah Creek Current/Future Conditions and Source Identification Report* (King County Surface Water Management Division 1991). Most of the basin is forested, with the remainder being developed or occupied by pastures, fields, and/or wetlands. The mixed deciduous/coniferous forests, streams, wetlands, and fields within the basin provide significant habitat values for a wide range of aquatic and terrestrial species.

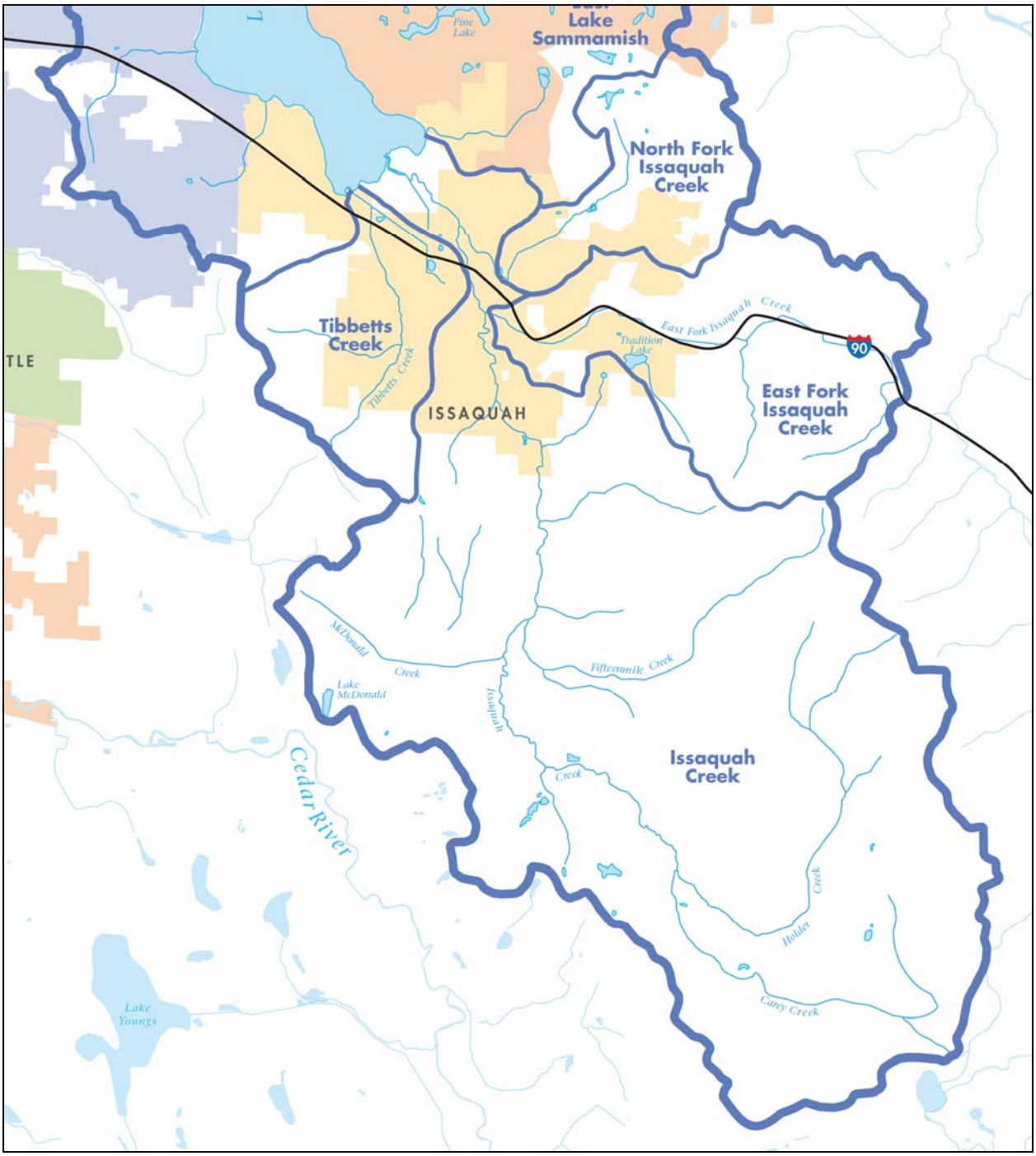

Figure 3. Issaquah Creek basin map.

Issaquah Creek and its tributaries are used by a number of salmonid fish species including chinook, coho, and sockeye salmon (including kokanee); cutthroat and steelhead trout; and occasionally bull trout. Large numbers of adult coho and chinook salmon return each year to the Washington Department of Fish and Wildlife's Issaquah Salmon Hatchery which is located along Issaquah Creek at River Mile 3.1, in the heart of the City. Many salmon are also allowed to pass upstream beyond the hatchery into the upper basin to spawn, making use of the

available spawning and rearing habitat. Adult upstream migrants need places to rest and hide from predators, as do juveniles. Some adult fish inevitably stop short of reaching the hatchery to spawn, so suitable spawning habitat below the hatchery is in high demand. Downstream juvenile migrants, as well as some juveniles who rear for longer periods within the stream, also need functional rearing habitat.

3.2 Tibbetts Creek

The Tibbetts Creek basin encompasses approximately five and a half square miles and borders the west side of the Issaquah Creek basin (see Figure 3). Tibbetts Creek is slightly more than four miles long and originates on Squak Mountain at an elevation of 1,080 feet. Headwater sections are steep and confined, flowing through ravines, with a broader floodplain developing about mid-way along its path to Lake Sammamish.

Efforts to restore Tibbetts Creek have already been underway for more than a decade. Mine tailings removal, relocation and restoration of 1,800 feet of stream channel, and numerous other in-stream and riparian habitat enhancement projects have been completed by both public and private interests.

Tibbetts Creek is used by the same salmonid fish species as Issaquah Creek and its tributaries, though chinook and steelhead use is only occasional, and bull trout use is infrequent throughout all of the City's streams. A variety of non-salmonid fish species also use these creeks.

3.3 Lewis Creek

The Lewis Creek basin encompasses approximately two square miles on the north side of Cougar Mountain, flowing off the mountain towards Lake Sammamish in a steep, narrow ravine. The upper portions of the basin lie primarily within the City of Bellevue, with a few areas still remaining in unincorporated King County. The lower basin, including all of the areas downstream of I-90, now lies within the City of Issaquah. The connected culverts under I-90 and adjacent to West Lake Sammamish Parkway to the north and Newport Way to the south are approximately 1,000 feet in combined length and constitute a complete barrier to upstream fish passage.

Between the base of Cougar Mountain at I-90 and Lake Sammamish, the stream gradient decreases to approximately four percent as the creek flows for approximately 0.6 mile across a broad fan of seismically uplifted lake bottom sediments (King County DNR 2006). This area is occupied by moderate-density residential development. Lewis Creek is used by kokanee and coho salmon, and cutthroat and steelhead trout. Of these, kokanee are the fish species of primary concern due to their decline throughout the Lake Washington basin in general and Lake Sammamish drainages in particular. Unlike many streams in these watersheds, however, Lewis Creek still maintains a relatively strong run of these fish.

3.4 Laughing Jacobs Creek

The Laughing Jacobs Creek basin encompasses approximately 3,600 acres (over five square miles), entering Lake Sammamish at the southeast corner. It includes two lakes, Beaver Lake and Laughing Jacobs Lake. These lakes, in addition to numerous wetlands throughout the basin, provide a level of natural detention in the system, resulting in less variable stream flows than in some nearby basins. Cutthroat trout are found more or less throughout the basin, and coho and kokanee salmon are known to use lower Laughing Jacobs Creek.

3.5 Previous and Proposed Projects

Examples of previous City-initiated enhancement projects are shown on Figure 4. The City typically undertakes a minimum of one stream restoration project each year. In addition, the Washington Department of Transportation and a large landowner have completed restoration projects on Tibbetts Creek. Over the last decade, the City-identified and -funded capital improvement projects (CIPs) have served as the primary vehicle for stream and riparian restoration in the City of Issaquah. CIP projects have included both ongoing creek restoration and enhancement efforts and efforts by the City to acquire and preserve permanent open space, including the Tibbetts Greenway, South Issaquah Creek Greenway, Hope Creek, and Sycamore area restoration projects. Detailed examples are presented in Appendix B of this report.

This *Stream and Riparian Areas Restoration Plan* proposes to restore and enhance the stream and riparian areas within the City to provide improved productive fish habitat, and make these areas more useful to other wildlife as well as people. In-stream and streambank habitat improvements include placement of logs and root wads, reductions in bank armoring; placement of spawning gravel; creation of pool-riffle sequences, complex off-channel and side channel quiet-water rearing areas; and improvements in fish passage conditions. A complex mosaic of native plant communities and habitats within and along the City's stream corridors is also envisioned to provide the basic requirements of food, cover, and water for a diverse assemblage of native wildlife types. Such native vegetation also contributes to fish habitat by providing shade, terrestrial insects as a food supply, the materials needed for a decomposition-based food chain, and a long-term supply to the channel of woody inputs which form pools and provide cover, stability, and complexity. Visual and passive access to the City's streams will be maintained, with native trees and shrubs dispersed throughout in a manner to maximize edge habitat values and wildlife use. These areas are planned to interface with humans in a way that is useful, respectful and low impact.

4. STREAM REACH DESCRIPTIONS & OVERVIEW OF POTENTIAL RESTORATION STRATEGIES

As stated above, a total of 74 projects were identified and scored. The general locations of these are shown on Figure 1a, *Potential Stream and Riparian Areas Restoration Projects in the City of Issaquah*. The approximate project extents are shown on the inset maps (see Figures 1b-1f). Following is a reach-by-reach description of the streams and associated potential restoration actions. The 28 sites that were determined to be priority projects are presented in greater detail in Appendix A of this report. It is also important to note that the projects that did not rank high enough to be considered priority projects for this study are still considered worthwhile and important elements for restoration of the overall stream systems.

For consistency, and where applicable, stream reaches as identified in the 2005 *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan* (Chinook Plan) are referenced to summarize existing stream conditions, management needs, and projects proposed in an effort to meet those needs.

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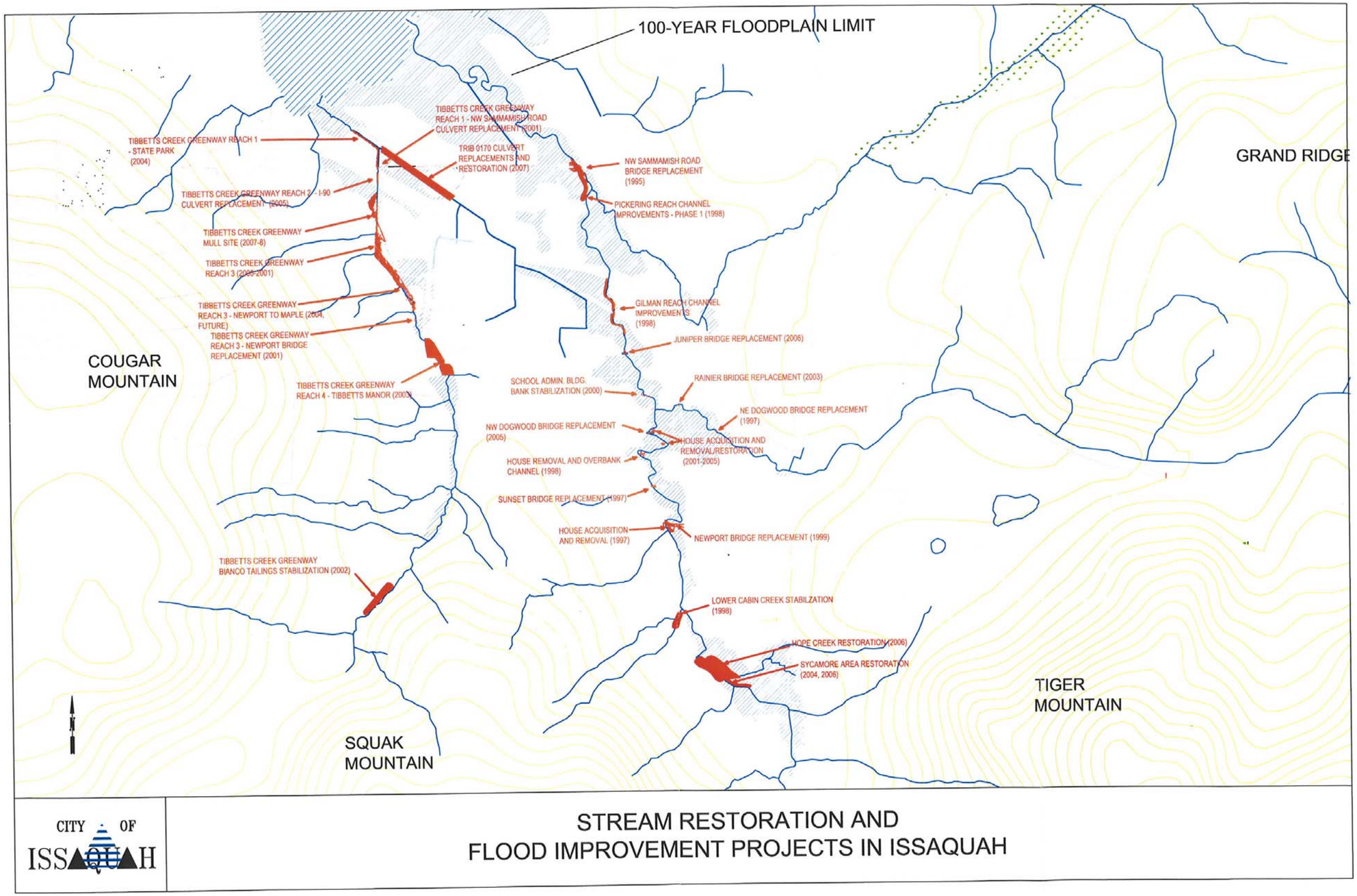

Figure 4. Stream Restoration and Flood Improvement Projects in Issaquah.

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4.1 Issaquah Creek

Reach 1 of the Chinook Plan extends along the main stem of Issaquah Creek from the mouth at Lake Sammamish in Lake Sammamish State Park to the confluence with the North Fork. Much of this reach lies within the Park and was addressed in the *Lake Sammamish State Park Wetland, Stream and Lakeshore Restoration Plan,* prepared in 2005 by The Watershed Company. The locations of projects evaluated as a part of that plan also are shown on Figures 1a through 1f.

Upstream of the Park, Sites 1 through 5 have been identified along this reach, with Sites 3 through 5 scoring high enough to be high-priority projects at this time. The streambanks along this reach are not particularly encroached upon by bank armoring or development, and the channel exhibits a fair amount of braiding with associated channel migration near the State Park boundary and near the mouth of the North Fork. The streambanks are generally fairly well-vegetated with shrubs and young trees; however, there are several areas of bank instability. The section extending downstream of SE 56th Street lacks diversity; it consists of a long stretch of straight, run habitat with only a few pieces of woody material that is needed to scour pools. All of the recommended projects for this reach involve the placement of fairly generous quantities of large wood in the channel. Sites 3 and 5 also have a strong bank stabilization component.

Reach 2 of the main stem, as identified in the Chinook Plan, extends from the North Fork confluence upstream to I-90, with the Bush Lane properties generally lining the right bank and with the Pickering Reach along the left. The Bush Lane properties consist of a scattered residential, floodplain area between the main stem of Issaquah Creek and the North Fork. Some parcels are largely cleared, with yards, fields, and encroaching invasive vegetation, and others are vegetated with shrubs and young trees in various stages of regrowth. The banks are relatively low, especially towards the downstream end, suggesting the potential creation of side channels in the vicinity where the main stem and North Fork converge. The Pickering Reach, along the left bank, has a slightly higher bank and is paralleled by a paved trail with dense, impenetrable blackberry thickets typically separating the trail from the creek. Several areas of vertical, eroded streambank occur along this section.

Habitat enhancements suggested for Reach 2 have included in-stream, riparian, floodplain, and wetland restoration; side channel and backwater creation; and hardened bank removal. Sites 6 through 10 are identified along Reach 2, with all of them scoring high enough to make the list of top priority projects for which concept designs have been prepared. Sites 7 and 8 are the more broadly defined Bush Lane properties and Pickering Reach projects, respectively, whereas Sites 6, 9 and 10 are more specifically located and defined. Site 10 follows up on previous projects and involves streambank restoration and revegetation through the replacement and repair of bank-stabilizing fabric followed by installation of native revegetation. The rest of the projects involve the placement of logs and root wads in the stream channel. Site 6 also improves fish passage and adds a short, but valuable, section of cascades. Sites 7 and 8 also include side channel, backwater, riparian, and floodplain elements.

Combined Chinook Plan Reaches 3 and 4 extend from I-90 to the East Fork confluence. With notable exceptions, the creek has been much more encroached upon by commercial and residential urbanization along these reaches, with increased bank armoring, decreased bank vegetation, and narrower, less functional buffers. Sites 11 through 20 were identified along these reaches, with Sites 16 through 20 rated as high priority. Site 16 was acquired by the City during the period this report was being prepared, and provides opportunities for bank armoring

reduction, log and root wad placement in the stream, invasive plant removal, and native revegetation for buffer restoration.

The projects recommended along these reaches are predominantly located at and adjoining those atypical parcels that still include relatively broad areas of functional and/or readily restorable riparian open spaces. Somewhat surprisingly, a cluster of comparatively undeveloped parcels has remained in the central core of the City along Issaquah Creek at and just downstream of the East Fork confluence. Sites 17 through 20 are all clustered in and around these parcels and, combined with lower East Fork Site 48, could form the basis for a future "Confluence Park," including removal of bank armoring; placement of in-stream large woody materials; accentuation of pool-riffle sequencing; removal of non-native, invasive vegetation; riparian buffer restoration including native revegetation; and trail, interpretive, picnicking, and play features consistent with park development. Site 17 would provide additional wood in the vicinity of a previous in-stream project. Sites 18 and 19 are riparian floodplain and wetland enhancement projects. Site 20 is a classic prototype for combination bank armoring reduction, sideslope softening, and log placement projects.

Continuing upstream, the urbanizing impacts along the banks of Issaquah Creek intensify along Chinook Plan Reach 5, extending from the East Fork confluence to the hatchery rack. The reach is characterized by dense and relatively uninterrupted residential development, mostly single-family lots. A pervasive characteristic of this reach is the intensive hard rock armoring which occurs along much of the streambank length, protecting homes from bank erosion and channel migration. Site 23 is a generally defined project to be applied on a lot-by-lot basis across the entire reach to reduce bank armoring and/or reduce its effects by combinations of removal of some bank armoring materials, placing log structures, placing topsoil among and over the armoring materials, and planting native vegetation. This project, however, did not score high enough to be considered a priority at this time. Private property ownership and relatively low cost-effectiveness and feasibility affected the project's score. It was perceived that the armoring was really needed to protect the residential development that had already occurred and requiring or promoting removal of the armoring could put these properties at risk. Sites 21 and 22 are similar to 23, but are defined on a site-specific rather than a reach-wide scale.

In all, five projects (Sites 21 through 25) were identified along Reach 5; however, none were selected as priority projects at this time. It is believed that the more intensely urbanized nature of this section, and the extent that Issaquah Creek is constrained in a number of ways by the existing development, has generally reduced the feasibility, potential benefits, and cost effectiveness of the prospective projects identified.

Chinook Plan Reach 6 extends from the hatchery itself to the hatchery intake weir. The channel becomes less constrained and less encroached upon by urbanization along this reach, and several good habitat improvement opportunities are evident here. Sites 26 through 28 along this reach all scored as top priority projects.

Site 26 proposes to eradicate invasive understory vegetation along the left bank between the Wildwood Trail (hatchery intake weir access) and the creek, and also to add log and root wad complexes along the creek to provide complexity and cover and to promote pool/riffle sequence formation along this monotypic channel section.

Site 27 is the "Guano Acres" site directly across the channel from Site 26. Wood is similarly proposed here, along with side channel and backwater creation, invasives removal, wetland and floodplain restoration, and native revegetation.

Site 28 would modify the hatchery intake weir in conjunction with restoration and enhancement on the "Guano Acres" site. At present, flow approaching the weir can take three different pathways: 1) piped to provide hatchery water supply, the primary function of the weir; 2) through the fish ladder to provide fish passage over the weir for fish approaching it from downstream; and 3) over the spillway. The spillway is impassable for fish, yet its high flows relative to the fish ladder outfall attract fish and encourage them to spend a lot of effort trying to pass over it as opposed to more productive efforts at passing over the ladder.

In concert with the concept design for "Guano Acres," it is proposed that stream base flows, which presently pass over the spillway, be diverted instead through a fish-passable bypass channel across the site. This approach is detailed on the concept plan for Site 28, presented in Appendix A of this report.

Combined Chinook Plan Reaches 7 and 8 extend from the hatchery intake weir to the southern City limits. With exceptions, these reaches are constrained less by development, with sections of broad floodplain that have in places been used in the past for agricultural purposes. Numerous opportunities exist along these reaches for in-stream improvements as well as side channel and backwater creation, and wetland and riparian enhancements on the floodplain. These are the largest-scale and potentially most productive and worthwhile projects in the City. Sites 29 through 41 have been identified along these reaches, with Sites 34, 35, 40 and 41 identified as top priorities.

Site 34 is a typical backyard revegetation plan developed specifically for the Sycamore neighborhood, where it was noticed that an unusually high proportion of lawns and other types of non-native, formal landscaping extend to the water's edge. This plan could also be used as an example and applied in other areas throughout the City.

Sites 35, 40 and 41 may be considered collectively. The gem of these is Site 40, Squak Valley Park South. The existing site is a mosaic of meadows, recovering native vegetation, and invasive vegetation including Himalayan blackberry thickets. It also includes remnant Issaquah Creek side- or high-flow channels. Log complexes are proposed to be placed in the existing stream channel and along its banks to encourage pool formation, provide protective cover, and improve habitat diversity and quality overall. Away from the main channel, development or installation of wetland and floodplain habitat features, such as backwaters, snags, logs, excavated depressions, increased edge habitat, and complex plant communities, and removal/control of invasive plants would all be part of this large-scale side channel and wetland restoration project. Site 35 offers similar opportunities to the north, as does Site 41, which would provide the connection needed to combine the three sites into a large single or interconnected park unit including boardwalks, other trails, and interpretive and historical elements.

4.2 North Fork Issaquah Creek

North Fork Issaquah Creek Reach 1, per the Chinook Plan, extends from the mouth to the SE 64th Place crossing (business park entrance road in line with the Issaquah-Fall City Road). This reach is characterized by narrow buffers dominated by non-native vegetation, an atypical assortment of bank armoring applications, low gradients, fine-grained substrates, and infiltrating

low flows. During reconnaissance surveys in the late summer of 2006, flows in the lower ravine were robust, yet flows downstream of East Lake Sammamish Parkway diminished to a mere trickle and were even absent through certain riffles. In spite of these conditions, this reach is believed to have potential as rearing habitat for juvenile salmonids. Sites 42 and 43 are the two projects defined for this reach, and both were ranked as high-priority projects for which concept plans were developed.

Site 42 is defined for the entire reach, to be implemented on a site-by-site basis as opportunities arise. Proposed improvements include removing armoring, rubble, and other debris wherever possible, and increasing buffer widths and function. Non-native invasive plants would be replaced with native riparian vegetation to increase shading to the stream, and food and cover for wildlife.

Site 43 is located downstream (north) of SE 64th Place and bounded by the East Lake Sammamish Trail to the west, SE 62nd Street to the north, East Lake Sammamish Parkway SE to the east, and developed commercial properties to the south. Non-native vegetation, including reed canarygrass and Himalayan blackberry, would be replaced with native vegetation along the banks of the North Fork on-site, and log structures would be placed in the channel to accentuate pools and provide cover. A fairly extensive wetland area also occurs on the west side of the site, along the East Lake Sammamish Trail. Wetland hydrology would be increased there, simply and inexpensively, by plugging existing ditches which were presumably dug to provide drainage in support of past agricultural land uses.

North Fork Reach 2 extends upstream from the SE 64th Place crossing to the lower ravine. An extensive and convoluted system of culverts carries creek flow through the I-90/Front Street interchange. A large wetland downstream of the interchange may be an area where extensive infiltration is occurring, to the detriment of downstream dry-season stream flows. The channel character changes abruptly extending upstream of the interchange, adjacent to the Lakeside gravel pit and other industrial uses. The channel has a higher gradient and a substrate dominated by cobbles, which are generally too large to provide functional spawning habitat for salmonid fish. As mentioned in the North Fork Reach 1 description, relatively strong summer stream flows through this section diminish radically and abruptly downstream of East Lake Sammamish Parkway.

Sites 44 through 47 have been defined for this reach, with Sites 44, 45 and 47 identified as high priority. Site 44 would include planting trees to shade the creek where it widens and slows as it passes through the broad wetland area downstream of the freeway interchange. If feasible, backwater areas could be excavated for diversity. Wetland revegetation accomplished by establishing islands of trees and shrubs would increase edge habitat and diversity. Beavers frequently dam the creek in the Site 44 area, impeding stream flow through the freeway interchange culverts. Site 45 would simplify and shorten the net length of the culverts carrying the stream through the I-90/Front Street interchange, with benefits to fish migration.

Site 47 scored a few points lower on the ranking criteria than the other priority projects, but was considered to be a crucial component of overall habitat functioning along the North Fork. The lower North Fork channel has too low a gradient and is dominated by substrate materials too fine to provide functional spawning habitat for salmonid fish, such as coho salmon and cutthroat trout, though it provides some suitable rearing habitat. Proceeding upstream from East Lake Sammamish Parkway, the stream substrate abruptly shifts from being too fine-grained to becoming too cobbly for coho and cutthroat spawning. An intervening stream section with suitably sized spawning gravels is absent, which the basin needs in order to provide functional

spawning habitat and seed the lower, rearing-habitat reaches with fry. The purpose of Site 47 is to provide suitable spawning habitat for these fish in the lower ravine area near the gravel pit to improve the overall functioning of the North Fork with respect to coho and cutthroat habitat; both spawning and rearing habitat would then be available in reasonably close proximity.

4.3 East Fork Issaquah Creek

Reach 1 along the East Fork Issaquah Creek, as defined by the Chinook Plan, extends from the mouth upstream to the Front Street bridge. The East Fork channel is highly confined and narrowed by armoring along this entire reach, downstream of Rainier Boulevard along the City Parks Maintenance shop on the left bank and private properties on the right, and adjacent to the Darigold plant between Rainier Boulevard and Front Street.

Sites 48 through 50 were identified for this reach, all pertaining largely to channel confinement and bank armoring and stability issues. Of these, only Site 48 ranked high enough to be considered a priority project at this time. The plan for Site 48 includes reducing armoring, placing wood, widening the channel cross-section, and restoring riparian areas on the City Parks Maintenance Shop site. Site 49 addresses bank instability at the Rainier Boulevard bridge and Site 50 addresses buffer shortcomings, bank armoring, and channel confinement adjacent to the Darigold plant.

Chinook Plan Reach 2 along the East Fork extends from the Front Street crossing upstream to the I-90 crossing. The most striking characteristic of this reach is the prevalence and variety of bank armoring that has occurred, confining the channel to a narrower condition with obviously steeper banks than would occur naturally. The armoring is pervasive and near-continuous on both banks, lot after lot proceeding up the stream in seemingly endless variety with new additions patched onto old fixes such that several types of armoring can often be found on a single lot.

Sites 51 through 55 have been identified along this reach, though none were determined to be top priority projects at this time. This reach is similar in many respects to main stem Issaquah Creek Reach 5, in that single-family residences with heavily armored streambanks dominate it. However, there is even higher developed density and more pervasive and continuous armoring along the East Fork than the main stem. Also like main stem Reach 5, where none of the identified projects attained top priority status, it is believed that the more intensely urbanized condition along the East Fork and the extent that it is constrained by that development has generally reduced the feasibility, potential benefits, and cost effectiveness of identified prospective projects.

Similar to Site 34 defined along the main stem in Reach 7 for the Sycamore neighborhood, Site 51 would be a typical backyard revegetation plan identified specifically for residential areas along the East Fork where it was noticed that an unusually high proportion of lawns and other types of non-native, formal landscaping extended right down to the water's edge (or to the tops of heavily armored banks). Since the backyard revegetation plan for areas along the East Fork scored a couple of points lower than the similar project along the main stem in the Sycamore neighborhood, it is recommended that the concept plans developed for the Sycamore project be applied along the East Fork as well.

Similar to Site 23 along Reach 5 of the main stem, Site 52 was generally defined to be applied on a lot-by-lot basis across the entire reach. Restoration features are intended to reduce bank armoring and/or reduce its effects by combinations of removal of some bank armoring materials,

placing log structures, placing topsoil among and over the armoring materials, and planting native vegetation. Like Site 23, however, Site 52 scored lower than the top-priority projects because of private property ownership and relatively low cost-effectiveness and feasibility. It was perceived that the armoring was really needed to protect existing residential development and that requiring or promoting removal of the armoring could put these properties at risk.

4.4 Tibbetts Creek

Sections of lower Tibbetts Creek, downstream of Tibbetts Valley Park, were not specifically surveyed since many sections have already been restored as part of the Tibbetts Greenway process. Sites 56 through 62 were identified along Tibbetts Creek, but none ranked as high-priority projects at this time. Site 59 is a fish passage project at SR-900 on the West Fork of Tibbetts Creek. Washington Department of Transportation (WSDOT) is expected to address this project as part of the SR-900 widening project, which will be constructed in 2008.

The lower sections of Tibbetts Creek surveyed are generally impacted by past and present non-commercial agricultural uses, commercial nurseries, and scattered residential development which have narrowed buffers, allowed encroachment by non-native vegetation, and perhaps straightened and simplified the channel in places. Sites 56 (Kelly property just upstream of Tibbetts Manor) through 60 (scattered residential area in the vicinity of SE 83rd Place), except Site 59, involve areas with narrowed buffers, a prevalence of non-native vegetation, and the need for increased quantities of wood in the stream. Site 61 would re-visit riparian enhancements addressed by a previous project at a site heavily impacted by coal mine tailings, and Site 62 would retrofit a previously placed succession of log weirs with additional log structures to provide cover.

4.5 Laughing Jacobs Creek

Sites 63 through 65 were identified along Laughing Jacobs Creek, of which Sites 63 and 64 ranked as top-priority projects. Site 63 is a fairly comprehensive project extending from the mouth at Lake Sammamish to East Lake Sammamish Parkway. The lower section of the project area passes through a privately owned, park-like picnic area, with the upper section passing through brushy areas characterized by Himalayan blackberry thickets. Throughout the entire project area, the channel is somewhat armored, narrow and rectangular in cross-section, lacking in large woody debris and other pool-forming features, lined with non-native vegetation in varying degrees, and lacking in native streambank vegetation. The anticipated stream enhancement and restoration project for this site would remove invasives, place woody materials in the channel, reduce and rearrange armoring in conjunction with log placement, widen the channel cross-section, and plant native streamside vegetation.

Site 64 would hand-remove sections of an old rock berm upstream of East Lake Sammamish Parkway to re-connect the channel and its flows to a forested, riparian wetland floodplain.

4.6 Lewis Creek

The lowermost sections of Lewis Creek were annexed into the City a short time prior to this study, so the City has been in the process of accumulating information about this creek and its basin. The section of Lewis Creek extending between I-90 and Lake Sammamish, now within the City limits, flows through a residential area of moderate density with varying buffer widths and degrees of impacts and intrusion. Upstream development has increased the magnitude and variability of stream flows, and the channel banks have been armored against erosion and channel migration at numerous locations. Sites 66 through 73 were identified along lower Lewis

Creek within the City, but none were ultimately included in the list of top-priority projects for which concept designs were prepared.

Similar to Sites 34 (main stem at Sycamore), 42 (North Fork), and 51 (East Fork), Site 66 would be a community-based typical backyard native revegetation plan for Lewis Creek, to be applied in cooperation with homeowners where lawn and landscaping vegetation extends too near the creek. Since the revegetation plan specific to Lewis Creek was not selected to be on the list of top-priority projects at this time, it is recommended that the concept plans developed for the main stem of Issaquah Creek in the Sycamore neighborhood be applied along Lewis Creek as well.

Similar to Sites 21 (main stem below the hatchery) and 52 (East Fork), Site 67 would be a community-based, typical plan to reduce armoring and/or lessen its effects by incorporating and partially replacing armoring materials with wood, supplementing them with soil, and/or in-planting. As for Sites 21 and 67, the feasibility of widespread application of this concept is in question, though this approach appears to be more feasible along Lewis Creek than along the main stem or North Fork Issaquah Creek, particularly at certain locations. For example, Sites 69 and 70 are both gabion removal projects along Lewis Creek that appear to be feasible with landowner cooperation and interest.

A fish passage problem and associated project along Lewis Creek has been under investigation by King County for a number of years. This project is the subject of the *Preliminary Feasibility Analysis for the Lewis Creek Fish Passage Improvement at the Spooner Property* (King County DNR 2006). The Spooner Property project was identified as Site 71 for this report and achieved a score just below the top-priority project cut-off. The weir at the Spooner property is a barrier or partial barrier to upstream fish passage, dependent somewhat on stream flows at any given time. If this barrier were removed, up to 1,000 feet of additional stream length would be made readily available to kokanee and other salmonid fish for spawning purposes. While access to this length of stream is important in terms of its length, quality, and location, the culvert under I-90 would remain a barrier and prevent migratory fish, including kokanee, from utilizing habitat any farther upstream. King County's efforts at this site, as documented in their report, complement our efforts by including several alternative concept designs to be considered for implementation as opportunities arise.

Site 73 would provide fish passage through the collective I-90, Newport Way, and East Lake Sammamish Parkway culverts. Providing fish passage would be of paramount importance for improving the fish use and habitat accessibility for Lewis Creek, yet there are challenges and constraints involved in finding and implementing an effective solution. This project did not score well in our evaluation in the areas of feasibility, ease of permitting, or cost effectiveness.

5. PRIORITY PROJECTS & CONCEPTUAL RESTORATION PLANS

As explained above, a total of 74 restoration projects were identified and scored. Based on this ranking, 28 of these sites were determined to be priority projects at this time. Table 1 presents a summary of this ranking information, showing scores in each category, as well as total scores for each site. The individual ranking forms are included in Appendix C.

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Table 1. Summary of project ranking.

		Question	Site #																																								
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**25A**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**
Ecological Considerations	**1**	Potential for instream habitat improvement (high = 5, low = 0)	2	3	4	4	4	4	4	4	4	3	3	1	2	4	1	1	3	2	1	4	3	3	3	1	4	1	4	5	5	3	4	2	3	5	2	4	4	2
	2	Potential for riparian habitat improvement (high = 5, low = 0)	3	2	3	3	2	2	4	3	2	3	4	4	4	4	3	4	2	4	4	4	1	1	3	4	3	4	3	4	2	2	1	2	0	4	4	4	1	1
	3	Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
	4	Connectivity to other natural areas (highly connected = 5, isolated = 0)	4	4	3	4	3	3	4	4	4	4	1	1	2	1	2	2	3	3	4	4	1	1	1	2	2	3	3	4	4	3	4	3	4	4	3	3	4	2
	5	Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2	2	5	3	5	2	3	3	4	4	3	2	1	1	1	1	4	1	1	0	1	1	1	1	4	0	2	1	2	4	2	2	1	3	3	2	2	4
	6	Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2	3	4	3	4	1	2	2	3	4	3	2	1	1	1	2	3	1	1	1	1	1	1	1	3	1	1	2	1	3	1	1	1	3	4	2	1	2
	7	Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 3, negative impacts/flooding/erosion = 0)	3	3	5	4	5	3	3	3	4	3	3	3	3	4	3	3	4	3	2	4	4	3	4	2	4	2	3	4	4	4	3	3	3	5	3	4	4	2
		Subtotal	*16*	*17*	*24*	*21*	*23*	*18*	*20*	*19*	*21*	*21*	*17*	*13*	*13*	*15*	*11*	*13*	*19*	*14*	*13*	*17*	*11*	*10*	*13*	*11*	*20*	*11*	*16*	*21*	*21*	*19*	*15*	*13*	*12*	*24*	*19*	*19*	*16*	*13*
Feasibility Considerations	**8**	Access and/or constructability (easy = 5, difficult = 0)	3	3	4	2	3	3	2	3	4	5	2	4	2	3	4	3	3	4	4	3	2	3	3	4	3	5	3	2	3	1	2	2	1	2	5	2	4	4
	9	Is the success of other projects dependent on this project? (yes =5, no = 0)	0	0	5	0	1	2	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	1	0	0	2	0
	10	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3	3	2	3	4	4	1	1	3	4	3	4	3	3	5	3	3	3	3	4	1	2	2	5	1	5	3	2	0	1	3	3	3	2	5	1	3	3
	11	Relative cost effectiveness (high = 5, low = 0)	2	2	4	4	3	4	3	3	4	5	2	4	2	3	4	3	2	3	3	3	2	2	2	4	3	3	3	4	3	1	3	2	2	3	5	2	4	3
	12	Relative maintenance/repair costs (low = 5, high = 0)	2	2	3	3	3	4	2	2	4	3	2	3	3	2	2	2	2	3	3	3	3	3	3	4	2	3	3	3	3	2	4	3	4	3	3	2	4	4
	13	Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	2	2	2	4	4	4	3	4	4	5	3	0	1	3	0	5	5	5	5	3	0	4	0	0	0	5	5	3	4	0	5	5	5	5	0	5	5	0
	14	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3	3	3	4	3	3	4	4	3	4	3	2	1	3	1	4	3	4	4	4	1	2	2	2	2	3	4	4	5	2	4	1	1	3	3	4	4	1
		Subtotal	*15*	*15*	*23*	*20*	*21*	*24*	*15*	*17*	*22*	*30*	*15*	*17*	*12*	*17*	*16*	*20*	*20*	*22*	*22*	*20*	*9*	*16*	*12*	*19*	*11*	*24*	*21*	*19*	*21*	*7*	*21*	*16*	*16*	*19*	*21*	*16*	*26*	*15*
Other Considerations/ Public Benefits	**15**	Long-term stability/life of project (stable = 5, unstable = 0)	3	1	3	3	3	4	3	3	4	3	2	4	3	3	3	3	2	3	4	3	3	3	3	4	2	4	3	4	3	2	3	2	2	3	4	3	3	3
	16	Flood improvement potential (high = 5, low = 0)	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	1	1	0	0	0	0	3	2	0	0	0	1	2	0	2	1	0
	17	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3	2	0	2	5	3	5	5	0	0	0	0	2	5	2	5	3	3	5	5	0	0	0	0	3	0	5	5	5	3	0	2	2	5	0	5	0	2
	18	Amenable to education or interpretive uses (yes =5, no = 0)	4	4	3	4	2	2	3	4	2	2	1	2	3	3	2	3	4	5	4	4	1	1	2	1	3	3	4	4	4	1	1	1	0	4	3	3	2	0
	19	Amenable to community involvement (yes = 5, no = 0)	4	3	1	3	1	1	4	4	2	5	2	3	3	3	4	4	2	3	3	3	1	1	2	1	3	4	3	3	2	0	1	1	1	4	4	2	1	0
	20	Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2	2	4	3	2	1	3	4	2	4	2	2	1	4	2	3	2	3	5	5	1	2	1	1	3	3	3	4	2	1	1	0	0	4	2	3	1	1
		Subtotal	*16*	*13*	*11*	*15*	*13*	*12*	*18*	*20*	*10*	*14*	*7*	*11*	*12*	*18*	*13*	*18*	*14*	*18*	*22*	*22*	*7*	*8*	*9*	*7*	*14*	*14*	*18*	*23*	*18*	*7*	*6*	*6*	*6*	*22*	*13*	*18*	*8*	*6*
		Grand Total	**47**	**45**	**58**	**56**	**57**	**54**	**53**	**56**	**53**	**65**	**39**	**41**	**37**	**50**	**40**	**51**	**53**	**54**	**57**	**59**	**27**	**34**	**34**	**37**	**45**	**49**	**55**	**63**	**60**	**33**	**42**	**35**	**34**	**65**	**53**	**53**	**50**	**34**

Table 1. Summary of project ranking (cont'd).

		Question	Site #																																					
			38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
Ecological Considerations	1	Potential for instream habitat improvement (high = 5, low = 0)	2	2	5	3	2	4	3	4	2	5	4	3	1	2	4	4	4	3	4	3	4	2	3	2	4	4	3	1	2	4	4	5	4	4	4	3
	2	Potential for riparian habitat improvement (high = 5, low = 0)	1	4	4	4	5	5	4	3	3	3	4	3	4	4	2	4	3	3	4	2	4	1	3	3	2	5	4	3	4	2	4	4	3	4	4	2
	3	Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	2	0	0	0	0	0	0	0	0	4	1	5
	4	Connectivity to other natural areas (highly connected = 5, isolated = 0)	3	3	4	4	2	3	2	2	1	3	4	3	1	1	1	2	2	2	2	2	3	3	3	5	5	3	4	5	2	2	2	2	3	3	3	4
	5	Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2	4	3	2	2	2	2	0	4	4	2	3	1	3	1	2	2	2	2	3	2	1	2	2	2	2	2	2	3	1	4	4	2	3	4	1
	6	Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1	4	3	2	3	3	2	3	3	1	3	2	2	4	1	1	1	2	3	2	3	1	2	2	1	3	3	2	3	1	3	3	2	2	3	1
	7	Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 3, negative impacts/flooding/erosion = 0)	3	3	4	3	3	4	2	4	2	4	4	4	2	3	4	4	4	3	4	3	4	4	4	2	4	4	4	2	3	4	4	4	4	4	4	5
		Subtotal	*12*	*20*	*23*	*18*	*17*	*21*	*18*	*18*	*15*	*20*	*21*	*18*	*11*	*17*	*13*	*17*	*16*	*15*	*19*	*15*	*20*	*17*	*17*	*16*	*20*	*21*	*20*	*15*	*17*	*14*	*21*	*22*	*18*	*24*	*23*	*21*
Feasibility Considerations	8	Access and/or constructability (easy = 5, difficult = 0)	2	4	3	3	4	4	4	3	4	3	3	3	4	5	3	2	2	2	4	3	4	3	2	3	2	4	5	5	4	2	2	1	3	3	4	0
	9	Is the success of other projects dependent on this project? (yes =5, no = 0)	0	0	2	0	2	0	3	2	1	3	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	0	0	0	1	0	4	1	4
	10	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2	5	2	3	4	3	2	1	5	2	2	2	4	5	2	3	3	4	3	3	3	1	2	4	2	3	4	5	5	2	2	2	3	2	3	1
	11	Relative cost effectiveness (high = 5, low = 0)	2	5	4	3	4	4	4	2	3	4	4	2	4	5	2	3	3	4	4	3	4	1	3	3	3	4	5	3	4	2	3	2	4	3	3	1
	12	Relative maintenance/repair costs (low = 5, high = 0)	2	3	3	3	3	3	2	4	3	3	4	3	3	3	3	3	3	4	3	3	3	4	3	3	2	3	4	2	3	3	3	3	3	2	4	4
	13	Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3	0	5	3	3	0	0	4	0	0	5	4	0	0	0	0	2	4	3	3	3	4	0	5	4	0	4	4	0	0	0	0	0	0	0	4
	14	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1	3	4	4	3	3	3	4	1	3	3	1	2	3	2	2	2	4	3	1	2	4	1	1	3	2	4	4	3	2	1	1	1	3	1	4
		Subtotal	*12*	*20*	*23*	*19*	*23*	*17*	*18*	*20*	*17*	*18*	*22*	*15*	*17*	*21*	*12*	*13*	*15*	*22*	*20*	*16*	*19*	*19*	*11*	*20*	*16*	*17*	*26*	*23*	*19*	*11*	*11*	*10*	*14*	*17*	*16*	*18*
Other Considerations/ Public Benefits	15	Long-term stability/life of project (stable = 5, unstable = 0)	2	4	3	3	4	4	4	4	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	2	3	4	3	4	3	3	2	4	3	4	4
	16	Flood improvement potential (high = 5, low = 0)	2	0	2	2	0	0	2	1	0	0	1	3	0	0	2	1	0	0	1	0	0	2	1	0	0	1	3	0	0	2	1	0	1	2	2	0
	17	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2	0	5	5	5	5	5	5	5	0	5	2	2	0	0	3	3	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
	18	Amenable to education or interpretive uses (yes =5, no = 0)	1	2	4	4	3	2	3	0	0	3	5	1	2	3	2	1	1	1	2	0	2	1	1	3	1	3	2	4	3	2	1	1	1	2	2	1
	19	Amenable to community involvement (yes = 5, no = 0)	1	4	3	3	4	3	3	1	1	3	4	1	2	4	2	2	2	1	2	0	2	0	2	2	0	3	3	4	4	2	1	0	0	1	1	0
	20	Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	0	2	4	4	2	2	2	1	2	2	5	1	2	2	1	1	1	1	2	1	2	1	1	2	1	3	2	1	2	1	2	3	3	2	2	1
		Subtotal	*8*	*12*	*21*	*21*	*18*	*16*	*19*	*12*	*11*	*11*	*23*	*11*	*11*	*13*	*10*	*11*	*10*	*6*	*10*	*4*	*9*	*7*	*8*	*10*	*4*	*18*	*14*	*12*	*13*	*10*	*8*	*6*	*9*	*10*	*11*	*6*
		Grand Total	**32**	**52**	**67**	**58**	**58**	**54**	**55**	**50**	**43**	**49**	**66**	**44**	**39**	**51**	**35**	**41**	**41**	**43**	**49**	**35**	**48**	**43**	**36**	**46**	**40**	**56**	**60**	**50**	**49**	**35**	**40**	**38**	**41**	**51**	**50**	**45**

Conceptual design plans are presented for these 28 projects in Appendix A. Included in each design are brief descriptions of existing and proposed conditions, a discussion of implementation tools and issues specific to each site, photos, vicinity maps, parcel information, and concept-level drawings with applicable cross-sections and details. It is also important to note that the sites that did not rank high enough to be considered priority projects for this study are still considered worthwhile and important elements for restoration of the overall stream systems.

Projects can be grouped together to capitalize on invasive weed control and long-term maintenance benefits. Some projects would benefit from the implementation of others in close proximity in terms of increasing similar functions and values within a larger area. Projects may also be combined to capitalize on funding opportunities. It is important to consider the proposed elements of each specific project in terms of planning and phasing of construction. For example, proposed revegetation should occur after proposed grading and/or installation of in-stream log structures is accomplished, so as not to disturb newly planted areas.

6. NATURAL AREA PROTECTION & RESTORATION METHODS

This *Stream and Riparian Areas Restoration Plan* includes an analysis of regulatory and non-regulatory mechanisms that can be used to protect natural features and ultimately implement the restoration ideas presented here. This study is intended to guide the City and its conservation partners in making use of the full range of available tools to implement the projects identified. A discussion of implementation tools and issues specific to each site and project has been included on each of the concept plans presented in Appendix A of this report. The City of Issaquah has a variety of regulatory and non-regulatory or voluntary natural area protection methods at its disposal. Each of these methods has advantages and limitations. The following is a very brief description of the various methods, some background on how these programs and methods have been used to acquire or otherwise protect stream and riparian areas in the City, and general recommendations for how and where they could be used in the future. Each of these methods is then explained in detail with specific examples and a broader discussion of recommendations in Appendix B of this report. Regulatory methods can be grouped into the general categories listed below:

- **Traditional zoning techniques**, including large lot zoning and open space zoning.
- **Overlay zoning,** based on state law, such as shoreline master program requirements and critical areas regulations standards.
- **City-wide development standards**, such as clearing and grading ordinances and tree retention requirements, stormwater management programs, and the new breed of Low Impact Development (LID) standards.
- **Developer contributions, open space dedications and mitigation** that may be required under impact fee programs or environmental laws, e.g. substantive authority under the State Environmental Policy Act.
- **Grant funding and Capital Improvement Projects**, such as stream and wetland restoration, surface water management projects, compensatory mitigation for road or sewer project impacts or other work funded by governments.

- **Non-regulatory or voluntary methods**, including the City's new Transfer of Development Rights (TDR) program, stewardship and public outreach efforts, current use taxation programs, and conservation easements and property acquisition with the assistance of land trusts.

In addition, some protection tools, such as LID techniques, can be implemented as both regulatory and voluntary methods. Obviously some techniques fall into more than one category and projects usually involve a combination of specific implementation tools. Available implementation tools and techniques, and their past, current and potential future use within the framework of this study are also discussed in more detail in Appendix B.

Development regulation under a wide variety of laws is an important tool for preventing further degradation of stream and riparian protection and also provides some opportunities for enhancement of existing degraded resources. The City recently updated its critical areas regulations (CAR) and will update the Shoreline Master Program in the near term. Development review and project negotiations have led to large open space set-asides, particularly in urbanizing hillside areas at the edges of the City. However, constitutional limits on regulation often prevent local governments from achieving a net improvement to critical areas when compared to the condition of these resources prior to development. This poses a fundamental limitation on the ability of development regulations to improve upon existing conditions at the landscape level. Project mitigation can occur in isolation without effective coordination with a larger plan. It is intended that this *Stream and Riparian Areas Restoration Plan* serve as a useful reference to City regulators, interested citizens and private development interests as they consider project design and related mitigation requirements.

City Capital Improvement Projects, grant funding, work by volunteer and non-profit groups, and other non-regulatory and voluntary mechanisms largely bear the burden of improving the existing condition of degraded critical areas throughout the majority of the incorporated area. The City of Issaquah has an impressive track record of ongoing project implementation on Tibbetts Creek and Issaquah Creek, particularly the main stem. This plan will help the City obtain grant funding and prioritize future public restoration project efforts.

However, there are more worthy projects than there are funds available to support them. The City must seek new ways to leverage private restoration funding. The City's TDR program will be a key vehicle to achieve this objective. The City should continue to foster this program by working closely with King County on an interlocal agreement, refining and expanding the range of sending and receiving sites, and taking other steps to promote a viable market for TDR credits. The City could also consider establishing a bank to allow the City to serve as a more effective broker and marketer of available credits.

An increased emphasis on project prioritization and better coordination with groups that implement volunteer projects, such as the Mountains to Sound Greenway Trust, will help the City and its partners make the most of volunteer efforts as they seek to maximize use of available resources. This Plan will help meet this need, not only for volunteer groups, but also for public agencies that provide critical outreach and technical assistance to land owners, such as the King Conservation District, and land trusts, such as the Cascade Land Conservancy and the Trust for Public Lands, who are important partners in open space acquisition and conservation easements. Efforts to increase landowner participation in the Public Benefit Rating System, a current use taxation program administered by King County, should also be explored.

Finally, the City should continue to implement LID concepts by identifying and removing barriers to private LID in existing codes and by providing opportunities for demonstration projects, including promoting LID concepts in City transportation and stormwater utility projects. The City recently applied for LID grant funds for a major City road project, evidence of both the City's commitment to LID implementation and new sources of funding for LID projects. The City could establish incentives for LID implementation, such as density bonuses, and consider whether LID elements should be required in certain environmentally sensitive areas. City road, fire and stormwater standards appear to be obstacles to full implementation of LID concepts in private development and a full analysis of regulatory barriers should occur as a first step before additional efforts to promote LID are taken. There also appears to be limited knowledge of these concepts in the larger development community and educational outreach efforts should eventually be considered. Additional discussion among decision makers about the best way to implement LID and more specific policy guidance on revising codes to include LID concepts appears to be needed. The *Strategic Work Program* called for in Land Use Policy L-7.1 of the Comprehensive Plan should identify how barriers to sustainable development, including LID implementation, will be removed.

7. REFERENCES

King County Department of Natural Resources. 2006. *Preliminary Feasibility Analysis for the Lewis Creek Fish Passage Improvement at the Spooner Property.*

King County Surface Water Management Division, Department of Public Works. October 1991. *Issaquah Creek Basin Current/Future Conditions and Source Identification Report.*

Parametrix. March 2003. *Stream Inventory and Habitat Evaluation Report, Including Issaquah Creek, East and North Forks of Issaquah Creek, Tibbetts Creek, and the Shoreline of Lake Sammamish.*

The Watershed Company. August 2005. *Lake Sammamish State Park Wetland, Stream and lakeshore Restoration Plan.*

WRIA 8 Steering Committee and Forum. July 2005. *Final Lake Washington/Cedar/ Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan.*

APPENDIX A

CONCEPTUAL RESTORATION DESIGNS

Site 3: MICROSOFT STREAMBANK REPAIR [BS*]

*BS=Bank Stabilization

THE WATERSHED COMPANY

A previous project on the main stem, east bank of Issaquah Creek a short distance upstream of the Lake Sammamish State Park boundary addressed a several-hundred-foot-long section of failed, vertical bank by re-sloping the bank, placing numerous log structures along the toe of the re-sloped bank, and replanting with native vegetation. In an effort to optimize the effectiveness of the project with respect to habitat function, and also to simplify the permitting process and avoid associated delays and costs, the use of traditional "hard" bank armoring techniques such as riprap within the channel was avoided. However, a barrier of rock was buried behind the bank to serve as a failsafe in the event that bank erosion continued.

Examination of the area in the summer of 2006, after a period of extended high stream flows the previous winter, revealed that a short section of streambank at the very upper end of the project had failed, with the previous vertical, eroding streambank condition re-emerging. If this condition is allowed to propagate downstream, the integrity of the entire project – several hundred feet in length – could be in jeopardy, exposing the rock failsafe barrier.

In an effort to prevent the failed streambank section from expanding downstream and further deterioration from occurring, a conceptual solution is proposed which involves the placement of numerous logs along the relatively short section of now-exposed bank, configured as an integrated and interconnected structure protecting the bank over a range of stream flows and depths. Judicious use of bank armoring materials, in the form of rounded cobbles and boulders integrated into a matrix of smaller woody debris and the placed logs themselves, is included as part of the concept design in an effort to ensure that bank erosion does not continue behind the placed logs. The eroded bank and any associated areas disturbed during construction will be finish-graded, the soils supplemented as needed, and planted with native vegetation. The logs and numerous root wads that will extend to and below the low-flow line of the stream will provide important habitat functions for fish and other wildlife, including pool formation and maintenance, and protective cover.

Implementation Strategies and Issues:
The project site is located on an undeveloped portion of an office campus, and implementation will require the assistance and cooperation of the private property owner. Given the immediate need for this project to prevent the larger deterioration of a previous restoration effort, identification and funding through the Capital Improvement Program (CIP) will likely be a key implementation tool for this project. Grant funds could also be obtained to offset project costs. The City should also explore maintenance and monitoring requirements associated with the previous improvement project to see if repairs might be required under that previous authority.

Repair of this short, failed bank section at a previous restoration project just upstream of the State Park could prevent a more extensive repair project from needing to be done in the future.

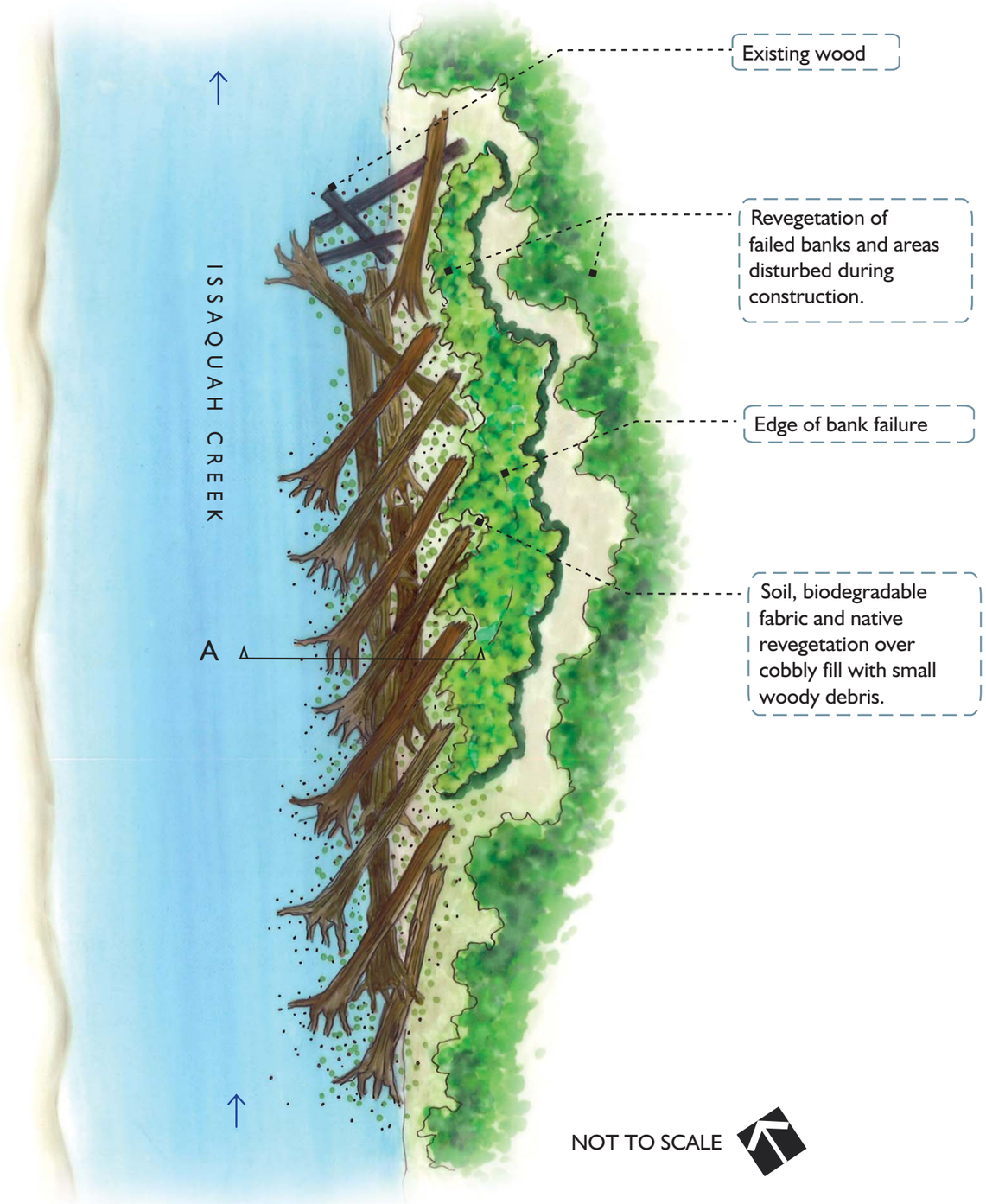
Parcel Information

Project	PIN	Present Land Use	Owner	Acres
03	2124069136	Retail	Private	5.22

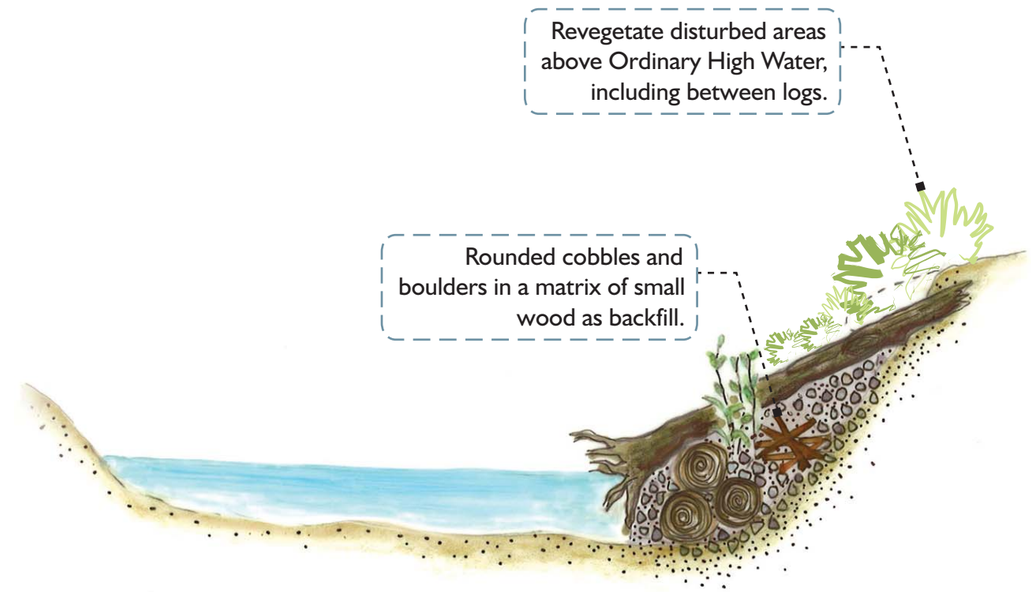
Site 3: MICROSOFT STREAMBANK REPAIR

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



Section of Proposed Bank Enhancement



Section A

Site 4: ISSAQUAH CREEK LOG PLACEMENT BELOW SE 56TH STREET [LWD/R/BS*]

*LWD=Large Woody Debris; R=Riparian Vegetation;BS=Bank Stabilization

THE WATERSHED COMPANY

Extending upstream along the main stem of Issaquah Creek from the previous project at Microsoft (Site 3) to the SE 56th Street bridge is a long, relatively straight and uniform channel section through young forest. Steambanks are typically four to five feet in height through this area. Overall, the channel features through this reach consist almost entirely of glides and runs, which are both shallow habitat types, and the few pools that are present are poorly formed and relatively shallow. The in-stream habitat along this section lacks diversity and cover in spite of the recovering vegetation along its banks.

To encourage pool formation, provide cover, and improve habitat diversity and quality overall, it is recommended that numerous logs in various groupings and configurations be placed along both banks throughout this reach. These are shown on the concept plan, although for illustrative purposes, more densely than would likely be placed. Similar log placement is also shown for Sites 26, 27 and 40. Some minor bank instability could also be addressed through log structure placement. Limited areas of bank vegetation, including some previously planted areas, would need to be disturbed in order to place this wood, and these areas would be revegetated along with a continuation of the ongoing invasive plant management and revegetation with native plants being carried out by the Mountains to Sound Greenway Trust.

North of SE 56th Street is a fairly uniform section of Issaquah Creek with few logs and pools. The addition of large woody material would promote pool formation and provide cover for fish.

Portions of the channel along the west bank include a flood migration zone with fairly complex topography and plant communities. Existing Mountains to Sound Greenway Trust planting areas could be expanded to address additional areas dominated by invasive plants. Overall, this area provides an excellent example of successful conifer revegetation with resulting shading advantages. Some areas of placed fabric along the banks are also in need of repair. An example of this type of activity is described and illustrated in Site 10 of this study.

Implementation Strategies and Issues:

The east bank of the project site is located on a vacant parcel that is immediately west of the King County Courthouse, Issaquah Division. This vacant parcel is zoned for commercial uses (Professional Office). However, the parcel was created through a short subdivision that also created the parcel of land where the Courthouse is located. A large portion of the site is within the 100-foot stream buffer, the site contains wetlands and its very low taxable value indicates it is not being assessed as developable land. The Pickering Multiple Use Trail also parallels Issaquah Creek through the center of this property. Implementation of this project will require the cooperation of the private property owner. However, private ownership is unlikely to present a barrier because a planting and enhancement project was recently implemented on this property and a native growth protection, conservation or other restrictive easement may exist on the property.

The west bank is open space within City of Issaquah ownership. Grant funds, including Salmon Recovery Funding Board grants, could be used to offset project costs associated with this project because it would improve salmonid habitat. Capital Improvement Program (CIP) funding will likely be a major tool for this project. Continued volunteer assistance from the Mountains to Sound Greenway Trust with invasive removal and native plantings should also be leveraged.

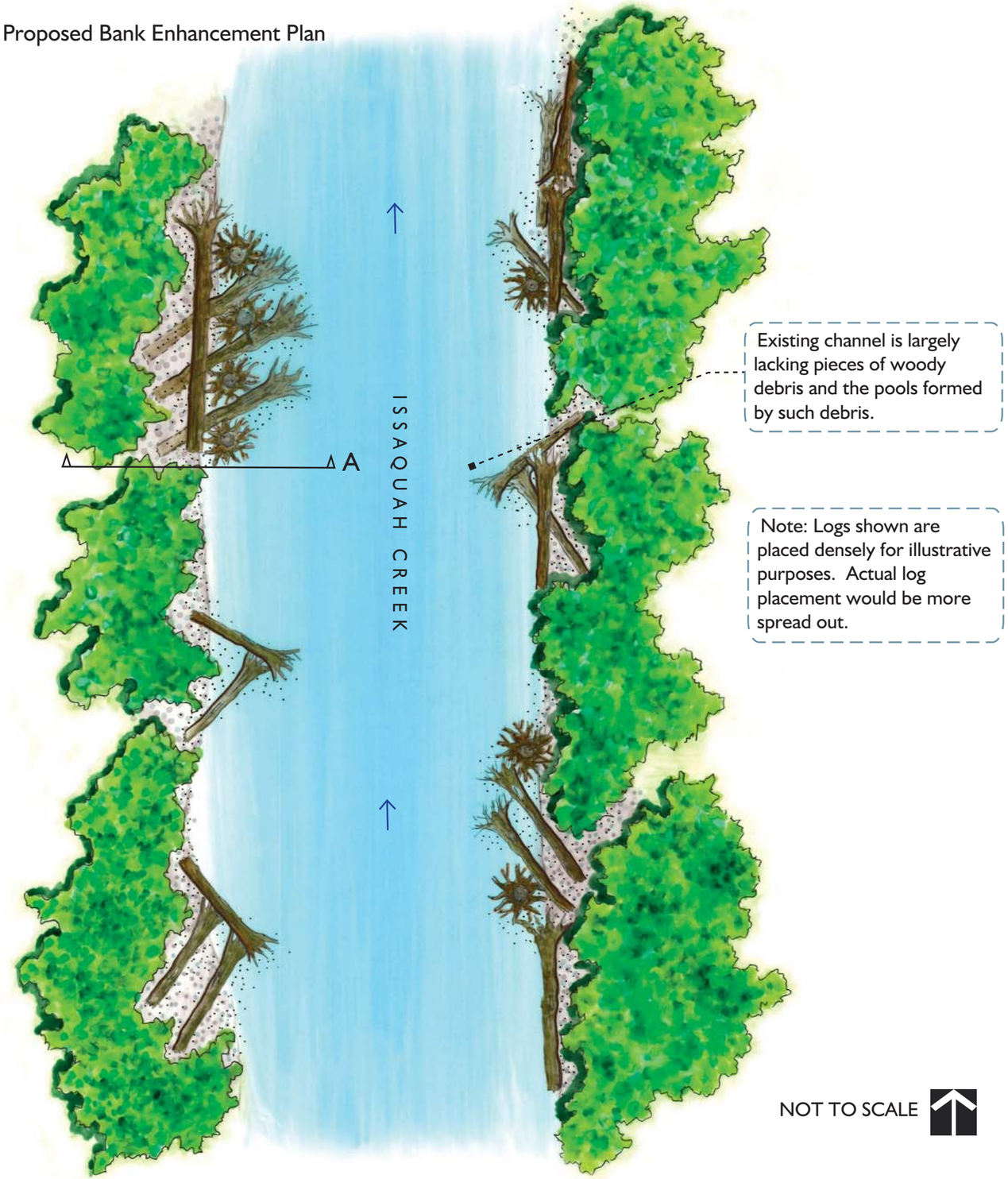
Parcel Information

Project	PIN	Present Land Use	Owner	Acres
04	2124069101	Community Facilities	City Of Issaquah	9.55
04	2124069136	Retail	Private	5.22

Site 4: ISSAQUAH CREEK LOG PLACEMENT BELOW SE 56TH STREET

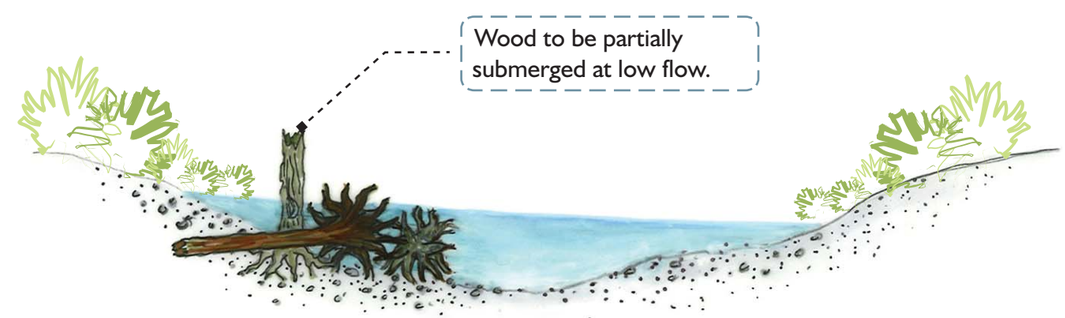
THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



NOT TO SCALE

Section of Proposed Bank Enhancement



Section A

Site 5: PICKERING STREAMBANK REPAIR [BS/LWD*]

*BS=Bank Stabilization; LWD=Large WoodyDebris

THE WATERSHED COMPANY

An eight-foot-high by approximately 150-foot-long vertical bank occurs along the west bank of Issaquah Creek just upstream of the SE 56th Street bridge. This eroding bank appears to be a significant source of fine sediments to downstream sections as the channel migrates to the west. The proposed conceptual plan would stabilize this bank by lining the toe of the bank with logs and attached root wads placed more or less parallel to the bank, typically two layers wide and two layers deep. Additional, intertwined logs with attached root wads would extend diagonally out into the channel to further dissipate energy and provide habitat function. Spaces between the logs along the upper bank would be backfilled with a well-graded composite mixture of rounded gravel, cobbles, boulders, and additional small- to medium-sized woody debris.

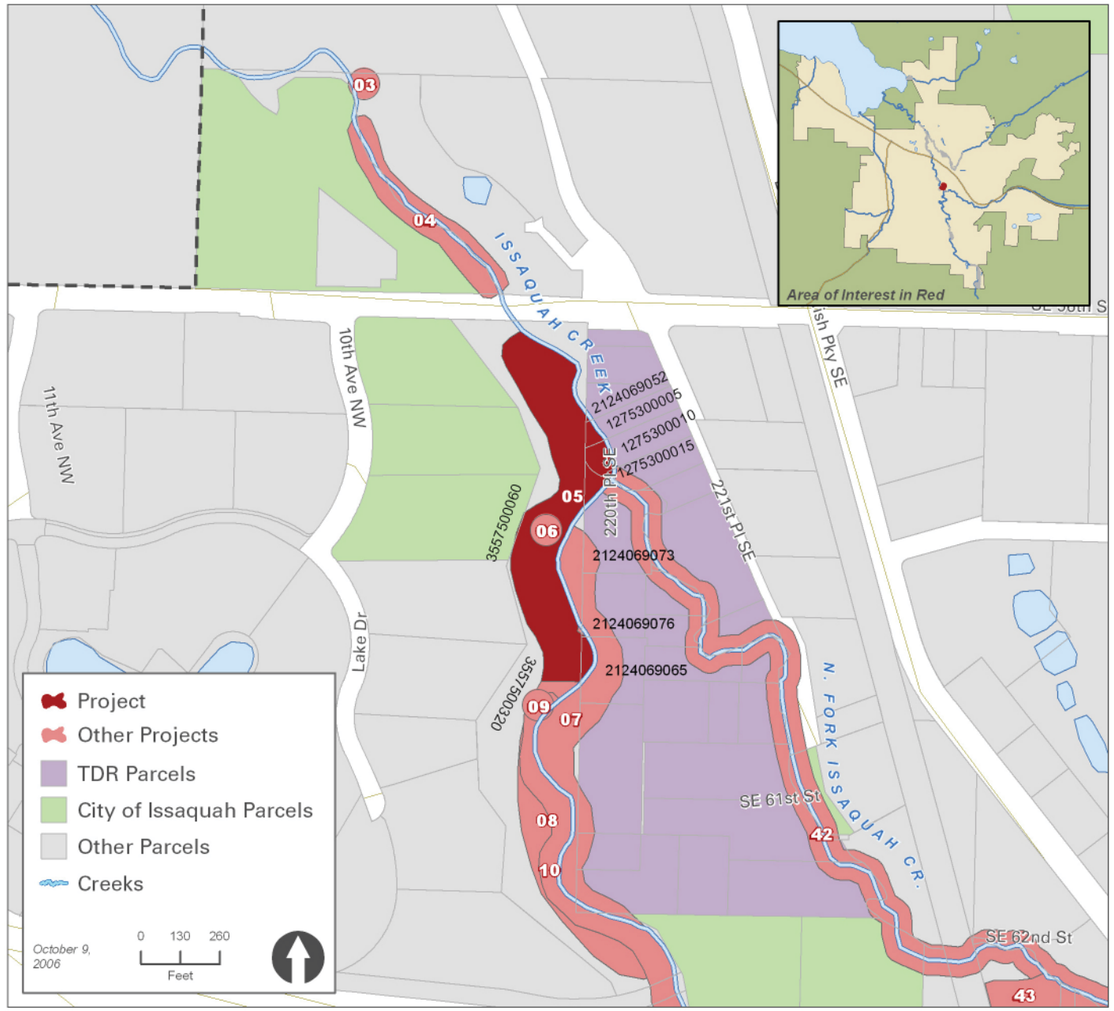
The upper bank would not be actively re-graded to minimize disturbance of the existing young forest vegetation. However, the materials placed along the lower bank will be configured in such a manner as to catch and incorporate the soils which slough down from the upper bank as it regrades itself naturally and gradually over time. The logs and numerous root wads extending to and below the low-flow line of the stream will also provide important habitat functions for fish and other wildlife, including pool formation and maintenance, and protective cover. Construction access would impact areas of forest consisting of young alder up to four inches in diameter along with a few larger alder and cottonwood. These areas would be revegetated with native vegetation upon the completion of streambank work.

Implementation Strategies and Issues:
The project site is located primarily on an undeveloped tract of a commercial development, which is shown in King County tax records as designated open space. A small portion of the project site is composed of larger-lot, single-family properties that are designated Transfer of Development Rights (TDR) sending sites. Implementation will require the cooperation of private property owners. Identification and funding for project construction, and possible acquisition of easements, through the Capital Improvement Program (CIP) will likely be a key implementation tool for this project. Grant funds could also be pursued to offset project costs.

The toe of this vertical streambank would be protected with an intertwined matrix of varying sizes of wood and rock. The upper banks would regrade themselves over time.

Project Reach- Failed banks on the left side of the photo with the SE 56th Street bridge in the background.

Parcel Information

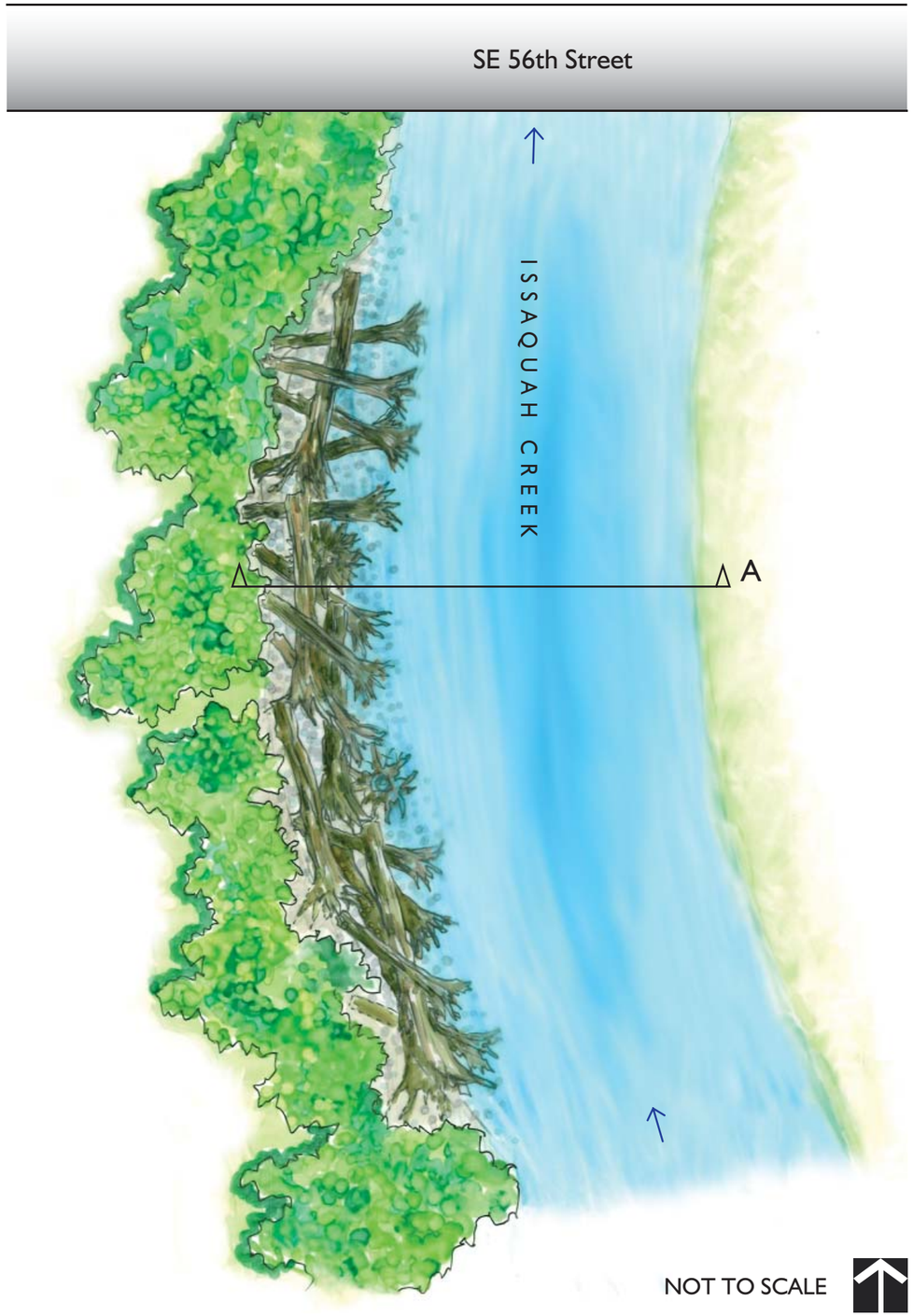


Project	PIN	Present Land Use	Owner	Acres
05	1275300005	Retail	TDR Property	0.57
05	1275300010	Retail	TDR Property	0.80
05	1275300015	Retail	TDR Property	0.64
05	2124069052	Retail	TDR Property	0.43
05	2124069065	Low Density Residential	TDR Property	1.06
05	2124069073	Low Density Residential	TDR Property	1.57
05	2124069076	Low Density Residential	TDR Property	1.01
05	3557500060	Community Facilities	City Of Issaquah	3.65
05	3557500320	Retail	Easement	13.10

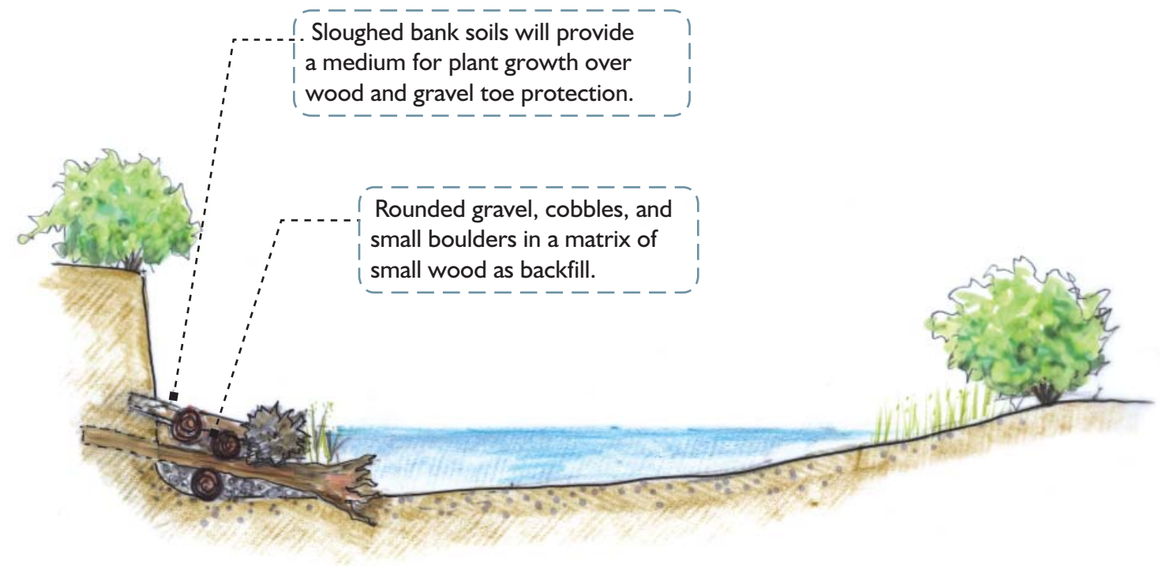
Site 5: PICKERING STREAMBANK REPAIR

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



Section of Proposed Bank Enhancement



Section A

Site 6: PICKERING CASCADES [CC*]

*CC=Channel Creation/Relocation/Restoration

THE WATERSHED COMPANY

Along the main stem of Issaquah Creek just upstream of the mouth of the North Fork is an approximately two- to three-foot-high rock weir, known as the Pickering Cascades, which may be an impediment to fish passage. This rock weir is believed to have been originally placed in a constructed high-flow channel in an attempt to prevent the creek from diverting its primary flow and converting the high-flow channel into the main channel. However, the intended secondary, high-flow channel was eventually "captured" and became the main channel during a major flood event in spite of this placed rock, resulting in the present rock weir being located in the functioning main channel.

It is proposed that the rocks forming this weir be rearranged and that logs with attached root wads be incorporated such that fish-passable cascades are formed as shown in the concept plan. Rearranging, rather than removing, the rock will provide boulder cascade habitat which is otherwise absent in this setting. This additional, valuable habitat type will be more readily fish-passable and will contribute valuable diversity to the overall mix of habitat types available in the area.

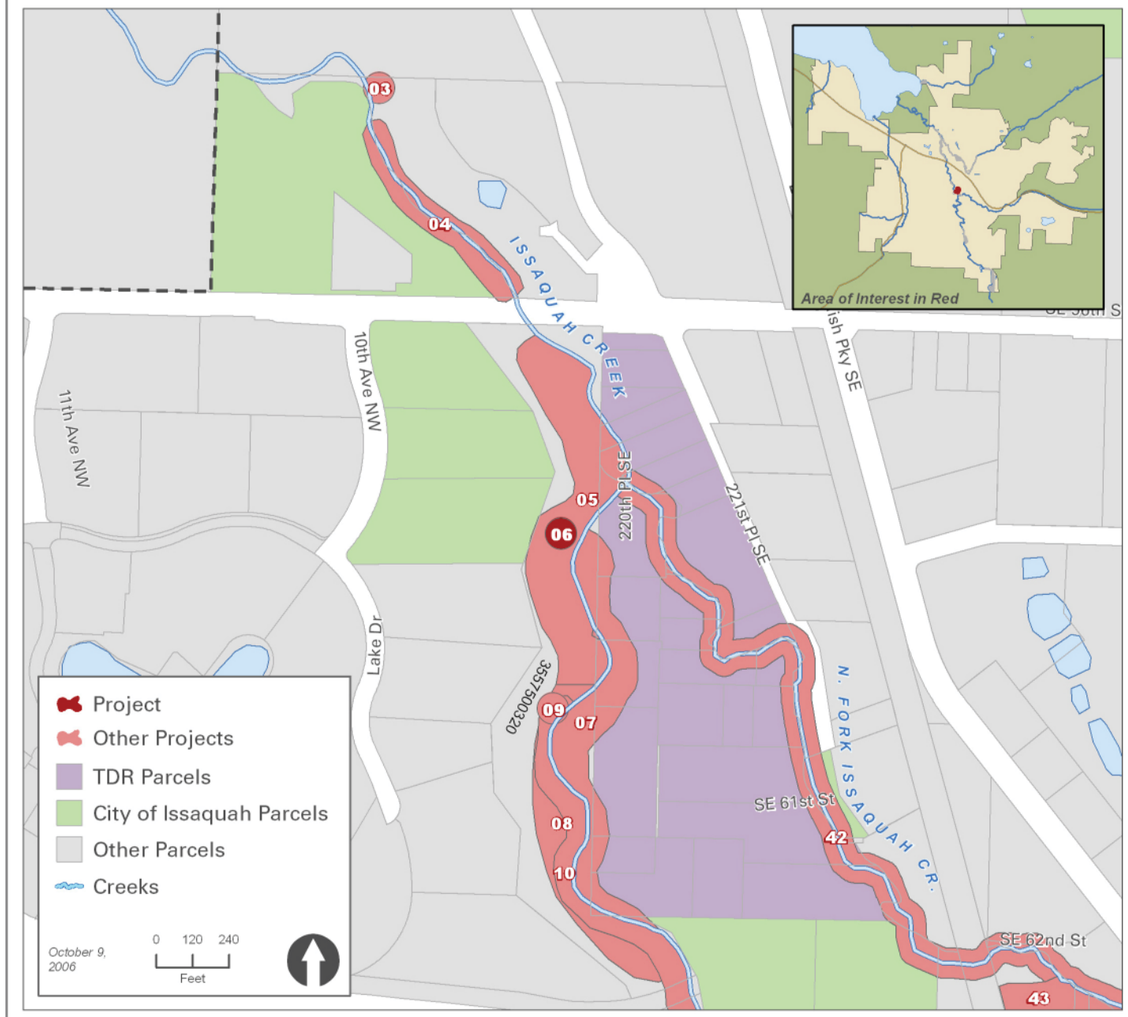
Implementation Strategies and Issues:

The project site is located primarily on an undeveloped tract of a commercial development, which is shown in King County tax records as designated open space. The site is adjacent to Pickering Barn, a public meeting facility and community gathering place owned by the City of Issaquah. A small portion of the project site is composed of larger-lot, single-family properties that are designated Transfer of Development Rights (TDR) sending sites. Implementation will require the cooperation of private property owners. Identification and funding for project construction, and possible acquisition of easements, through the Capital Improvement Program (CIP) will likely be a key implementation tool for this project. Grant funds could also be obtained to offset project costs. Given the location of the project site next to a popular community gathering place and parking lot, access is easy. Volunteer assistance with project implementation and additional interpretive opportunities should be explored at this site.

Existing Pickering Cascades facing upstream (south). Rearranging these boulders and adding log habitat structures will maximixe the benefits from this habitat type, which is scarce in this setting.

Area of boulder cascades facing downstream (north). Issaquah Creek has experienced channel changes (avulsions) in this area near the mouth of the North Fork, forming side channels.

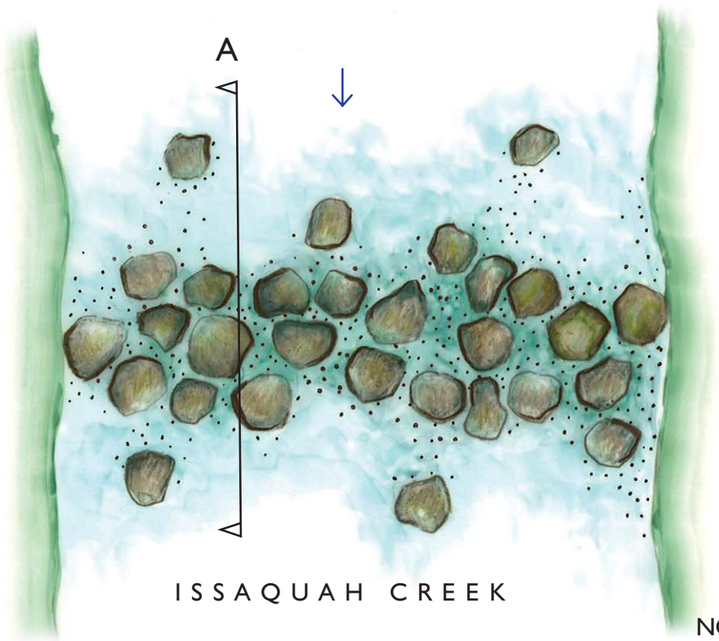
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
06	3557500320	Retail	Easement	13.10

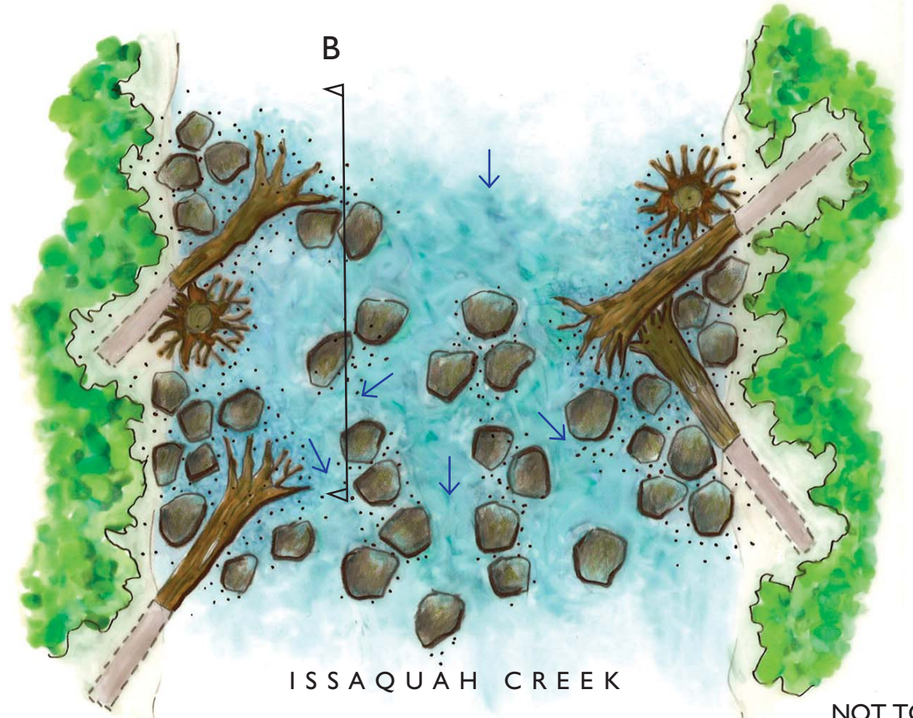
Site 6: PICKERING CASCADES

Existing and Proposed Stream Plans



NOT TO SCALE

Existing Conditions Plan of Pickering Cascades



NOT TO SCALE

Proposed Plan of Pickering Cascades
(following boulder rearrangement, addition of log structures, and native revegetation)

Section A: Existing Conditions of Pickering Cascades

Section B: Proposed Pickering Cascades

Site 7: BUSH LANE PROPERTIES [BS/LWD/R*]

*BS=Bank Stabilization; LWD=Large WoodyDebris; R=Riparian Vegetation

This area was identified as Project I-206 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. This site includes 12.5 acres of North Fork and Issaquah Creek floodplain and 1,200 lineal feet of the east bank of Issaquah Creek near and upstream of the confluence of these two streams. The project was identified as possibly including stream, riparian, and wetland restoration, as well as side-channel creation. The stream channel through this reach is confined, with hardened banks, no large woody debris, and in overall need of restoration and revegetation. The proposed conceptual design takes this characterization of the identified problems and proposed solutions to the next level by providing an overview or Master Plan approach to this extensive site, suggesting locations and concepts for the recommended side-channel creation and restoration of the stream channel, riparian areas, and wetlands.

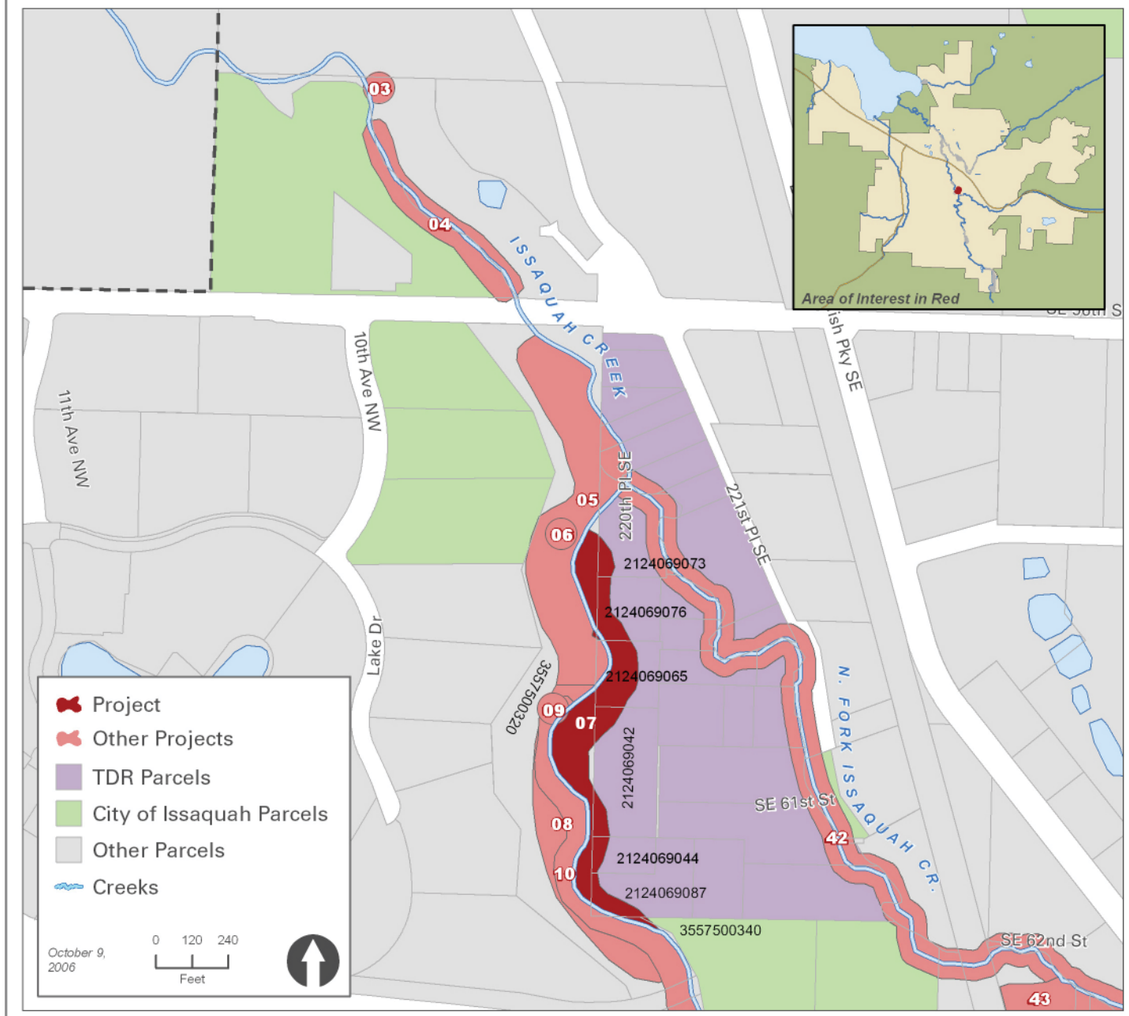
Implementation Strategies and Issues:

The project site is located primarily on privately owned single-family properties. These larger-lot residential properties are designated Transfer of Development Rights (TDR) sending sites. One lot near the center of the project area is a vacant, one-acre property; the remaining residential properties are partially developed. An undeveloped Tract A of a commercial development, which is shown in King County tax records as designated open space, also comprises a significant portion of the overall project site. Implementation will require the cooperation of private property owners. Identification and funding for project construction, and possible acquisition of easements, through the Capital Improvement Program (CIP) will likely be a key implementation tool for this project. This project is identified in the WRIA 8 Plan and this, in combination with the more refined project design developed in this plan, should improve the likelihood that grant funding can be obtained to offset project costs. The Critical Areas Ordinance and Shoreline Master Program will be key tools to ensure these sites are not further degraded, but are not likely to serve as the key vehicles for implementation of the identified project.

Floodplain areas between the Issaquah Creek main stem and North Fork could be utilized to create, restore, and enhance habitats including: side channels, backwater, and riparian areas.

Existing Issaquah Creek channel and banks, approaching North Fork confluence. Bush Lane project areas are along the east bank.

Parcel Information

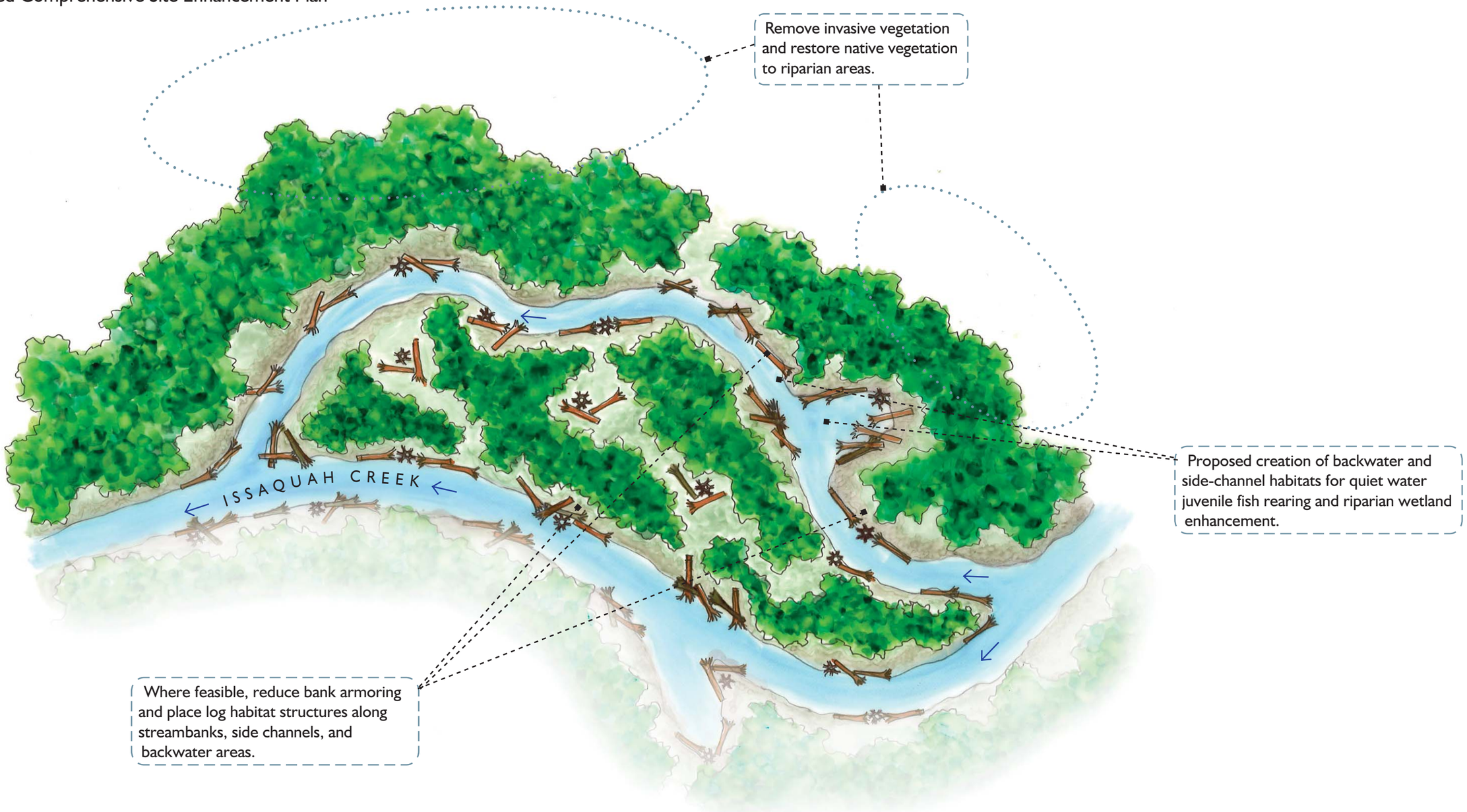


Project	PIN	Present Land Use	Owner	Acres
07	2124069042	Multifamily Residential	TDR Property	2.05
07	2124069044	Multifamily Residential	TDR Property	0.57
07	2124069065	Low Density Residential	TDR Property	1.06
07	2124069073	Low Density Residential	TDR Property	1.57
07	2124069076	Low Density Residential	TDR Property	1.01
07	2124069087	Multifamily Residential	TDR Property	1.45
07	3557500320	Retail	Easement	13.10
07	3557500340	Community Facilities	City Of Issaquah	9.01

Site 7: BUSH LANE PROPERTIES

THE WATERSHED COMPANY

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

Site 8: PICKERING REACH [LWD/BS/R*]

*LWD=Large WoodyDebris; BS=Bank Stabilization; R=Riparian Vegetation

The Watershed Company

The proposed Pickering Reach site is similar in many respects to Site 7 (Bush Lane Properties), and was also identified as Project I-207)in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. The Pickering Reach site includes 1,800 lineal feet of the west bank of Issaquah Creek and associated riparian zone between SE 56th Street and Interstate-90. The project was identified as possibly including hardened bank removal, floodplain restoration, riparian enhancements, and side-channel creation. This work would be considered an extension of restoration already done by the City in 1998. In a manner similar to the Bush Lane Properties site, the proposed conceptual design for the Pickering Reach takes this characterization of the identified problems and proposed solutions to the next level by providing an overview or Master Plan approach to this extensive site, suggesting locations and concepts for recommended side-channel creation and riparian enhancements.

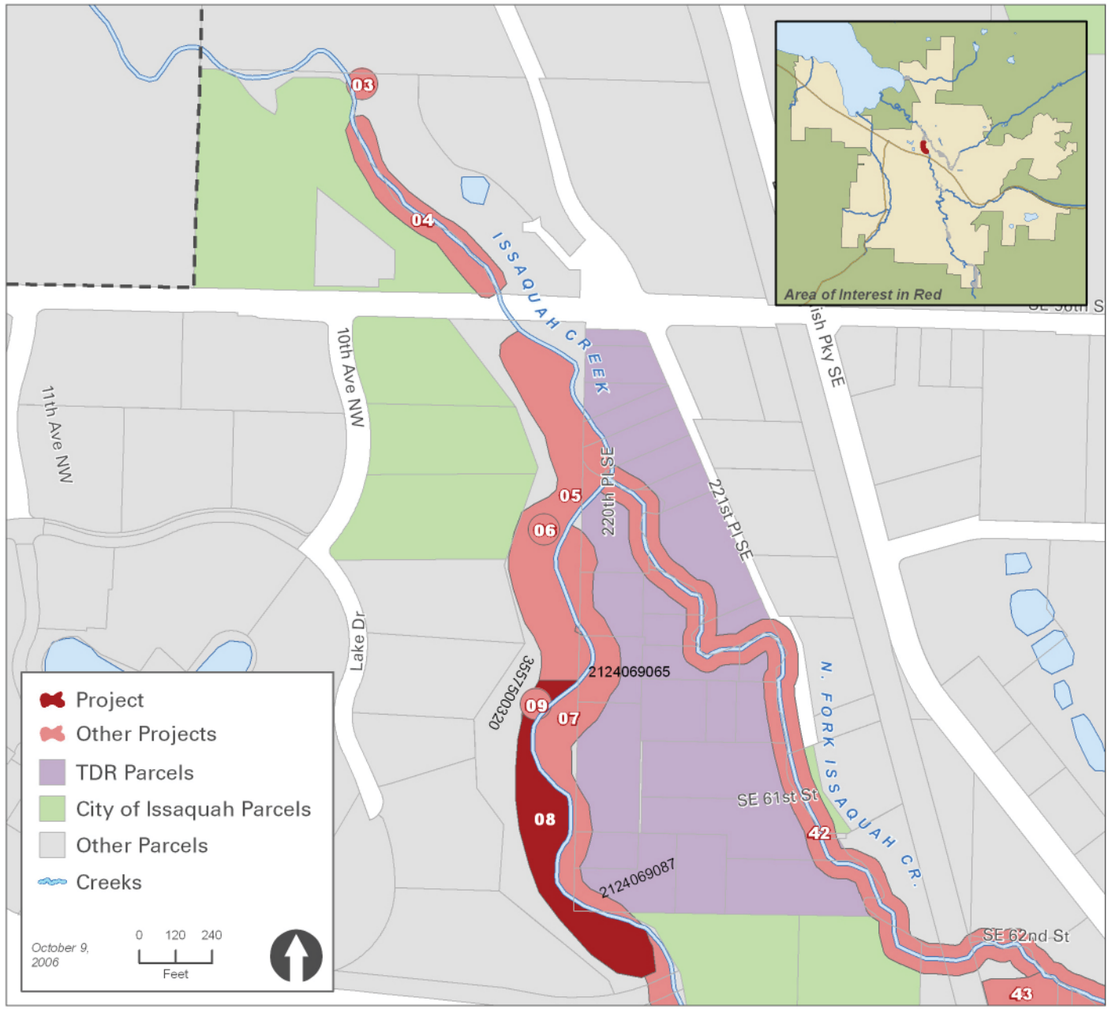
Implementation Strategies and Issues:

The project site is located almost entirely on an undeveloped tract of a commercial development, which is shown in King County tax records as designated open space. Implementation will require the ongoing cooperation of private property owners. Identification and funding for project construction through the Capital Improvement Program (CIP) will be the key implementation tool for this project. Grant funds could also be obtained to offset project costs.

Paved trail bordering the left (west) bank of Issaquah Creek along the Pickering Reach; the creek is typically separated from the trail by an impenetrable blackberry thicket.

Existing backwater previously formed by erosion along the left (west) bank of Issaquah Creek. The confluence with North Fork is in the brushy vegetation in the distance.

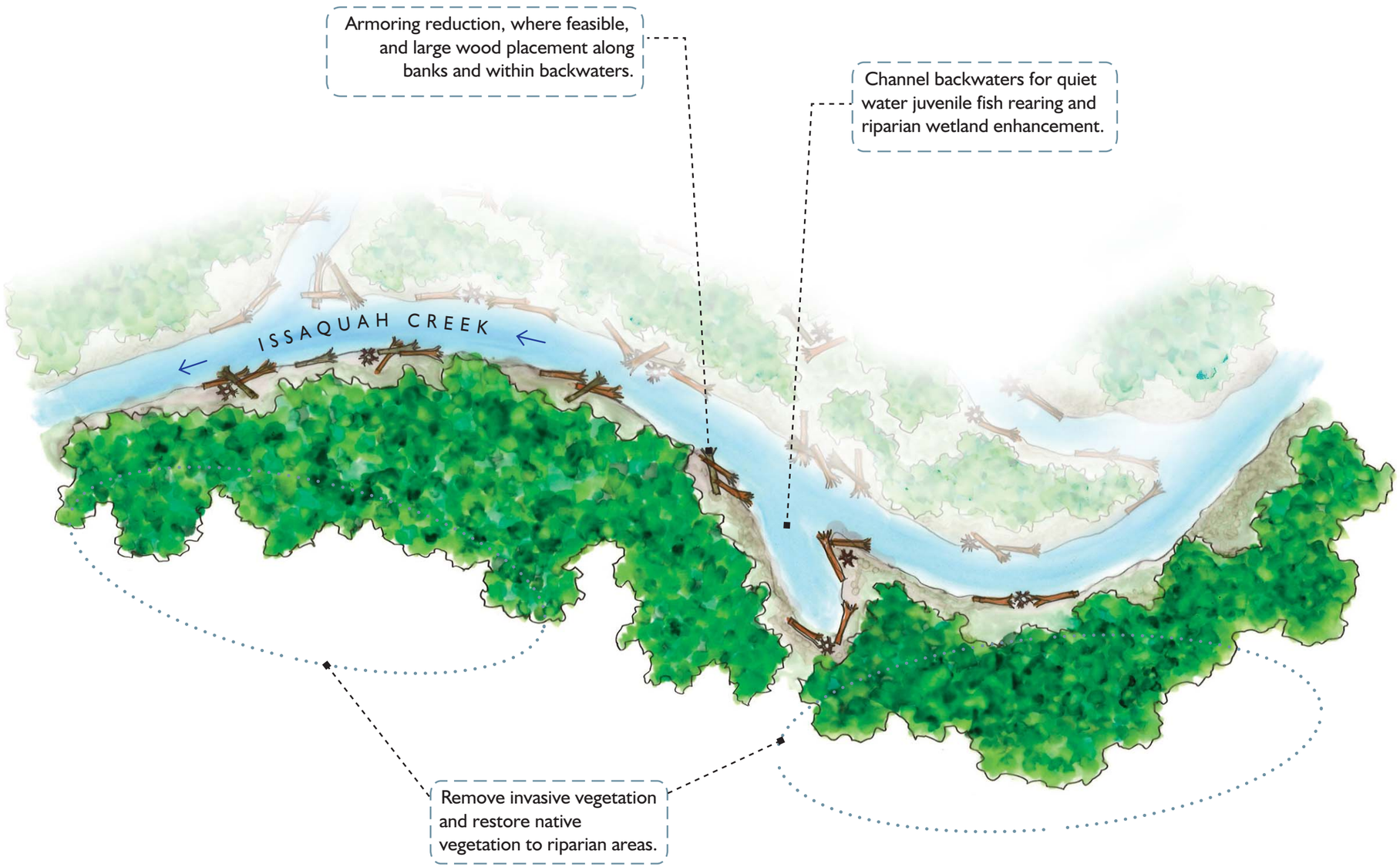
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
08	2124069065	Low Density Residential	TDR Property	1.06
08	2124069087	Multifamily Residential	TDR Property	1.45
08	3557500320	Retail	Easement	13.10

Site 8: PICKERING REACH

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

Site 9: PICKERING WOOD COVER TO SCOUR HOLE [LWD/BS*]

*LWD=Large WoodyDebris; BS=Bank Stabilization

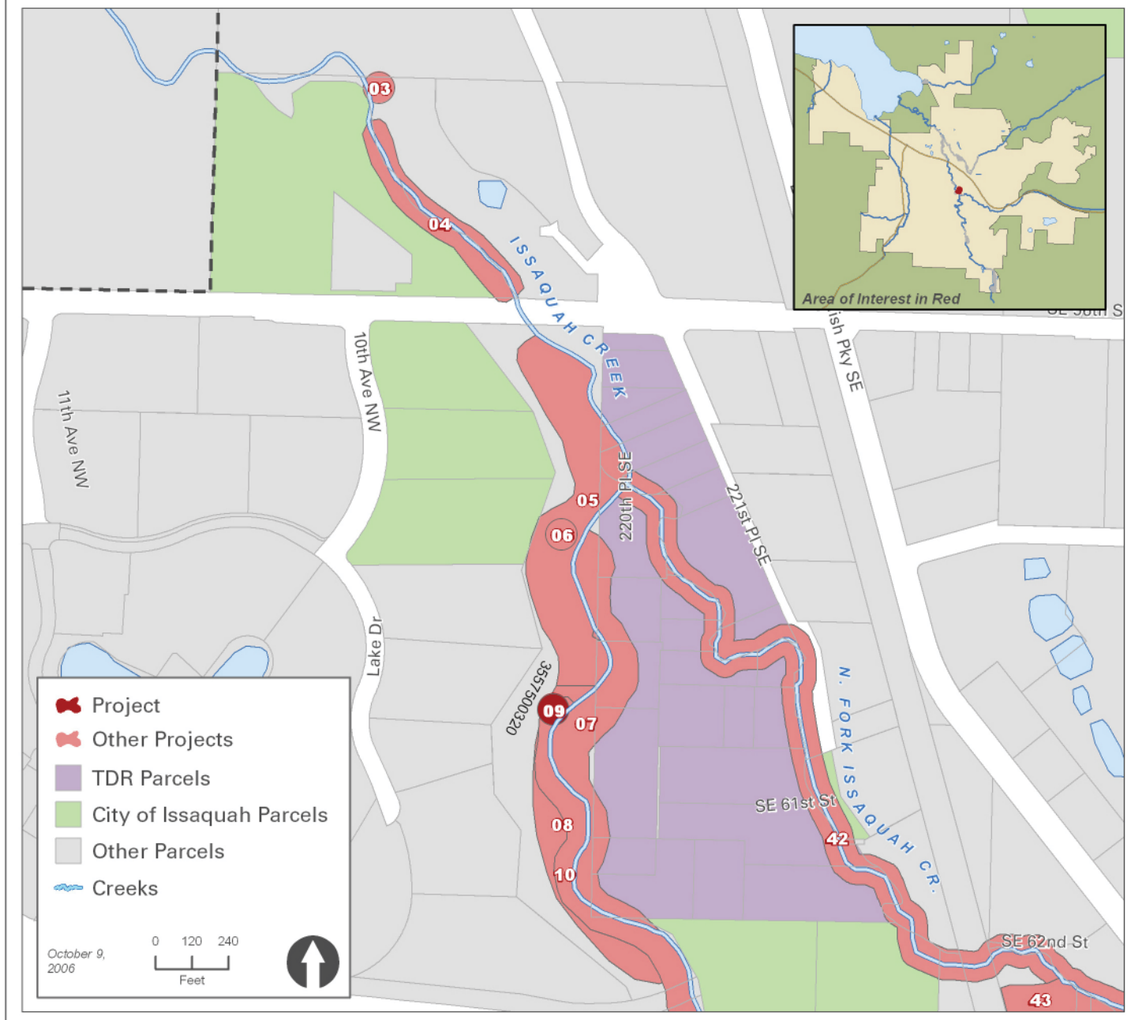
THE WATERSHED COMPANY

Within the Pickering Reach of Issaquah Creek (see Site 8), a large scour hole with a deep pool has eroded along the left (west) bank. The project proposed for this site would entail adding significant quantities of large wood to this "punch bowl" along the west streambank. The bank is moderately eroded, but the erosion activity appears to have subsided and the proposed large wood placement would primarily be for the purpose of providing cover to the existing, large scour hole. This concept design depicts how a number of root wads and logs with attached root wads may be placed along and incorporated slightly into the vertical bank, providing extensive and much-needed cover to this existing, prominent pool habitat. As proposed, this project would not disturb or re-shape the bank to an extensive degree; the logs are depicted as being dug into the bank only slightly, and at the top of the bank rather than at the toe. This project may be incorporated into the Pickering Reach project (Site 8) or developed and implemented independently.

Implementation Strategies and Issues:
The project site is located on an undeveloped tract of a commercial development, which is shown in King County tax records as designated open space. Implementation will require the ongoing cooperation of private property owners. Identification and funding for project construction through the Capital Improvement Program (CIP) will be the key implementation tool for this project. Grant funds could also be obtained to offset project costs.

This existing deep pool habitat along the Pickering Reach lacks the dense woody cover needed to provide prime habitat for salmonid fish and other wildlife.

Parcel Information

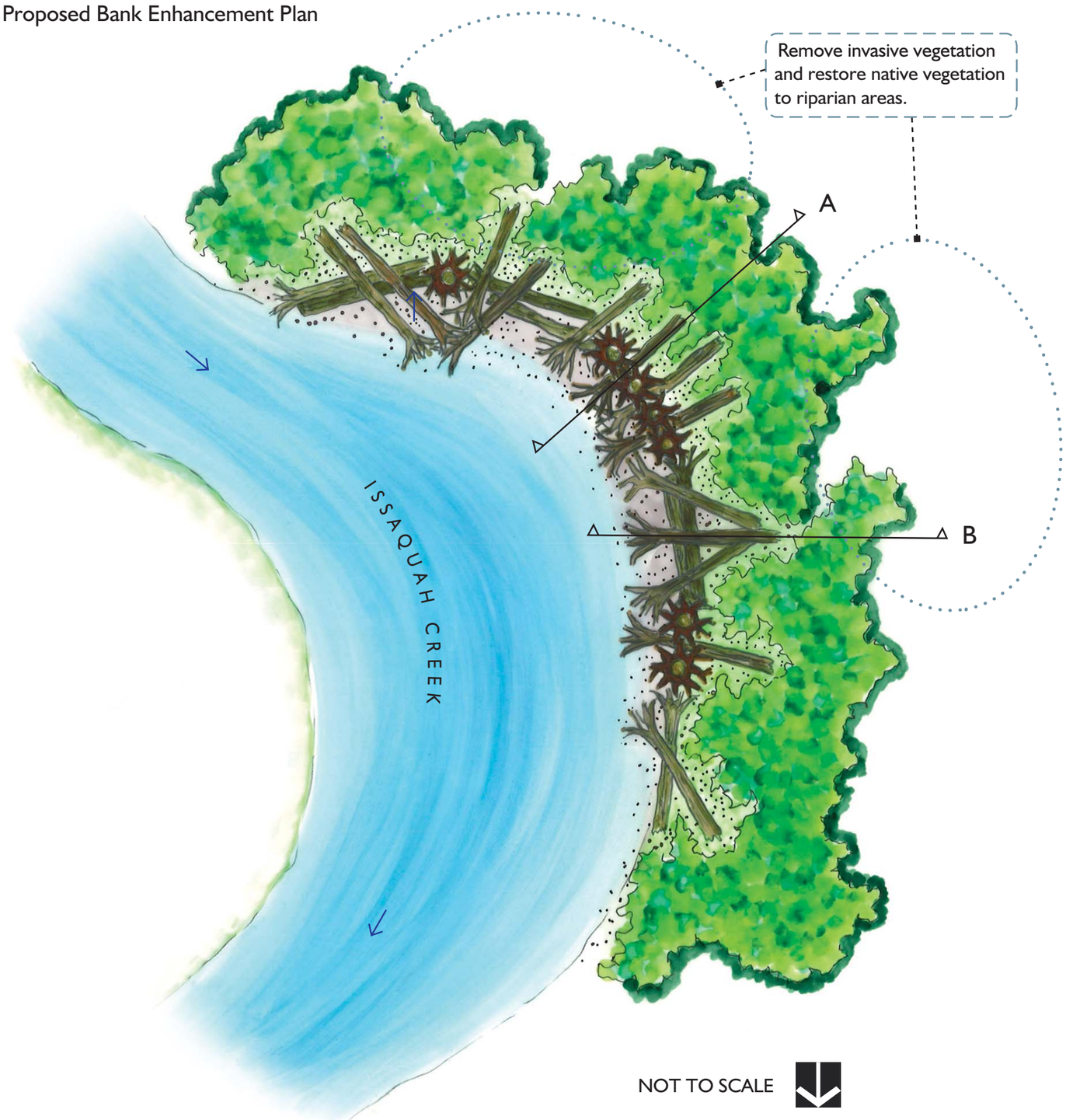


Project	PIN	Present Land Use	Owner	Acres
09	3557500320	Retail	Easement	13.10

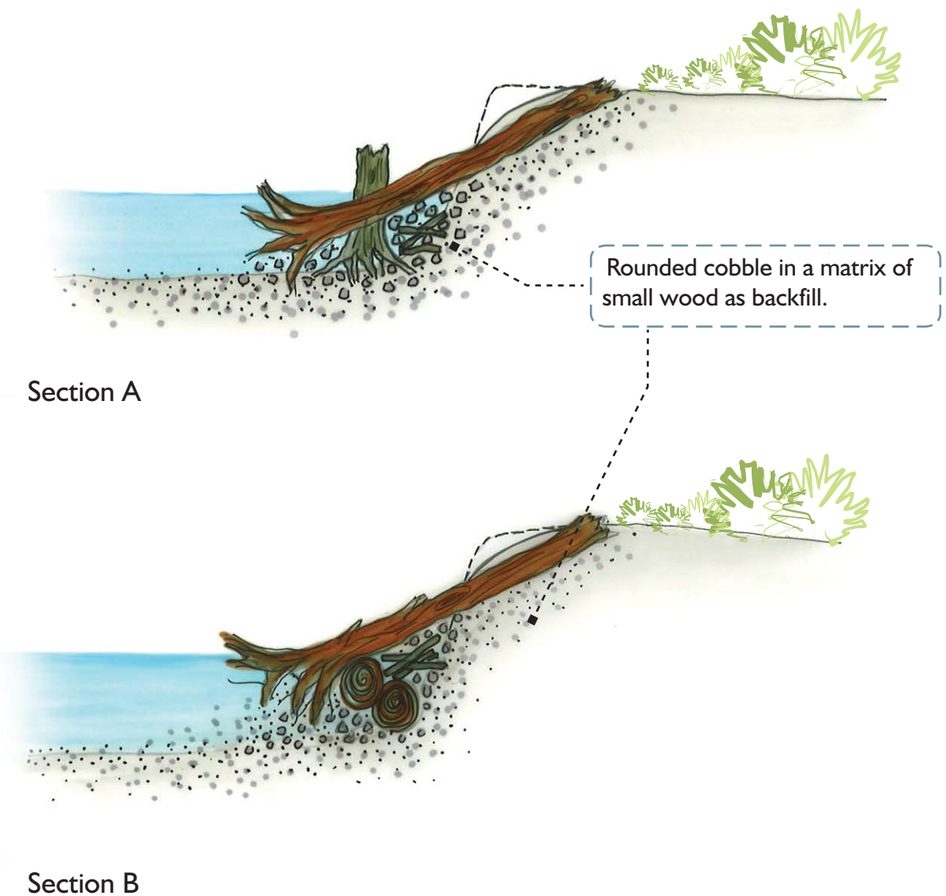
Site 9: PICKERING WOOD COVER TO SCOUR HOLE

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



Sections of Proposed Bank Enhancement



Site 10: LOWER ISSAQUAH CREEK BANK FABRIC REPAIR/REPLACEMENT [R*]

*R=Riparian Vegetation

THE WATERSHED COMPANY

Synthetic fabrics were placed along the Issaquah Creek streambank at various locations in an effort to stabilize the streambanks in conjunction with other measures such as revegetation. At some locations, this synthetic fabric has failed and is in disarray, or is unsightly and failing to fulfill its intended function. The proposed project would involve cleaning up, replacing, and/or reconstructing the failed fabric at the affected locations. Typically this would involve:

1) Removing old synthetic fabric,
2) Replacing with natural coir fabric, and
3) Planting native vegetation through coir fabric

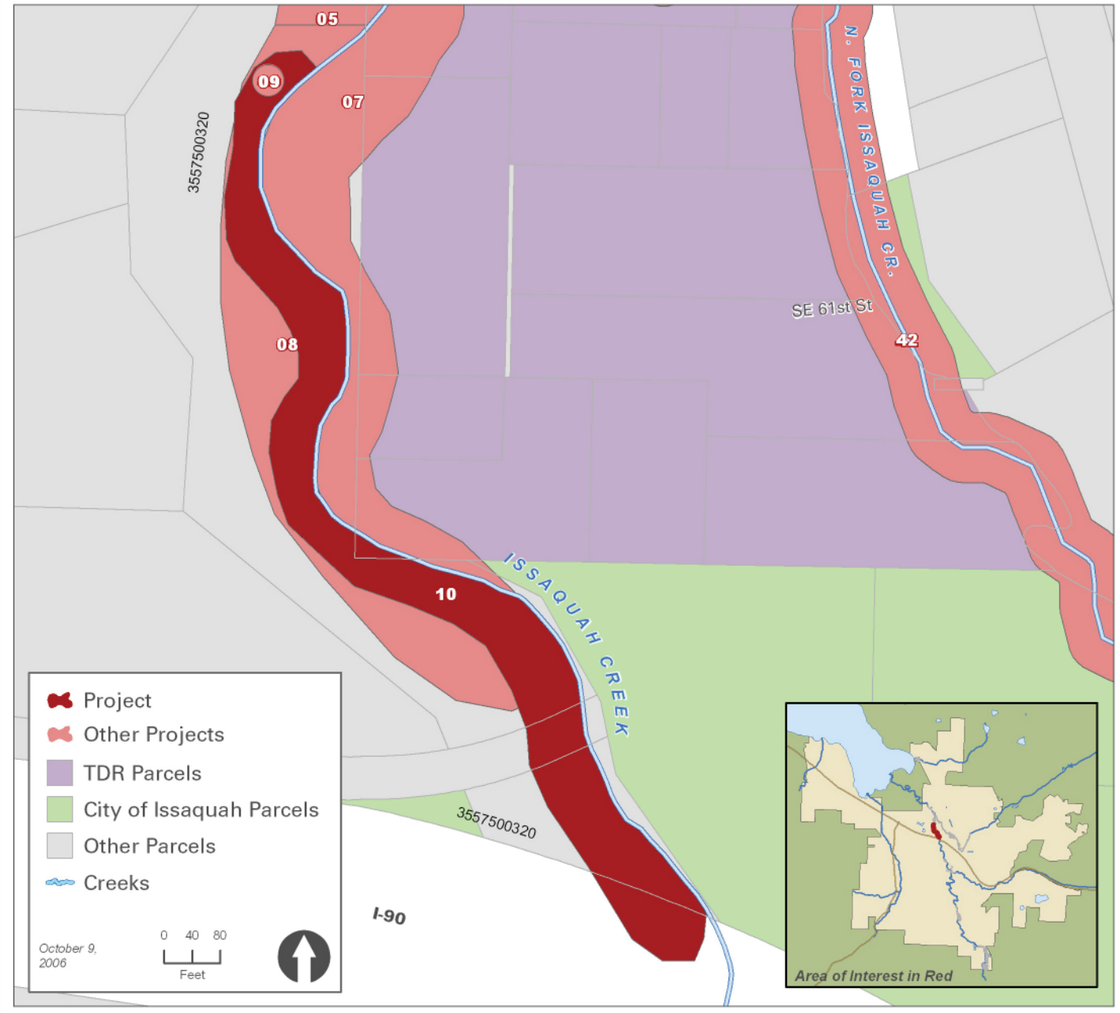
Willow, dogwood and cottonwood cuttings can be placed at the immediate edge of the stream and up the bank. If planted and established densely enough, this could effectively end the erosion potential. Further up the bank and on top of the bench, native trees and shrubs from container stock would be planted to augment the cuttings and establish a typical native riparian corridor in the area. Once the native vegetation is of good size, it will effectively prevent most invasive weeds from establishing.

Implementation Strategies and Issues:

The project site is located on an undeveloped tract of a commercial development, which is shown in King County tax records as designated open space. Portions are also located within public rights-of-way. The site is adjacent to a large open space area owned by the City of Issaquah. Parking, trails and a bridge access the site from public property. Given the nature of the work proposed and available access, volunteer assistance with project implementation should be pursued. Capital Improvement Program (CIP) and grant funding are the most likely tools for project implementation. However, given the scope of work, other opportunities such as use of the City's tree fund might be pursued.

Maintenance and repair is needed on several previous bank stabilization efforts along Issaquah Creek.

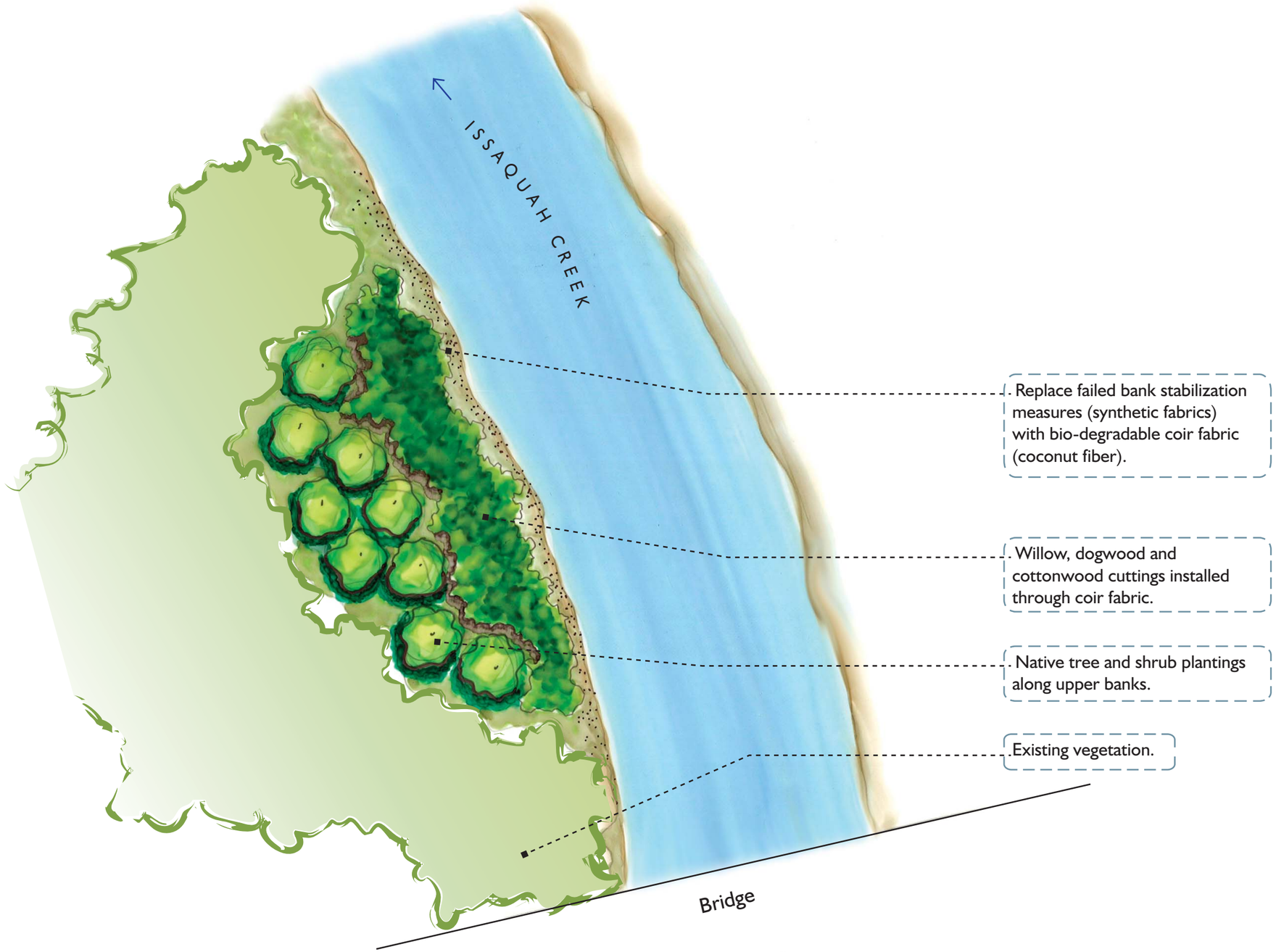
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
10	3557500320	Retail	Easement	13.10
10	3557500320	Retail	Private	0.88

Site 10: LOWER ISSAQUAH CREEK BANK FABRIC REPAIR/REPLACEMENT

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

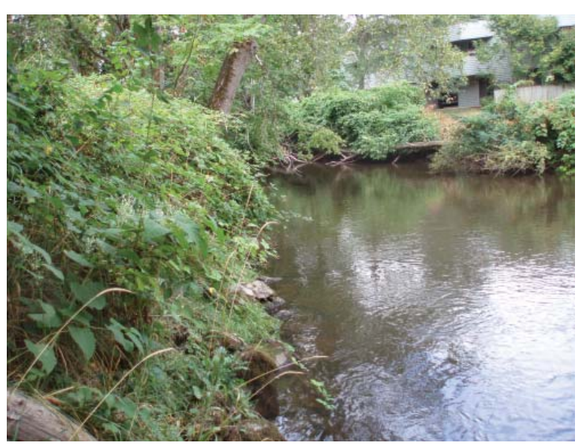
Site 16: RIPARIAN ENHANCEMENT UPSTREAM OF JUNIPER [R/W*]

*R=Riparian Vegetation; W=Wetland

A potential project for riparian, wetland, and floodplain enhancement at this site was previously identified as Project I-212 in the *WRIA 8 Proposed Lake Washington/ Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. The property includes approximately 550 feet of Issaquah Creek frontage just upstream of Juniper Street along the west (left) bank. The toe of the slope has been armored with riprap in the past in at least a portion of the site, and perhaps along the entire length. Some of the existing riparian vegetation is well developed and diverse, particularly at the north end near the Juniper Street bridge. Signs of beaver and possible river otter activity were noted. Some of the buffer is very narrow and is dominated by invasive vegetation such as Himalayan blackberry, Japanese knotweed, English ivy, and holly.

The concept plan for this site includes reducing the slope of the upper bank between existing large trees along the mid- to upstream sections, along with the installation of logs in these areas to enhance in-stream fish habitat. The extent of bank armoring would be reduced in the process of bank slope reduction and wood placement, with the remaining armoring rearranged and used to secure the logs. The extent that logs are buried into the bank could vary from lying mostly on the surface to deeply entrenched and secured with boulders. The riparian buffer would be widened with removal of invasive vegetation and establishment of additional native trees and shrubs.

Implementation Strategies and Issues:
The project site is located largely on one property that is a little over two acres in size. This residential lot is a Transfer of Development Rights (TDR) property that has been purchased by the City. A portion of the project area appears to be located on two additional single family properties, on portions of these properties that are undeveloped and separated from the developed portions by the creek. The City should seek cooperation with private property owners for these areas. This project is identified in the *WRIA 8 Plan* and this should improve the likelihood that grant funding can be obtained to offset project costs.



West bank of Issaquah Creek, facing downstream. Bank steepness would be reduced, some armoring removed, in-stream logs placed, and bank replanted.

Existing buffer areas along Issaquah Creek at this location are largely cleared and offer opportunities for riparian zone enhancement, including removal of invasive vegetation and replanting with native trees and shrubs.

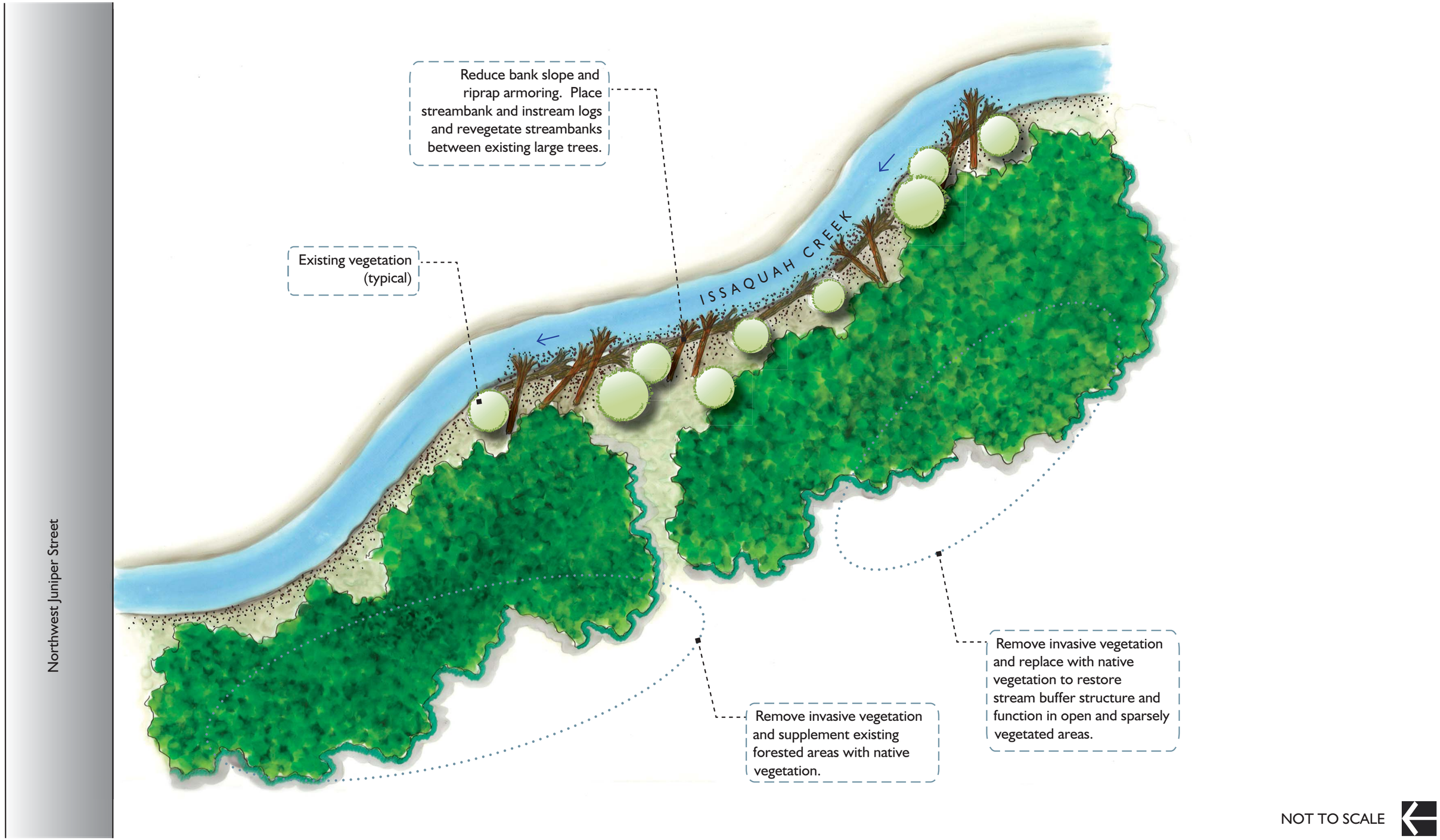
Parcel Information

Project	PIN	Present Land Use	Owner	Acres
16	8843900355	Multifamily Residential	Private	0.24
16	8843900356	Multifamily Residential	Private	0.59
16	8843900360	Multifamily Residential	Private	0.50
16	8843900365	Multifamily Residential	Private	0.49
16	8843900405	Multifamily Residential	TDR Property	2.36

Site 16: RIPARIAN ENHANCEMENT UPSTREAM OF JUNIPER

THE WATERSHED COMPANY

Proposed Streambank Enhancement Plan



Site 17: LOG STRUCTURES AT SCHOOL DISTRICT OFFICES [LWD/BS*]

*LWD=Large WoodyDebris; BS=Bank Stabilization

THE WATERSHED COMPANY

Issaquah Creek makes a sharp bend at this location, adjacent to the School District offices. At some point in the past, the bank at the downstream end of the bend, closest to the building, was armored with riprap. At the upstream end of the bend, the bank is high and composed primarily of sand, which is actively eroding. In 2003, large woody debris was placed along the bend in an effort to reduce erosion and improve fish habitat. After the initial wood placement, flood flows damaged the project. Some logs were re-anchored, and several additional logs were installed to repair the damage. Since then, the large woody debris at the downstream end of the bend, adjacent to the riprap bank, has functioned well, creating a relatively quiet area nearest the bank and providing abundant cover and habitat for fish. However, along the high sandy bank at the upstream end of the bend, erosion has continued to be a problem. Buried logs have become exposed, anchors have broken, and logs have shifted orientation or been washed downstream.

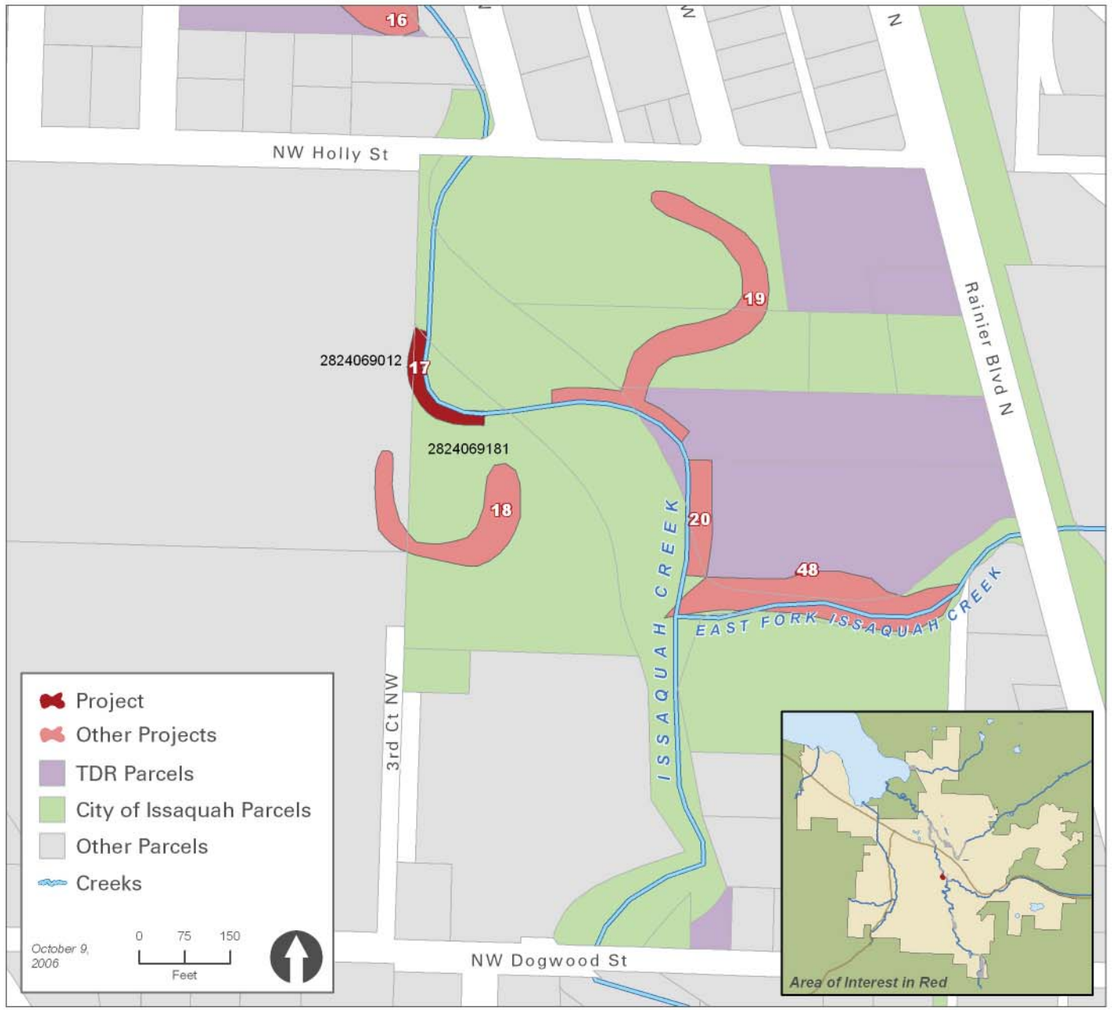
This concept design adds more woody debris to the high sandy bank area, installed in a dense grid-like pattern similar to the log arrangement that presently exists at the downstream end of the 2003 project. Logs would be anchored to the streambed and bank with their rootwads aimed upstream and projecting into the channel. Logs placed parallel to the bank, both on top of and below the upstream-aimed logs, would be anchored to the bed and banks, and chained to the other logs, creating an interconnected structure of logs protecting the bank and providing cover. The bank would also be densely planted with live willow stakes driven deeply enough to ensure they penetrate into the water table. In the short term, stability would be provided primarily by the large woody debris. In the long term the willows would assume more of the bank stability function. Both components would provide habitat benefits for fish and wildlife.

Implementation Strategies and Issues: The project site is located primarily within a large, irregularly shaped open space parcel owned by the City of Issaquah. A portion of the site is located on the site of the Issaquah School District offices and this appears to be a logical access and staging area for project activities. This site is adjacent to Site 18. It is also immediately across Issaquah Creek from Sites 19, 20, 48 and 49, which could be combined as features of a "Confluence Park," including stream restoration, wetland restoration, increased wetland and stream buffers, educational/interpretive opportunities, and picnicking and play areas. Grant funding, including funding from the Washington Wildlife and Recreation Board, should be explored for these projects and for the creation of a "Confluence Park". Direct City expenditures through the Capital Improvement Program (CIP) are expected to be key to the implementation of this project. The larger site area should be considered as a logical location for focusing off-site mitigation requirements related to development in the larger basin that impacts streams, wetlands and riparian areas.

Facing upstream - far bank is still unstable in places.

Facing downstream - showing previously placed wood.

Parcel Information

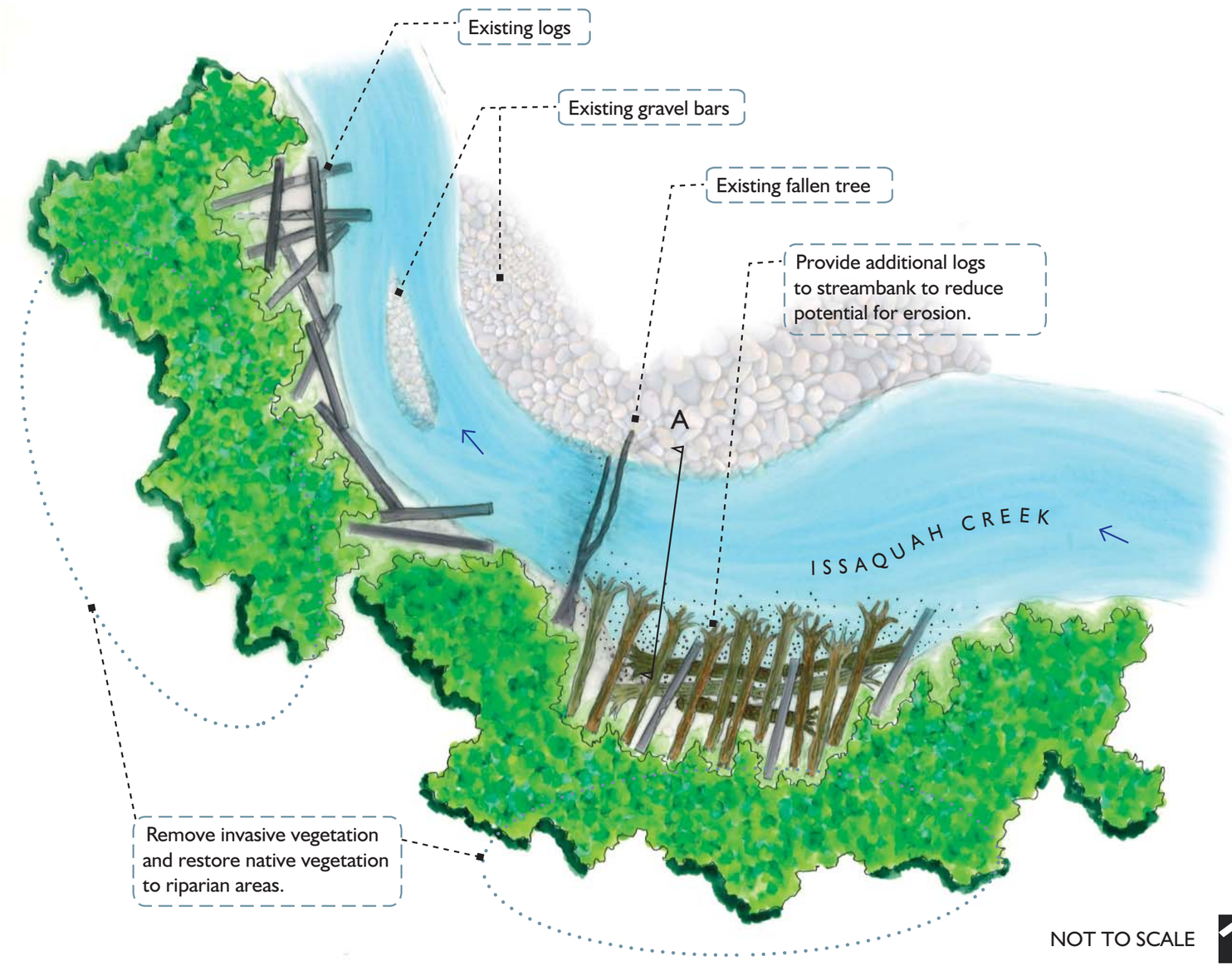


Project	PIN	Present Land Use	Owner	Acres
17	2824069012	Community Facilities	Private	19.33
17	2824069181	Community Facilities	City Of Issaquah	3.04

Site 17: LOG STRUCTURES AT SCHOOL DISTRICT OFFICES

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



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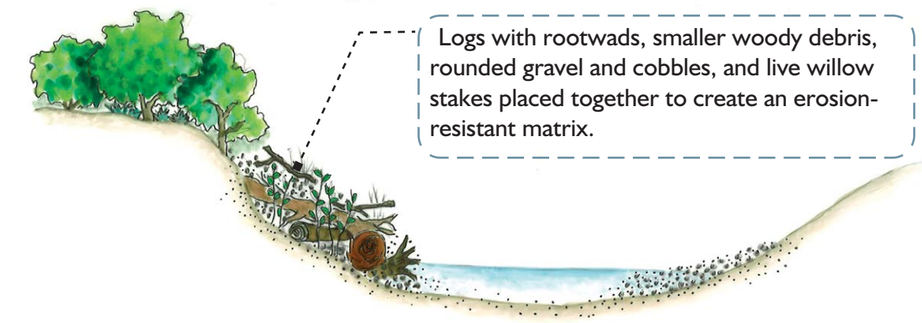
Section of Proposed Bank Enhancement



Section A

Site 18: BACKWATER/WETLAND AT SCHOOL DISTRICT OFFICES [R/W/CC*]

*R=Riparian Vegetation; W=Wetland; CC=Channel Creation/Relocation/Restoration

THE WATERSHED COMPANY

There is an old oxbow located south and west of the main stem of Issaquah Creek behind the Issaquah School District Administration Buildings. This area was previously identified as Wetland IC-9 in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003). It was estimated to be a 0.4-acre palustrine forested wetland. The Parametrix study also identified this area as a location to create a secondary (high flow) channel to Issaquah Creek for the purpose of off-channel fish habitat. A bank erosion project was completed by the City in 2003 and modifications to this are proposed as Site 17 of this study.

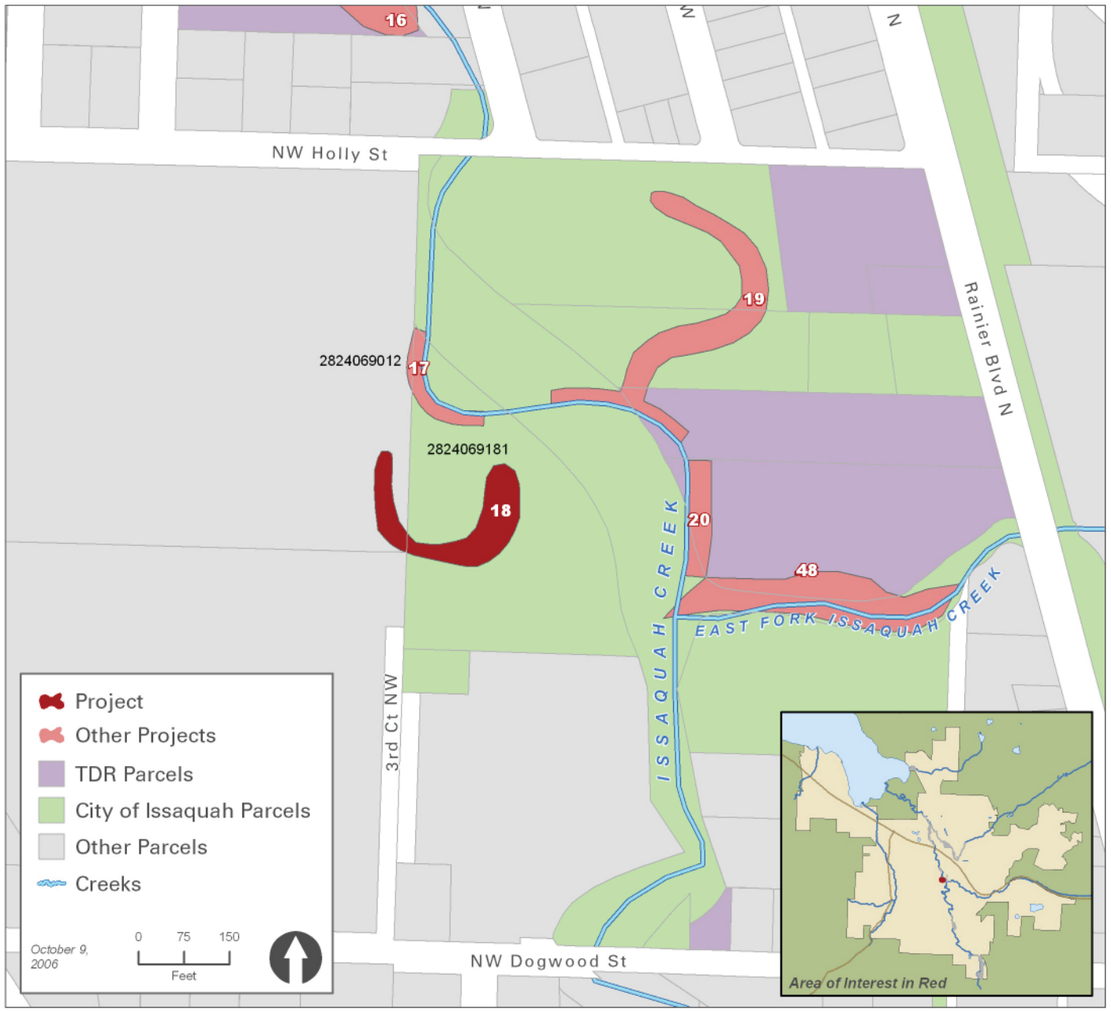
Wetland enhancements are proposed for this oxbow area. As shown on the conceptual plan, a small ponded area could be excavated within the old oxbow to increase the diversity of wildlife habitats and plant communities within the wetland and adjacent grassy field. This would be designed to increase edge habitats and incorporate habitat structures such as standing snags, fallen logs, root wads, and brush piles. Invasive plant removal, maintenance, and revegetation with native plants are also features of this concept plan. There is opportunity for educational interpretive signage associated with the School District offices and existing trails. It may also be possible to create a backwater area rather than a side channel as part of this plan. This would be designed to assure that fish would not be stranded in the area. A side channel is less preferred because a prohibitively large cut would be needed to connect the "old channel" to the existing water surface.

Implementation Strategies and Issues:
More than half of the project site is located within a large, irregularly shaped open space parcel owned by the City of Issaquah which is adjacent to several other City-owned parcels at the confluence of the East Fork and main stem of Issaquah Creek. A significant portion of the former oxbow area where enhancements would occur is located on the site of the Issaquah School District offices and the parking lot is the logical access and staging area for project activities. This site is adjacent to Site 17. It is also immediately across Issaquah Creek from Sites 19, 20, 48 and 49, which could be combined as features of a "Confluence Park," including stream restoration, wetland restoration, increased wetland and stream buffers, educational/interpretive opportunities, and picnicking and play areas. This project site is a logical Capital Improvement Program (CIP) and grant funding candidate, but could also be considered as an off-site mitigation site, particularly if future school district development projects have the potential to impact streams, wetlands and riparian resources.

Historic oxbow associated with Issaquah Creek.

Existing plant community would be enhanced with removal of invasive species and replanting with native trees and shrubs.

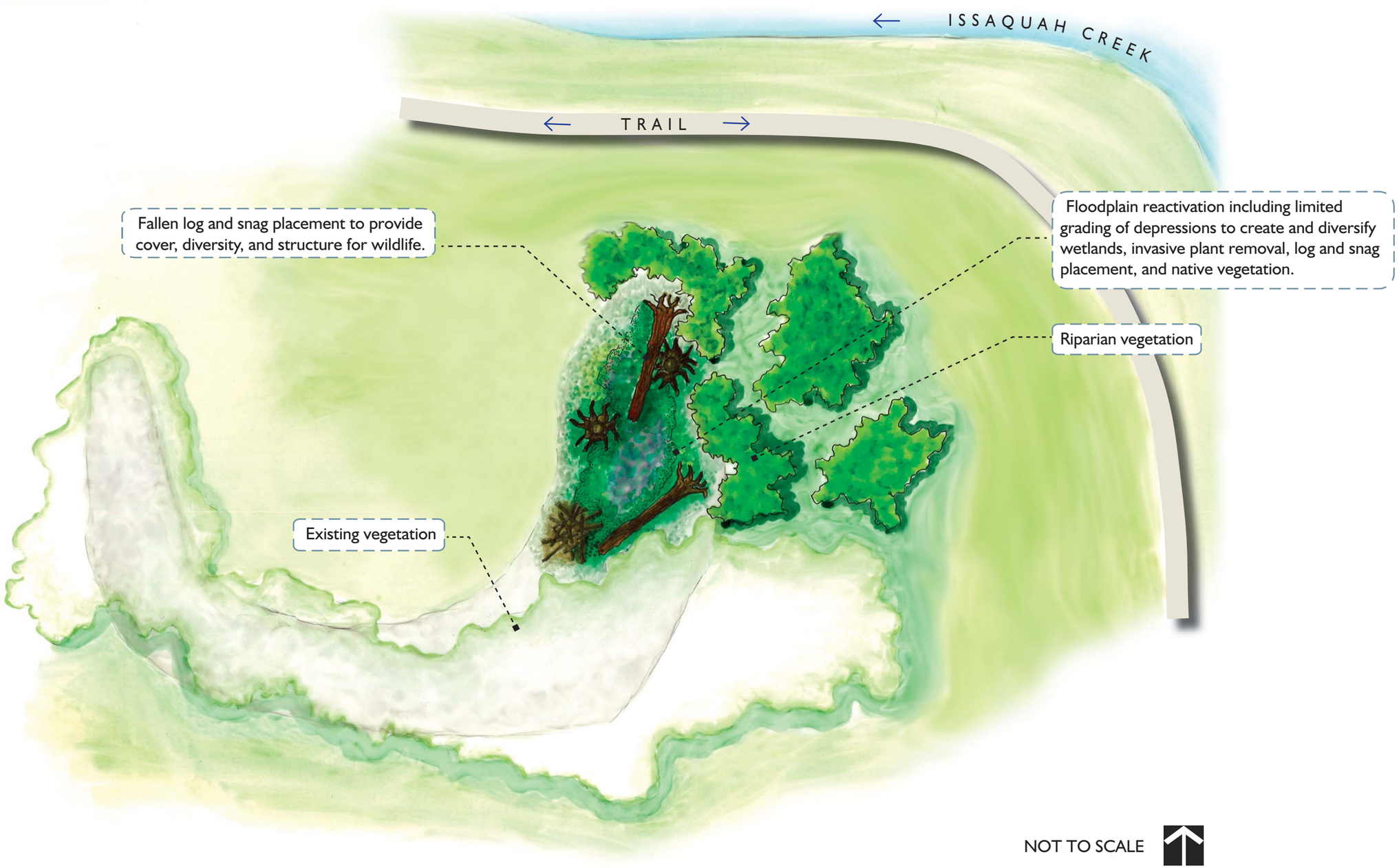
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
18	2824069012	Community Facilities	Private	19.33
18	2824069181	Community Facilities	City Of Issaquah	3.04

Site 18: BACKWATER/WETLAND AT SCHOOL DISTRICT OFFICES

Proposed Wetland Enhancement Plan



Site 19: CYBIL-MADELINE PARK [R/W*]

*R=Riparian Vegetation; W=Wetland

A wetland swale, probably a remnant of an old side channel to Issaquah Creek, is located in an open field between the main stem of the creek and Rainier Boulevard North, south of NW Holly Street. This area was previously identified as part of Wetland IC-8 in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003). It was also identified as Project I-211 in the *WRIA 8 Proposed Lake Washington/Cedar/ Sammamish Watershed Chinook Salmon Conservation Plan,* which described the site as having degraded stream and riparian habitat that offers excellent potential for restoration.

Currently, this wetland area is a grass and buttercup swale with little structural or plant species diversity. This plan proposes to excavate a series of depressions to intercept wetland hydrology and increase the diversity of microclimates and plant communities. These areas would be revegetated with a variety of native trees, shrubs, and emergent wetland plants to increase edges and habitat values. Snags would be installed for vertical structure, perches, and habitat for wildlife that use cavities. Fallen logs, boulders and brush piles could also be included as additional habitat features.

Implementation Strategies and Issues:

The majority of the proposed project area is located on two parcels that were previously developed as a single-family home site and were acquired by the City from a private owner in 1995. The northernmost of these properties, which fronts on NW Holly Street and contains existing structures and development, would appear to be a logical access and staging area for this project. A small portion of the project area is located on a previously acquired City open space property and another small portion is located on a private parcel that is identified as a sending site in the City's Transfer of Development Rights (TDR) program. This latter property appears to be a critical link for project implementation as it is positioned at the intersection of the old side channel and the current bed of Issaquah Creek. Acquiring a conservation easement for this connection or otherwise preserving it through application of the City's TDR program, as well as the Shoreline Master Program, Critical Areas Ordinance and SEPA substantive authority, should be explored as future private plans for this property unfold.

Existing wetland swale in field.

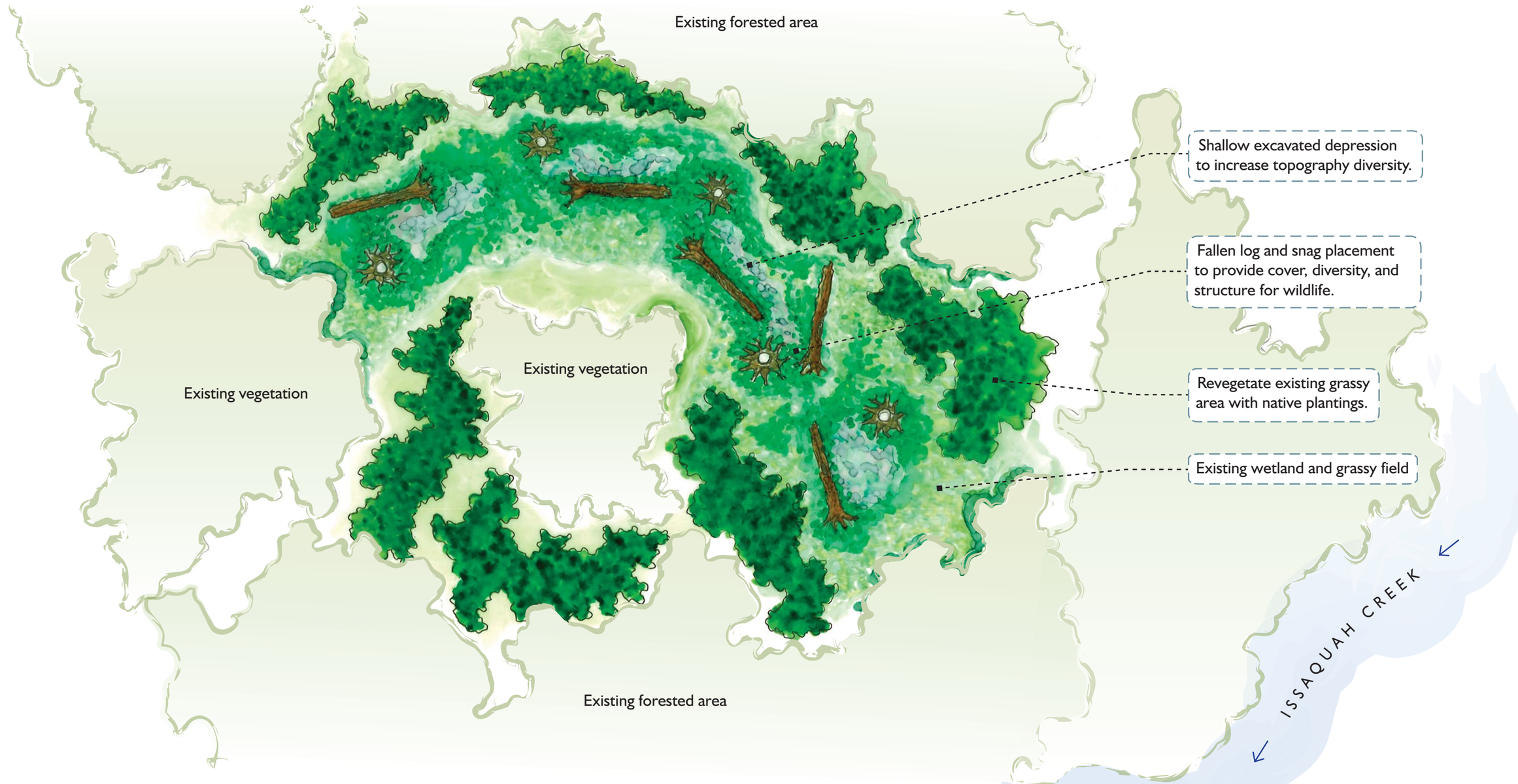
Parcel Information

Project	PIN	Present Land Use	Owner	Acres
19	2824069028	Low Density Residential	TDR Property	1.53
19	2824069160	Community Facilities	City Of Issaquah	1.22
19	2824069208	Community Facilities	City Of Issaquah	2.99

Site 19: CYBIL-MADELINE PARK

THE WATERSHED COMPANY

Proposed Wetland Enhancement Plan



NOT TO SCALE

NOTE: This Wetland Enhancement Plan could be combined and implemented with Streambank Enhancement Plan at Sites 17, 18, 20 and 48.

Site 20: ARMOR REDUCTION AND WOOD PLACEMENT BELOW EAST FORK [BS*]

*BS=Bank Stabilization

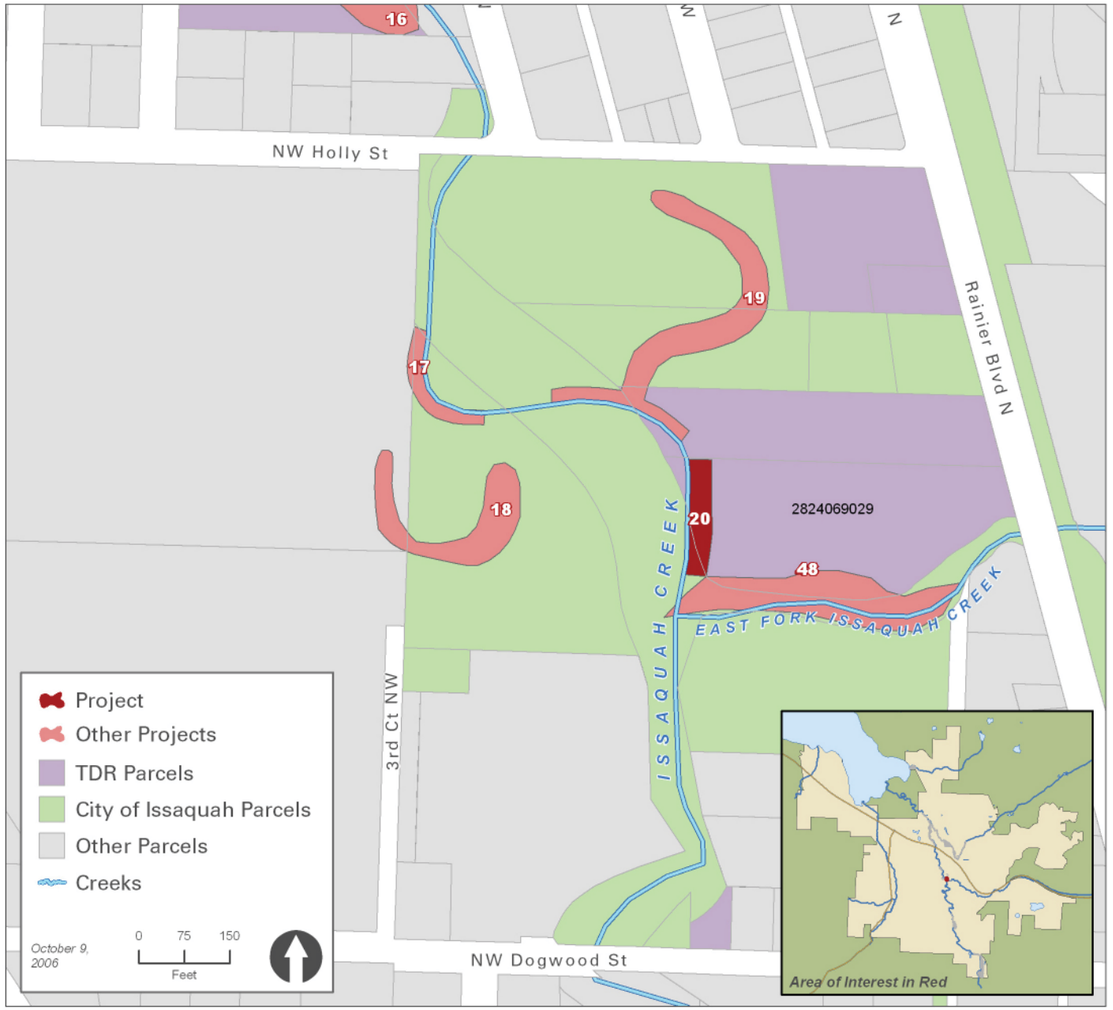
The existing condition of the east bank Issaquah Creek downstream of the confluence with the East Fork consists of a heavily rock-armored, steep, and moderately high bank with a very narrow riparian zone. Open fields or meadows lie beyond a fairly thin line of vegetation at the top-of-bank. The project proposed for this site entails removing much of the rock armoring and reconfiguring the remainder to secure an integrated complex of large wood, including primarily root wads and logs with root wads attached, as depicted on the concept plan for this location. Pool habitat would be created in the process, and the placed logs and root wads would provide immediate cover to enhance fish habitat within those pools. It is anticipated that the presence of the logs would also provide localized downward scour sufficient to maintain the pools and prevent them from being filled in by stream-carried sediments. The upper streambanks would be reduced in steepness, supplemented with topsoils as needed, and planted with native riparian vegetation.

Riparian restoration would also occur extending out into the adjoining field or meadow areas, including the removal of non-native, invasive plant species where needed in addition to installation of native plantings to increase the functional stream buffer width. Water from the East Fork could be diverted into the field to increase wetland hydrology and create more diverse plant communities and habitats.

Implementation Strategies and Issues:
The majority of the project site is located on an almost 2.5-acre parcel that is identified as a sending site in the City's Transfer of Development Rights (TDR) program. Securing the cooperation of this property owner will be essential for implementation of this project. This restoration plan could be combined with a variety of other restoration activities proposed in this general area between Issaquah Creek and the East Fork. Sites 19, 20, 48 and 49, portions of which are identified as TDR properties (see parcel information figure), could be combined as features of a "Confluence Park," including stream restoration, wetland restoration, increased wetland and stream buffers, educational/interpretive opportunities, and picnicking and play areas.

Old armoring and narrow stream buffer would be replaced with softened streambank, log structures, and a widened riparian zone.

Parcel Information

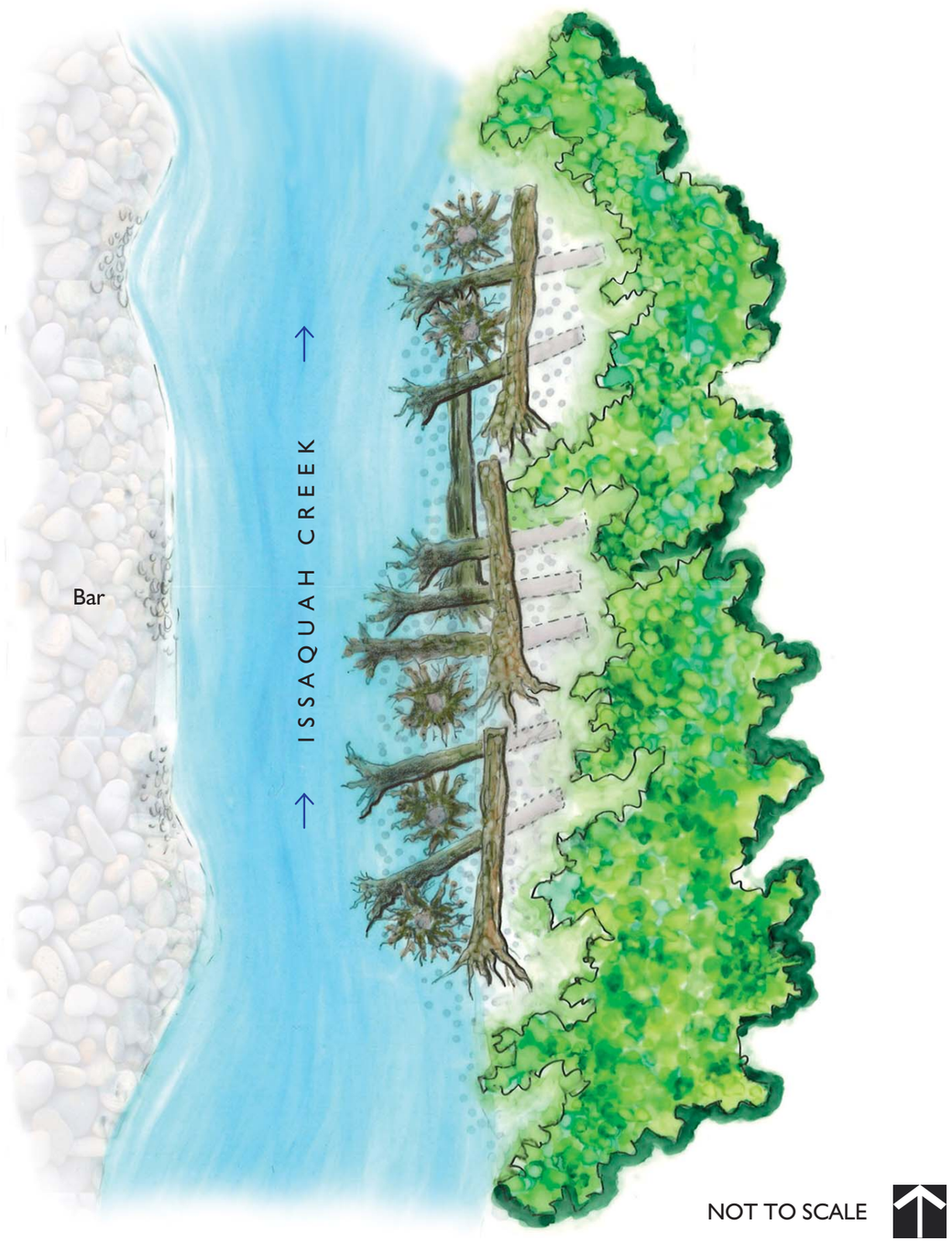


Project	PIN	Present Land Use	Owner	Acres
20	2824069029	Low Density Residential	TDR Property	2.35

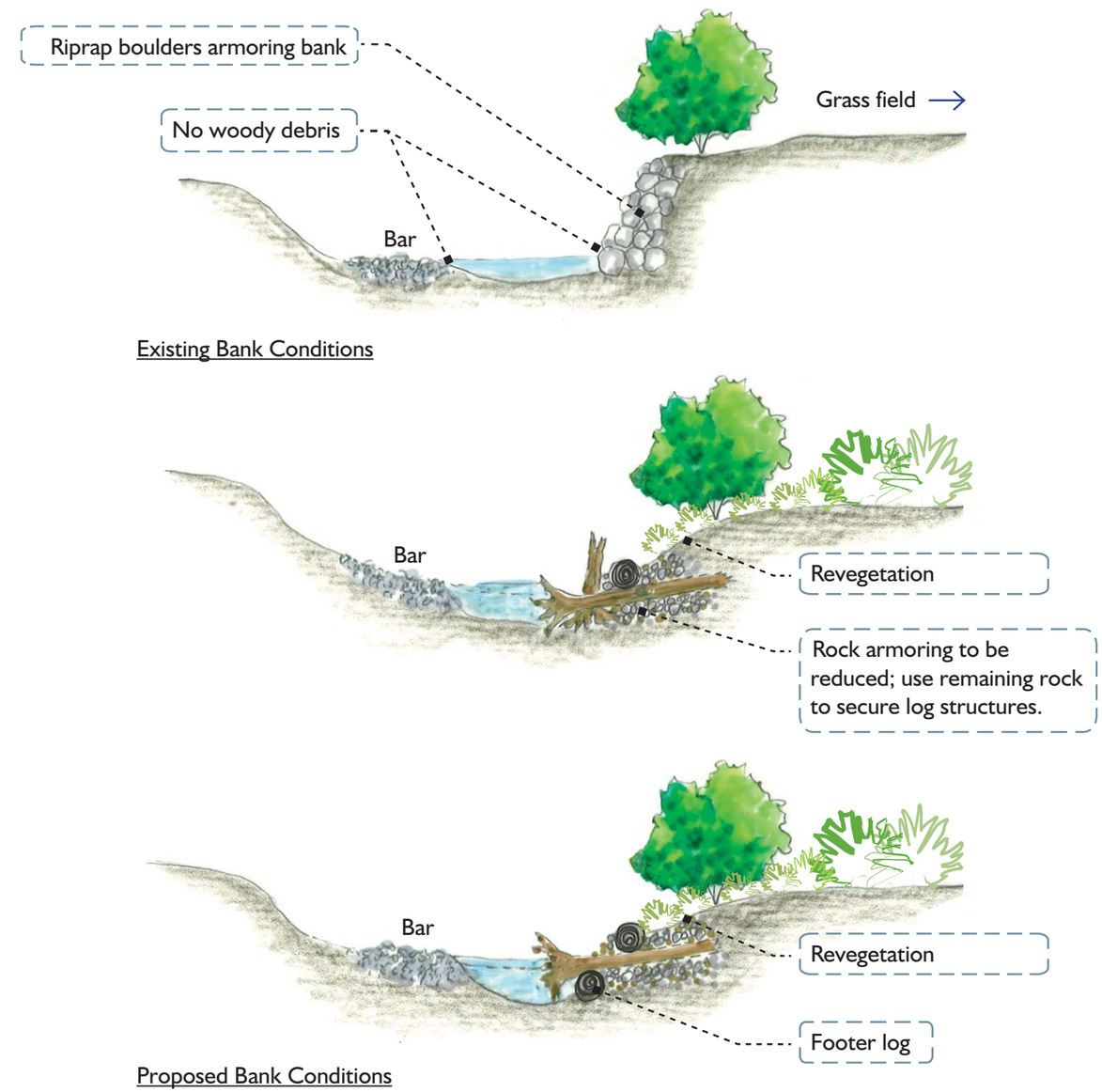
Site 20: ARMOR REDUCTION AND WOOD PLACEMENT BELOW EAST FORK

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



Sections of Existing Conditions and Proposed Bank Enhancement



Site 26: WILDWOOD TRAIL WOOD AND INVASIVES [R/LWD*]

*R=Riparian Vegetation; LWD=Large Woody Debris

THE WATERSHED COMPANY

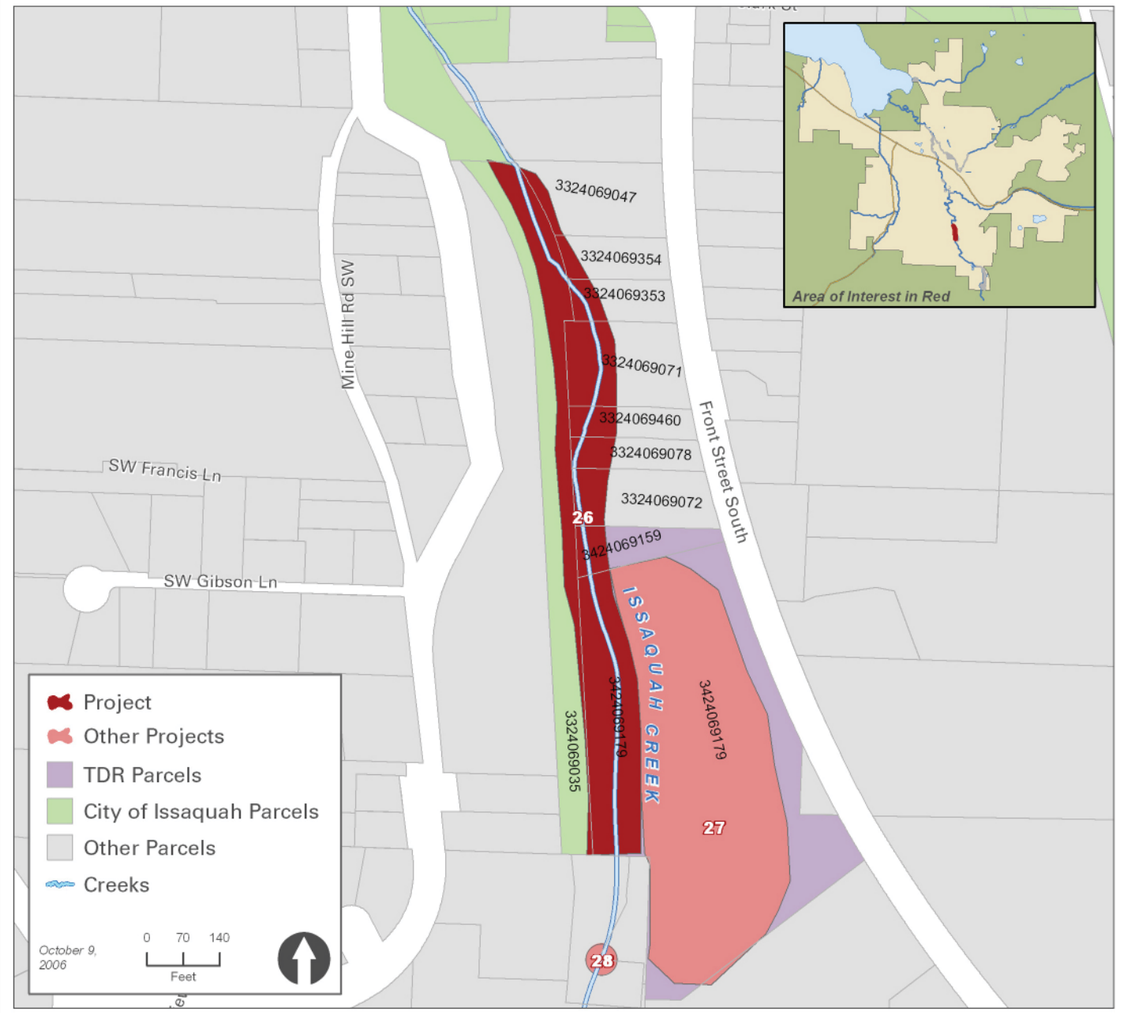
According to the description for Project I-219 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*, an existing mature shade canopy and other native vegetation are being lost from the area between Issaquah Creek and the Wildwood Boulevard Trail due to an infestation of English ivy and other weeds. The trail is otherwise known as the Hatchery Intake Weir Access Road. The concept plan for this area includes the eradication of English ivy and other invasives to protect the native tree overstory and promote the growth of native plants in the understory.

The adjoining section of creek is fairly straight and uniform, providing limited habitat function with only sparse amounts of large wood in the channel and few pools. In the process of restoring the native vegetation along this reach, it is proposed that access routes to the creek be identified, in part utilizing the Hatchery Intake Weir Access Road, and used when placing log complexes in the stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan. This layout is similar to those proposed for Sites 4, 27, 35 and 40, and the placed log structures are expected to encourage pool formation, provide protective cover, and improve habitat diversity and quality overall.

Implementation Strategies and Issues:
A significant portion of this project area, as well as the entire project area for Site 27, is located on an almost 7.5-acre parcel that is developed with an older single-family home and is designated as a sending site under the City's Transfer of Development Rights (TDR) program. Additional portions of the project area are comprised of a trail corridor owned by the City of Issaquah, which would likely serve as a logical access point for project construction. The initial removal of invasive vegetation envisioned in the *WRIA 8 Plan* could likely be accomplished by volunteers. The placement of log structures as identified in this project description will likely require Capital Improvement Program (CIP) and grant funding to implement. Multiple ownerships associated with this project site, including eight single-family properties with seven separate homes, will complicate full implementation of proposed actions throughout the entire identified project area.

Typical Issaquah Creek channel section facing downstream with Wildwood Trail (Site 26) on the left and Guano Acres Floodplain (Site 27) on the right. This straight, uniform channel section would benefit from log placement to form pool habitat and provide cover.

Parcel Information

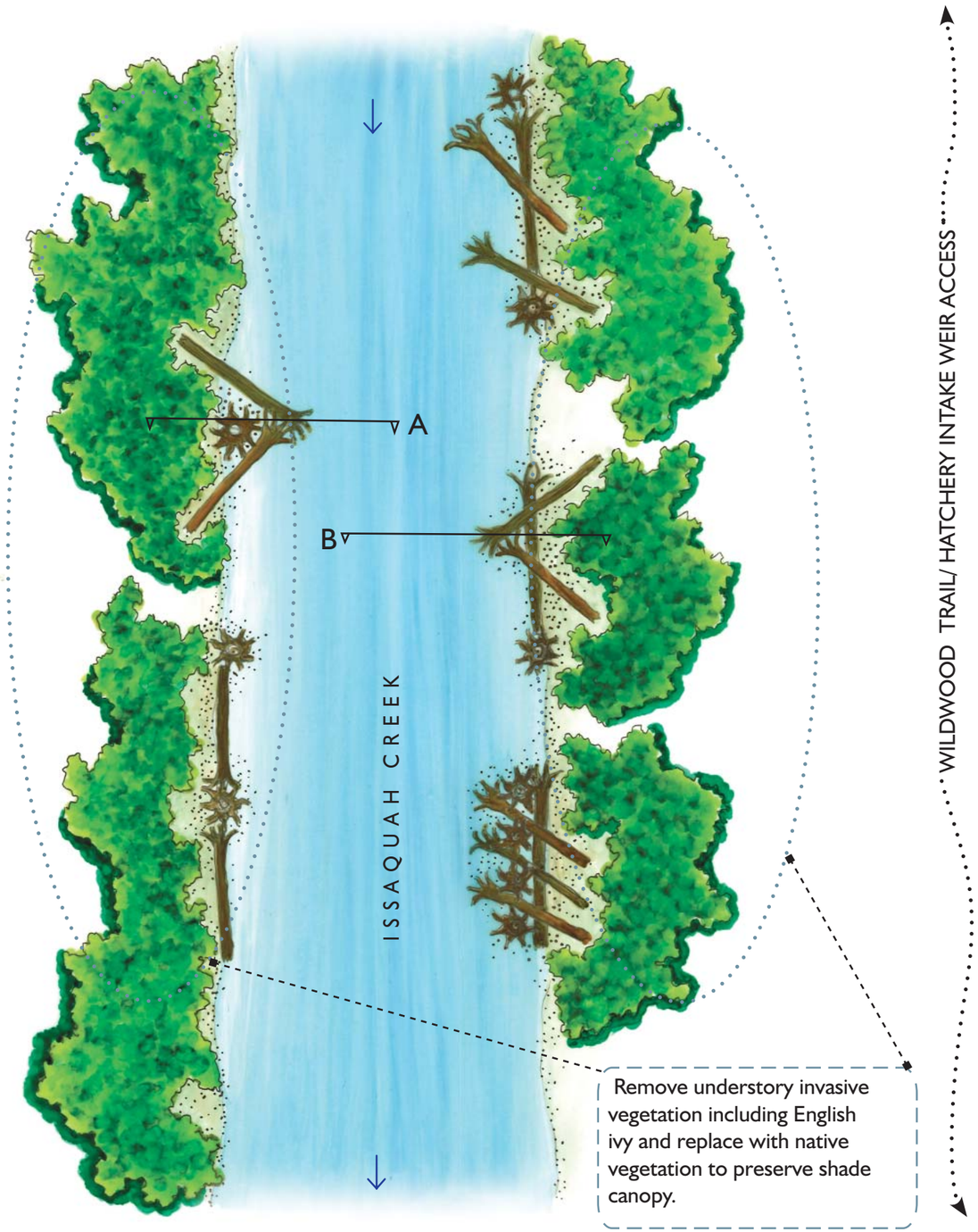


Project	PIN	Present Land Use	Owner	Acres
26	3324069035	Community Facilities	City Of Issaquah	2.04
26	3324069047	Low Density Residential	Private	0.81
26	3324069071	Low Density Residential	Private	0.85
26	3324069072	Low Density Residential	Private	0.68
26	3324069078	Low Density Residential	Private	0.35
26	3324069353	Low Density Residential	Private	0.37
26	3324069354	Low Density Residential	Private	0.39
26	3324069460	Low Density Residential	Private	0.33
26	3424069159	Low Density Residential	TDR Property	0.40
26	3424069179	Low Density Residential	TDR Property	6.60

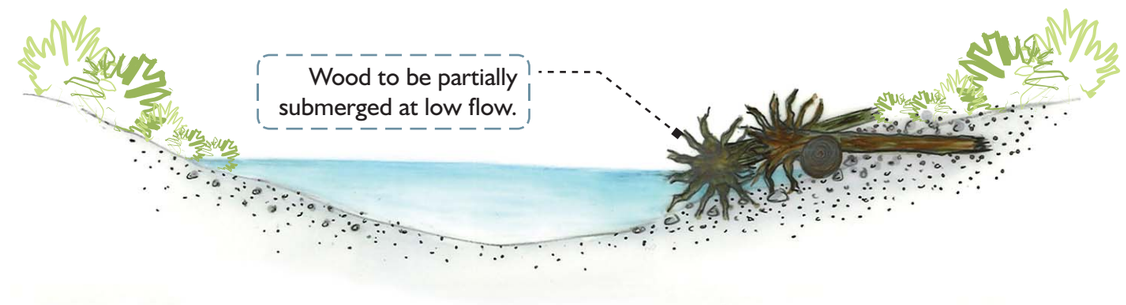
Site 26: WILDWOOD TRAIL WOOD AND INVASIVES

THE WATERSHED COMPANY

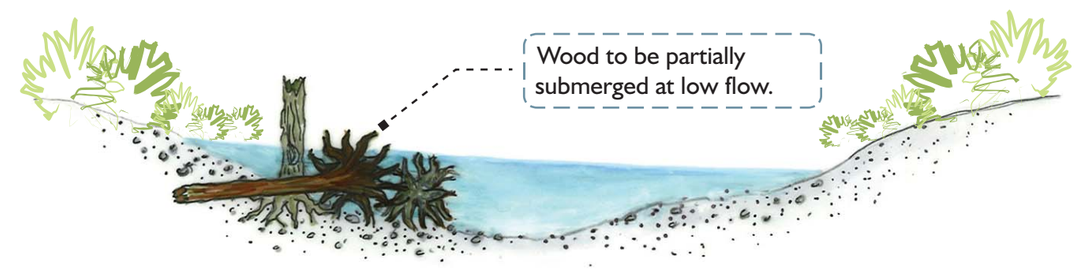
Proposed Bank Enhancement Plan



Sections of Proposed Bank Enhancement



Section A



Section B

NOT TO SCALE

Site 27: JOHNSON PROPERTY (GUANO ACRES) FLOODPLAIN RESTORATION [W/R/CC*]

*W=Wetland; R=Riparian Vegetation; CC=Channel Creation/Relocation/Restoration

The Johnson Property or "Guano Acres" site, referenced as Project I-220 in the *WRIA 8 Proposed Lake Washington/ Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*, includes a 600-foot-long section of the right bank main stem Issaquah Creek immediately downstream of the hatchery intake weir. The associated wetlands were previously identified as part of a large wetland complex, Wetland IC-13, in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003).

This site is a mosaic of meadows, recovering native vegetation, and invasive vegetation including Himalayan blackberry thickets. It also includes abandoned buildings and remnant side- or high-flow channels. The east streambank comprises part of the bank opposite of Site 26, and the in-stream log structure component would complement and be modeled after that project. In the process of conducting riparian and floodplain restoration along this reach, it is proposed that low-impact access routes to the creek be identified and used when placing log complexes in the existing stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan. This layout is also similar to those proposed for Sites 4, 26 and 40, and the placed log structures are expected to encourage pool formation, provide protective cover, and improve habitat diversity and quality overall.

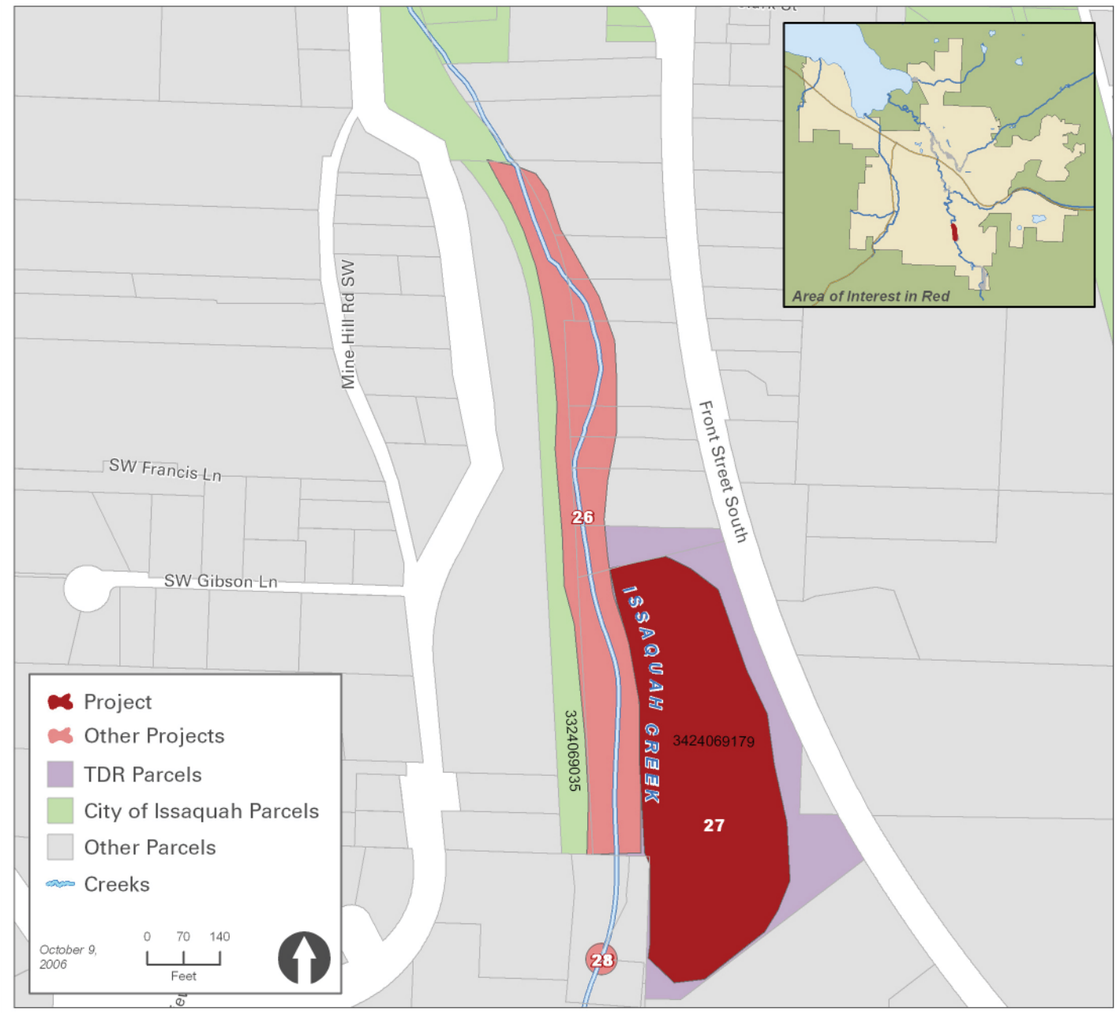
An alluring and unusual opportunity exists at this site in that the presence of the hatchery intake diversion weir immediately upstream opens the door to the possibility of providing gravity-flow stream water to enhanced or created side channels, spawning channels, and/or wetlands throughout the site. While the feasibility of this option would need further investigation before construction designs could be based on it, it is nonetheless an intriguing and potentially rewarding enough possibility that it should not be overlooked at the concept level. Incorporating the use of a low-gradient flume or pipe at the upstream end to accommodate site topography, it could ultimately be possible to create a fish-passable side channel which bypasses the diversion weir and associated fish ladder. Such a side channel project could be used to diversify and enhance adjacent wetlands by creating backwaters. Revegetation and habitat structures would be placed in existing meadows (former fields), and where blackberry thickets are removed. As shown, the concept plan for this site does not depend on a water supply from the diversion weir for its success or validation. See also Site 28.

The Issaquah Creek channel adjoining the Guano Acres site is a monotypic run with few pools. Proposed log structure placement would contribute to habitat complexity.

Implementation Strategies and Issues:

The entire project area for Site 27 is located on an almost 7.5-acre parcel that is developed with an older and smaller single-family home. Implementation of this project depends on future cooperation with the private property owner. This property has been identified as a Transfer of Development Rights (TDR) sending site, which could serve as a mechanism to reduce the amount of public funding necessary to secure this property if the owner is willing to sell development credits and a willing buyer can be found. Depending on whether a TDR transaction is realized for this property, CIP funding could also be a key tool for securing this site for an enhancement project. Given the extent of possible improvements to this site, this larger property presents a possible opportunity to create a site where off-site mitigation associated with other projects in the basin could be focused. It is unlikely that the full potential for this site could be realized through application of the CAO or SMP, however these are important tools to ensure future potentials for this site are not eroded. In addition, the size of the property could mean that even if the site is not ultimately acquired for open space, the application of SEPA substantive authority during future development, including setting aside of a portion of the property as open space during future subdivision to protect critical areas, could represent an alternative vehicle for partial fulfillment of project objectives in the event public funding is not identified and/or a future property owner wishes to develop the site.

Parcel Information

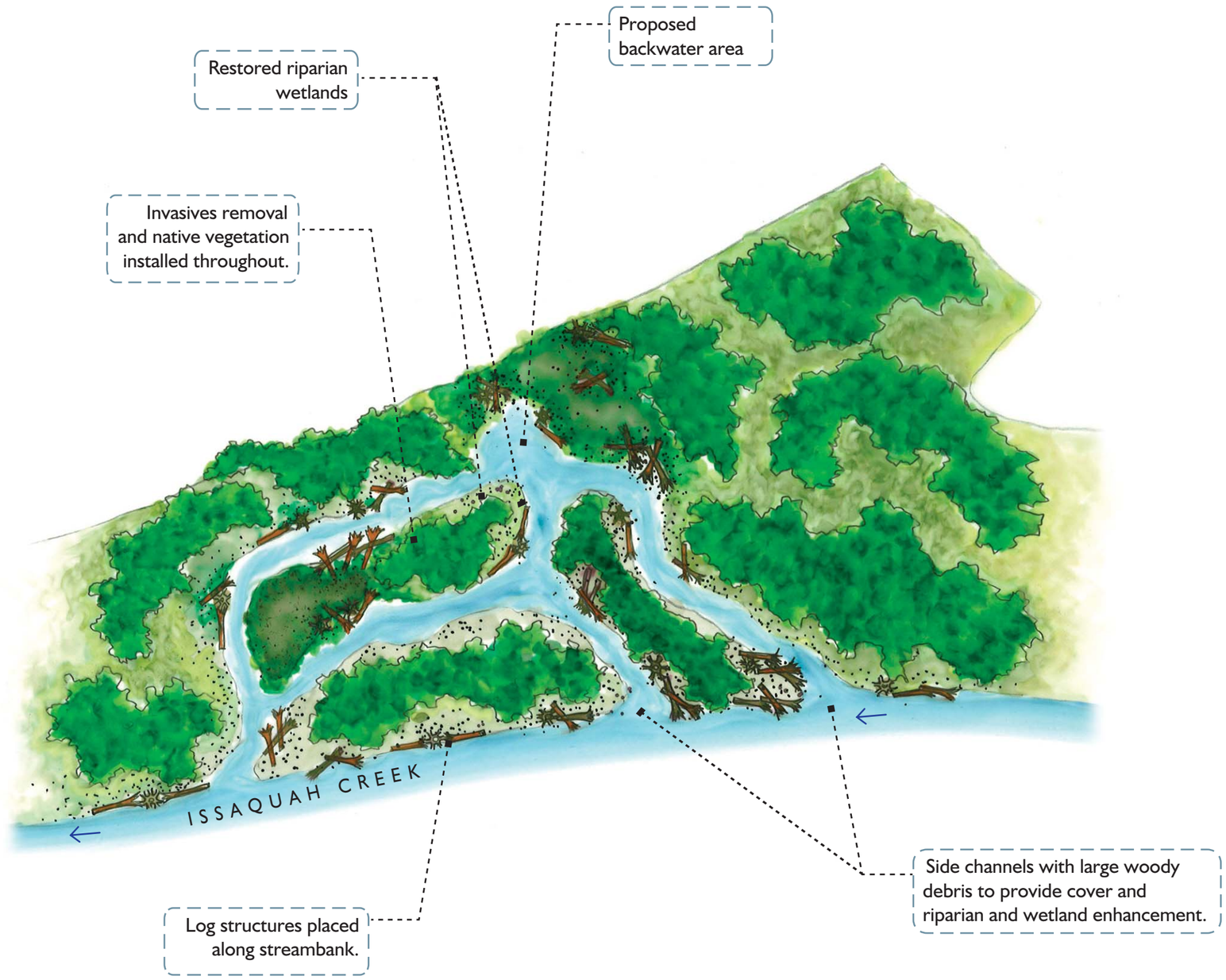


Project	PIN	Present Land Use	Owner	Acres
27	3424069179	Low Density Residential	TDR Property	6.60

Site 27: JOHNSON PROPERTY (GUANO ACRES) FLOODPLAIN RESTORATION

THE WATERSHED COMPANY

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

Site 28: HATCHERY INTAKE WEIR MODIFICATIONS [CC*]

*CC=Channel Creation/Relocation/Restoration

THE WATERSHED COMPANY

Recommendations for hatchery intake weir modifications are tied closely to the concept design for Site 28 "Guano Acres." Presently, flow approaching the weir can take three different pathways: 1) piped to provide hatchery water supply, the primary function of the weir; 2) through the fish ladder to provide fish passage over the weir for fish approaching it from downstream; and 3) over the spillway. The spillway is impassable for fish, yet its high flows relative to the fish ladder outfall attract fish and encourage them to spend a lot of effort trying to pass over it as opposed to more productive efforts at passing over the ladder.

In concert with the concept designed for the Guano Acres site immediately downstream of the intake weir on the right bank, it is proposed that stream base flows which presently pass over the spillway be diverted instead through a fish-passable bypass channel across the site. This would add a fourth flow pathway for water to take past the intake weir. As noted in the concept design narrative for Guano Acres, the very uppermost portion of this new channel would likely be a low-gradient culvert or flume due to the site topography immediately downstream of the weir. With this fish-passable bypass channel in place and operational, the intake weir spillway would no longer pass any noteworthy component of base flow and would thereby be relegated to passing flood flows only. Then, during normal base flow conditions, upstream-bound fish could pass by or over the intake weir by taking either 1) the bypass channel or 2) the fish ladder at the weir. Those fish arriving at the bypass weir during normal, base-flow conditions would no longer be deceived into following spillway flows in futile attempts to pass the weir, since those flows would no longer be present except during flood conditions.

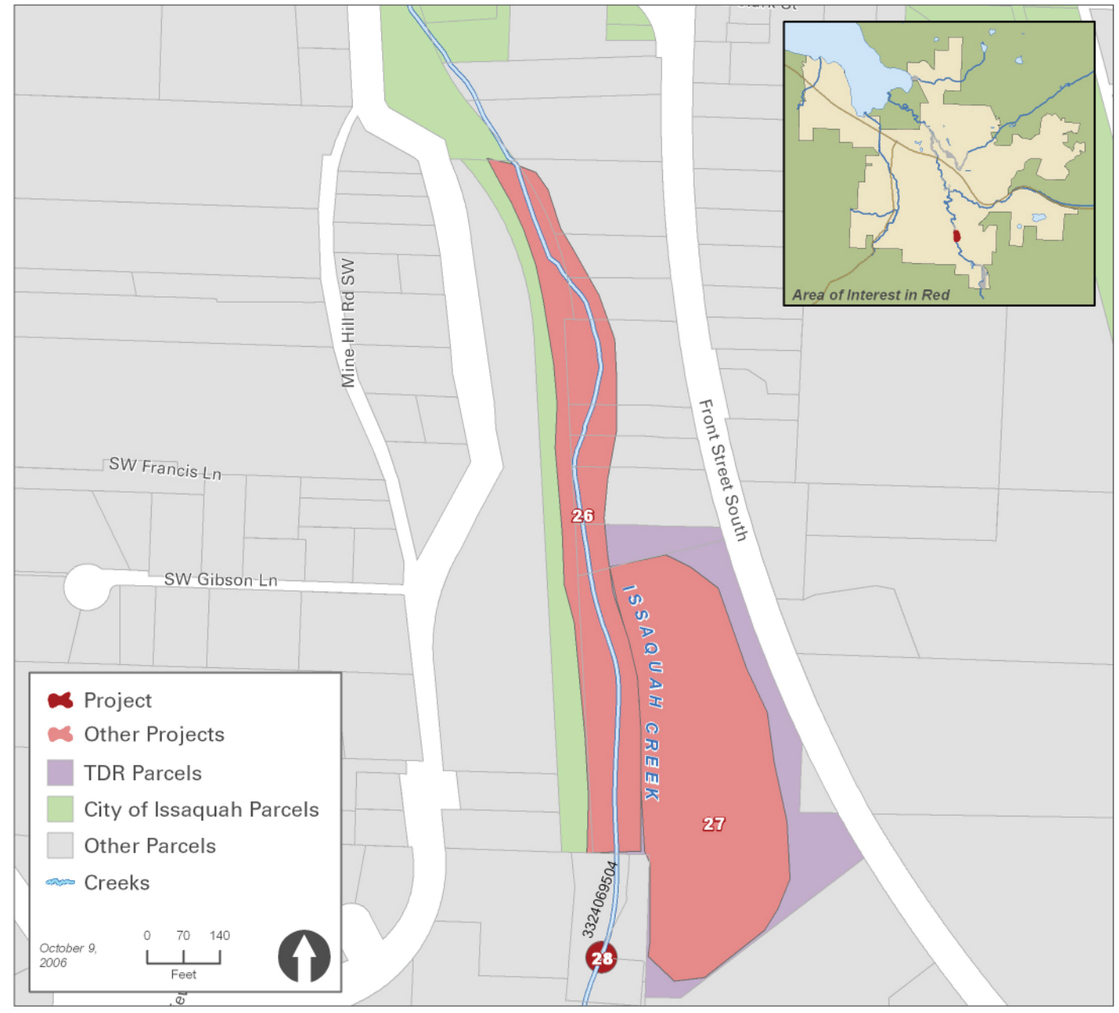
The Corps of Engineers has also prepared a design for upgrading the intake dam and fish ladder. It involves modifying (widening and lengthening) the fish ladder to conform with current fish passage standards. The dam would remain because it is needed for the water supply intake for the hatchery. The design was done under the Section 206 program, which at the present has no funding.

Implementation Strategies and Issues:
See also Site 27 implementation description. There has been some past study of this area by the Corps of Engineers without specific conclusions or recommendations. The City could explore the possibility of partnering with Washington Department of Fish and Wildlife (WDFW) on this project.

The existing spillway at the hatchery intake weir (left) provides an alluring attraction to upstream-bound salmon, luring them away from the fish ladder to the right.

The intake weir and fish ladder provide a surreal scene, along with surrounding development, in the setting of a lush alder forest.

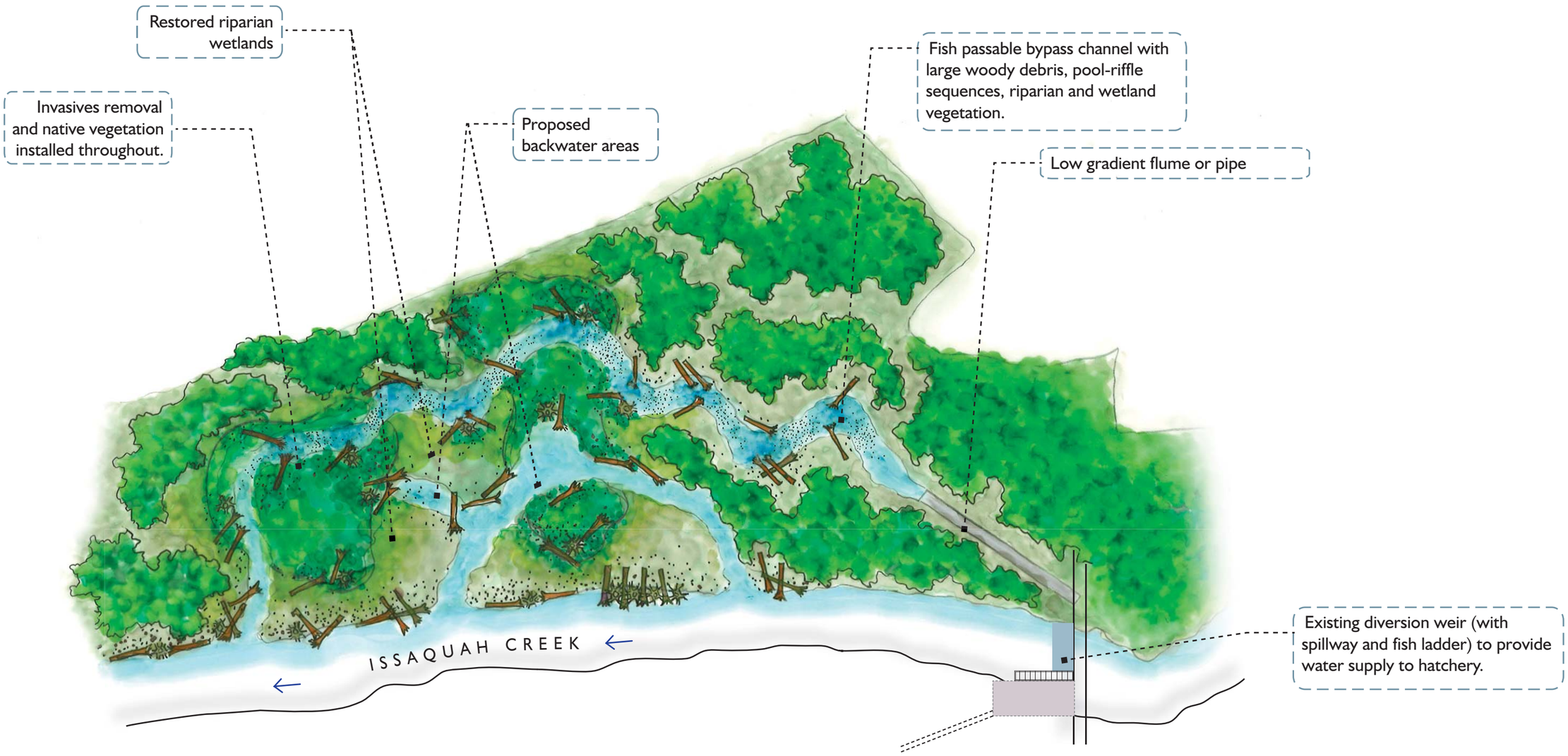
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
28	3324069504	Community Facilities	Private	0.70

Site 28: HATCHERY INTAKE WEIR MODIFICATIONS

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

Site 34: SYCAMORE AREA BACKYARD REVEGETATION [R*]

*R=Riparian Vegetation

THE WATERSHED COMPANY

In the Sycamore neighborhood, a number of private residential yards have mown turf right up to the stream's edge. This situation has a negative impact on the stream.

In order to provide some stream shading, reduce herbicide and pesticide run-off, and create a more natural condition, homeowners could install native plants along the stream edge. This planting could be integrated into other vegetation in the yard by working into existing planting beds and transitioning back into ornamental vegetation at an appropriate point away from the creek.

Implementation Strategies and Issues:
This lawn-to-stream condition appears frequently throughout the City. A program could be implemented City-wide or on a neighborhood basis to encourage residents to improve streamside habitat. Neighborhood or individual grants could be made available. In addition, CAO regulations could be clarified or modified to limit mowing and maintenance of turf up to the water's edge, with a corresponding public education effort that relies on voluntary compliance.

A typical plan might be laid out like this: In order to preserve stream views, evergreen trees and tall shrubs could be confined to the corners of the yard leaving a view area in the middle. Tall deciduous trees could be planted along with tough, low groundcover so the view is preserved between the vegetation layers.

A typical native planting plan might include:

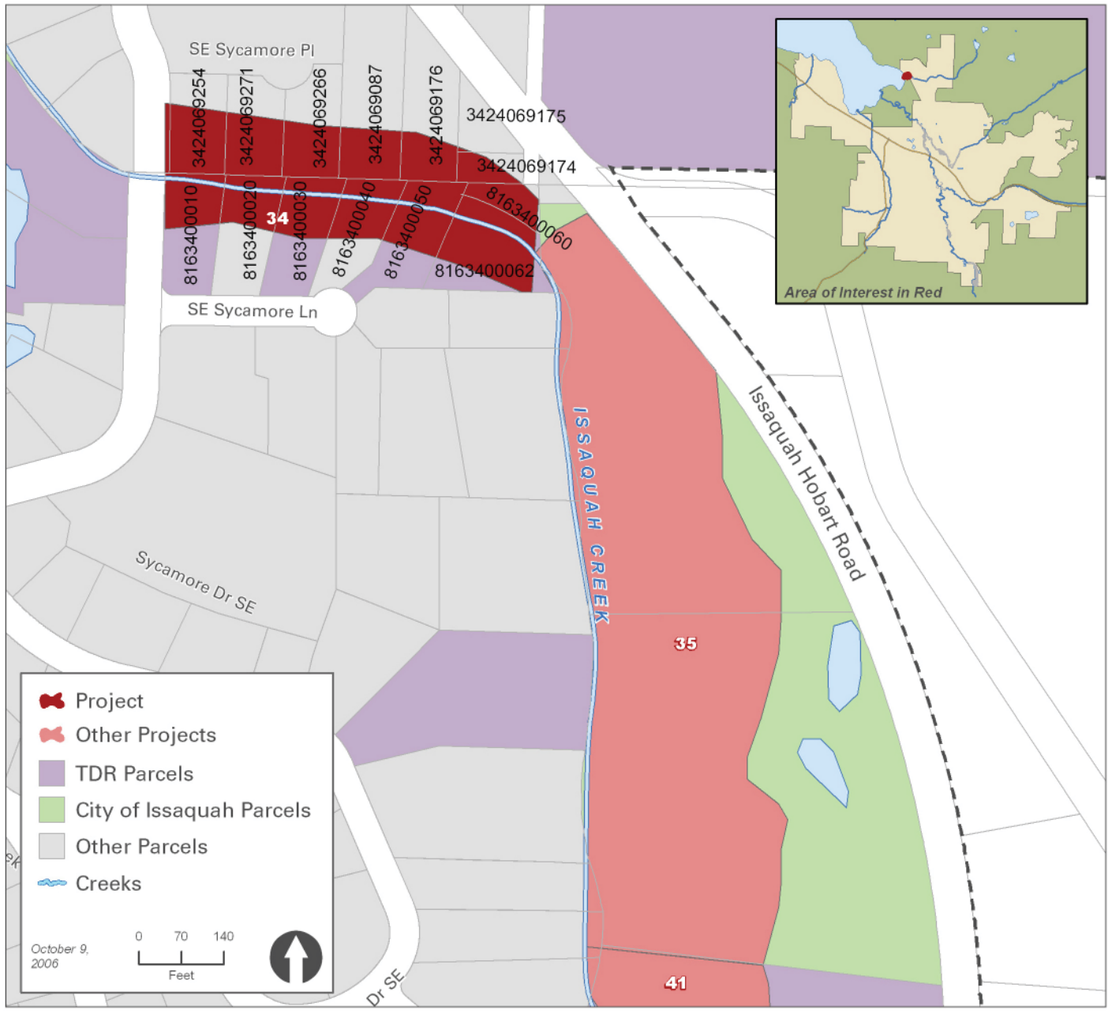
Trees: paper birch, cottonwood, Douglas fir, western red cedar, big leaf maple, Oregon ash.
Shrubs: vine maple, cascara, red twig dogwood, salal, hazelnut.
Groundcover: Oregon grape, kinnikinnick, coast strawberry, sword fern.

Other native plants may also be appropriate.

Typical lawn-to-stream edge condition on a private residential lot. This condition has a negative impact on the stream.

Slightly better condition along the stream with some native plants up to the water's edge. Could be improved by consolidating species into groups and providing more biodiversity.

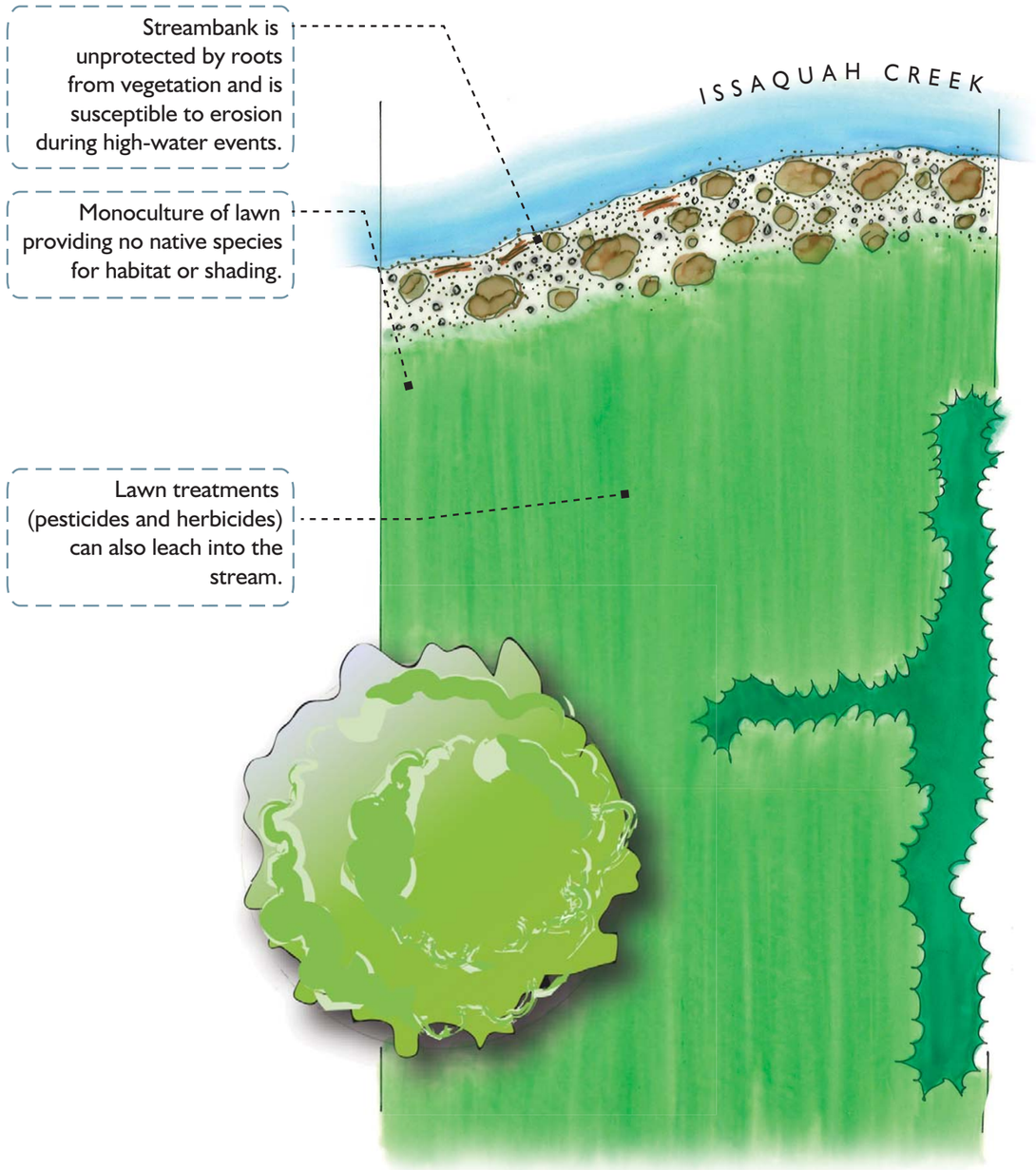
Parcel Information



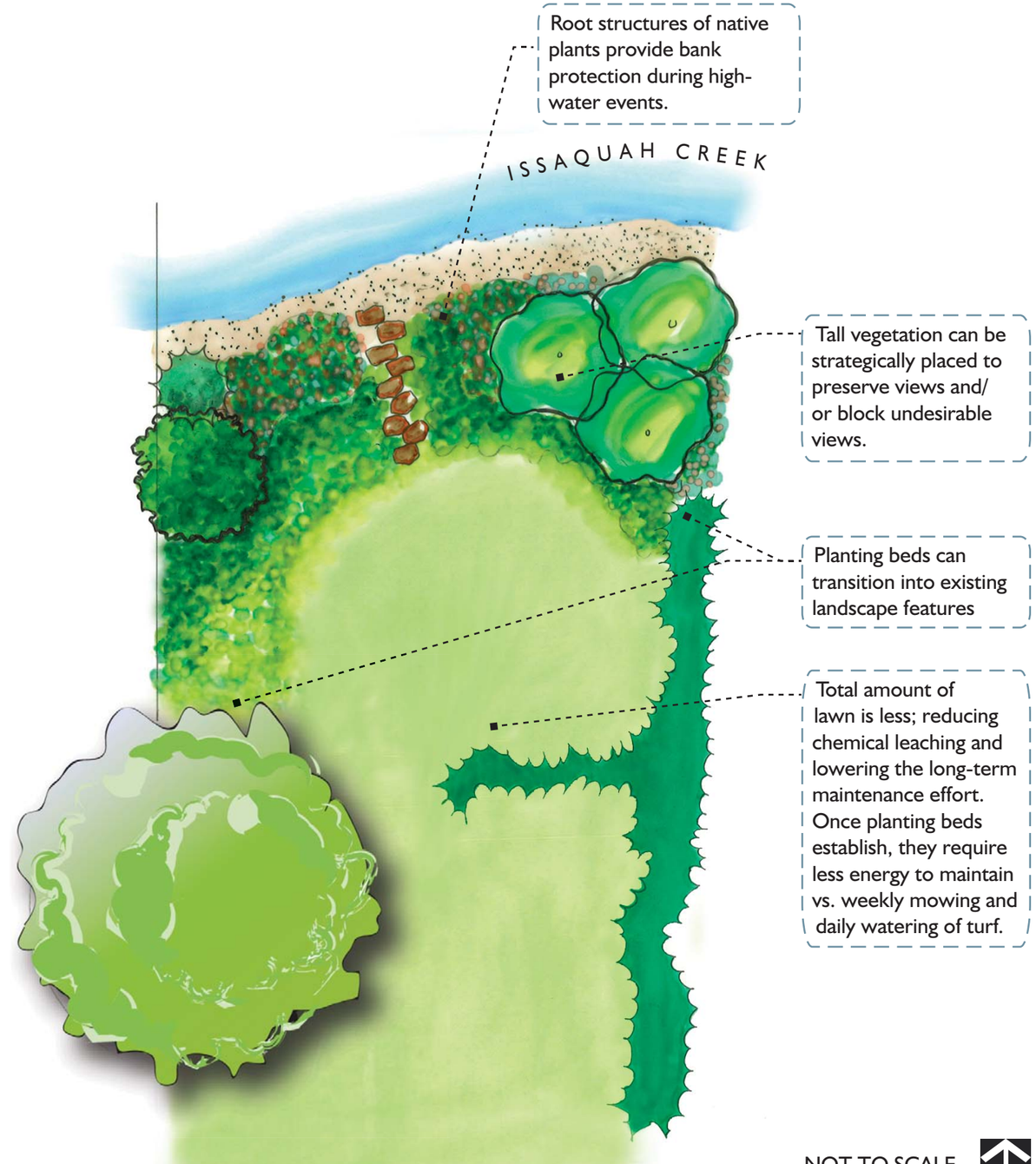
Project	PIN	Present Land Use	Owner	Acres
34	3424069087	Low Density Residential	Private	0.82
34	3424069174	Low Density Residential	Private	0.13
34	3424069175	Low Density Residential	Private	0.18
34	3424069176	Low Density Residential	Private	0.51
34	3424069254	Low Density Residential	Private	0.35
34	3424069266	Low Density Residential	Private	0.37
34	3424069271	Low Density Residential	Private	0.35
34	8163400010	Low Density Residential	Tdr Property	0.42
34	8163400020	Low Density Residential	Private	0.41
34	8163400030	Low Density Residential	Tdr Property	0.41
34	8163400040	Low Density Residential	Private	0.37
34	8163400050	Low Density Residential	Tdr Property	0.44
34	8163400060	Low Density Residential	Private	0.13
34	8163400062	Low Density Residential	Tdr Property	0.52

Site 34: SYCAMORE AREA BACKYARD REVEGETATION

THE WATERSHED COMPANY



EXISTING CONDITIONS



REMODELED BACKYARD LANDSCAPE

Site 35: SQUAK VALLEY PARK NORTH [LWD/CC/W*]

*LWD=Large WoodyDebris; CC=Channel Creation/Relocation/Restoration; W=Wetland

A berm built in the 1930s exists along much of the length of Issaquah Creek, west of Issaquah-Hobart Road and upstream of the Sycamore neighborhood in the City-owned Squak Valley Park. The associated wetlands were previously identified as part of a large wetland complex, Wetland IC-18, in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003). Wetland delineation for the park was conducted in 2002 by The Watershed Company, and demonstrated the presence of less jurisdictional wetland than had previously been estimated.

The concept design for this site includes removing the northernmost section of berm near the mouth of Kees Creek at Issaquah Creek in order to increase floodplain interaction between the two creeks in that area. A previous restoration project has been implemented along Kees Creek between the mouth and Issaquah-Hobart Road. The berm would also be breached at several additional locations extending to the south, with corresponding backwater enhancement areas associated with each. There have been other, past plans to remove berm sections in this area as per Project I-226 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*, and this concept design incorporates various components of those designs.

Existing wetland depressions in the grassy field could also be expanded and deepened for topographic diversity and wetland enhancement. Additional hydrologic information would need to be obtained to design these features, as much of the field appears to be several feet higher than the creek. Wetland restoration and/or creation would include habitat features such as snags, logs, and brush piles, as well as removal of invasive plants and revegetation with native plants in the wetland and associated stream and wetland buffers. Log habitat structures would also be placed in association with the created backwater areas.

Meadows adjacent to Issaquah Creek would be used to create wetland and backwater enhancement areas at the Squak Valley Park North site.

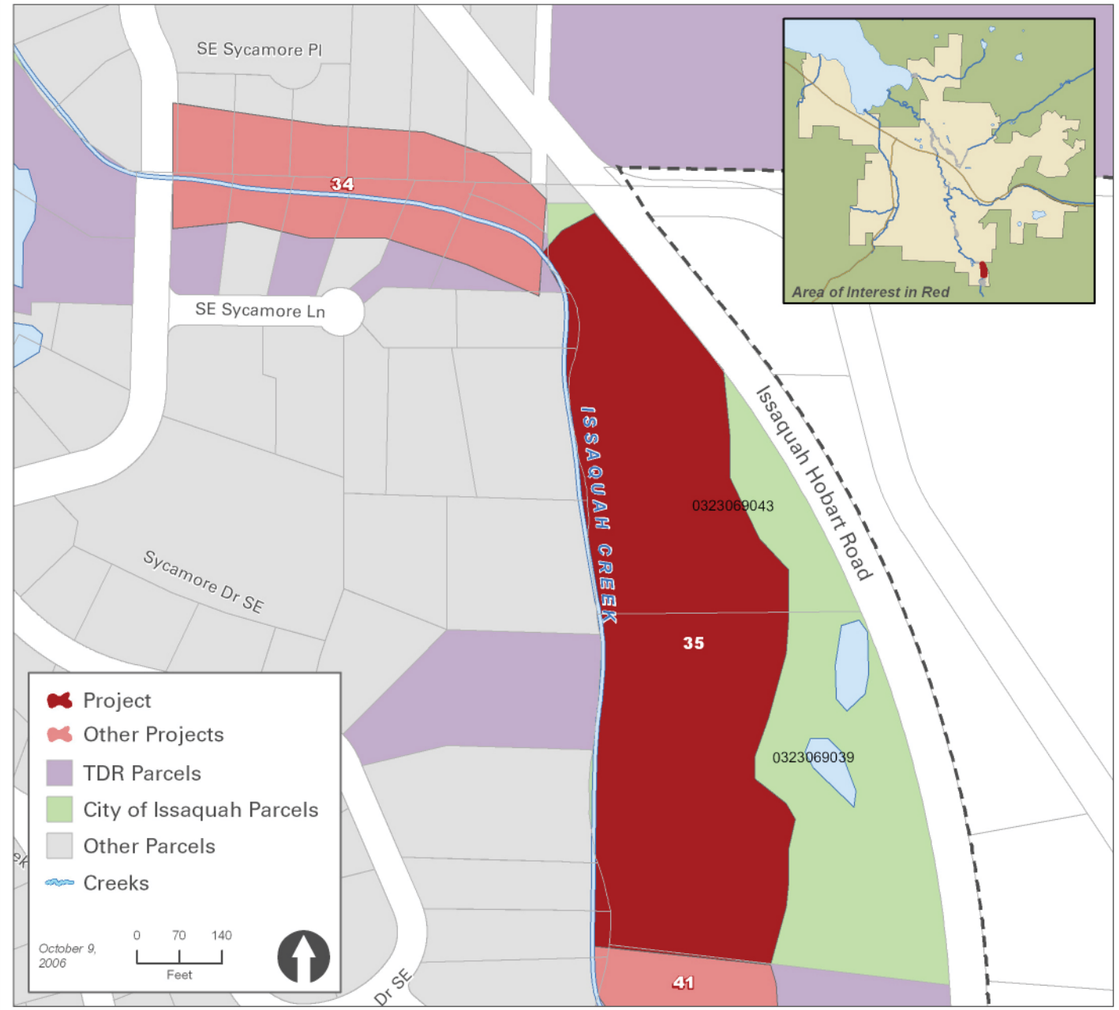
The existing Issaquah Creek channel paralleling the berm along the Squak Valley Park site is a long, relatively straight and uniform channel section with channel features consisting almost entirely of glides and runs. These are both shallow habitat types, and the few pools that are present are also poorly formed and relatively shallow. The in-stream habitat along this section lacks diversity and cover in spite of the recovering vegetation along its banks. To encourage pool formation, provide cover, and improve in-stream habitat diversity and quality overall, it is recommended that numerous logs in various groupings and configurations be placed along both banks throughout this reach. These are indicated on the accompanying concept plan and are similar to log placement shown for Sites 4, 26, 27 and 40.

This project was also studied and designed by the Corps as a Section 206 project. Their approach was to breach the dike in two places to construct side channels. While the City supported this concept, they also considered the option of completely removing the levee from all along the two parcels (over 1,000 feet). This would involve about 10,000 cubic yards of excavation and could potentially provide better long-term results, not being nearly as susceptible to severe sedimentation.

Implementation Strategies and Issues:

The project site is comprised of two separate parcels, totals more than 11 acres, which were acquired from a private property owner in 1988 by the City. Capital Improvement Program (CIP) and grant funding will likely be the primary vehicles for project implementation; however, it is important to note that on these large sites, the City may be able to benefit from targeting off-site mitigation associated with private development in the basin which has the potential to impact critical areas. Combined with Sites 40 and 41, this project could be an integral part of a large, high-end nature park possibly with a boardwalk trail, and interpretive and historical elements. Washington Wildlife and Recreation Program funding is a key state grant source for park and open space improvement projects.

Parcel Information



Project	PIN	Present Land Use	Owner	Acres
35	323069039	Community Facilities	City Of Issaquah	6.95
35	323069043	Community Facilities	City Of Issaquah	4.23

Site 35: SQUAK VALLEY PARK NORTH

THE WATERSHED COMPANY

Proposed Comprehensive Site Enhancement Plan

Berm section removal

Riparian and wetland creation and enhancement.

Invasives removal, native revegetation, and habitat structure placement throughout.

Streambank log structure placement to form pools, provide habitat diversity, and structure.

Trail for passive recreational and interpretive uses to be included in the Parks development and planning process for the site.

NOT TO SCALE

Site 40: SQUAK VALLEY PARK SOUTH [W/R/LWD/CC*]

*W=Wetland; R=Riparian Vegetation; LWD=Large WoodyDebris; CC=Channel Creation/Relocation/Restoration

The Squak Valley Park South site, referenced as Project I-227 in the *WRIA 8 Proposed Lake Washington/Cedar/ Sammamish Watershed Chinook Salmon Conservation Plan*, includes nearly one thousand feet of the east bank main stem Issaquah Creek immediately north (downstream) of the City limits. The associated wetlands were previously identified as part of a large wetland complex, Wetland IC-18, in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003). Wetland delineation for the park was conducted in 2002 by The Watershed Company, and demonstrated the presence of less jurisdictional wetland than had previously been estimated, including one wetland which had been caused by a poorly functioning septic field that dried up after the house was removed.

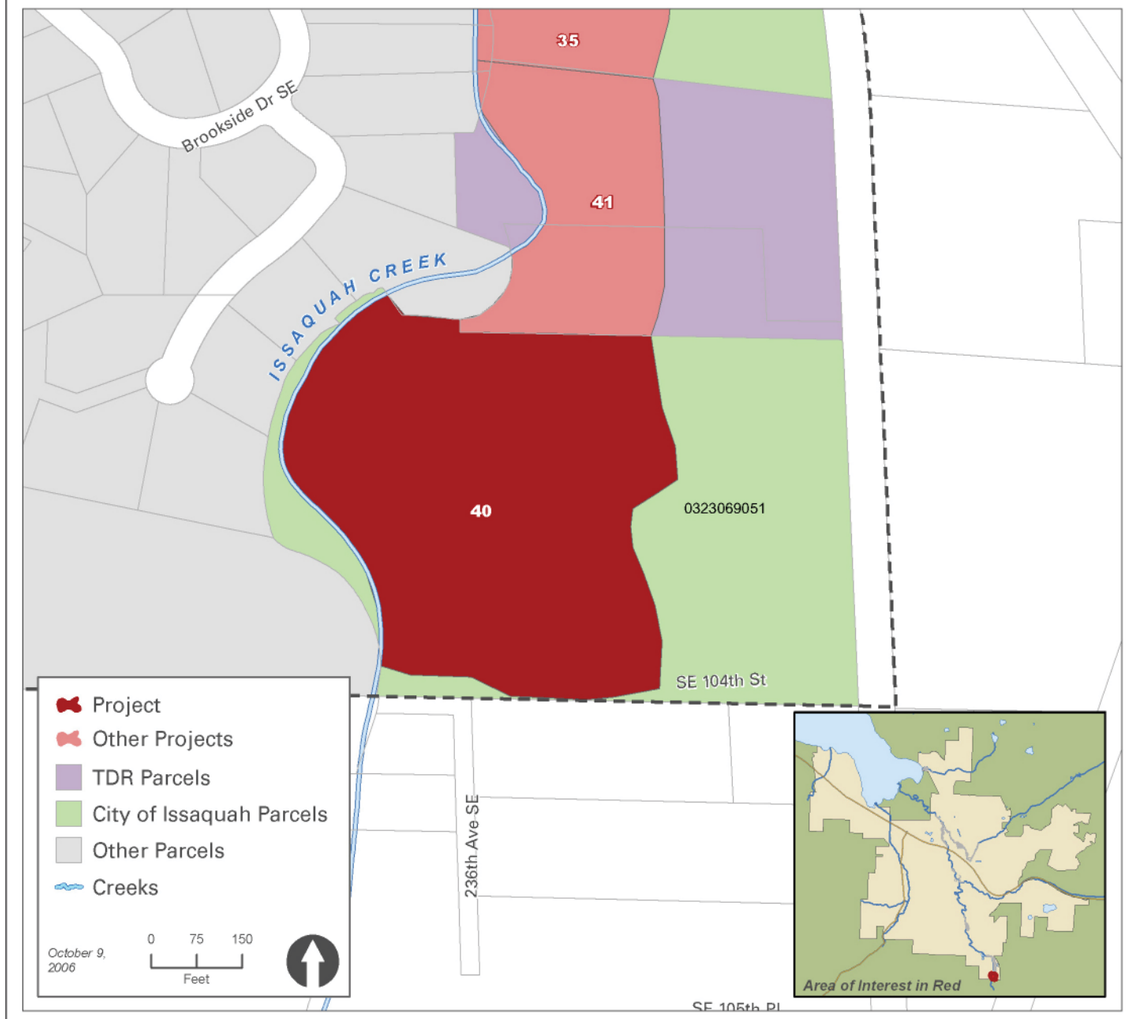
Similar to the Site 27 "Guano Acres" site, Squak Valley Park South is a mosaic of meadows, recovering native vegetation, and invasive vegetation including Himalayan blackberry thickets. It also includes remnant side- or high-flow channels. In the process of conducting riparian and floodplain restoration along this reach, it is proposed that low-impact access routes to the main stem creek channel be identified and used when placing log complexes in the existing stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan. This layout is also similar to those proposed for Sites 4, 26 and 27, and the placed log structures would be designed to encourage pool formation, provide protective cover, and improve habitat diversity and quality overall.

This area is much wetter than the fields in the northern part of Squak Valley Park (Site 35). Wetland habitat features, such as backwaters, snags, logs, excavated depressions, increased edge habitat and complex plant communities, and removal/control of invasive plants would all be part of this large-scale side-channel and wetland restoration project. A Master Planning approach for the conceptual plan is taken for this project, indicating that in-stream wood placement, invasive vegetation removal, native vegetation planting, wetland enhancement and/or expansion, side channel creation/ restoration, and other aspects of floodplain restoration are provided using the overall site plan for reference.

Implementation Strategies and Issues:
The project site is located on an almost 12.5-acre site that was acquired from a private property owner in 2000. As was the case with this previous acquisition, Capital Improvement Program (CIP) and grant funding would continue to be key sources for the implementation of this proposed project. Inclusion of this project in the *WRIA 8 Plan,* as well as development of a more refined conceptual design as presented in this plan, should improve grant-funding competitiveness. Combined with Sites 35 and 41, this project could be an integral part of a large, high-end nature park, possibly with a boardwalk trail and interpretive/historical elements.

The Squak Valley Park South site offers fairly broad, open areas for wetland creation, riparian restoration, and floodplain connectivity, including side-channel creation.

Parcel Information

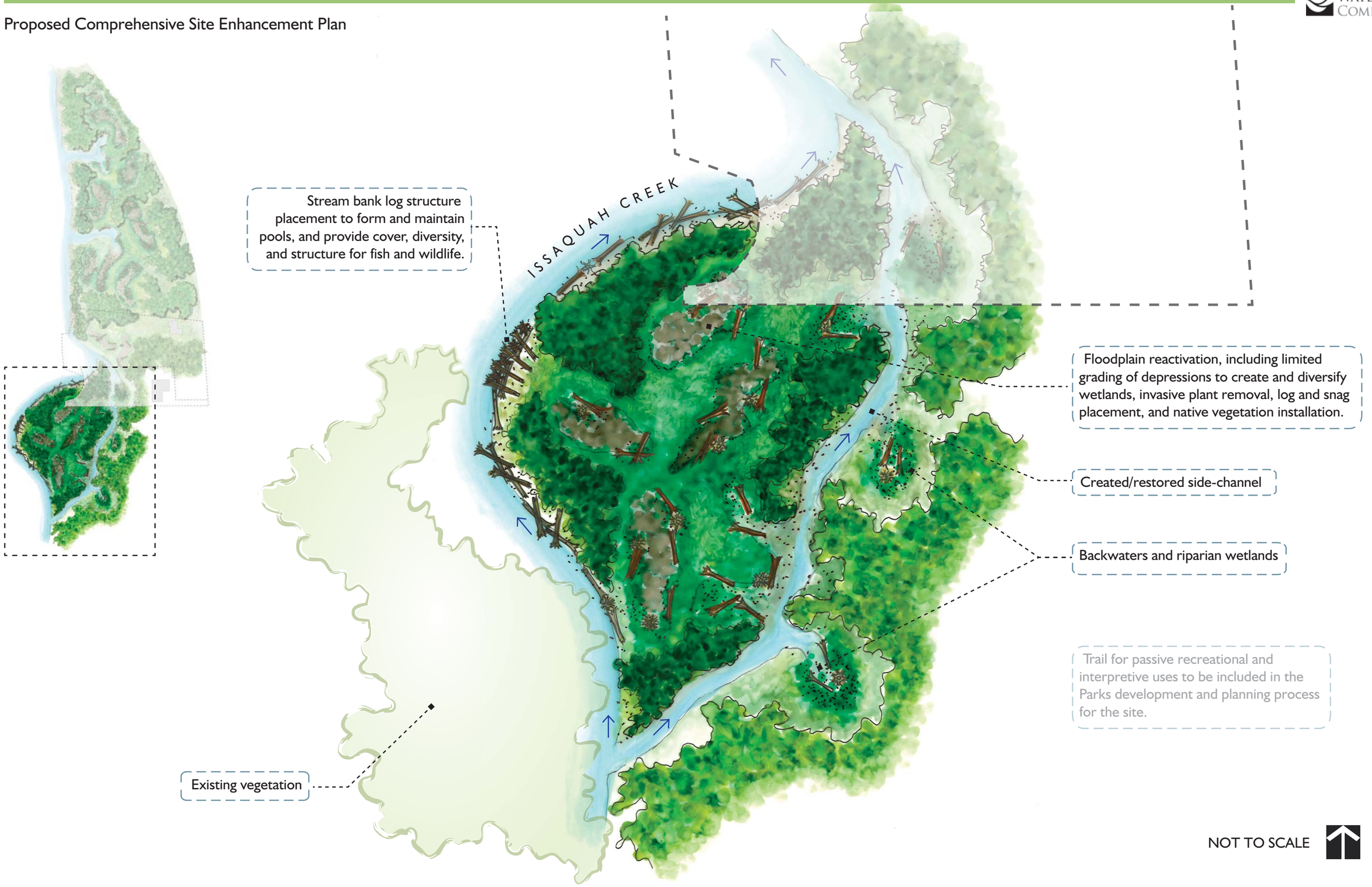


Project	PIN	Present Land Use	Owner	Acres
40	323069051	Community Facilities	City Of Issaquah	12.50

Site 40: SQUAK VALLEY PARK SOUTH

THE WATERSHED COMPANY

Proposed Comprehensive Site Enhancement Plan



Site 41: SQUAK VALLEY CONNECTOR [W/R/LWD/CC*]

*W=Wetland; R=Riparian Vegetation; LWD=Large WoodyDebris; CC=Channel Creation/Relocation/Restoration

The Watershed Company

The potential Squak Valley Connector site is located on Transfer of Development Rights (TDR) lands, which would be acquired for wetland, floodplain, and riparian enhancements to join Squak Valley Park North and Squak Valley Park South. It is referenced as Project I-228 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. The associated wetlands were previously identified as part of a large wetland complex, Wetland IC-18, in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003).

A Master Planning approach for the concept plan is used for this site, indicating that in-stream wood placement, invasive vegetation removal, native vegetation planting, wetland enhancement and/or expansion, side-channel creation/restoration, and other aspects of floodplain restoration are provided using the overall site plan and adjacent areas for reference.

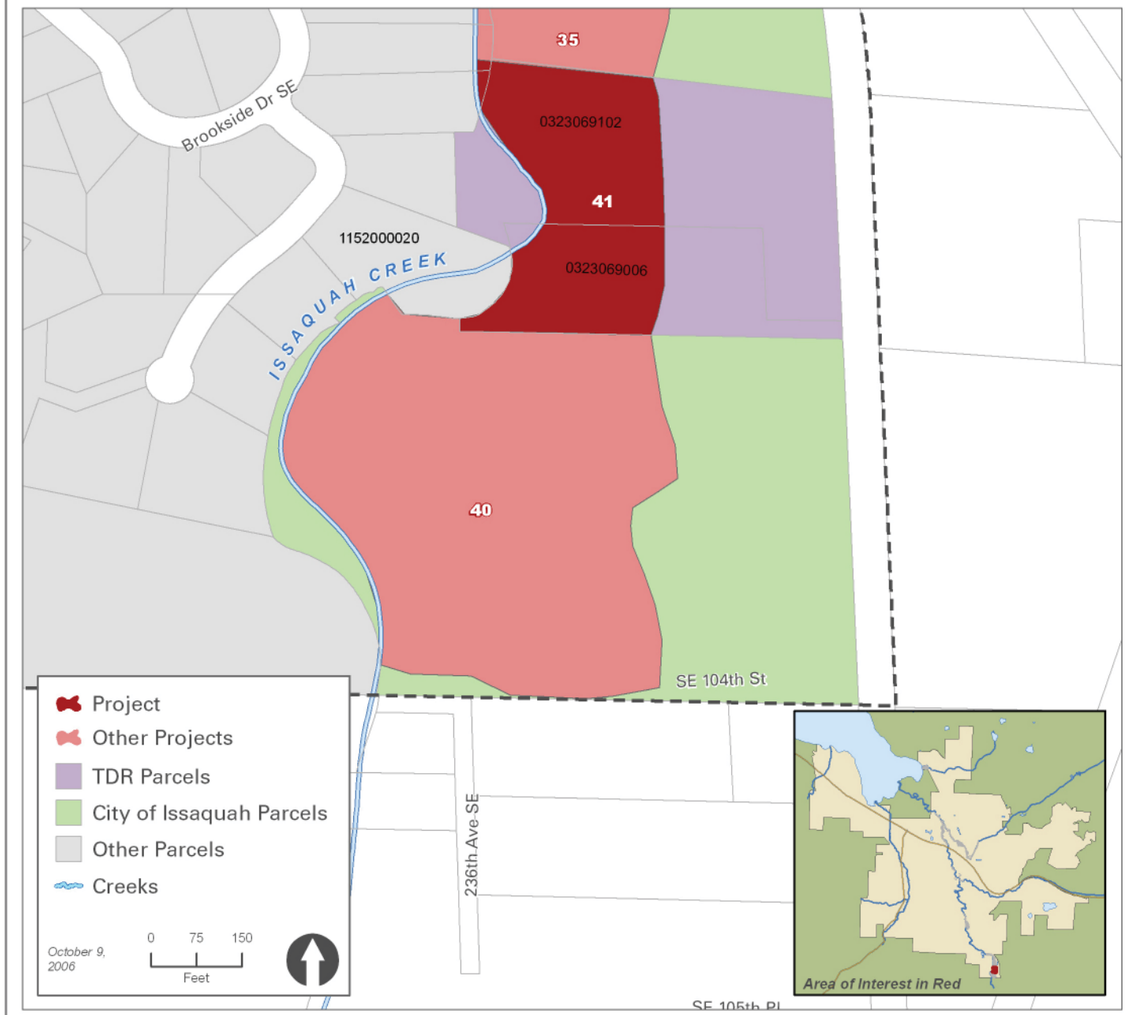
Enhanced habitat features, such as backwaters, snags, logs, excavated depressions, increased edge habitat, complex plant communities, and removal/control of invasive plants would all be part of this larger-scale side-channel and wetland restoration project. Existing depressional areas on this site could be expanded and/and deepened for topographic diversity and wetland enhancement. Additional hydrology information would need to be obtained to design these features.

Implementation Strategies and Issues:
Acquisition of the property following sale of potential development rights through the newly created TDR Program could be a potential implementation tool for this proposed project if the owner is willing. Combined with Site 35 (Squak Valley Park North) and Site 40 (Squak Valley Park South), this property could be an integral part of a high-end nature park, possibly with a boardwalk trail and interpretive/historical elements. Additional Capital Improvement Program (CIP) funds, hopefully offset by grant funding, would be needed to implement specific project components. Grant funding competitiveness is enhanced by the inclusion of this project in both the *WRIA 8 Plan* and further definition of the project in this document.

Floodplain restoration replaces non-native species with native vegetation to enhance wildlife habitat values.

Potential pathway of a restored Issaquah Creek side channel through placement of log structures, stumps, and other habitat features.

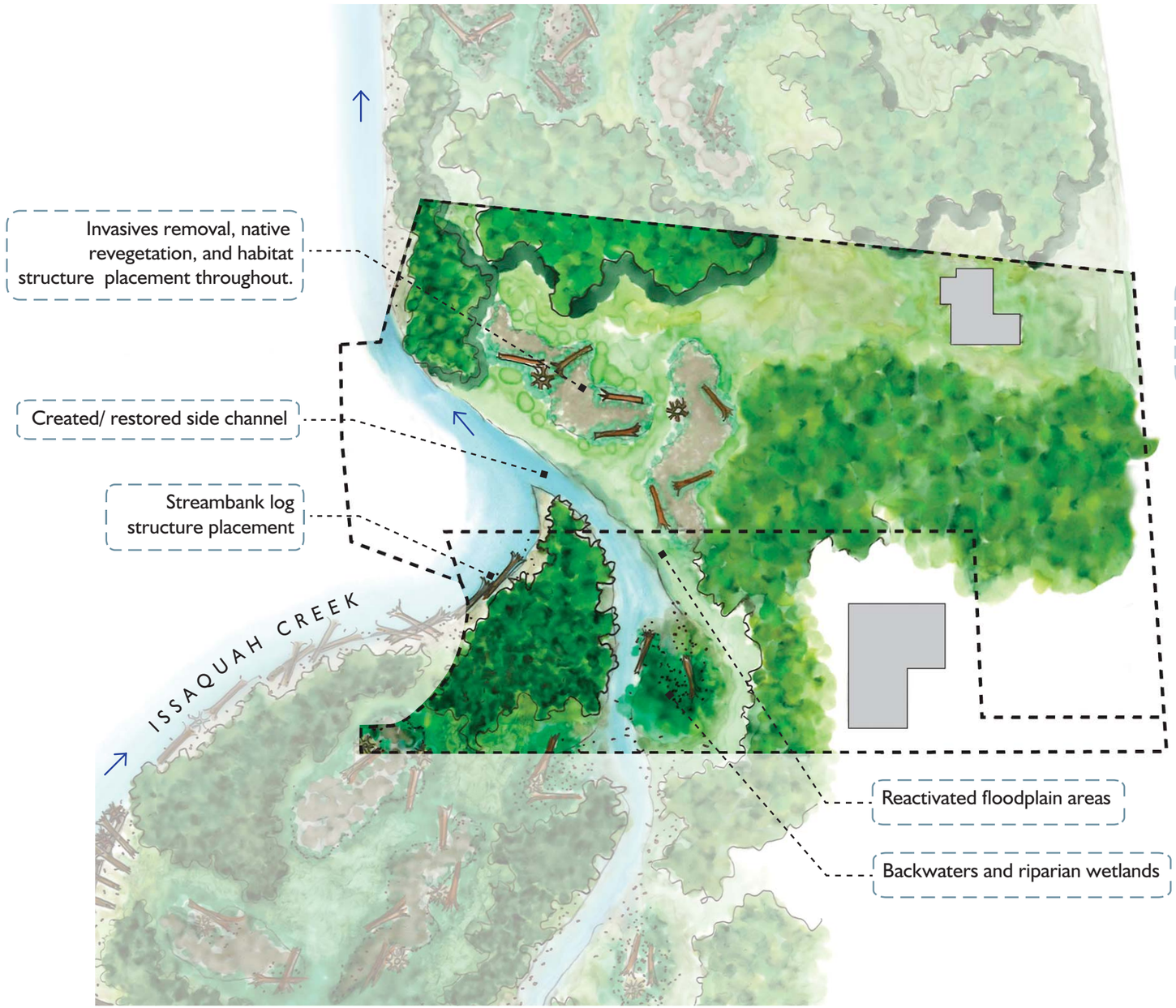
Parcel Information



Project	PIN	Present Land Use	Owner	Acres
41	323069006	Low Density Residential	TDR Property	1.90
41	323069102	Low Density Residential	TDR Property	3.88
41	1152000020	Low Density Residential	Private	1.06

Site 41: SQUAK VALLEY CONNECTOR

Proposed Comprehensive Site Enhancement Plan



Trail for passive recreational and interpretive uses to be included in the Parks development and planning process for the site.

NOT TO SCALE

Site 42: NORTH FORK REACH SCALE RIPARIAN [R/W*]

*R=Riparian Vegetation; W=Wetland

THE WATERSHED COMPANY

This North Fork riparian site is referenced as Project I-272 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. This reach of the North Fork has been characterized as having buffers that are too narrow, have too much invasive vegetation, and lack sufficient native vegetation. The creek also seems excessively confined by bank armoring, which is very pervasive and peculiar along this reach, including concrete and asphalt rubble and other debris purposefully used as armoring. Non-native vegetation includes Himalayan blackberry, bittersweet nightshade, morning glory, yellow iris, and Japanese knotweed.

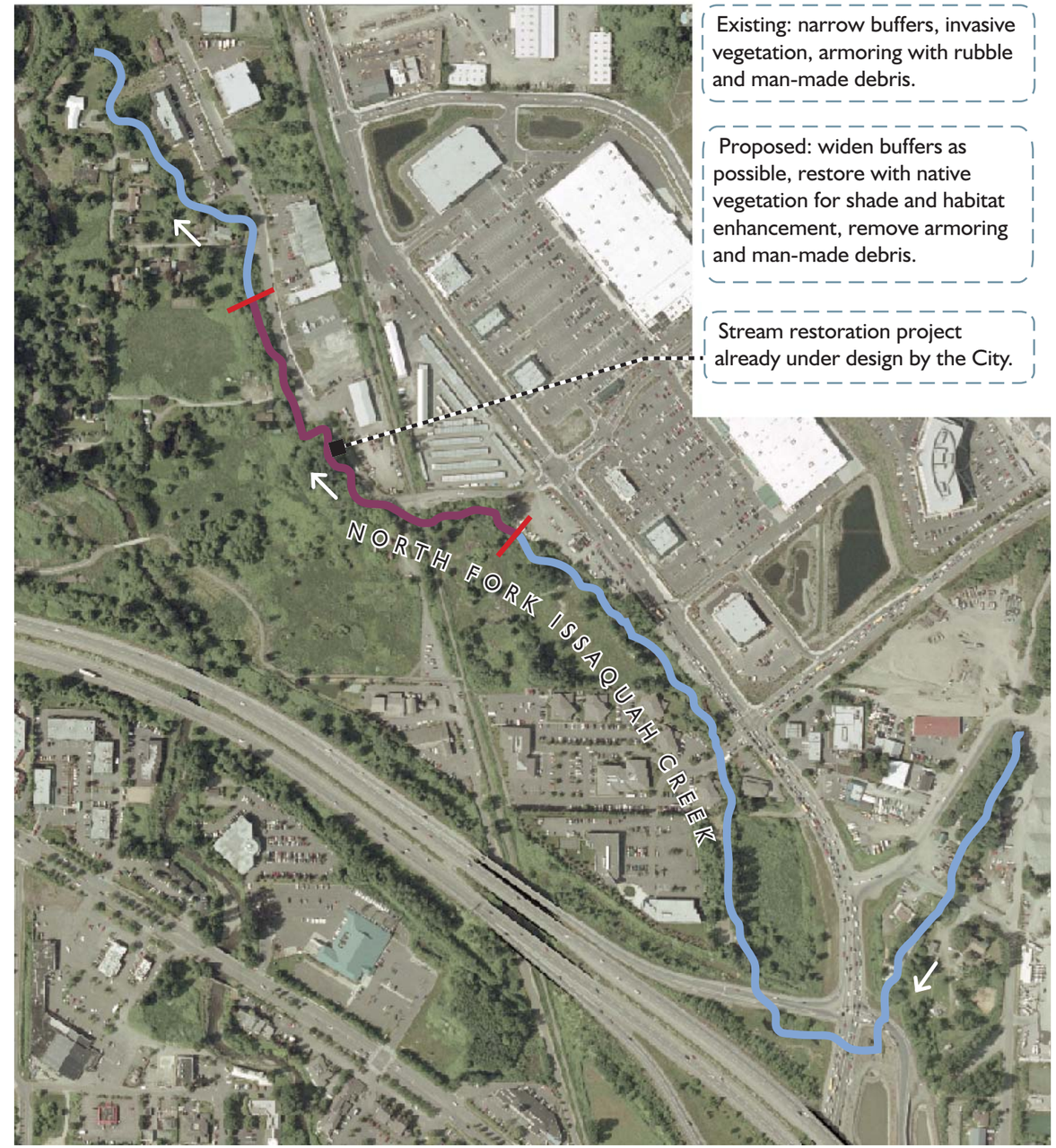
Proposed improvements for this site include removing armoring, rubble, and other debris wherever possible, and increasing buffer widths as opportunities arise. Non-native invasive plants should be replaced with native riparian vegetation to increase shading to the stream, and food and cover for wildlife. Low flows and poor water quality (low temperature) may decrease the value of in-stream work.

Implementation Strategies and Issues:
Many of the properties along this reach are identified in the City's Transfer of Development Rights (TDR) program that includes lands that can potentially be acquired for a greatly reduced cost for wetland, floodplain, and riparian enhancements once their development rights have been sold. One section of this reach, as shown on the concept plan, is already slated for stream relocation and restoration, and detailed design is underway. While this project is independent of the proposed Interstate-90 Undercrossing road project, the stream restoration was identified during that project's design process. It may also be possible to restore or create wetland in the adjacent field on the west side of the stream in this area. Additional hydrology information would need to be obtained to design these features, as much of the field appears to be several feet higher than the creek. Wetland restoration and/or creation would include habitat features such as snags, logs, and brush piles, as well as removal of invasive plants and revegetation with native plants in the wetland and associated stream and wetland buffers.

Though it appears lush, this North Fork channel section is narrow, dominated by non-native vegetation, lacks trees and shrubs, and is armored.

The stream channel shown in this picture has been mowed to the water's edge, includes non-native landscaping, and lacks the beneficial shading effects of an overstory canopy.

Proposed Comprehensive Riparian Enhancement Plan



NOT TO SCALE

Site 42: NORTH FORK REACH SCALE RIPARIAN

THE WATERSHED COMPANY

Parcel Information

Parcel Information for Project 42

Project	PIN	Present Land Use	Owner	Acres
42	1275300010	Retail	TDR Property	0.80
42	1275300015	Retail	TDR Property	0.64
42	1275300020	Retail	TDR Property	0.41
42	1275300025	Retail	TDR Property	2.12
42	1275300045	Retail	TDR Property	0.65
42	2124069020	Community Facilities	King County	6.11
42	2124069024	Retail	Private	1.21
42	2124069026	Commercial	Private	1.49
42	2124069029	Retail	Private	1.77
42	2124069034	Commercial	Private	0.47
42	2124069039	Retail	TDR Property	0.44
42	2124069040	Multifamily Residential	TDR Property	2.26
42	2124069041	Multifamily Residential	TDR Property	2.03
42	2124069043	Low Density Residential	Private	0.01
42	2124069043	Low Density Residential	TDR Property	0.78
42	2124069045	Low Density Residential	TDR Property	0.68
42	2124069048	Multifamily Residential	TDR Property	2.08
42	2124069054	Commercial	Private	2.67
42	2124069056	Retail	Private	3.44
42	2124069073	Low Density Residential	TDR Property	1.57
42	2124069076	Low Density Residential	TDR Property	1.01
42	2124069077	Community Facilities	City Of Issaquah	2.71
42	2124069096	Low Density Residential	TDR Property	0.54
42	2124069098	Retail	Private	1.85
42	2124069099	Commercial	Private	1.69
42	2124069100	Multifamily Residential	Private	0.03
42	2124069103	Low Density Residential	TDR Property	0.43
42	2124069123	Multifamily Residential	City Of Issaquah	0.62
42	2224069012	Commercial	Private	86.41
42	2724069084	Commercial	Private	0.44
42	2724069086	Commercial	Private	3.38
42	2824067777	Low Density Residential	Private	0.54
42	2824069300	Retail	Private	0.99
42	2824069341	Retail	Private	0.06
42	2824069341	Retail	Private	0.06
42	2824069346	Retail	Private	0.45
42	2824069347	Retail	Private	0.72
42	2824069349	Retail	Private	0.38
42	4142100020	Retail	Private	5.67
42	5411700010	Retail	Private	0.65

Site 43: NORTH FORK WOOD AND RIPARIAN AT EAST LAKE SAMMAMISH [W/R*]

*W=Wetland; R=Riparian Vegetation

This site is bounded by the East Lake Sammamish Trail to the west, SE 62nd Street to the north, East Lake Sammamish Parkway SE to the east, and developed commercial properties to the south.

The upper section of stream through this area is characterized by a long, narrow, open-yet-secluded reach with reed canarygrass lining its banks, giving it a meadow-like appearance. The "meadow" gives way to surrounding Himalayan blackberry thickets, providing the sense of seclusion. The concept plans include area-specific riparian/wetland plantings to replace and out-compete reed canarygrass, Himalayan blackberry, and possibly Japanese knotweed. The narrow channel which winds its way through the reed canarygrass areas also provides an excellent opportunity to place wood in and along the stream to the benefit of fish and wildlife habitat without undue risk to surrounding infrastructure.

A fairly extensive wetland area also occurs within this site, situated between the East Lake Sammamish Trail to the west and the North Fork Issaquah Creek to the east. The wetlands are identified with signage, but are not mapped. A simple and inexpensive way to create and improve wetlands on this site would be to increase wetness, or hydrology, by plugging existing ditches, presumably dug to provide drainage in support of past agricultural land uses. Wetland restoration and/or creation would include habitat features such as snags, logs, and brush piles, as well as removal of invasive plants and revegetation with native plants in the wetland and associated stream and wetland buffers. Stream corridor revegetation could blend in with and transition into wetland improvements in the adjacent field.

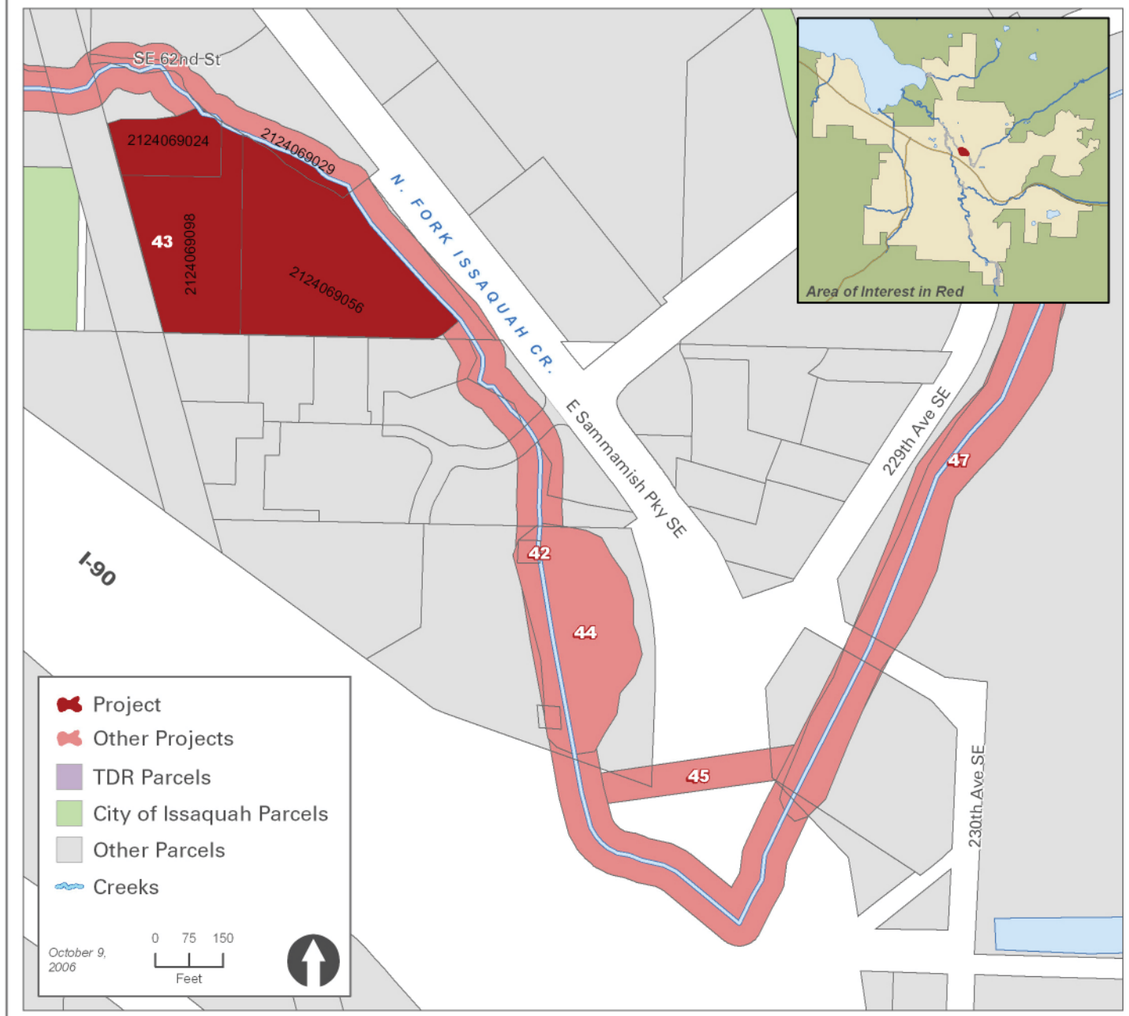
Reed canarygrass, bittersweet nightshade, Himalayan blackberry and other invasives would be removed and replaced with native plants along this section of the North Fork Issaquah Creek.

Implementation Strategies and Issues:

There may have been some invasive plant management work done here by the Mountains to Sound Greenway Trust in the past. This project could be incorporated into the Site 42 North Fork Reach Scale Riparian project, or developed and implemented independently. There are three large vacant properties within the project area. Private properties within the project area are not identified in the City's Transfer of Development Rights (TDR) program. The TDR program currently includes lands that can potentially be acquired for a greatly reduced cost for wetland, floodplain, and riparian enhancements once their development rights have been sold. Grant-strengthened CIP funding will likely continue to be the primary vehicle for current enhancement and acquisition efforts in the older valley floor portions of the City. Given the size, commerical zoning, and undeveloped nature of these vacant properties, there will be some opportunity to implement enhancements on this property during the design and permitting of any future redevelopment. SEPA substantive authority and CAO requirements relating to buffers, native growth protection easements and mitigation for project impacts will help shape the future development of this property if it is not acquired by the City. However, full implementation of the above project description would generally not be possible if the property is retained in private ownership and developed for the zoned use. Cooperation from private property owners is critical to the implementation of basic goals for this reach. Pooling mitigation from ongoing road projects in the area could also be potentially targeted for this reach.

The North Fork channel here is devoid of wood, therefore lacking in structure. Proposed logs and stumps will create scour pools and provide cover within the pools to protect fish.

Parcel Information

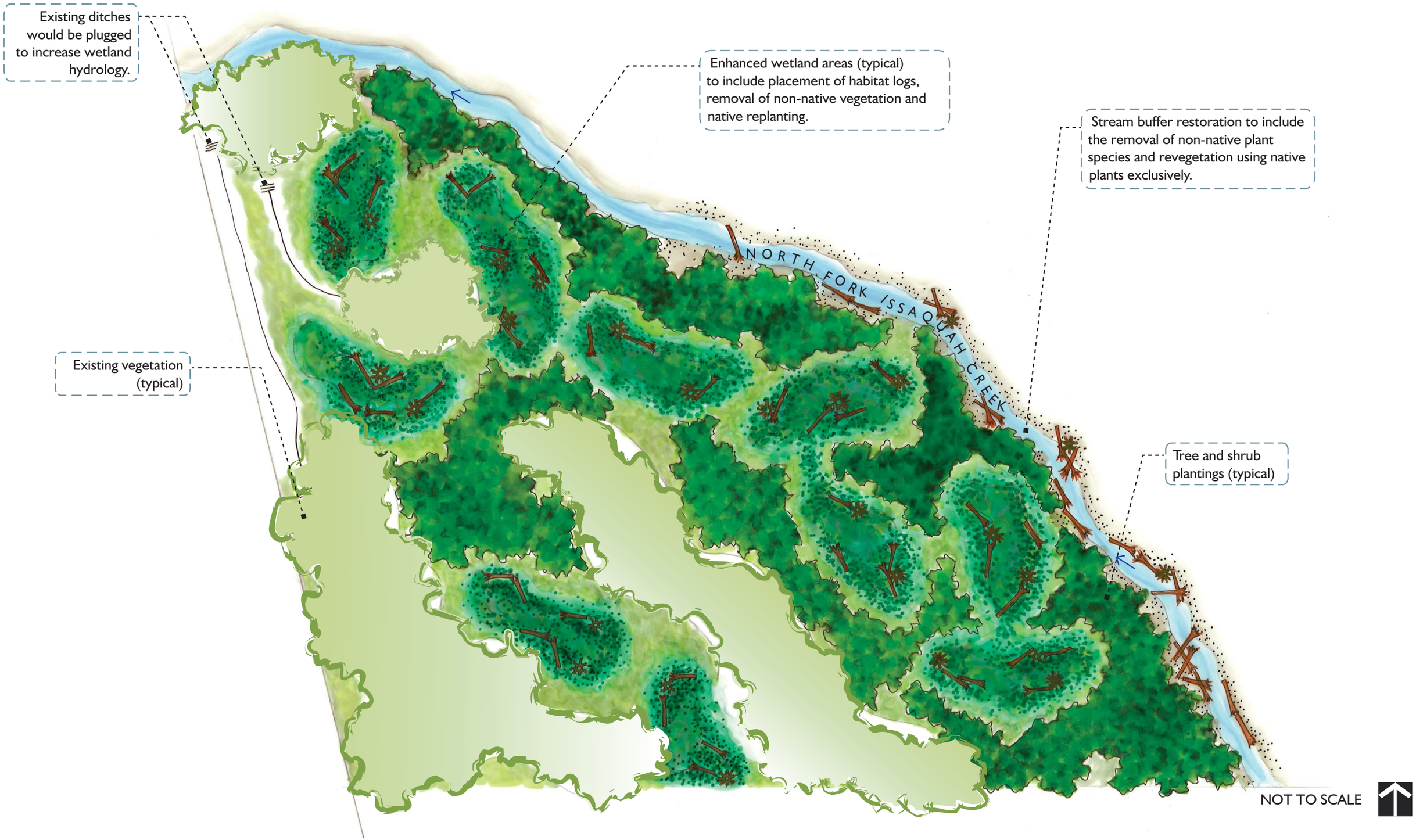


Project	PIN	Present Land Use	Owner	Acres
43	2124069024	Retail	Private	1.21
43	2124069029	Retail	Private	1.77
43	2124069056	Retail	Private	3.44
43	2124069098	Retail	Private	1.85

Site 43: NORTH FORK WOOD AND RIPARIAN AT EAST LAKE SAMMAMISH

THE WATERSHED COMPANY

Proposed Comprehensive Site Enhancement Plan



Site 44: NORTH FORK LARGE WETLAND AT WELLHEAD [W/R/CC/LWD*]

*W=Wetland; R=Riparian Vegetation; CC=Channel Creation/Relocation/Restoration; LWD=Large WoodyDebris

This large wetland site on North Fork Issaquah Creek extends from the Interstate-90 Front Street interchange downstream to the access road bridge leading to Sammamish Plateau Well Site #7. Beavers periodically build dams under the bridge, which can raise the water level by approximately three feet. The water level in the wetland fluctuates as the dams are removed in the course of access road maintenance and then subsequently rebuilt. Specific project features and objectives will need to take into account this potential for fluctuating water levels.

This project also is referenced as Project I-277 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*. The wetland is identified, but not specifically characterized in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix 2003).

The proposed concept for this area is planting of trees to shade the creek where it widens and slows as it passes through the wetland area. Species such as willows would be chosen that can withstand the fluctuating water levels. Backwater areas could be excavated for diversity, but access for heavy equipment would be difficult. Wetland revegetation could also be accomplished with the installation of islands of trees and shrubs to increase edge habitat and diversity.

Implementation Strategies and Issues:

Given the critical areas located on this project site, access issues, and the fact that it is located on a larger office park property that saw significant investment in the recent past, it is unlikely that the applicable portions of the property are at risk of development in the short to medium term. Identification of this project in the *WRIA 8 Plan* and this plan will improve the City's ability to find funding partners for this project through competitive grant processes. Grant-strengthened Capital Improvement Program (CIP) funding will continue to be the primary vehicle for enhancement efforts. Cooperation from the private property owners will be needed to implement the enhancement called for in this plan. Pooling mitigation from ongoing road projects in the area could be targeted for this reach. The existing public utility properties (Well Sites #7 and #8) and the related access road provide convenient project access and staging.

Beaver dam construction under access road bridge creates backwatered area.

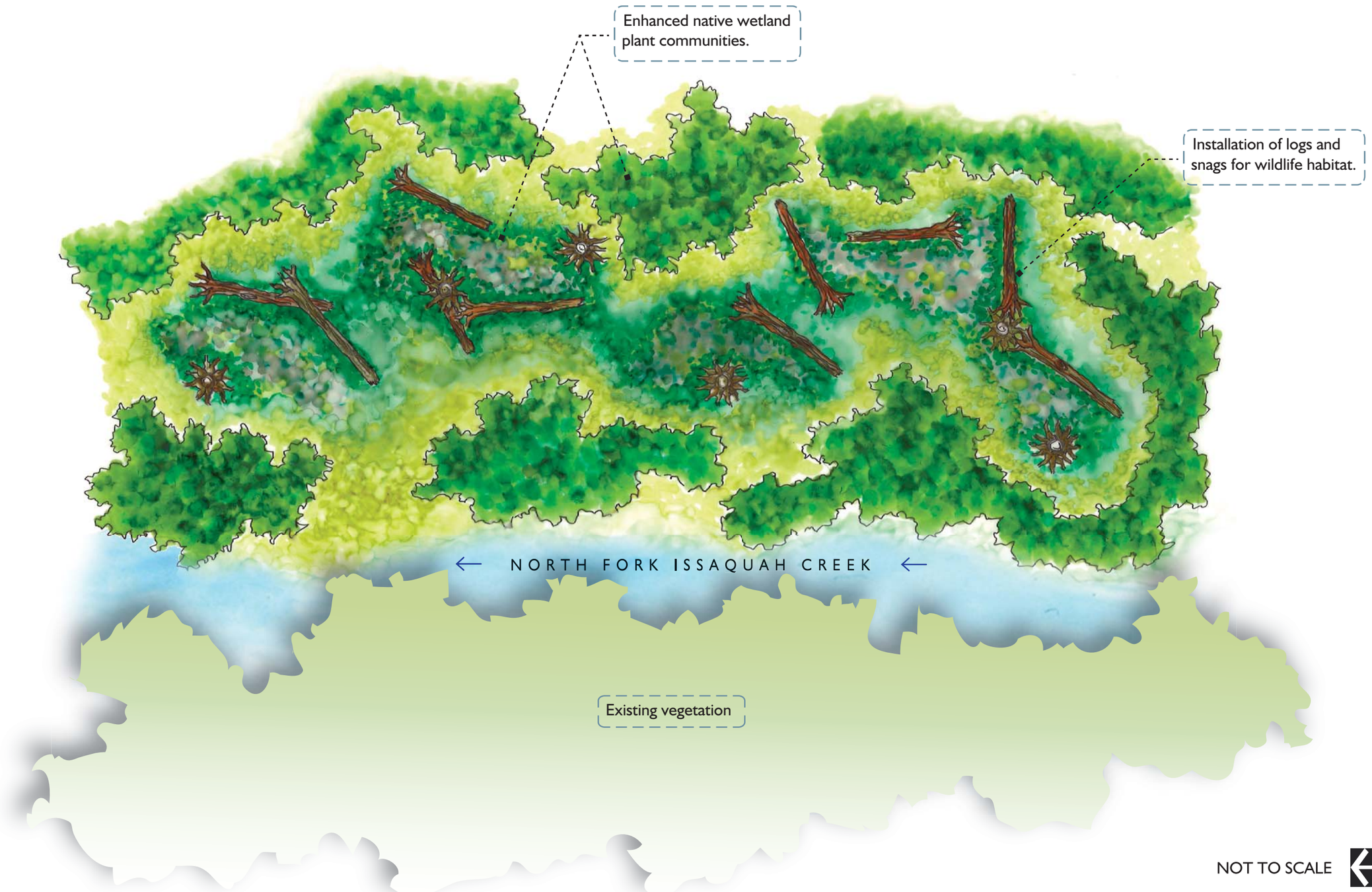
North Fork of Issaquah Creek flows through meadow-like wetland. Proposed enhancements include planting of trees and shrubs for shade and habitat diversity.

Parcel Information

Project	PIN	Present Land Use	Owner	Acres
44	2824069341	Retail	Private	0.06
44	4142100020	Retail	Private	5.67

Site 44: NORTH FORK LARGE WETLAND AT WELLHEAD

Proposed Comprehensive Site Enhancement Plan



Site 45: FRONT STREET INTERCHANGE [CC*]

*CC=Channel Creation/Relocation/Restoration

Project I-276 as identified in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan* recommends reconfiguring the culverts under the Interstate-90 Front Street interchange to improve fish passage. This project would support and complement Site 47 which would improve upstream spawning habitat and opportunities. It is also related to Chinook Plan #271 for Interstate-90 stormwater.

Though the existing North Fork culverts under the Front Street interchange appear to be backwatered and do not appear to be outright fish passage barriers, these culverts are both numerous and convoluted. They likely represent at least hindrances or impediments to upstream fish movements. Two of three road culverts could be eliminated by "cutting the corner," crossing Front Street only and eliminating crossings of both the I-90 westbound exit and entrance ramps. This would also free up space available within the clover leaves for detention ponds and other stormwater treatment facilities as needed.

The City has WSDOT drawings of a 66-inch diameter bypass pipe which appears to already exist under East Lake Samamish Parkway north of both freeway ramps. It is shown as being 264 feet long with a 2.4-foot drop. However, the downstream invert of the bypass pipe appears to be several feet higher than the outfall invert of the 42-inch culvert under the westbound I-90 off-ramp which presently carries the streamflow. Both culverts discharge to the large wetland area described for Site 44. The feasibility of utilizing this existing culvert in a manner which would satisfy requirements for fish passage as well as requirements for functionality in terms of flow capacity, soundness, control of scour at the outfall, etc. would need to be evaluated and verified as a part of the final design process. This process would possibly be complicated by the presence of beaver dams in the wetland and low-gradient channel sections downstream.

Implementation Strategies and Issues:
Targeting this area as a receiving location for off-site mitigation from ongoing state and local road projects in the area could provide an important implementation vehicle. Infrastructure funding in the form of Capital Improvement Program (CIP) budgets and related compensatory mitigation will likely be a major implementation vehicle for this project. Identification in the *WRIA 8 Plan* and this document should improve the ability for both the City and its partners to obtain grant assistance for this project.

Existing emergent and open water wetland areas within the interchange would continue to provide biofiltration and habitat function after diversion of North Fork flows.

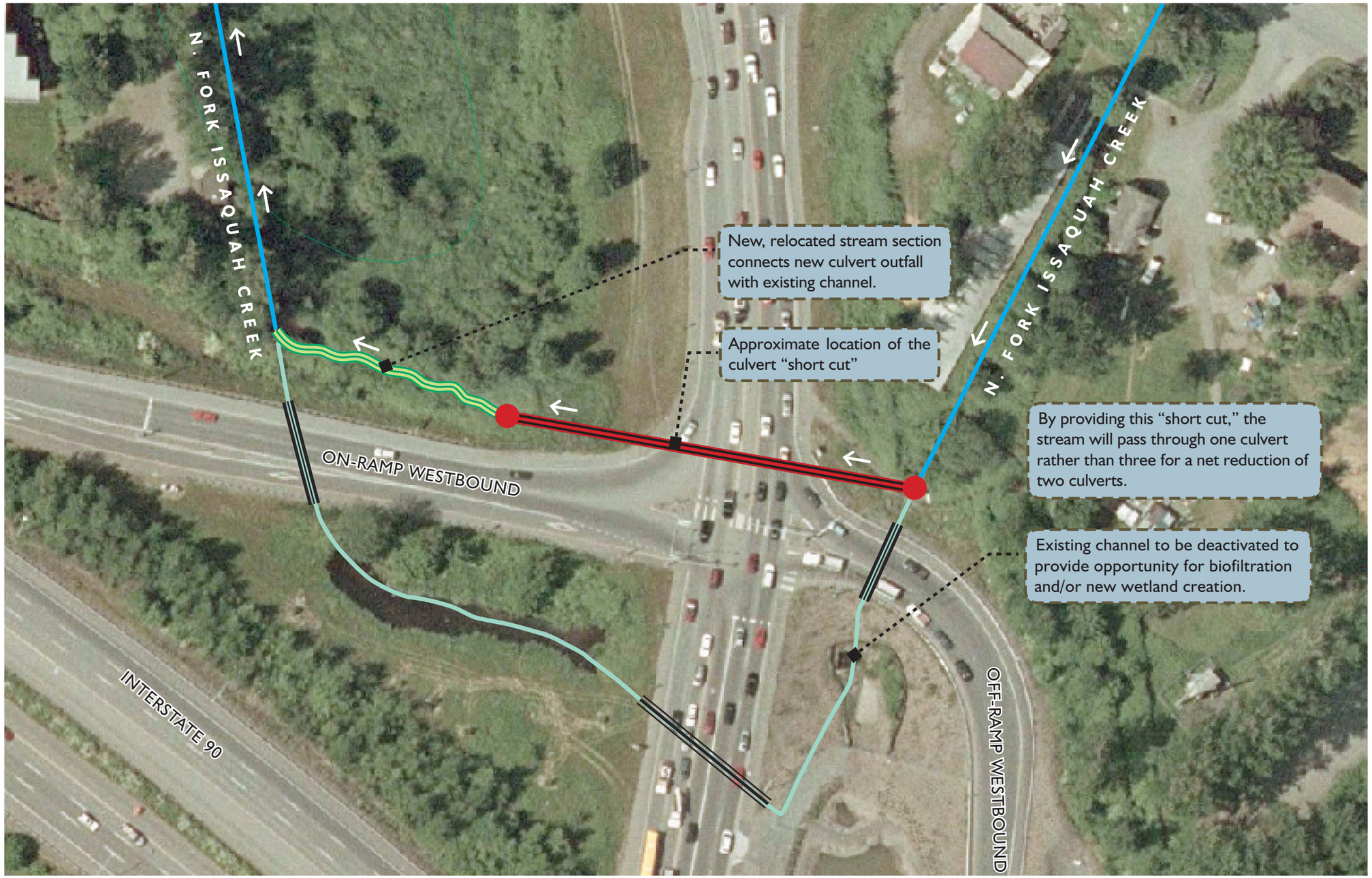
Existing, elaborate conveyance structure would continue to function in a stormwater management capacity for freeway runoff when streamflow is redirected.

Parcel Information

Project	PIN	Present Land Use	Owner	Acres
45	2724069086	Commercial	Private	3.38

Site 45: FRONT STREET INTERCHANGE

Proposed Comprehensive Site Enhancement Plan



NOT TO SCALE

Site 47: NORTH FORK SPAWNING CHANNEL AT GRAVEL PIT [CC/LWD*]

*CC=Channel Creation/Relocation/RestoratioN; LWD=Large WoodyDebris

The lower North Fork Issaquah Creek channel has too low a gradient and is dominated by substrate materials too fine to provide functional spawning habitat for salmonid fish, such as coho salmon and cutthroat trout. These downstream, lower-gradient reaches provide suitable rearing habitat for coho and cutthroat juveniles, but the basin needs usable spawning habitat to seed these lower rearing-habitat reaches. There appears to be a marked change in substrate sediment size proceeding upstream from East Lake Sammamish Parkway; however, the stream substrate abruptly becomes too cobbly for coho and cutthroat spawning over a short distance. If suitable spawning habitat for these fish could be developed in the lower ravine area near the gravel pit, the overall functioning of the North Fork with respect to coho and cutthroat habitat could be greatly improved by providing both spawning and rearing habitat in reasonably close proximity.

The proposed design would provide spawning-sized gravel for these fish in the lower ravine areas with provisions made to keep it in place over time. As shown on the concept plan, pool depressions would be excavated out of the existing channel, and the excavated cobbles would be used to form the lower half of riffles downstream, building up the slightly incised channel in the process. Next, imported spawning gravels would be placed to form the upper portions of the riffles and the tailout areas of the pools. The large cobbles forming the lower halves of the riffles would hold spawning gravel in place, supplemented with additional larger substrate materials as needed. Log structures would then be placed in the pools for cover. Finally, invasive vegetation would be removed from the project area, and disturbed or otherwise sparsely vegetated areas would be revegetated with native vegetation.

Implementation Strategies and Issues: Options for project implementation are probably more limited for the portion of the project area that is located within the existing developed Carlson's Kennels property. However, existing buildings on this 3.16-acre site are older and opportunities may exist to improve stream habitat when the property is eventually redeveloped. The current land value is quite high compared to the value of improvements on this site, indicating that future redevelopment of the site may occur in the medium to short term. The remaining portions of creek within the project area are located on a 90-acre property that is being used for sand and gravel quarry and processing operations. Mine mitigation and eventual restoration requirements are future implementation tools to achieve goals for this portion of the project area. Targeting this area as a receiving location for off-site mitigation from ongoing road projects in the area could also provide an implementation vehicle. Private properties along this reach are not identified in the City's Transfer of Development Rights (TDR) program.

North Fork Issaquah Creek, in the vicinity of the gravel pit, exhibits cobbles too large for salmon and trout to spawn in effectively.

Spawning gravel riffles with large wood in intervening pools will be placed to improve much needed spawning habitat.

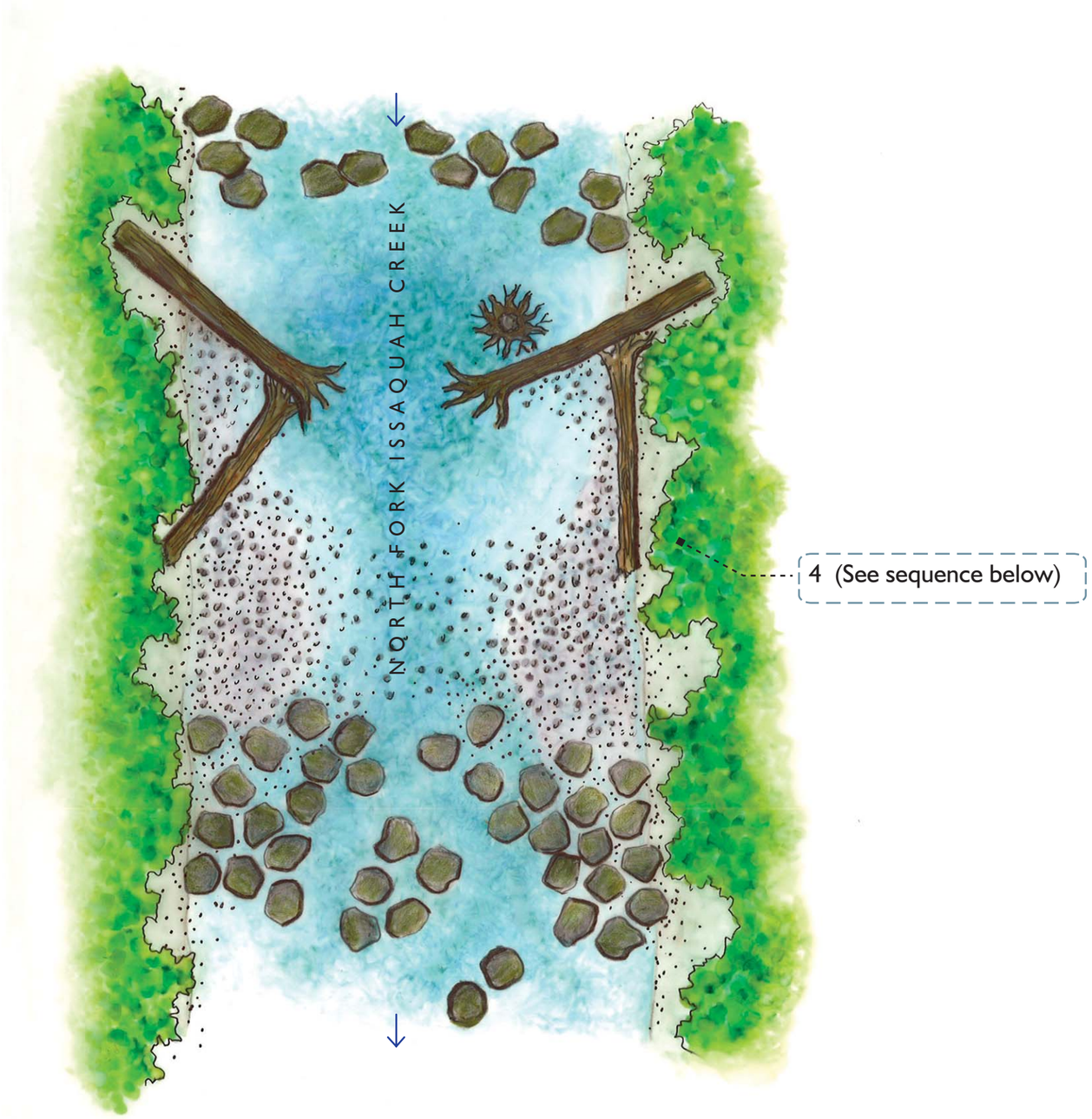
Parcel Information

Project	PIN	Present Land Use	Owner	Acres
47	2224069012	Commercial	Private	86.41
47	2724069084	Commercial	Private	0.44
47	2724069086	Commercial	Private	3.38

Site 47: NORTH FORK SPAWNING CHANNEL AT GRAVEL PIT

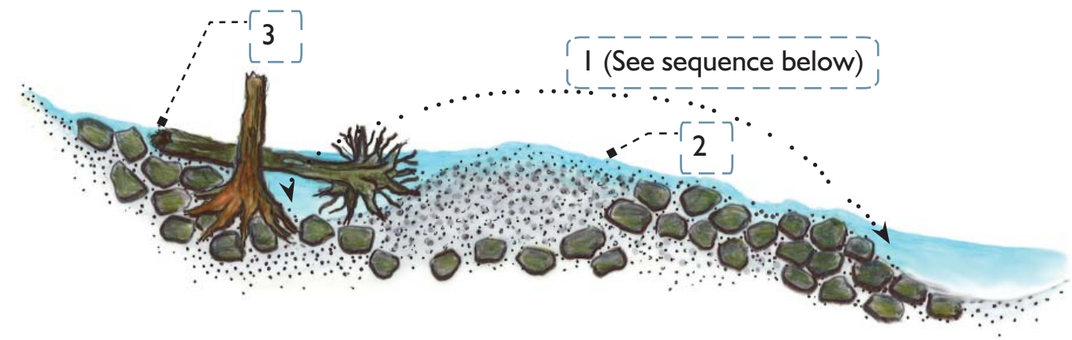
THE WATERSHED COMPANY

Proposed Channel Enhancement Plan



NOT TO SCALE

Profile of Proposed Channel Enhancement



Proposed Construction Sequence:

1. Excavate pool and use excavated cobbles to form a riffle downstream and build up the channel slightly to counter incision.

2. Place imported spawning sized gravel to form the pool tailout and crest of the riffle.

3. Place large wood in formed pool for fish habitat and cover. Repeat to form an extended pool riffle sequence.

4. Remove any invasives and restore riparian vegetation.

Site 48: PARKS MAINTENANCE FACILITY [LWD/R*]

*LWD=Large WoodyDebris; R=Riparian Vegetation

This site is identified as Project I-282 in the *WRIA 8 Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan* and would involve relocation of the City's Parks Department maintenance facility, and restoration of stream and buffer areas along East Fork Issaquah Creek and possibly along the main stem near their confluence. The project area would extend up the East Fork at least to and including the dead end of First Avenue NW; some riparian areas within the right-of-way could be available for restoration.

Project aspects would include removal of bank armoring; placement of in-stream large woody materials; accentuation of pool-riffle sequencing; removal of non-native, invasive vegetation; riparian buffer restoration including native revegetation; and trail and interpretive features complementary of and consistent with park development.

This restoration plan could be combined with a variety of restoration activities in this general area between Issaquah Creek and the East Fork. Project Sites 17, 18, 19, 20 and 49 could be combined as features of a "Confluence Park," including stream restoration, wetland restoration, increased wetland and stream buffers, educational/interpretive opportunities, and picnicking and play areas.

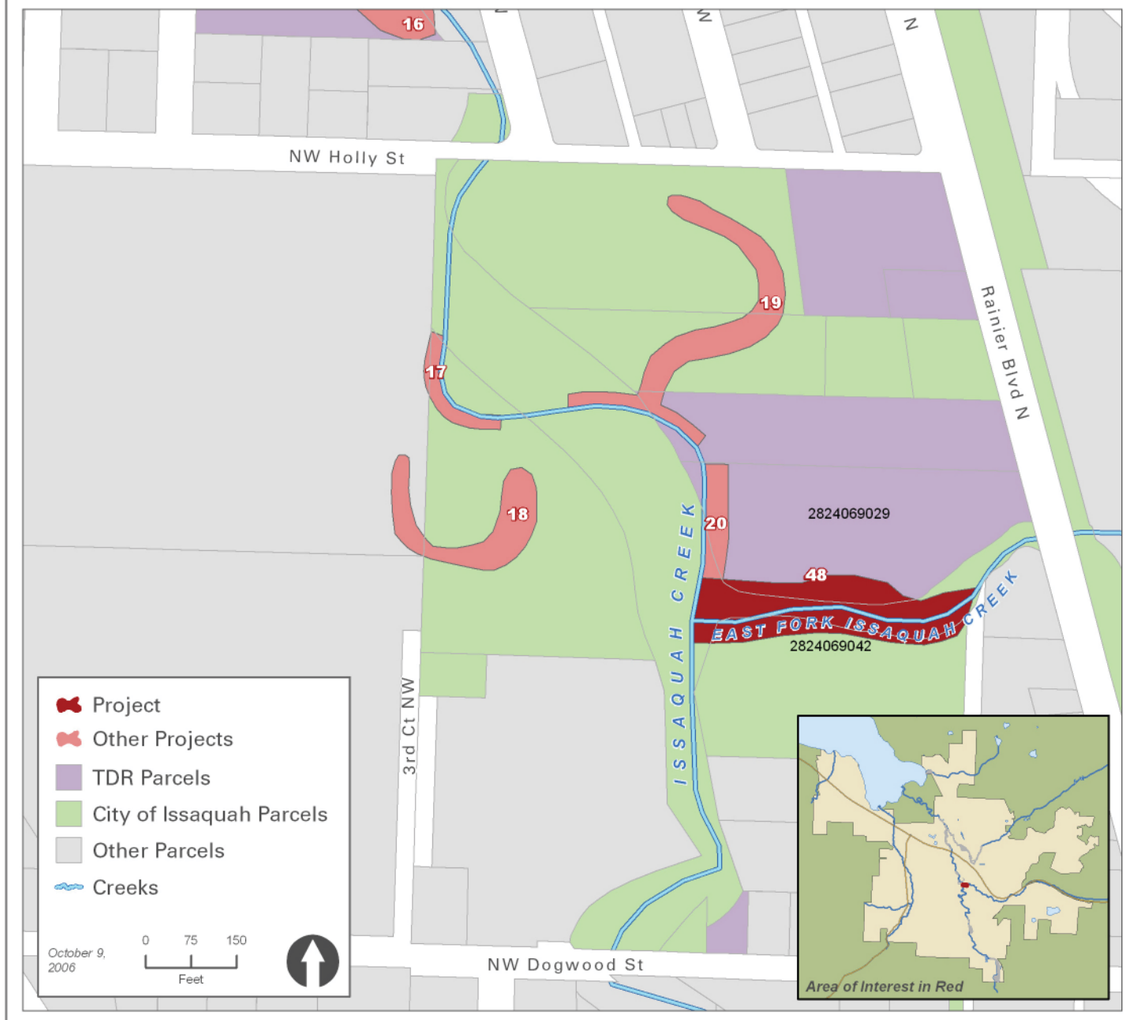
Implementation Strategies and Issues:

This project could be implemented in phases, with restoration on City-owned parcels occurring first. In-stream and left bank restoration could occur as soon as parks maintenance facilities are moved, plans are developed, and permits and funds are procured since this land is already owned by the City. Similar complementary and related projects along the right bank could be implemented if and when those project areas are either acquired by the City or right-of-entry to implement the restoration and enhancement projects is obtained. Securing the cooperation of this property owner will be essential for implementation of this phase of the project. Identification in the *WRIA 8 Plan* and this document should improve the ability for both the City and its partners to obtain grant funding.

The East Fork of Issaquah Creek bordering the City Parks Maintenance Shop is characterized by heavily armored banks; narrow, non-functional buffers; and little in-stream wood.

This project would reduce existing armoring, and remove unsightly rubble and surrounding invasive species. Wood will be placed in-stream and streambanks will be revegetated to create a natural corridor.

Parcel Information

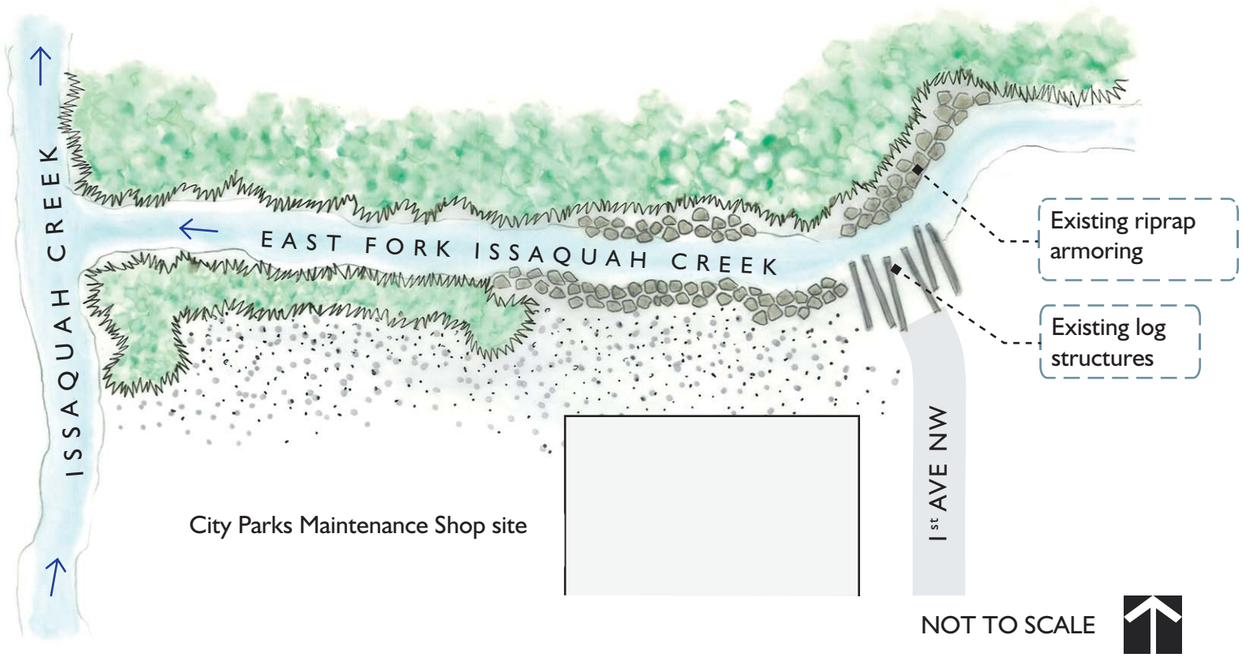


Project	PIN	Present Land Use	Owner	Acres
48	2824069029	Community Facilities	City Of Issaquah	2.18
48	2824069029	Low Density Residential	TDR Property	2.35

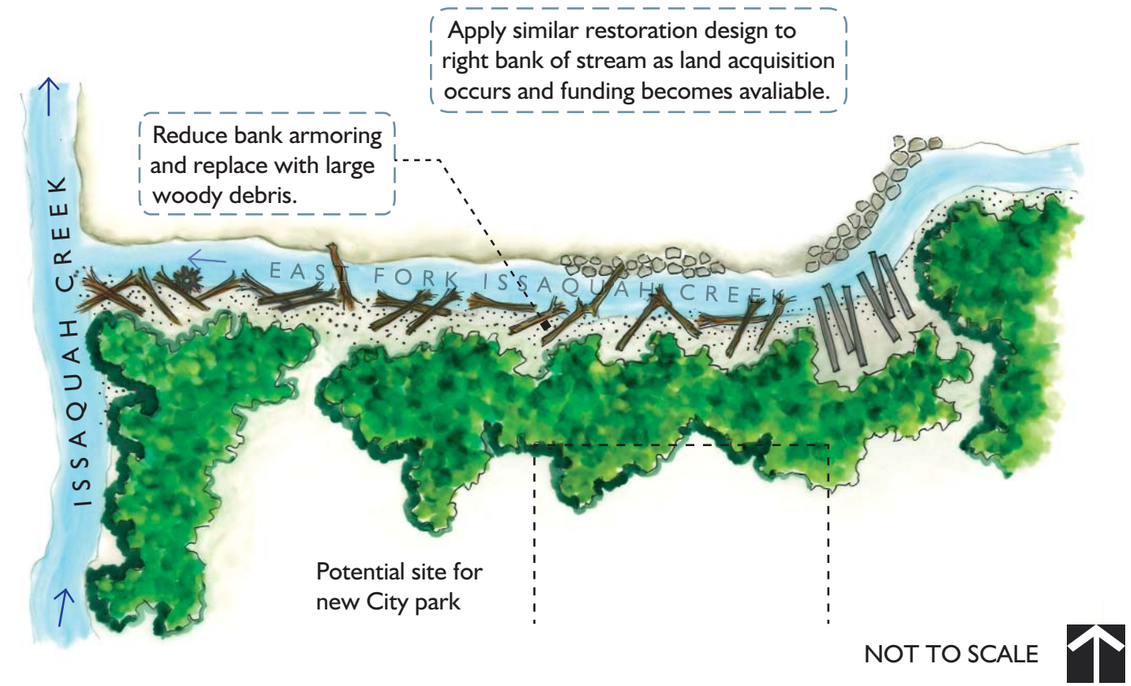
Site 48: PARKS MAINTENANCE FACILITY

THE WATERSHED COMPANY

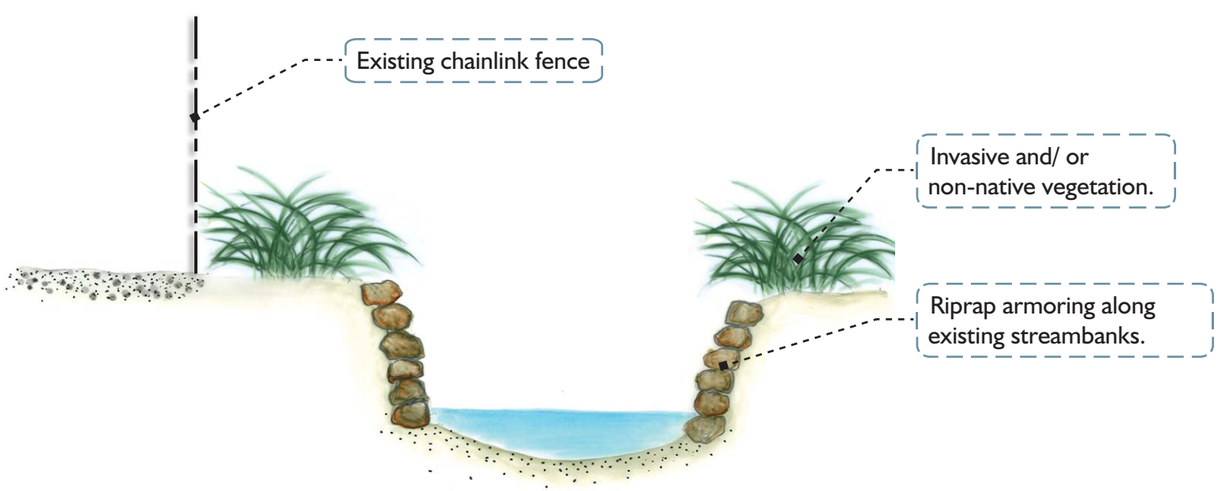
Existing Bank Conditions



Proposed Bank Enhancement Plan



Typical Section of Existing Bank Conditions



Typical Section of Proposed Bank Enhancement

Site 63: LOWER LAUGHING JACOBS CREEK [R/LWD*]

*R=Riparian Vegetation; LWD=Large Woody Debris

The area of this Lower Laughing Jacobs Creek site extends from the mouth of the creek at Lake Sammamish upstream to the East Lake Sammamish Parkway crossing. The lower section passes through a privately owned, park-like picnic area, with the upper section passing through brushy areas characterized by Himalayan blackberry thickets. Throughout the entire project area the channel is somewhat armored, narrow and rectangular in cross section, lacking in large woody debris and other pool-forming features, lined with non-native vegetation in varying degrees, and lacking in native streambank vegetation.

The anticipated stream enhancement and restoration project for this site would include:

1. Remove invasives – bittersweet nightshade, purple loosestrife, Japanese knotweed, yellow iris, morning glory, Himalayan blackberry.
2. Place woody materials in the channel and along the banks, particularly along the open section for several hundred feet upstream of the mouth.
3. Remove and/or rearrange armoring in conjunction with log placement. Reduce the prevalence of uniform, vertical banks two to four feet high.
4. Widen the channel cross-section where rectangular; provide a wider floodplain.
5. Plant native streamside vegetation, leaving limited access in picnic areas.

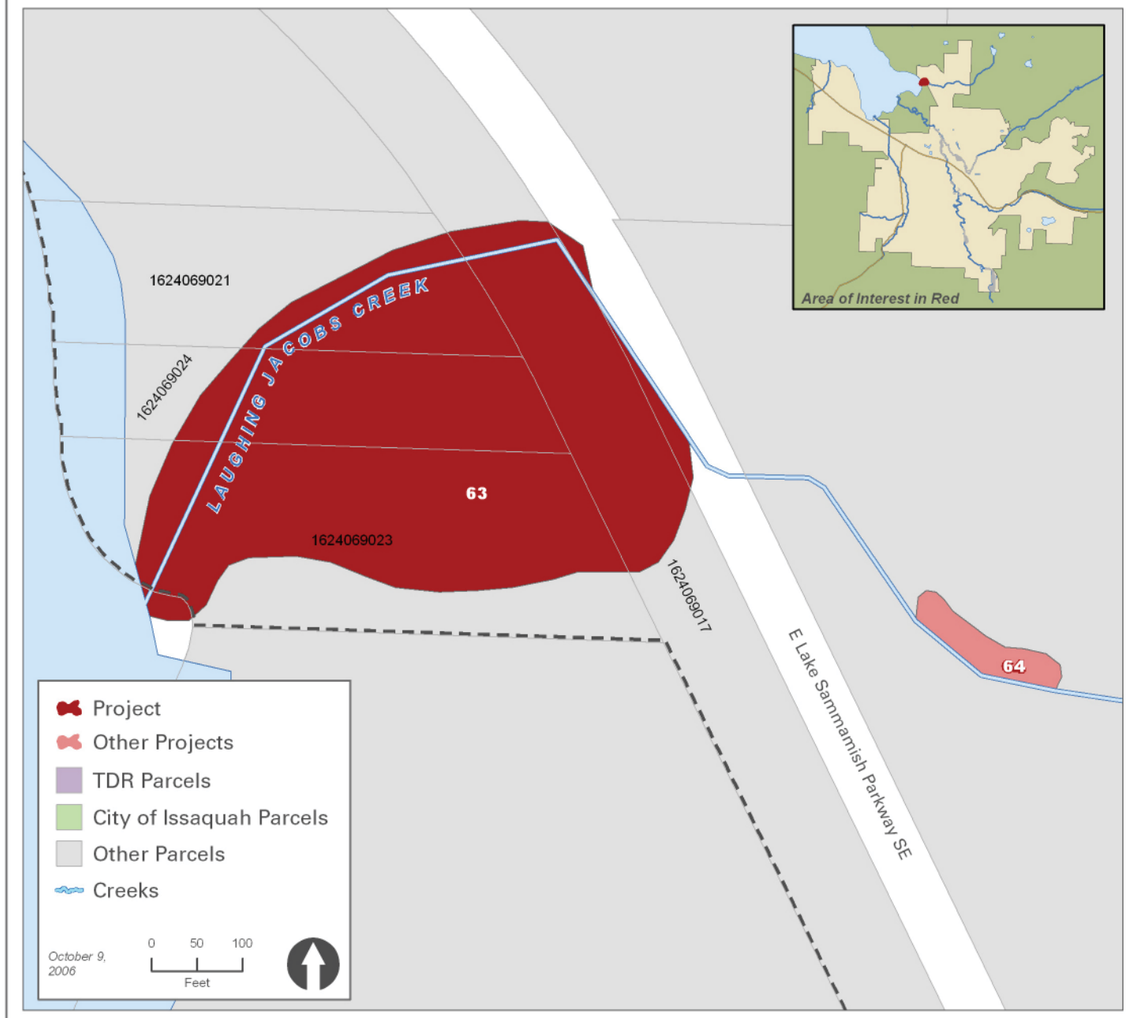
Implementation Strategies and Issues:

The project area includes a 2.65-acre parcel that is zoned for single family development and appears to be currently used as a private park. Another 1.21-acre vacant property is located to the north. These properties are located immediately north of and adjacent to Lake Sammamish State Park. The City could pursue discussions with the State to see how these sensitive properties near the mouth of the creek might eventually be acquired and incorporated into the existing park. The third private property within the project area is a developed 1.6-acre single-family property with an older home that is built closer to the stream than current codes allow. This project could be implemented if and when those project areas are either acquired by the City or right-of-entry to implement the restoration and enhancement projects is obtained. If funding is not identified in the short term or property owners do not step forward as partners, opportunities may exist over the medium to long term to implement enhancement goals for this reach in conjunction with the regulation of likely future development of these properties under the Critical Areas Ordinance and Shoreline Master Program. Private properties along this reach are not identified in the City's Transfer of Development Rights (TDR) program.

Facing upstream through the picnic area along lower Laughing Jacobs Creek.

Facing downstream along the lower creek. Vegetation has been cleared right down to the water and little wood is present in the channel. Note Lake Sammammish in the background.

Parcel Information

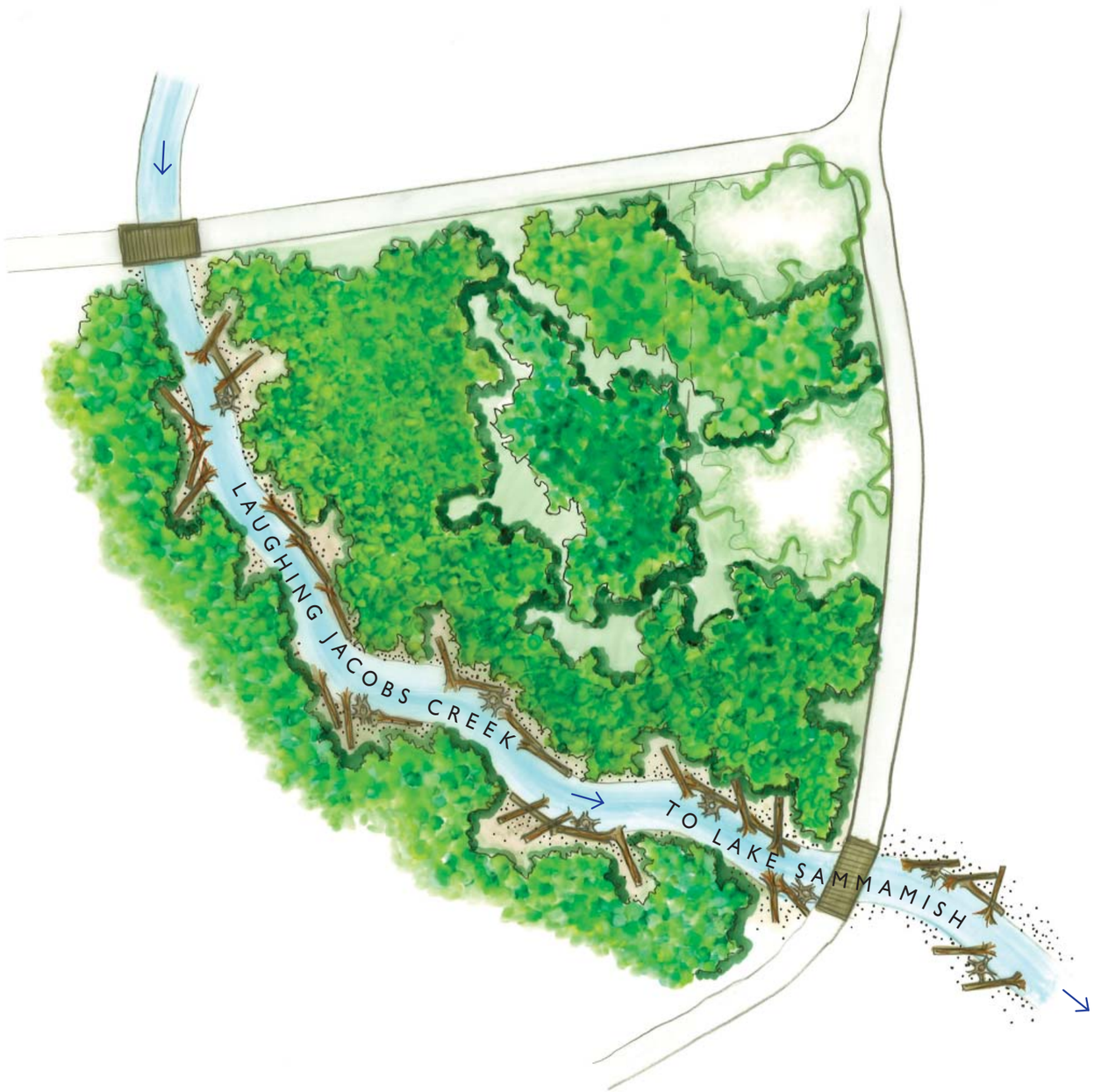


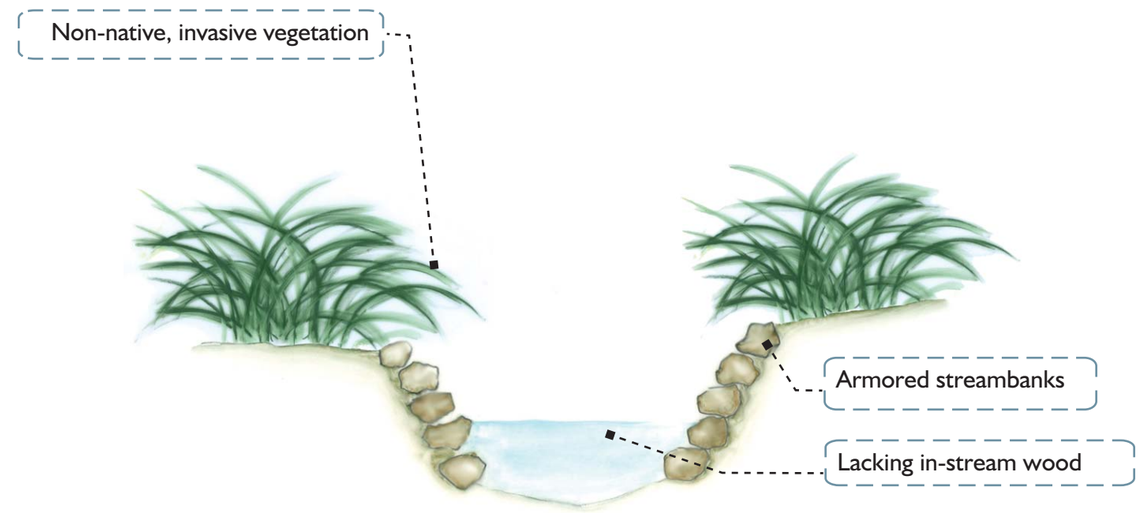
Project	PIN	Present Land Use	Owner	Acres
63	1624069017	Community Facilities	King County	9.17
63	1624069021	Low Density Residential	Private	1.70
63	1624069023	Low Density Residential	Private	2.66
63	1624069024	Low Density Residential	Private	1.30

Site 63: LOWER LAUGHING JACOBS CREEK

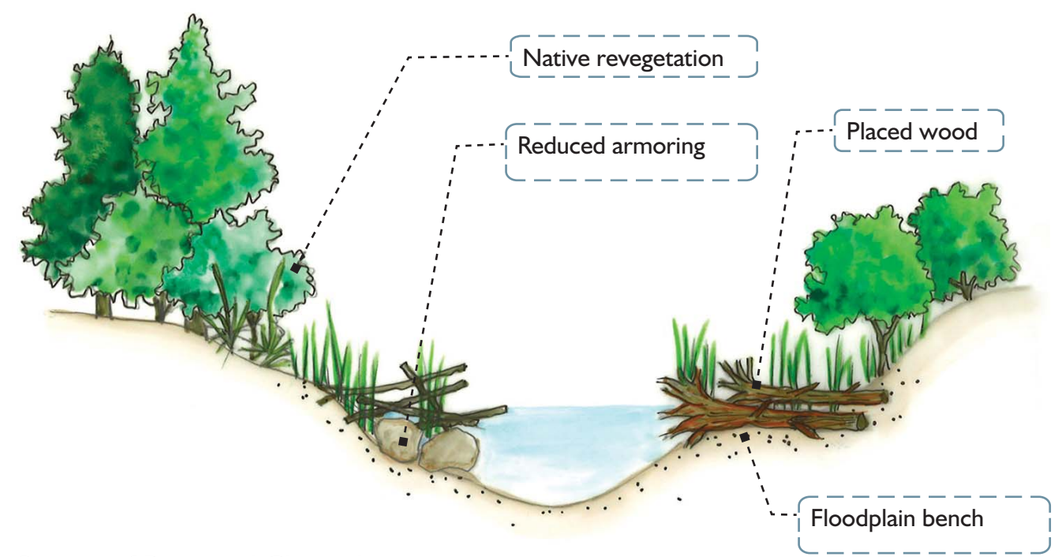
THE WATERSHED COMPANY

Proposed Bank Enhancement Plan





Section of Existing Channel



Section of Proposed Channel

NOT TO SCALE

Site 64: LAUGHING JACOBS ROCK BERM REMOVAL [BS/W*]

*BS=Bank Stabilization; W=Wetland

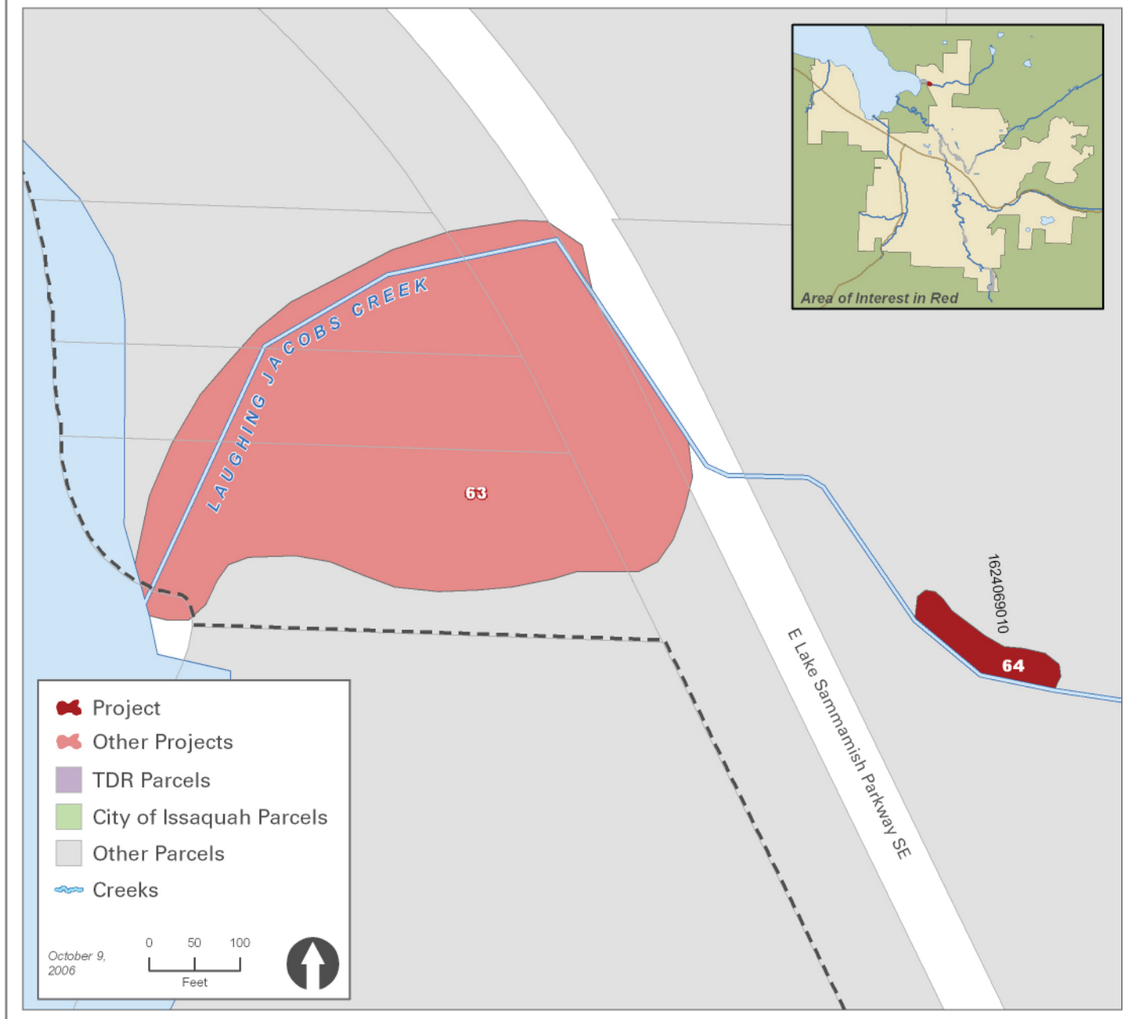
THE WATERSHED COMPANY

Upstream of East Lake Sammamish Parkway, there is a rock berm which appears to be at least several decades old. This berm separates the Laughing Jacobs Creek channel from a forested wetland floodplain area along the right bank. The floodplain beyond the berm is not much higher than the stream channel. It would be flooded more often and to a greater extent if the berm was not present. This proposed project would remove several sections of the berm by hand and/or by using hand tools to re-connect the stream channel to its floodplain. This would allow high flows to cross the wetland floodplain with greater frequency and intensity. Hand tools only would be used in order to minimize disturbance to the maturing forested wetland.

Implementation Strategies and Issues:
The project site is located on a large parcel of land owned by Washington State Parks. Opportunities may exist to work with the Parks Department to partner on project implementation. Volunteer and low-cost assistance for project implementation, including local youth crews, should be explored. Identification in this study will improve the ability for the City and its partners to implement project goals.

Section of the rock berm along Laughing Jacobs Creek that is at least several decades old. Hand-removing sections of the berm will reconnect the creek to its wetland floodplain.

Parcel Information

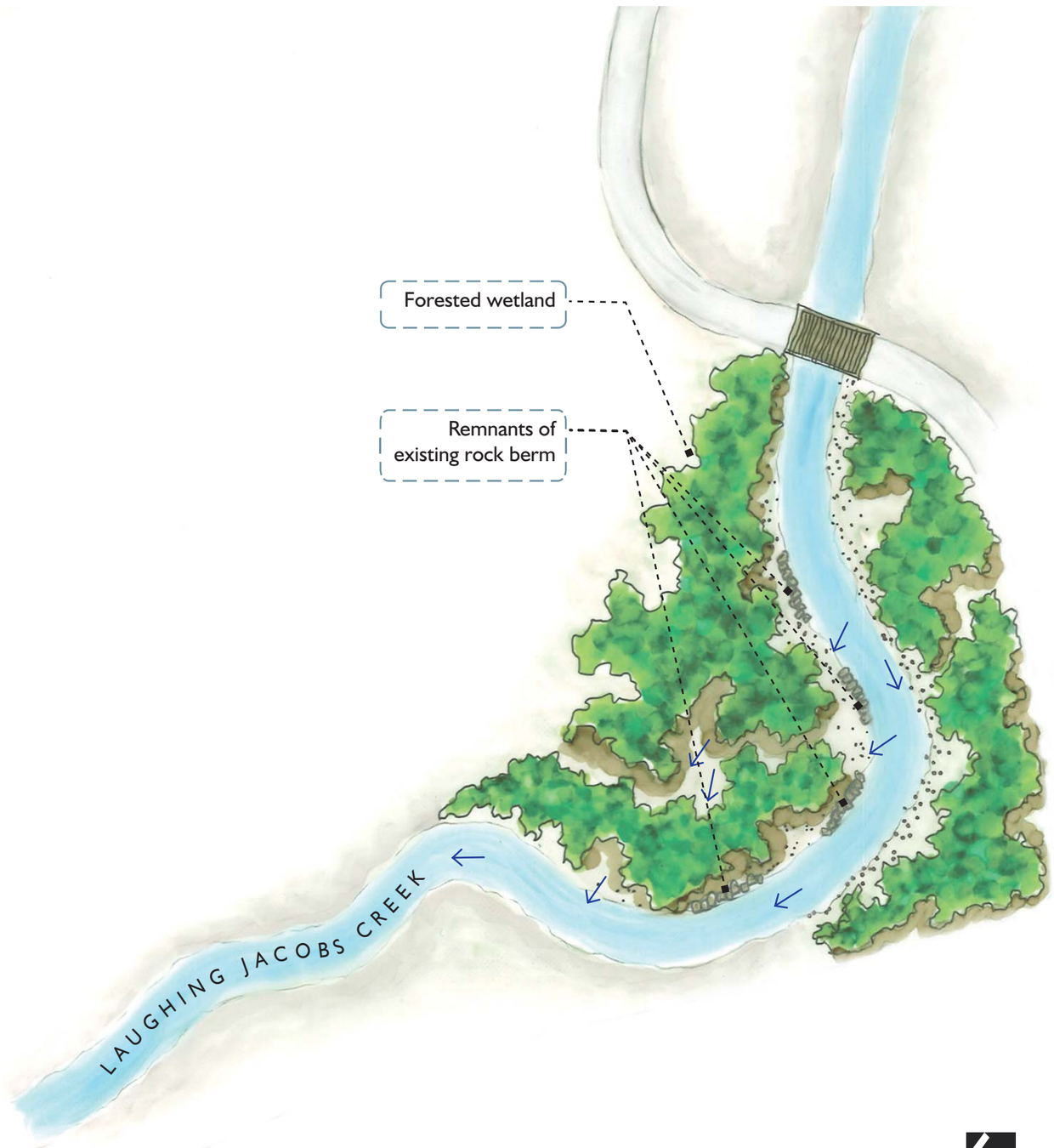


Project	PIN	Present Land Use	Owner	Acres
64	1624069010	Low Density Residential	Washington State	78.74

Site 64: LAUGHING JACOBS ROCK BERM REMOVAL

THE WATERSHED COMPANY

Proposed Bank Enhancement Plan



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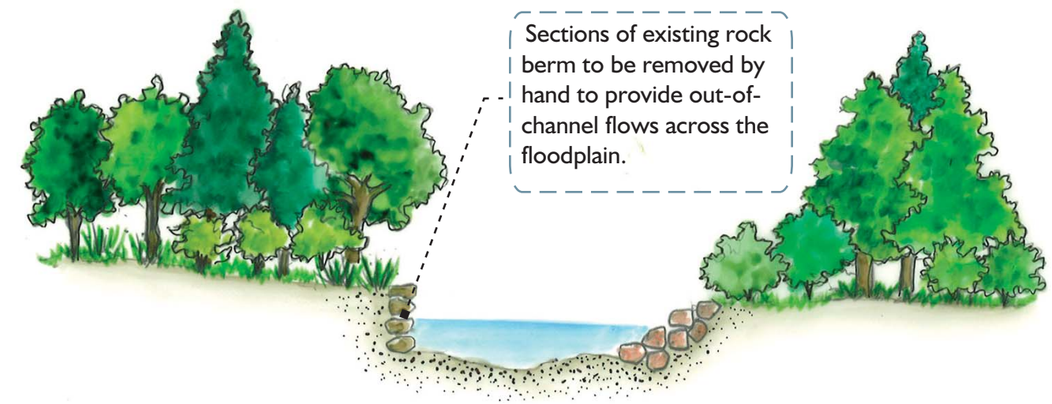
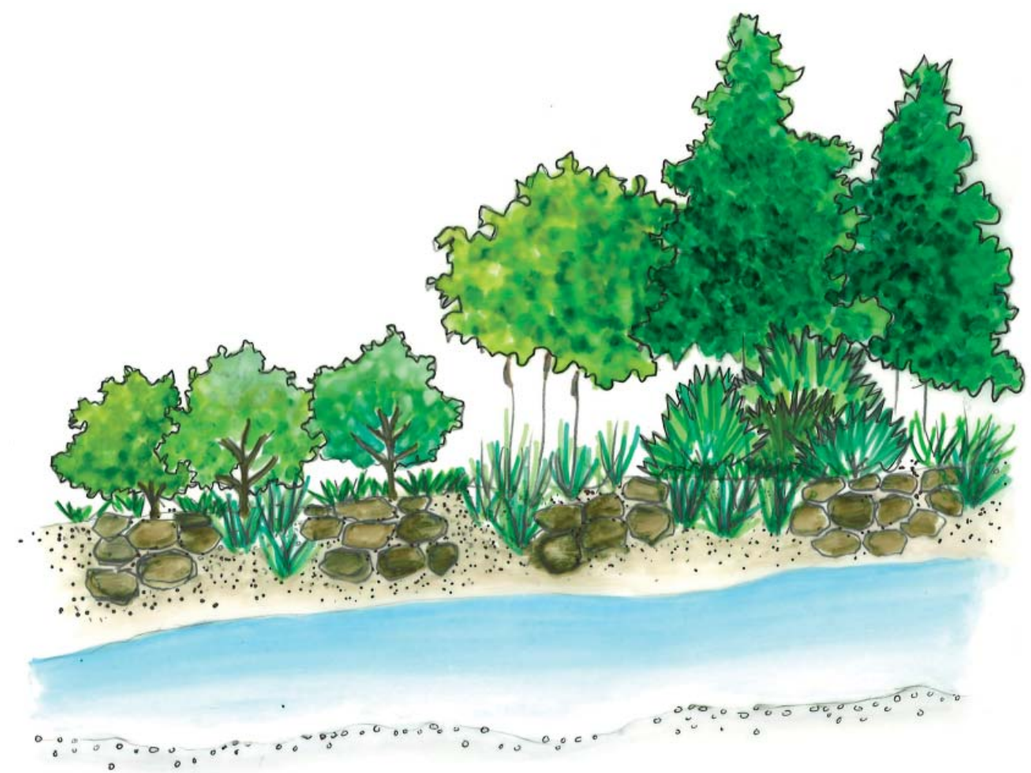


Existing Stream Section



Proposed Stream Profile

APPENDIX B

NATURAL AREAS PROTECTION MECHANISMS

APPENDIX B. Natural Areas Protection Mechanisms

Traditional Zoning Techniques – Large Lot and Open Space Zoning

Historically in urbanizing communities, including the Issaquah area, lightly developed areas, especially those that retained a forested or pastoral character, were zoned for larger lots and lower housing densities, with non-agriculture commercial uses often prohibited. In many communities, large lot zoning has historically served as the primary regulatory mechanism to protect environmentally sensitive lands from the impacts associated with "leap frog" urban development and to establish "reserve" areas where future growth could be accommodated when urban services were available to serve the new development. Clearly, large lot zoning does take some near-term development pressure off the land, but it does not always provide long-term or permanent protection of environmentally sensitive lands. With the passage of the Growth Management Act (GMA) in 1990 and the implementation of a regulatory framework that required new development to be focused into cities and adjacent areas where urban services could more easily be provided, the use of large lot zoning was largely discontinued or heavily modified within urban growth areas.

Increasingly, the use of urban growth boundaries and phased annexation of adjacent areas into municipal boundaries were used to identify and plan for areas targeted for future growth. Areas that are not zoned for "urban densities" within Urban Growth Boundaries continue to be closely scrutinized by citizen and the Growth Management Hearings Boards (GMHB). While the GMHB case law continues to evolve and the Central GMHB has established that urban densities may not be appropriate when critical areas are "large in scale and scope and high in rank order," the use of large lot zoning within urban or urbanizing areas is mostly a holdover from pre-GMA zoning. Within the City of Issaquah, small areas of larger-lot, single-family zoning remain (totaling less than 7% of the City's land area), including those areas zoned Single Family Estates (1.24 d.u. per acre) and Conservancy Residential (1 d.u. per acre).

Open Space or Conservation Zoning is a related technique that has been used in the City of Issaquah to provide protection to natural resource areas. In many cases, the use of large lot zoning in these areas provides an extra measure of protection to these areas, or a "belt and suspenders" approach to conservation, because the land is also protected by additional tools, such as public ownership or conservation easements, that will be discussed later in this section. Areas zoned for open space in the City are designated as "Conservancy" in the Issaquah Comprehensive Plan and include the following Issaquah Municipal Code (IMC) zoning districts: Tradition Plateau-Natural Resource Conservation Area (TP-NRCA) and Conservancy Recreation (C-Rec). These areas comprise just under 10 percent of the current land area of the City. As stated in the City's Comprehensive Plan:

> *The purpose and intent of this designation is to protect and preserve natural systems; wildlife habitat areas; water quality; restoration and enhancement of damaged ecological systems; archaeological, cultural and historic resources; and environmentally critical areas. This designation shall also protect "Urban separators" which are permanent low density lands which protect adjacent resources lands, rural areas, and environmentally sensitive areas and create open space corridors within and between urban areas which provide environmental, visual, recreational and wildlife benefits.*

These areas help to form a green belt of protected lands that frame the edges of the community. Land Use Policy 1.1.4 in the Issaquah Comprehensive Plan states:

> *Provide a zoning overlay for urban separators that would designate them as areas of permanent low density… These lands shall not be redesignated in the future to other urban uses or higher densiti*es.

In addition to areas designated Conservancy, the City of Issaquah has approximately 21 percent of its current land area designated under three subcategories of Community Facilities (Facilities, Recreation and Open Space). Areas zoned Conservancy are either owned by the City of Issaquah, other public agencies, or are designated open space. This tool primarily reaffirms existing protection provided by public ownership and easement. Absent the use of other tools, local governments cannot rezone private developable land as Conservancy as a means of permanently protecting open space, as this constitutes an unconstitutional taking of private property if no just compensation is provided. However, land that is set aside as open space through the site design and development review process has been and will continue to be designated as Conservancy to recognize its protected status. Lands that have been set aside through site design, project negotiation and development review for major developments, such as the Issaquah Highlands (Grand Ridge), constitute a major source of new open space lands.

Overlay Zoning Requirements

Within local government zoning ordinances, communities often use overlay zones to protect particular natural or cultural features, such as historic districts, critical areas, shorelines, agricultural areas, or mineral resources. Overlay zones build on the underlying zoning by establishing additional or stricter standards; the standards of the overlay zone apply in addition to those of the underlying zoning district requirements. Overlay zoning can be an effective tool for communities to use in protecting specific resources from development pressures. In Washington State, the Shoreline Management Act (SMA) and the GMA provide specific guidance for the development of required policies and regulations to protect two types of natural features: shorelines and critical areas. Both Shoreline Master Programs (SMPs) and critical areas regulations can be viewed as types of overlay zones.

Shoreline Master Program: The SMA was enacted in 1971, and its purpose is to manage and protect the shorelines of the state by regulating development in the shoreline area. A major goal of the Act is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." The other two major goals are to “encourage water-dependent uses” and promote public access.

The primary responsibility for administering this regulatory program is assigned to local governments. The SMA requires local governments to adopt SMPs consistent with the provisions in the SMA and related guidelines established by the Washington Department of Ecology (Ecology). One of the key requirements of the new SMP Guidelines contained in WAC Chapter 173-26 is that “local master programs shall include policies and regulations designed to achieve no net loss of… ecological functions” related to shorelines.

SMA jurisdiction essentially includes all marine waters, rivers, streams and lakes above a certain size. The SMA also regulates wetlands associated with these shorelines. Jurisdiction generally extends 200 feet landward from the ordinary high water mark of regulated features. In Issaquah, these features include portions of Lake Sammamish, the main stem of Issaquah Creek, East Fork Issaquah Creek, and associated wetlands. No substantial development is permitted on the state's shoreline unless a permit is obtained from the local jurisdiction and such development is determined to comply with the standards in the local government’s SMP. Local

governments must also "include regulations ensuring that exempt development in the aggregate will not cause a net loss of ecological functions of the shoreline."

A key new requirement under the new SMP guidelines that have been prepared by Ecology is the preparation of a restoration plan. SMPs must now include goals, policies and actions for restoration of impaired shoreline ecological functions. The goal of the restoration plan is to achieve an improvement in shoreline ecological function over time. Both the SMA and the new guidelines recognize the limits of regulation and the need to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private property rights. Therefore, SMPs are asked to "make real and meaningful use of established or funded non-regulatory policies and programs that contribute to restoration of ecological funcitions, and should appropriately consider the direct or indirect effects of other regulatory or non-regulatory programs under ofther local, state, and federal laws, as well as any restoration effects that may flow indirectly from shoreline development regulations and mitigation standards" (WAC 173-26-186(8)(d)).

The City of Issaquah is required to update its SMP to be consistent with the new guidelines by December 1, 2009 (RCW 90.58.080). This *Stream and Riparian Areas Restoration Plan* should aid in the development of the required SMP restoration plan. The role of the SMP in the protection of stream and riparian areas is limited to those areas that meet SMP designation criteria; however, within those areas, the relative role of this tool in the protection of these resources can be expected to increase due to the requirements of the new Ecology guidelines.

Critical Areas Regulations: One of the central requirements of the GMA is to designate and protect critical areas and natural resource lands. Critical areas include wetlands, critical aquifer recharge areas, fish and wildlife habitat conservation areas (including streams and other waters of the state), frequently flooded areas, and geologically hazardous areas. The City has mapped known critical areas and resource lands, including important sand and gravel resources, within and surrounding Issaquah. The City has periodically updated its critical areas regulations (CAR) since their initial adoption in 1995. In addition to CAR requirements, the City has a Critical Area Mitigation Fund that receives civil penalties from critical area code enforcement cases. These monies can be "used only for the purpose of paying all or part of the cost and expense of enforcing and implementing the critical area requirement."

In May of 2006, the City updated its CAR to comply with the GMA requirement that local governments include "best available science" (BAS) in preparing policies and regulations to protect the functions and values of critical areas (RCW 36.70A.130). This update was based on the *City of Issaquah Best Available Science Report* (City of Issaquah 2004) approved by the City Council in November of 2005. Key changes included increased buffers for Class 2 and 3 streams, adopting the Ecology *Wetland Rating System for Western Washington*, modifying buffer averaging requirements for wetlands, and classifying ditches and stormwater drainages that do not contain or connect with salmonid habitat as Class 4 streams. These changes are expected to strengthen the level of protection afforded to stream and riparian areas within the City.

Critical areas regulations currently play a key front-line role in the protection of important natural resources. Inventories developed in support of the CAR and data collected as a result of CAR implementation at the project level play an important role in identifying and classifying features. Critical areas regulations and related development regulations, such as clearing and grading, tree retention, and stormwater management requirements, are central to the City's efforts to limit further degradation of critical areas.

To a lesser extent, CARs also serve to aid enhancement and restoration goals through project-specific mitigation requirements. However, project-specific application of CAR development regulations does not constitute an effective comprehensive strategy for natural resource conservation and management. Like most development regulations, CARs are limited in their ability to promote coordinated and large-scale restoration of natural areas. These regulations do work to support larger planning goals and strategies that are outlined in Comprehensive Plans, Park and Open Space Plans, Basin Plans and this *Stream and Riparian Areas Restoration Plan*. However, they must be guided by specific implementation strategies and direction, such as that which is contained in this *Stream and Riparian Areas Restoration Plan*.

The CAR is an important tool for preventing further degradation of stream and riparian protection and also provides some opportunities for enhancement of existing degraded resources. Combined with other development review requirements and project negotiations that have led to large open space set-asides, these tools have had an important role in protecting habitat, particularly in urbanizing hillside areas at the edges of the City. Constitutional limits on regulation often prevent local governments from achieving a net improvement to critical areas when compared to the condition of these resources prior to development. Regulatory requirements must have a direct relationship (i.e., essential nexus) to the impacts of the development and must be roughly proportional in terms of the cost or magnitude of the requirement and the impacts of the project. Project mitigation can occur in isolation without effective coordination with a larger plan. These factors impose fundamental limitations on the ability of development regulations to improve upon existing conditions at the landscape level. At the site level, the City can many times achieve an improvement in the existing condition of degraded buffers through various provisions in the CAR, including those that allow certain tradeoffs, including reduced or averaged buffer widths, in exchange for improvements to buffer condition by the developer through enhancement plantings or other actions. However, City Capital Improvement Projects, grant funding, work by volunteer and non-profit groups, and other non-regulatory and voluntary mechanisms described later in this section, will largely bear the burden of improving the existing condition of degraded critical areas throughout the majority of the incorporated area.

City-wide Development Standards

“Development standards” is a general term encompassing a variety of types of regulations. Often specific development standards are incorporated into overlay zones, such as critical areas regulations, but other standards are applied across the larger landscape of the City. For the purposes of this discussion, City-wide development standards that have the most potential to impact streams and riparian areas will be emphasized. These include clearing and grading ordinances, tree retention standards, and stormwater management regulations. A relatively new tool, Low Impact Development (LID), will also be discussed. The City could take additional steps to implement LID techniques into its development standards to further balance development with resource protection, particularly in environmentally sensitive areas.

Clearing and Grading Ordinances and Tree Retention Standards: The City of Issaquah regulates clearing and grading through IMC Chapter 16.26. Generally speaking, a permit is required for cuts and fills that exceed 50 cubic yards in volume, clearing on single-family lots of more than 1,000 square feet, or clearing and grading within most critical areas. The requirements contained within Chapter 16.26 provide protection to streams and riparian areas in a number of ways. First, by ensuring planning and oversight of clearing and grading activities through a permitting process, the codes help ensure this development does not occur in a haphazard way that may result in unintended consequences. Second, by establishing specific

development standards and performance requirements, the code helps address the likely impacts of these activities, such as erosion and sedimentation which can directly impact water bodies, and loss of vegetation, which can impact stream and riparian habitat directly, by altering riparian conditions, and indirectly, by impacting hydrology at the basin scale.

IMC Chapter 16.26 includes a tree replacement requirement. The code establishes a minimum tree density in the buildable area of each site. The tree density may consist of "existing trees, replacement trees, or a combination of existing and replacement trees." The code encourages the retention of existing trees through a system that converts trees to "tree units" based on diameter at breast height (DBH) (measured 4.5 feet above grade). Trees that are retained on site convert to tree units at a significantly higher ratio of DBH to tree units than do planted trees.

This system provides site design flexibility for the property owner, while ensuring loss of tree cover is partially mitigated for new development. Additional flexibility is provided for sites where it is not feasible to relocate or replace trees through provisions in the code that allow off-site planting or payment into a City "Tree Fund." The stated purpose of the City Tree Fund is "acquiring, maintaining, and preserving wooded areas, and for planting and maintaining trees within the City." Tree replacement requirements of this sort are not generally intended to restore degraded watersheds; however, they are a useful tool to limit the impact of new development and to restore specific sites. Use of the City Tree Fund could be targeted to specific priority restoration projects identified in this Plan.

Stormwater Management Codes and Design Manuals: Stormwater is the water that runs off surfaces such as rooftops, paved streets, highways, and parking lots. It can also come from hard grassy surfaces like lawns and play fields, and from graveled roads and parking lots. Urban development causes significant changes in patterns of stormwater flow from land into receiving waters. Changes in land cover, including increases in impervious surfaces and loss of forest cover, result in dramatic changes to the hydrology, or run-off and infiltration, characteristics within a basin. Regardless of where these changes occur in the basin, stream and riparian areas can be negatively impacted. Increased surface runoff flow rates and durations cause erosion and sedimentation, which results in stream channel changes that destroy habitat for fish and threaten property. Water quality is degraded when runoff carries pollutants such as eroded soil, oil, metals or pesticides into streams, wetlands and lakes or into ground water. Managing stormwater runoff helps to reduce these significant pollution problems that make waterways unhealthy for people and aquatic organisms.

Stormwater management includes careful application of site design principles, construction techniques to prevent erosion and the discharge of sediments and other pollutants, source controls to keep pollutants out of stormwater, flow control facilities to reduce discharge flow rates, and treatment facilities to reduce pollutants. The City of Issaquah has adopted the most recent version of the *King County Surface Water Design Manual*. The City is currently developing a stormwater program as part of the requirements for their National Pollution Discharge Elimination System (NPDES) Phase II Municipal Permit under the Clean Water Act. The City could develop or refine basin-specific standards that would require a higher level of protection, including enhanced water quality and quantity controls and wet weather construction restrictions, in specific basins where available analysis indicates a higher level of protection is warranted.

Low Impact Development Standards and Sustainable Development: Increasingly Low Impact Development (LID), Green Building and Sustainable Development are being mentioned as tools to balance growth and development with protection of the environment, including

stream and riparian resources. LID is an innovative stormwater management and site development approach that focuses on how water enters a site, is stored on-site, and leaves a site. LID is based on a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed, decentralized micro-scale controls. "Green Building" generally refers to the use of energy efficient and environmentally sensitive construction techniques, materials and site planning. Both ideas can be viewed as part of the larger concept of "Sustainable Development," which can be roughly defined as "development that meets the needs and aspirations of the current generation without compromising the ability to meet those of future generations." While a full examination of these concepts is beyond the scope of this report, they are mentioned briefly because they should be viewed as an important potential implementation tool to protect stream and riparian areas.

LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. Techniques are based on the premise that stormwater management should not be seen as stormwater disposal. Instead of conveying and managing/treating stormwater in large, costly, end-of-pipe facilities located at the bottom of drainage areas, LID addresses stormwater through small, cost-effective landscape features located at the lot level. These landscape features can include not only open space, but also rooftops, streetscapes, parking lots, sidewalks, and medians. These surfaces and areas are used in innovative ways to absorb and clean stormwater. LID can be applied to new development, urban retrofits, and redevelopment/revitalization projects.

The City of Issaquah has adopted policy language related to LID. Land Use Policy L-7.1 in the Comprehensive Plan calls on the City to "*adopt a Strategic Work Program that identifies actions to achieve sustainable development and implement these actions through ordinances and other appropriate methods.*" In July of 2006, Ecology announced a grant program to support LID projects for stormwater management. Ecology's LID grant program will provide up to $2.5 million to fund five to ten LID stormwater projects statewide. In fall 2006, the City submitted an LID grant application to the State for the reconstruction and modification of Rainier Boulevard North, between East Fork Issaquah Creek and Dogwood Street.

The City Comprehensive Plan encourages many LID techniques. The City zoning code provides for cluster development, which can be viewed as a type of LID technique. However, additional changes to City codes are needed to provide LID as a viable alternative to traditional development practices over a significant portion of the City. These changes include modification of road, fire and stormwater standards. Even plumbing standards can be a formidable barrier to the implementation of LID and Green Building techniques. The Strategic Work Program should identify how barriers to sustainable development, including LID implementation, will be removed.

Implementation of LID techniques, which are designed to maintain pre-development hydrology and limit impacts to streams and riparian areas, are particularly appropriate for many of the specific properties identified in the Project Summaries. Implementation of LID techniques can reduce impacts to streams and riparian areas by retaining forest cover and providing open spaces within projects where suitable restoration sites can be established. In addition, broader application of LID techniques throughout the larger sub-watersheds will help reduce the impacts of future development on the already altered hydrology of the these systems. LID techniques are described in depth in the *Low Impact Development Technical Guidance Manual for Puget Sound* (Puget Sound Action Team 2005). The City could examine its development standards,

including its road, fire and stormwater requirements, to identify barriers to the implementation of LID techniques by private property owners and the City.

Developer Contributions and Mitigation

Issaquah has a history of requiring developers to mitigate the direct impacts of development through a variety of means. These include dedication of land, off-site improvements, on-site improvements, voluntary payment in lieu, impact fees, and requirements stemming from the use of substantive authority in the State Environmental Policy Act. This tool has been used to address a wide range of development impacts, including, parks, schools, utilities and traffic. In addition, this tool has been used in Issaquah to improve stream, wetland and riparian habitat. IMC Chapter 18.18 outlines many of these requirements. In addition, Chapter 18.17 establishes the authority for the collection of Park Impact Fees. Finally, Chapter 18.10 establishes the policies related to the local application of SEPA, including the use of substantive authority.

The dedication of land during site subdivision has been a major tool used in Issaquah to protect streams and riparian areas. A major example of this occurred with the development of the Pickering Place commercial development (I-90 Corporate Center Plat) in 1987 on the site of the historic Pickering Farm. More than 13 acres, which include some of the widest and most pristine portions of Issaquah Creek, were set aside as designated open space "Tract A," retained in private ownership, but protected from future development.

The City of Issaquah established impact fees for parks and recreational facilities in 1999. The City Council determined "that growth and development activity in the City will create additional demand and need for park facilities in the City, and the Council finds that growth and development activity should pay a proportionate share of the cost of such facilities needed to serve the growth and development activity." Impact fees are authorized under the Growth Management Act (Chapter 36.70A RCW), and RCW 82.02.050 through RCW 82.02.100, which allows cities to impose and collect impact fees to partially fund public facilities to accommodate new growth.

The park impact fee amounts to a charge of $3,147.00 for each single-family unit and $2,189.00 for each multi-family unit. These fees are used to acquire new park lands and open space. Exemptions are provided for affordable housing and other limited circumstances. The fee is collected at the time of building permit submittal.

SEPA Substantive Authority: The State Environmental Policy Act (SEPA) may be the most powerful legal tool for protecting the environment of the state. SEPA is intended to ensure that environmental values are considered during decision-making by state and local agencies. One of the key tools the City uses to mitigate impacts from new development, including impacts to streams and riparian areas, is the use of substantive authority to condition or deny new development under the requirements of SEPA. Prior to the establishment of GMA and the adoption of the City's first CAR in 1995, SEPA served as the primary tool to address impacts to streams, wetlands and riparian areas. Under IMC 18.10.250,

> *A. The City may attach conditions to a license or approval for a proposal so long as:*
>
> *1. Such conditions are necessary to mitigate specific adverse environmental impacts clearly identified in an environmental document prepared pursuant to this chapter; and*
>
> *2. Such conditions are in writing; and*

3. *Such conditions are reasonable and capable of being accomplished; and*
4. *The City has considered whether other local, state, or federal mitigation measures applied to the proposal are sufficient to mitigate the identified impacts; and*
5. *Such conditions are based on one (1) or more policies in SEPA Policies (IMC 18.10.260) and cited in the permit, approval, license, or other decision document.*

B. *The City may deny a permit or approval for a proposal on the basis of SEPA so long as:*
1. *A finding is made that approving the proposal would result in probable significant adverse environmental impacts that are identified in a final EIS or final supplemental EIS; and*
2. *A finding is made that the mitigation measures are insufficient to mitigate the identified impact; and*
3. *The denial is based on one (1) or more policies identified in SEPA Policies (IMC 18.10.260) and identified in writing in the decision document. (Ord. 2108 § 10.1.25, 1996; Ord. 1633 § 24, 1984).*

SEPA provides the City with broad latitude and flexibility to require mitigation for impacts to streams and riparian areas, in addition to a wide range of other impacts. The City has used this tool successfully to mitigate impacts to streams and riparian areas and to restore these same resources off site.

Grant Funds and Capital Improvement Projects

Due to the political, legal, geographical and practical constraints previously described, regulation of new development alone, without the use of other stream and riparian area restoration implementation tools, is not an effective strategy for restoring degraded streams and riparian areas throughout the City. Particularly in portions of the City that are located on the flat valley floor, which now has limited room to accommodate new development, other tools are needed to implement stream and riparian area restoration objectives. Given the large number of projects identified in this study, and the even greater need for enhancement and restoration throughout the City and its urban growth area, City-funded and -initiated projects will continue to play a critical role in implementation efforts. The efforts of the City and its conservation partners are aided by grant funding from a variety of state, regional, federal and non-profit sources. Some important grant programs that provide funds for the implementation of stream and riparian conservation and enhancement projects are discussed below.

The Salmon Recovery Funding Board: Since 1999, the Lake Washington/Cedar/Sammamish Steering Committee, a multi-stakeholder, inter-jurisdictional body, has annually solicited, reviewed and ranked applications for salmon habitat protection and restoration for state and federal funding administered through the state's Salmon Recovery Funding Board (SRFB). To date, over $4.8 million have been awarded to 17 projects in the WRIA 8 watershed through the SRFB program. The next opportunity for these grants will be in spring 2007.

Washington Wildlife and Recreation Grant Program: The Washington Wildlife and Recreation Program (WWRP) is a state grant program that provides funding to protect habitat, preserve working farms, and create new local and state parks. It is administered by the Interagency Committee for Outdoor Recreation (IAC) and is funded by the legislature. The WWRP's competitive process ensures that only the best new park and habitat projects are

funded. Local, state, and tribal agencies submit applications for WWRP grants to the IAC. An independent team of experts ranks the projects based on the benefits to the public, the level of threat to the property, the presence of threatened or endangered species, and the level of community support. The Governor and Legislature then set the funding level and approve the list of WWRP projects.

King Conservation District Funds: Approximately $730,000 was made available in 2005 to support habitat protection and restoration projects, stewardship projects and programs, and studies in the Lake Washington/Cedar/Sammamish Watershed. The money comes from a county-wide $5-per-parcel assessment that funds the activities of the King Conservation District, as well as projects through other watershed forums in King County. The WRIA 8 Forum reviews grant applications for projects in the watershed and recommends applications to the King Conservation District Board for funding. Only local governments and non-profit organizations in the King County portion of the Lake Washington/Cedar/Sammamish Watershed are eligible to apply.

Conservation Futures: As a result of the passage of a state law under RCW 84.344 more than 17 years ago, counties in Washington have set up allocation funds to acquire habitat areas, green spaces, and trail rights-of-way for preservation for public use by either cities or counties. King County Code 26.12.010 establishes a biennial allocation process, and requires that all cities that are greater than 20,000 people have an open space plan to be eligible. At least one month prior to the submission date determined by the County Council, all cities within the County are provided with a notice of the opportunity to apply to the county for a share of the Conservation Futures funds. A citizen oversight committee makes recommendations to the King County executive on which proposals should be funded. The executive presents these recommendations, along with a report to the County Council, and the County Council makes the final decision after a public hearing.

All applications funded by the Conservation Futures program must be supported by the jurisdiction in which the project is located with a funding amount no less than the amount of Conservation Futures funding awarded to the project. This contribution may include cash, land trades verified by a certified appraiser, or credits for other qualifying open space acquired on or after January 1, 1989. If a project nominated by a citizen or citizen group is located in an incorporated area and is recommended for acquisition by the citizen oversight committee, the city is required to demonstrate a commitment to contribute within two years of application the required share for the project prior to the proposal's final consideration by the County Council.

King County Community Salmon Fund: The National Fish and Wildlife Foundation (NFWF) and SRFB have established the Community Salmon Fund to stimulate small-scale, voluntary action by community groups, in cooperation with landowners and businesses, to support salmon recovery on private property in the Lake Washington/Cedar/Sammamish Watershed (WRIA 8), the Green/Duwamish & Central Puget Sound Watershed (WRIA 9), and southern Snohomish County. Projects on public property that serve as a pilot for similar projects on private property are also eligible. Proposals must specifically state how projects on public property will serve as a demonstration site and include an outreach plan for engaging private property owners in similar restoration projects. Grants are jointly selected by NFWF and King County, and administered by the Foundation. The goals of the Community Salmon Fund are to:

- Fund habitat protection and restoration projects that have a substantial benefit to watershed health and are consistent with local salmon habitat plans. Projects that target chinook salmon are strongly encouraged.

- Engage landowners, business owners, and community groups to carry out these projects and care for them in the long run.
- Stimulate creativity and leadership to address restoration needs among various constituencies, including farmers, rural forest owners, suburban homeowners, local governments, tribes, and owners of businesses and industries.

The Fund will award grants of up to $75,000. Grant requests in the $10,000 to $20,000 range are strongly encouraged. The program's primary focus is smaller, community-based restoration projects, so requests for funds for large-scale restoration projects (such as SRFB proposals) will not be considered. The following costs are eligible:

- Restoration of habitat within and along salmon-bearing rivers and streams.
- Project design and development that is anticipated to lead to an on-the-ground restoration project within 18 months.
- Some funds are also available for less than fee acquisition.

Other Grant Programs: King County administers a variety of other grant programs. These include the following: Rural Community Partnership Grant, WaterWorks, Wild Places in City Spaces, Natural Resource Stewardship Network, and Conservation Corps (EarthCorps) Crew Days. Grant amounts range from up to $2,500 for the Rural Community Partnership Grant, to up to $50,000 for the WaterWorks Grant. Eligible projects differ by program, but a range of projects and objectives detailed in this plan would fit within the various requirements, including native plant revegetation and in-stream habitat improvement. A list of recent grant-funded projects in the City of Issaquah and surrounding portions of King County is included in Table A-1 below. Please note that many of the projects funded by the aforementioned grants are in rural portions of King County, but within the larger Issaquah Creek watershed. This table is intended to provide examples of types of recent grant-funded projects and the sources of funding, and is not intended as an exhaustive list.

Table A-1: Recent Grant-Funded Projects in the Larger Issaquah Creek Watershed

Project Name (status)	Project Description	Date/ Round Funded	Amount Awarded
Salmon Recovery Funding Board Projects (SRFB)			
Issaquah /Holder Creek Acquisition (in process)	Grant funds the acquisition of approximately 124 acres on five properties along Holder Creek, a primary tributary of Issaquah Creek. Protects approximately 4,850 feet of streams, links Tiger Mt. State Park and King County's Taylor Mt. Forest Park.	Round II, 2001	$200,000
Issaquah Creek/ Carey Creek (in process)	This conservation easement will protect approximately 10 acres of forested riparian area and adjacent uplands in Carey Creek, a headwater tributary of Issaquah Creek that contains some of the best remaining habitat in the basin.	Round III, 2002	$60,000

Project Name (status)	Project Description	Date/ Round Funded	Amount Awarded
Issaquah/Log Cabin Reach Acquisition (in process)	Acquire eight parcels along Issaquah Creek in the Middle Issaquah Creek Basin including 152 acres of mature forests, wetlands and a riparian corridor along 1-¼ miles of both sides of Issaquah Creek.	Round IV, 2003	$708,671
King Conservation District Funds (KCD)			
Issaquah Creek Bank/Habitat Improvement (in process)	Funded through 50/50 (regional/local) match program to support fish habitat enhancement and passage improvement projects in the Sammamish watershed. Streambanks revegetated, large woody debris added and riparian plantings done in 2000. Johnson property was flood damaged shortly after installed. Additional work to be done in 2003 to repair damage including: 1. installation of additional logs along the scoured bank for fish habitat and erosion protection; 2. shifting and strengthening of logs placed in the original restoration work; 3. planting of willow and dogwood stakes along the scoured bank.	KCD 1998/99	$22,000
Habitat Enhancement on Issaquah Creek at Sycamore Site (in process)	50/50 (regional/local) match program to support fish habitat enhancement and passage improvement projects in the Sammamish watershed. The project will include: 1. Removal of an old concrete road abutment on Issaquah Creek that restricts flood flows and aggravates local flooding 2. Removal of a rock and concrete levee and associated fill along Issaquah in former platted lots that were acquired by the City of Issaquah as part of a floodplain buyout program. 3. Installation of in-stream log structures for habitat; and 4. Slanting of streamside vegetation to provide stream shading and bank stability. Construction occurred in 2004.	KCD 2000	$25,000
Issaquah Waterways/Holder Creek (in process)	KCD funds were used to match a Salmon Recovery Funding Board grant for protecting 124 acres on Holder Creek.	KCD (1998-99)	$210,000

Project Name (status)	Project Description	Date/ Round Funded	Amount Awarded
Carey Creek Reach Issaquah Creek Waterways (complete)	Constructed 1,400 lineal feet of fence to exclude livestock from the 10-acre riparian conservation easement area on Carey Creek, an important tributary to Issaquah Creek. The conservation easement was purchased with matching SRFB grant.	KCD 2001 Phase I	$13,372
Pickering Farm Community Teaching Garden (in process)	Hire part-time coordinator to run series of Salmon Friendly Landscaping classes, organize garden work parties and help fund Pickering Farm Community Teaching Garden, a salmon friendly demonstration garden.	KCD 2002	$26,500
Issaquah Creek Aquatic and Riparian Restoration Project	Restore aquatic and riparian processes and habitat along Issaquah Creek, Holder and Carey Creeks in the middle and upper basins. Work will be done on private property with landowners that have expressed interest in riparian and streambank restoration on their property.	KCD 2003	$73,750
Waterworks Forum Initiative			
Issaquah Restoration Stewardship Program	Project will continue and increase community restoration and maintenance of 50 acres of riparian habitat owned by the City of Issaquah along Issaquah and Tibbetts Creeks. The goal is to double the number of volunteer hours for riparian weed control, bring in professional weed eradication on some sites and plant 1,000 more native trees and shrubs along Issaquah Creek. Educational signs will be installed at six heavily used restoration areas. A mini-curriculum will be developed to help volunteers learn about what they can do in their own lives to help salmon.	2003	$36,100

Source: http://dnr.metrokc.gov/Wrias/8/srfb-projects/project_table.htm

Capital Improvement Projects: City-identified and -funded capital improvement projects (CIPs) are an important mechanism by which natural resources can be enhanced and restored. The City undertakes a minimum of one stream restoration project each year. Recent projects are shown in Figure 4 of this report. Over the last decade, this tool has served as the primary vehicle for stream and riparian restoration in the City of Issaquah. CIP projects have included both ongoing creek restoration and enhancement efforts, and efforts by the City to acquire and preserve permanent open space, including the Tibbetts Greenway and South Issaquah Creek Greenway projects.

Property acquisition or control obviously provides a greater ability to implement restoration efforts. The City, assisted by public agencies like King County and other interests, has moved

to acquire a significant number of stream and riparian area properties. Examples include SE 56th, Pickering Place, properties at the confluence of the East Fork and main stem Issaquah Creek, Issaquah Creek Park, Cybil Madeline Park, South Issaquah Creek Greenway, Squak Valley Park South, and Issaquah Park Natural Area.

In addition to property acquisition, there are two different types of restoration activities that are associated with CIP projects. These include transportation or other infrastructure projects that include compensatory mitigation, which is similar in many ways to the developer mitigation previously described, as well as projects where enhancement or restoration is a major or the primary goal of the project design.

Compensatory mitigation is a major source of stream and riparian project implementation funds. For example, a major road project may involve impacts to streams and riparian areas. The state or local governments may determine that project impacts cannot be fully mitigated on site, or that temporary impacts to streams require additional mitigation off-site, and will either pay a fee which is used to accomplish mitigation off-site or include off-site mitigation as a project component after fully exploiting on-site opportunities.

One example of this is the Washington State Department of Transportation (WSDOT) I-90/Sunset Interchange Project in Issaquah. This project involved the addition of almost 13 acres of impervious surface, as well as impacts to Issaquah Creek and related riparian areas. Due to unavoidable impacts that could not be mitigated on-site, WSDOT spent $1.59 million to create 0.3 acre of wetlands, enhance 0.17 acre of wetlands, and enhance 1.4 acres of wetland buffer, in addition to extensive on-site mitigation. (http://www.wsdot.wa.gov/NR/rdonlyres/F5FAE01C-97DD-4B42-AAEC-DAB9884A8957/0/I90SunsetIC.pdf).

Another type of CIP is a proposal to construct improvements to reduce flooding or improve fish habitat, where restoration or enhancement of streams and riparian areas is not viewed as mitigation, but rather as a fundamental goal of the project itself. These types of projects have become increasingly common as local governments grapple with the requirements of various environmental laws, such as the Endangered Species Act and the State Shoreline Management Act, which require governments to not only protect these types of habitats, but to restore them. Examples of previous City-initiated enhancement projects are shown in the map contained in Figure 4. A subset of these projects is described below.

Issaquah Creek - Squak Valley Park Ecosystem Restoration: In 1999, the City of Issaquah initiated a project with the U.S. Army Corps of Engineers under the *Lake Washington Ship Canal Ecosystem Restoration Study* to develop a stream restoration plan for City-owned property at the undeveloped Squak Valley Park (former Erickson Farm). The proposed restoration project is intended to restore and create habitat for fish and wildlife along the Issaquah Creek corridor to restore functions that currently limit fish and wildlife populations. The primary purpose of the project is to create off-channel rearing and refuge habitat for salmon and trout. Associated riparian plantings will benefit local wildlife by improving habitat value along the riparian corridor of Issaquah Creek.

Following an initial feasibility assessment, the project was transferred in 2001 to the Corps' Section 206 program, a nation-wide aquatic ecosystem restoration program, to reduce the length of time to construction. Over the last two years, the City and the Corps have coordinated extensively on developing and refining the restoration plan. The resulting proposed project consists of excavating two backwater channels by cutting through an existing levee, placement of large woody debris, extensive revegetation, enhancement of Kees Creek, and other features.

To accommodate passive recreation uses at the Squak Valley Park site, the project design includes a trail, benches, informal play field, and a parking lot. The recreational features are designed to promote educational and day use.

The total project cost is approximately $1,600,000, of which $590,000 is the responsibility of the City. As part of the local match, the City will be credited up to $323,000 for the value of City-owned lands occupied by the project. The City will also be constructing portions of the project (recreation facilities and vegetation planting) to help reduce costs and minimize the initial cash outlay.

The original schedule called for construction in 2004, but several factors caused the Corps to delay the finalization of the construction plans. Funding problems at the federal level also developed in 2004, causing further delay in project construction. At the time of this writing (November 2006), implementation of the project was on indefinite hold pending federal funding.

Sycamore Area Restoration Project: The City designed and constructed several small restoration projects on City-owned land along Issaquah Creek in 2004. The South Issaquah Creek Greenway consists of several parcels of land located immediately downstream of the Sycamore neighborhood. In 2004, a project was constructed that removed hardened banks along the stream, created overflow channels to reconnect the floodplain to the stream, added large woody debris to the channel for fish habitat, and planted native vegetation. These actions provided both flood and habitat improvements.

Sycamore Phase 2 and Hope Creek Stream Restoration Projects: The Sycamore Phase 2 Steam Restoration Project was completed in summer 2006. Over 31 logs and stumps (large woody debris) were anchored in Issaquah Creek to improve fish habitat. In addition, riprap along the stream bank was removed and an overflow channel was constructed to reconnect an old stream meander bend during high flows. This project was funded with a $25,000 King County Waterworks grant, along with a $50,000 King Conservation District grant. In fall 2006, the Mountains to Sound Greenway Trust is planning a volunteer native vegetation planting event.

The adjacent Hope Creek Restoration Project, a Sustainable Fisheries Foundation project sponsored by the City along with other agencies, was also successfully completed. This project reconnected Hope Creek to Issaquah Creek and provided wetland improvements. Replanting by volunteers will occur in fall 2006 in conjunction with the Sycamore replantings.

Flood Acquisition Parcels: The City in recent years has acquired several flood-prone properties along Issaquah Creek. Two of these parcels, located on NW Dogwood Street and NW Cherry Place, were restored in 2004 with flood and habitat enhancements. A large quantity of fill (over 1,200 cubic yards) and rock debris was removed to improve flood conveyance, native vegetation was replanted, and large woody debris was anchored into the bank and channel bed to provide fish habitat.

Tibbetts Creek Greenway Project: Land use activities within the Tibbetts Creek watershed have resulted in increased flooding, a high level of sediment loading and subsequent deposition, degradation of fish habitat within the stream channel, and degradation of wetland and other wildlife habitat within the Tibbetts Creek riparian corridor. During the early years of Issaquah development, much of this stream was diverted, channelized, or otherwise impacted as part of coal, clay, and gravel mining, and farming. Individual projects associated with the Tibbetts Creek Greenway Project are described below (from upstream to downstream).

Tibbetts Creek Greenway - Bianco Tailings Stabilization: In 2002 the City worked with Intracorp, the developer of Talus, to stabilize a large deposit of coal mine tailings that is located along the banks of upper Tibbetts Creek next to SR-900. The tailings consist of loose rock and soil mixed with inferior grade coal excavated from prospect pits, underground workings or fines from coal washing operations at the former Bianco coal mine on Cougar Mountain. Previous King County studies identified this site as the largest source of stream sediment in the Tibbetts Creek basin. The success of the downstream Tibbetts Creek Greenway Restoration Project relies on stabilization of upstream sediment sources, including Bianco.

The project involved excavation of over 10,000 cubic yards of the tailings material from steepened banks along Tibbetts Creek. This material was moved to two stockpile areas between the excavation area and SR-900. The material was covered with topsoil and revegetated with over 1,500 plants. The total cost of this project was about $200,000 (City and Intracorp funds).

Tibbetts Creek Greenway - Tibbetts Manor Reach: During the summer of 2003, as part of the Tibbetts Creek Greenway Project, the City restored 1,500 feet of stream within Tibbetts Valley Park and the adjoining Kelly property. This project included removal of sediments from the channel that were deposited by past floods, excavation of a pond to trap sediment loads in the stream, installation of in-stream logs and other habitat features, and extensive revegetation of the site (nearly 15,000 trees and shrubs). The total cost of this project was $760,000 (City and grant funds).

Tibbetts Creek Greenway - Newport to Maple Street: In 2004, work on Tibbetts Creek extended downstream, in the area between Newport Way and Maple Street, to include plantings and other restoration at additional private properties. Restoration efforts included removal of invasive vegetation (i.e., blackberries), replanting with native vegetation, and stream habitat enhancements using large woody debris. The City worked with private property owners along that section of Tibbetts Creek to allow restoration work on their property. The total cost of this project was approximately $80,000 (City funds).

Tibbetts Creek Greenway – Rowley Reach: This first reach of the Tibbetts Greenway Project was constructed in 2001 by Rowley Enterprises to improve fish and wildlife habitat while solving flooding problems and providing opportunities for recreation and environmental education. Restoration included stream relocation, a broadened bench for flood capacity, wetland creation, installation of fish habitat structures, and native riparian landscaping.

Tibbetts Creek Greenway - I-90 Culvert Replacement: In 2004, WSDOT replaced the culverts under I-90. This project consisted of two 40-foot-long bridges on I-90 in Issaquah to span Tibbetts Creek, located just west of the SR-900 overpass. Replacing the culverts with bridges increased the capacity of Tibbetts Creek underneath I-90, which will reduce upstream flooding, improve fisheries habitat by removing a partial barrier to fish passage, and reduce maintenance costs. The cost of this project was $5.2 million (State funds).

Tibbetts Creek Greenway - NW Sammamish Road Culvert Replacement: In 2001, the City constructed a bridge over Tibbetts Creek on NW Sammamish Road to replace several old culverts. Replacing the culverts with a bridge complements the replacement of the I-90 culverts, thereby helping reduce upstream flooding and improving fisheries habitat. The cost of this project was approximately $600,000 (City funds).

Tibbetts Creek Greenway - Lake Sammamish State Park: In 2004, WSDOT also constructed flood and habitat improvements on lower Tibbetts Creek in Lake Sammamish State Park. WSDOT performed this work as floodplain and wetland mitigation for the SR-900 improvements. The work also accomplishes the final piece of the Tibbetts Creek Greenway Project, which since the early 1990s proposed this work in the State Park to improve habitat conditions and flood conveyance.

Future Projects: The *Lake Sammamish State Park Wetland, Stream and Lakeshore Restoration Plan* was completed by The Watershed Company in 2005 for the Washington State Parks and Recreation Commission. This plan details Park-wide recommendations and presents a menu of inter-related site-specific projects to address overall ecological needs. The 38 restoration projects identified within the Park range from riparian and wetland habitat enhancement to rerouting of trails and entry roads. This plan sets the direction for meaningful natural resource restoration as park planners are pursuing a complete site redesign.

Stream and Riparian Areas Restoration Plan: Finally, the major goal of this *Restoration Plan* is to identify and prioritize additional specific stream and riparian improvement projects. This City-funded plan will guide future City grant requests and the identification of future CIPs in the City's Capital Improvement Program and budget. Prioritized projects, full descriptions and concept plans and recommended tools for the implementation of each project are included in Appendix A of this report. This *Restoration Plan* is also intended to guide the efforts of volunteer groups, other public agencies, and non-profit groups working to enhance and restore streams and riparian areas within the City

Voluntary Methods and Incentive Based Approaches

Increasingly, with limited local budgets and grant funding and an abundance of worthy projects, local governments are turning to voluntary means of improving stream and riparian habitat. These methods include acquisition of land, acquisition of development rights, transfer of development rights, and current use taxation programs.

Property acquisition that occurs outside of the development review and mitigation realm is often funded by CIP funding sources identified in the City's budget. Various grant programs, including WWRP, SRFB, and Conservation Futures, are often used as sources for property acquisition by local governments as previously discussed. Property acquisition often involves significant assistance and donations by both property owners and third parties.

Often a local land trust will act as an intermediary in the transfer and acquisition of private property because it can usually act more rapidly and often has an easier time negotiating with property owners. Acquisition of development rights occurs when a property is not purchased outright (i.e. fee simple), but rather certain restrictions are placed on the land in exchange for financial considerations. Usually this takes the form of a conservation easement that is placed on part or all of the property. Such easements come in a variety of forms. Local governments are probably most familiar with Native Growth Protection Easements, which are commonly used to protect critical areas and greenbelts during property subdivision. Often a private land trust or homeowners association will serve as the enforcer and trustee of a conservation easement.

A variety of voluntary tools are available to the City of Issaquah as it looks to implement the projects and objectives detailed in this plan. The City will need to continue to work closely with a wide range of volunteer groups and interests. Closer City coordination with the efforts of both internal and external implementation actors will be key to the most efficient use of available

resources. The tools described in this report are often used in various combinations. A brief summary of some of the most important voluntary resources and tools is provided below.

Stewardship and Public Outreach: Numerous public and non-profit organizations are active in stream and riparian restoration and stewardship activities within the City of Issaquah and larger watershed. Some of the most active groups involved in stream and riparian area stewardship and pubic outreach and some example efforts are described below. The City also organizes and funds at least one stream enhancement project a year using volunteers.

The City of Issaquah's Resource Conservation Office (RCO) works *"to conserve and protect Issaquah's natural resources for a sustainable community."* The RCO works with the business and residential community, other City departments, local organizations, and regional agencies to improve the high quality natural resources in the City of Issaquah's care. Areas of focus include habitat and water quality protection, in addition to other issues outside the scope of this report. Programs are offered through the Trail Center, Stream Team, Pickering Garden and other outlets.

The Mountains to Sound Greenway Trust is a non-profit group that has been active in the City of Issaquah and surrounding area. The Greenway Trust acts as a convener and catalyst of interest groups, landowners, and public and private stakeholders along the I-90 corridor between Seattle and Central Washington. The Mountains to Sound Greenway Trust has a broad mission and an ambitious set of goals, working to preserve a 100-mile connected green corridor along I-90 in Washington State. Efforts have included assistance with property acquisition, restoration project implementation, volunteer coordination, and property stewardship.

The King County Water and Land Resources Division funds the May and Issaquah Creek Basin Steward. This public employee provides stewardship services to landowners, neighborhood groups, agencies, and the cities of Issaquah, Renton and Newcastle. These services include information and referrals on habitat restoration opportunities, project funding and partnerships, and landscaping conditions in the Issaquah and May Creek basins. The Basin Steward also responds to citizen issues and concerns and implements the Basin Plans.

The Cascade Land Conservancy (CLC), The Trust for Public Lands (TPL) and other Land Trusts. The efforts of these groups are detailed in a special section later in the document. Both CLC and TPL have been active in and around the City of Issaquah. The City Council has adopted a resolution in support of the *Cascade Agenda,* a 100-year conservation strategy for the larger central Puget Sound Region. The City has taken many actions to acquire and preserve lands and is seeking to implement tools, such as its Transfer of Development Rights program, consistent with this broad strategy. The City has also participated with the Nature Mapping efforts of TPL to identify important areas of biodiversity for conservation.

The King Conservation District (KCD) is a natural resources assistance agency authorized by the State of Washington and guided by the Washington State Conservation Commission. A five-member Board of Supervisors is responsible for all KCD programs and activities. Since 1949, the KCD has been helping the people of King County manage their natural resources. The KCD provides education to landowners, schools, scientists, consultants and agencies in how to recognize problem situations, how to avoid creating them, and technical assistance on how to solve their problems. The KCD promotes conservation through demonstration projects, educational events, technical assistance, and, in some cases, providing or pointing the way to

funds which may be available for projects. The KCD has no regulatory or enforcement authority and only works with those groups and individuals who choose to work with the KCD.

All landowners within the KCD boundaries are entitled to free information and technical assistance for water quality protection, wildlife habitat enhancement, farm management plans, soil and slope stability information, native plant products, manure exchange information, volunteer opportunities, stream restoration/enhancement assistance, and many other natural resource topics. The KCD works hand-in-hand with the local office of the Natural Resources Conservation Service (NRCS). The NRCS provides technical assistance to the KCD, conducts training sessions for KCD personnel, and develops the practices and standards which the KCD uses to develop and implement its projects.

The KCD is funded primarily by a per-parcel assessment fee. Most cities and all of unincorporated King County are members of the King Conservation District. The KCD receives some funding from the Washington State Conservation Commission. The KCD also receives grants from other state, federal and local sources such as the Urban Resources Partnership, Washington Department of Ecology, the Conservation Commission Research Grant, and King County Block Grant. Although the KCD is authorized by the state legislature, it is not a state agency and does not receive an ongoing operating budget from the state's General Fund, as most state agencies do. The City has received KCD grant funding for the City of Issaquah Stewardship Program, and KCD funding and assistance is a critical resource for the implementation of projects identified in this *Stream and Riparian Areas Restoration Plan*.

Transfer of Development Rights: Transfer of Development Rights (TDR) is a tool that allows individuals to purchase and sell development rights from lands that provide a public benefit. The City views this tool as a central part of the implementation strategy for stream and riparian area restoration projects. In a typical TDR program, lands targeted for protection usually include critical areas, farms, forest land, open space, regional trails, designated urban separator lands, and habitat for threatened or endangered species. Landowners receive financial compensation without developing or selling their land and the public receives permanent preservation of the land, i.e. preservation of the “sending sites.” Transferred development rights can be used to build additional houses on other parcels, called receiving sites, in more appropriate areas.

In September 2005, the City of Issaquah developed a TDR Program, which became effective on October 5, 2005. This program was modeled in part on the existing King County TDR Program and the two programs work in cooperation. According to King County TDR Manager Mark Sollitto, King County’s TDR Program has protected more than 92,000 acres, or twice as much land area as any TDR Program in the County. The City is continuing to develop a list of properties that could serve as sending sites and that would be appropriate for receiving sites. Participation in the program is voluntary.

The City considers the TDR program a key component of the comprehensive strategy to protect streams, riparian areas and other natural resources. Sending sites and receiving sites are privately owned land that are or will be identified on maps adopted by the City Council in the Land Use Code. Priority sending sites are also identified on a Sending Sites Map. Adding a sending or receiving site to the map is processed through an Amendment to the Issaquah Municipal Code. A TDR site or unit cannot be split into pieces and the development potential from such a site must be transferred into a single receiving site.

The primary goal of this program is to protect properties that provide important ecological benefits. Sending sites have priority ranking based on how many of the sending site criteria are met by the individual parcel. The City has developed the following criteria for sending sites:

- Proposed creek-side restoration sites and those parcels adjacent to existing creek-side restoration sites.
- Property adjoining and including critical area sites (aquifer recharge, shoreline, wetlands, steep slopes) that would decrease development pressure on these critical areas.
- Adjacent to public open space sites.
- Properties that would require a Reasonable Use Variance or Critical Area Variance to develop.
- Those properties where limited access for ingress, egress or infrastructure accessibility makes them difficult to develop.
- Properties in King County that are within the Issaquah Basin (pending Interlocal agreement with King County).

The establishment of receiving sites is intended to implement City Comprehensive Plan goals and policies related to the provision of compact urban development in areas that can be best served by urban services. In addition, the criteria for receiving sites reflect the need to do this in a way that is consistent with other GMA requirements, including protection of critical areas (the major reason why the program was established in the first place) and the need to maintain adopted levels of services for transportation facilities. The City has established the following criteria for the establishment of receiving sites:

- Within ¾ mile from Transit Center and south of I-90 (zoned MF-H, MUR, R, IC or PO).
- Portion of Olde Town (Areas zoned CBD and the adjacent MF).
- Within ¼ mile of a transit stop, zoned R, IC or PO, and located on a “major street.”
- Issaquah Highlands and Talus, in existing developable area.
- Redevelopment areas as defined by the 2001 Vacant and Redevelopable Land Inventory. These are areas with vacant and redevelopable clustered parcels.
- Parcels that include 50 percent or more critical area (such as floodplain) are not eligible as Receiving Sites.
- Parcels with access to 229th are not eligible as Receiving Sites due to requirements for the traffic signal.

As of the date of this report, the City has entered into one TDR transaction. This project involved the City's purchase of a 2.08-acre parcel along Issaquah Creek. Forty-two percent of the property was designated as critical area and critical area buffer (100 feet from the creek). The property is zoned Mixed Use Residential, which allows a density of 14.52 units per acre. Critical areas on the property allowed only 60 percent of this density. This results in a total of 25 developable units that can be sold as TDRs. A TDR Sending Site Letter of Intent was issued and the site was purchased in September 2006. A conservation easement and stewardship plan will need to be recorded on the property before the City can sell any of the TDRs.

Many of the priority restoration project sites identified in this study are on properties that have been designated as sending sites under the City’s TDR program. The City could seek to add additional sending sites to the TDR program based on key parcels that are identified for possible projects in this study. For example, several of the proposed projects on North Fork Issaquah Creek would occur on private property that is not adjacent to public property (Projects 42-45 and 47), but would otherwise appear appropriate for designation under the criteria.

Program criteria, including proximity to public parks, should be examined to ensure they capture important sites identified in this study. The TDR program provides an opportunity to potentially purchase a property or a conservation easement on a property for a reduced cost following sale of the development rights to that property, and would help stretch public enhancement dollars by leveraging private cooperation. Absent designation as a sending site, the City could still target a property for acquisition or to obtain a right of access and conservation easement to help ensure a project is sustained, albeit at a greater public cost. Use of the TDR program should be maximized to help leverage available public implementation funding.

Current Use Taxation: Property owners are often motivated by economic considerations to convert lower density land uses into more intensive development, usually with a corresponding removal of vegetation and loss of habitat. Local governments levy property taxes on the basis of assessed value. Generally, tax assessors determine this value on the basis of the highest potential use of the property, commonly referred to as "highest and best use." As an area urbanizes, the parallel increase in land values as a result of adjacent development drives property taxes on all land upward. This one-two punch of increased profit potential and increased financial liability often pushes owners to develop, accelerating the pace of land use change. In addition, these combined impacts often lead to increased land speculation and an overabundance of development sites.

Preferential treatment for landowners who choose to temporarily or permanently forego development can be a relatively painless way for budget-strapped local governments to preserve land for open space and habitat. This preferential treatment usually comes in the form of current use tax assessment. Current use tax assessment reduces the tax burden on a piece of land by requiring assessed values to reflect actual rather than potential uses. Thus, an undeveloped piece of riparian and forest land adjacent to a shopping center is taxed as open space rather than as a potential site for urban development. Current use taxation provides temporary protection for a site, and it often leads to permanent protection of a site. The rules of the program, which include penalties for early withdrawal and tax recapture provisions for properties that are eventually developed, make it generally unsuitable as a short-term holding tool for landowners that intend to develop, but are simply trying to avoid taxes. Often participants enroll in the program as a way to reduce their tax liability as they negotiate an eventual sale to a land trust or government. Current use tax assessment programs often require or encourage landowners to contract with a local government or land trust to restrict their use of the land to specified purposes. Sometimes this agreement takes the form of a conservation easement, deed restriction or similar device

The Public Benefit Rating System (PBRS) is a current use tax assessment program administered by King County. PBRS is a voluntary incentive program that provides a tax reduction for open space resources on private property in the form of a current use tax assessment in both incorporated and unincorporated King County. This program reduces the taxable value of the land 50 percent to 90 percent for the area participating, depending on the open space values of the property.

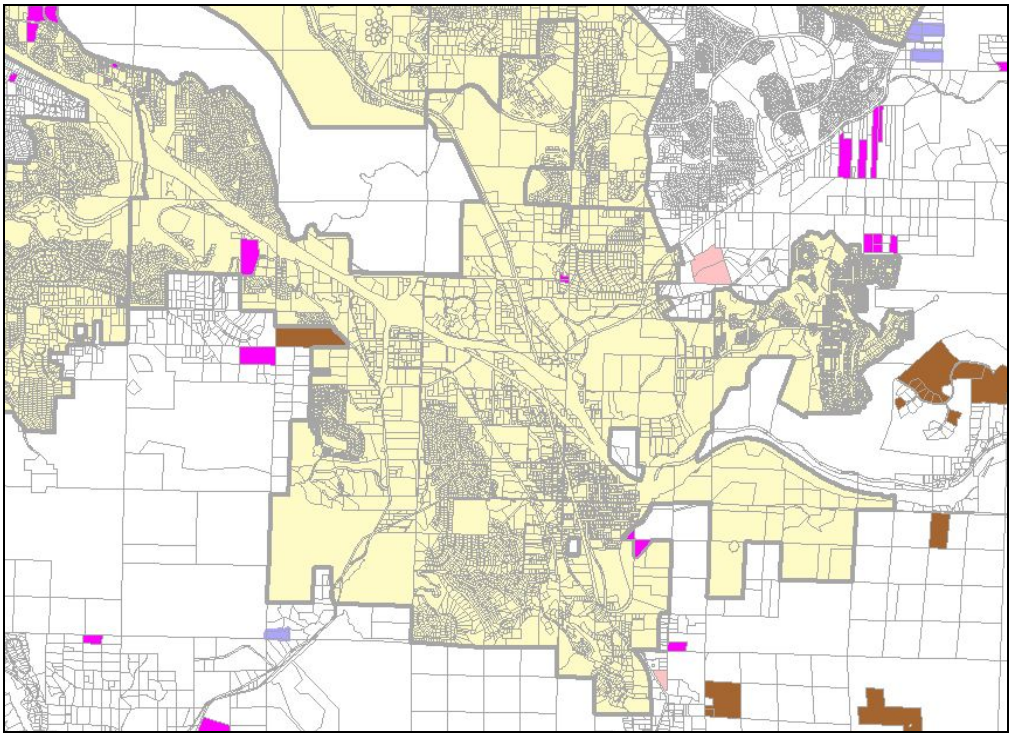
Under PBRS, the owner temporarily agrees to forego property development in exchange for a property tax reduction. The owner may also agree to other restrictions. Public access is encouraged, but not required, on open space resources for this program. To be eligible for open space classification under the PBRS, a property must contain one or more "priority open space resources." These resources are ranked as high priority, medium priority and low priority based on criteria in the King County Open Space Plan, and these ratings relate to a numeric ranking system that is used to establish the property tax reduction amount. Under the

requirements of the PBRS program, the open space classification for a piece of land will continue so long as it is primarily devoted to and used for the purpose of protecting open space. Classification will be removed and the tax break will be discontinued if dedication to this purpose ceases to exist. When land is classified as open space it must remain in the use for a period of not less than ten years, or an early withdrawal penalty shall apply.

There are two PBRS properties within the City of Issaquah municipal limits. One site is comprised of two adjacent tax parcels. An undeveloped portion of the single-family property and the adjacent vacant multifamily property are covered under the program for a total area of 1.69 acres. The Cascade Land Conservancy holds a conservation easement on this site. The other property is a 17.85-acre parcel that contains a single-family house. A total of 16.85 acres of the site are enrolled in the PBRS program. Figure A-1 shows the location of these two PBRS properties within the City limits (dark pink in color). There are several other properties enrolled in current use taxation programs that are located just outside of the City limits and these are also shown in the map below, including PBRS properties (dark pink), farm and agriculture (salmon color), forest (brown), and timber land (light-purple) properties.

The City could encourage more landowners within designated project areas detailed in this document to use the PBRS program. Tactics to increase participation might include City-sponsored advertisement of the program, solicitation of applicants, pursuing a modification of the rules to allow tax-delinquent properties to enroll, and a commitment by the City and County to reduce application processing time.

Figure A-1 – Current Use Taxation Properties in the Issaquah Area



North ^
Scale: NTS

The Role of Land Trusts: Private land trusts can be instrumental in the protection of streams and riparian areas. Land trusts can serve this function through the acquisition of private or public land for open space. Private land trusts are generally non-profit organizations that focus on the preservation of land with recreational, ecological or historical value.

Land trusts can often move more quickly to seize targets of opportunity and purchase properties that are likely to be redeveloped. Land trusts benefit from fewer legal, bureaucratic and political constraints and often have an easier time negotiating with landowners because they do not play a regulatory role. Land trusts often develop relationships with individual property owners and may have a better chance of receiving a donation of land from a private property owner.

There are several land trusts that are active in the general vicinity, including The Trust for Public Lands (TPL), The Nature Conservancy (TNC), and the Cascade Land Conservancy (CLC). For example, CLC currently holds a conservation easement on at least three sites within the City of Issaquah, amounting to more than 36 acres of protected land in the City. CLC worked with King County and the former owner to transfer more than 10.4 miles of the railroad right-of-way that became the East Lake Sammamish Trail. CLC has also been instrumental in working to protect properties just outside the City, including 112 acres along the Log Cabin reach of Issaquah Creek and 15 acres along Kees Creek, a tributary to Issaquah Creek, as well as thousands of acres in the surrounding foothills of the Cascades.

Land trusts work to conserve land and implement restoration projects in a variety of ways. Efforts include outright acquisition and transfer to local governments, the purchase of development rights or conservation easements, the monitoring of conservation easements or covenants, the implementation of restoration and enhancement projects as part of stewardship efforts on trust or public lands, and serving as brokers between local governments and private parties. Land trusts usually temporarily purchase property, easements, or development rights for later resale to local or state governments and private parties when funding can be arranged. This allows the land trust to focus its resources on acquisition rather than expending them on ownership and property management.

Although land trusts often act upon targets of opportunity with limited advance warning, additional efforts by the City to help prioritize and coordinate the work of land trusts could be useful. This plan could be used as means of targeting specific properties within the City of Issaquah for future acquisition and transfer to the City. The City could meet with the various land trusts active in this area and provide them with a copy of this plan in an attempt to help prioritize future acquisition efforts and improve coordination with these groups. The City has formally expressed a desire to be a partner in larger regional conservation efforts, such as CLC's Cascade Agenda. This could also help open the door to discussions regarding closer coordination at the smaller scale of the City itself.

Regional Cooperation: The City of Issaquah and King County have long recognized the value of the Issaquah Creek basin, not only as habitat for salmonid fish, but also for the other wildlife species dependent upon the creek corridor and upland areas. The City and County are active participants in the Lake Sammamish–Issaquah Creek WaterWays Program and Issaquah Basin Action Team. Through these programs, the agencies have implemented a coordinated effort for property acquisitions, placement of conservation easements, and stewardship/restoration projects along Issaquah and Tibbetts Creeks. The major acquisitions have included the purchase of Taylor Mountain Forest at the headwaters of Issaquah Creek (Holder and Carey Creeks), Log Cabin Reach, South Issaquah Creek Greenway, and Issaquah Creek/Cybil-Madeline Park, as well as many other smaller acquisition sites along the creek corridor.

Additionally, in an effort to protect the surrounding forested areas and public lands, the City of Issaquah, King County, Washington State Department of Natural Resources, and Washington State Parks and Recreation Commission have partnered as the “Issaquah Alps” and Upper Snoqualmie River Valley Interagency Committee in order to acquire critical properties to protect water quality and preserve wildlife habitat and corridors.

This *Stream and Riparian Areas Restoration Plan* has been developed in the context of these natural resource policies and planning efforts underway in the larger watershed.

APPENDIX C

PROJECT EVALUATION FORMS (RANKING)

EVALUATION FOR SITE 1 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**16**		**16**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	2		2
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**16**		**16**
GRAND TOTAL	**47**		**47**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 2 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	2		2
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	1		1
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**45**		**45**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 3 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	5		5
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	5		5
SUB-TOTAL	**24**		**24**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	5		5
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	2		2
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**23**		**23**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**58**		**58**

Is there any overriding or compelling reason to do this project?	☐ **No**	■ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe: A large, previously-implemented project could unravel if this bank failure at its upper end is not repaired.

EVALUATION FOR SITE 4 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)*	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**15**		**15**
GRAND TOTAL	**56**		**56**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

* note: left bank is City owned, but right bank is not.

EVALUATION FOR SITE 5 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	5		5
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	5		5
SUB-TOTAL	**23**		**23**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**57**		**57**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 6 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	3		3
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**24**		**24**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
GRAND TOTAL	**54**		**54**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 7 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**53**		**53**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 8 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**20**		**20**
GRAND TOTAL	**56**		**56**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 9 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**22**		**22**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**53**		**53**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 10 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	4		4
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	5		5
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**30**		**30**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	5		5
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**14**		**14**
GRAND TOTAL	**65**		**65**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 11 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)*	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**7**		**7**
GRAND TOTAL	**39**		**39**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

*Note: approx half of property is City owned, and remainder is non-TDR private. Score averages to a 3.

EVALUATION FOR SITE 12 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**41**		**41**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 13 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	1		1
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
GRAND TOTAL	**37**		**37**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 14 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**50**		**50**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 15 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**11**		**11**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**40**		**40**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 16 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**51**		**51**

Is there any overriding or compelling reason to do this project?	☐ **No**	■ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 17 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**14**		**14**
GRAND TOTAL	**53**		**53**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Note: Project has already been largely done in stages so this project would just add to it.
Not as much potential for further improvement...

EVALUATION FOR SITE 18 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**14**		**14**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**22**		**22**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	5		5
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**54**		**54**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 19 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**22**		**22**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	5		5
SUB-TOTAL	**22**		**22**
GRAND TOTAL	**57**		**57**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 20 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	0		0
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	5		5
SUB-TOTAL	**22**		**22**
GRAND TOTAL	**59**		**59**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 21 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**11**		**11**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**9**		**9**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**7**		**7**
GRAND TOTAL	**27**		**27**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR ~~SITE 22~~ **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**10**		**10**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**8**		**8**
GRAND TOTAL	**34**		**34**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe: _____

EVALUATION FOR SITE 23 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**12**		**12**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**9**		**9**
GRAND TOTAL	**34**		**34**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 24 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**11**		**11**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**7**		**7**
GRAND TOTAL	**37**		**37**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 25 **ISSAQUAH STREAMS RESTORATION PLAN**

+

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**14**		**14**
GRAND TOTAL	**45**		**45**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 25-A **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	0		0
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**11**		**11**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**24**		**24**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**14**		**14**
GRAND TOTAL	**49**		**49**

Is there any overriding or compelling reason to do this project?	☐ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	☐ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 26 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**16**		**16**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**55**		**55**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 27 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	1		1
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	3		3
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**23**		**23**
GRAND TOTAL	**63**		**63**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 28 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	3		3
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	3		3
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	0		0
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	5		5
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**60**		**60**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 29 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	1		1
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	1		1
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**7**		**7**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**7**		**7**
GRAND TOTAL	**33**		**33**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 30 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**42**		**42**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 31 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	0		0
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**35**		**35**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 32 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	0		0
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**12**		**12**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	1		1
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	0		0
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	0		0
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**34**		**34**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 33 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	5		5
SUB-TOTAL	**24**		**24**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**22**		**22**
GRAND TOTAL	**65**		**65**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Project may be pre-empted by a City project currently being implemented.

EVALUATION FOR ~~SITE 34 (Sycamore)~~ **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	5		5
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**53**		**53**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe: _____

EVALUATION FOR SITE 35 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**53**		**53**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 36 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**16**		**16**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**26**		**26**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**8**		**8**
GRAND TOTAL	**50**		**50**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 37 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	0		0
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**34**		**34**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Project may have already been completed.

EVALUATION FOR SITE 38 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**12**		**12**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	0		0
SUB-TOTAL	**8**		**8**
GRAND TOTAL	**32**		**32**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Was not identified in field

EVALUATION FOR SITE 39 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	5		5
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**12**		**12**
GRAND TOTAL	**52**		**52**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 40 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ■ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**23**		**23**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**23**		**23**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**21**		**21**
GRAND TOTAL	**67**		**67**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 41 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	4		4
SUB-TOTAL	**21**		**21**
GRAND TOTAL	**58**		**58**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 42 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	5		5
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**23**		**23**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**58**		**58**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 43 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	5		5
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**16**		**16**
GRAND TOTAL	**54**		**54**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Project may be pre-empted by a City project currently being implemented.

EVALUATION FOR SITE 44 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	3		3
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	3		3
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**19**		**19**
GRAND TOTAL	**55**		**55**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 45 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	2		2
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	0		0
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	0		0
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
GRAND TOTAL	**50**		**50**

Is there any overriding or compelling reason to do this project?	☐ **No**	■ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 46 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	0		0
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**43**		**43**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 47 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	3		3
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**49**		**49**

Is there any overriding or compelling reason to do this project?	☐ **No**	■ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

Stream is lacking in coho & cutthroat spawning habitat necessary to supply lower basin rearing habitat with fry.

EVALUATION FOR SITE 48 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**22**		**22**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	5		5
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	5		5
SUB-TOTAL	**23**		**23**
GRAND TOTAL	**66**		**66**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 49 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	3		3
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**44**		**44**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR ~~SITE 50 (Darigold)~~ **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**11**		**11**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	2		2
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**39**		**39**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe: _____

EVALUATION FOR SITE 51 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	4		4
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	5		5
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**21**		**21**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**51**		**51**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 52 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	1		1
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**13**		**13**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**12**		**12**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**35**		**35**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 53 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**41**		**41**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 54 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**16**		**16**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	2		2
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**15**		**15**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	3		3
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**41**		**41**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 55 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**22**		**22**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**43**		**43**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR ~~SITE 56~~ **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**49**		**49**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 57 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	0		0
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**4**		**4**
GRAND TOTAL	**35**		**35**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 58 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	3		3
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**9**		**9**
GRAND TOTAL	**48**		**48**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 59 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	1		1
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	5		5
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	2		2
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	1		1
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**7**		**7**
GRAND TOTAL	**43**		**43**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 60 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**11**		**11**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**8**		**8**
GRAND TOTAL	**36**		**36**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 61 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	5		5
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**16**		**16**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	5		5
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**20**		**20**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**46**		**46**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe: _____

EVALUATION FOR SITE 62 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	2		2
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	5		5
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**4**		**4**
GRAND TOTAL	**40**		**40**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 63 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	5		5
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	5		5
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**18**		**18**
GRAND TOTAL	**56**		**56**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 64 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ■ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**20**		**20**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	4		4
11. Relative cost effectiveness (high = 5, low = 0)	5		5
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**26**		**26**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	3		3
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	3		3
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**14**		**14**
GRAND TOTAL	**60**		**60**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 65 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	1		1
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	5		5
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	2		2
SUB-TOTAL	**15**		**15**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	5		5
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**23**		**23**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	4		4
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**12**		**12**
GRAND TOTAL	**50**		**50**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 66 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ☐ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	2		2
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	5		5
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**19**		**19**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	3		3
19. Amenable to community involvement (yes = 5, no = 0)	4		4
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**13**		**13**
GRAND TOTAL	**49**		**49**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 67 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**14**		**14**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	2		2
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**35**		**35**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 68 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	2		2
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**11**		**11**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**8**		**8**
GRAND TOTAL	**40**		**40**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 69 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ■ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	5		5
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	2		2
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**22**		**22**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	1		1
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	2		2
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**10**		**10**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	2		2
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**38**		**38**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 70 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	3		3
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	0		0
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	2		2
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**18**		**18**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	0		0
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	4		4
12. Relative maintenance/repair costs (low = 5, high = 0)	3		3
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**14**		**14**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	1		1
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	3		3
SUB-TOTAL	**9**		**9**
GRAND TOTAL	**41**		**41**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 71 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	4		4
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	3		3
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	2		2
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**24**		**24**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	3		3
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	4		4
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	2		2
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	2		2
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	3		3
SUB-TOTAL	**17**		**17**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	3		3
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**10**		**10**
GRAND TOTAL	**51**		**51**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 72 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	4		4
2. Potential for riparian habitat improvement (high = 5, low = 0)	4		4
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	1		1
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	3		3
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	4		4
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	3		3
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	4		4
SUB-TOTAL	**23**		**23**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	4		4
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	1		1
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	3		3
11. Relative cost effectiveness (high = 5, low = 0)	3		3
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	0		0
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	1		1
SUB-TOTAL	**16**		**16**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	2		2
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	2		2
19. Amenable to community involvement (yes = 5, no = 0)	1		1
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	2		2
SUB-TOTAL	**11**		**11**
GRAND TOTAL	**50**		**50**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

EVALUATION FOR SITE 73 **ISSAQUAH STREAMS RESTORATION PLAN**

Indicate site name/number for proposed project above. Multiply each rating by the weighting factor, if any, to determine the total score. When each site/project has been rated, those with the highest scores should be given the highest priority.

Category: ■ **In-Stream (S)** ☐ **Wetland (W)** ☐ **Riparian Areas/Buffers (B)** ☐ **Shoreline of State (SMP)**

	Rating	Weighting Factor	Total
SECTION A: Ecological considerations			
1. Potential for instream habitat improvement (high = 5, low = 0)	3		3
2. Potential for riparian habitat improvement (high = 5, low = 0)	2		2
3. Status of site regarding fish migration (highly impacted = 5, unimpacted = 0)	5		5
4. Connectivity to other natural areas (highly connected = 5, isolated = 0)	4		4
5. Potential to improve bed/bank stability & decrease sediment supply (high = 5, low = 0)	1		1
6. Potential to improve water quality (temperature, turbidity &/or toxics) (high = 5, low = 0)	1		1
7. Potential hydraulic impacts (positive impacts/reduce energy or stabilize site = 5, neutral/unknown impacts = 2, negative impacts/flooding/erosion = 0)	5		5
SUB-TOTAL	**21**		**21**
SECTION B: Feasibility considerations			
8. Access and/or constructability (easy = 5, difficult = 0)	0		0
9. Is the success of other projects dependent on this project? (yes =5, no = 0)	4		4
10. Regulatory requirements (simple permitting = 5, difficult permitting = 0)	1		1
11. Relative cost effectiveness (high = 5, low = 0)	1		1
12. Relative maintenance/repair costs (low = 5, high = 0)	4		4
13. Ownership (City-owned = 5, other public ownership = 4, TDR = 3, private = 0)	4		4
14. Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	4		4
SUB-TOTAL	**18**		**18**
SECTION C: Other considerations/public benefits			
15. Long-term stability/life of project (stable = 5, unstable = 0)	4		4
16. Flood improvement potential (high = 5, low = 0)	0		0
17. Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	0		0
18. Amenable to education or interpretive uses (yes =5, no = 0)	1		1
19. Amenable to community involvement (yes = 5, no = 0)	0		0
20. Benefits for public access, recreational opportunities & aesthetics (high = 5, low = 0)	1		1
SUB-TOTAL	**6**		**6**
GRAND TOTAL	**45**		**45**

Is there any overriding or compelling reason to do this project?	■ **No**	☐ **Yes**
Is there any overriding or compelling reason to *not* do this project?	■ **No**	☐ **Yes**

Describe:

APPENDIX D

PROSPECTIVE PROJECT SUMMARY FORM/CHECKLISTS (FIELD FORMS)

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 1 – ***Right Bank Stabilization @Sammamish Park Boundary***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: ---

Parametrix Rpt. #: 1

Project Type: Bank Stability

Location:

LB / RB

Parametrix Rpt. Subreach: MS01

Relation to other features, road crossings, buildings, tributary mouths, etc.:
± 100' upstream of State Park boundary.

Description of Proposed Actions:

Previously-reported right bank instability as listed in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report* has appeared to have ameliorated over time. The affected bank section is now separated from main channel by a bar, indicating lack of recent toe cutting. The channel is not migrating towards the bank, but rather away from it. The bank is not particularly unstable, and Himalayan blackberries and grasses are regrowing on it. Access to the bank would be difficult without disturbing existing beneficial vegetation and, overall, this potential project is not given a high priority. It should, however, be observed over time and may become a higher priority should active bank erosion recur.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 2 – ***Right Bank Secondary Channel @ Sammamish Park Boundary***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 2

Project Type: Channel Creation/Bank Stability

Location:

LB / RB

Parametrix Rpt. Subreach: MS01

Relation to other features, road crossings, buildings, tributary mouths, etc.:
100' upstream from park boundary

Description of Proposed Actions:

A potential project in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report* was identified to study the potential for creation of a secondary channel at this location. However, creation of such a channel would appear to risk re-instigating a formerly unstable bank. The affected bank section is now separated from the main channel by a bar, indicating lack of recent toe cutting. It is recommended that natural bar formation be allowed to continue in order to prevent toe cutting and allow the active channel to move away from the previously-failing bank. Overall, this potential project is not given a high priority. Similar to and at the same location as project #1.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Noted Left bank high flow floodplain channels.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 3 – ***Microsoft Streambank Repair***

Date: 6/16/06 & 7/6/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: ---

Parametrix Rpt. #: ---

Project Type: Bank Stability and Repair

Location:

LB / RB

Parametrix Rpt. Subreach: MS1/MS2 Boundary

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Upper end of previous bank repair project behind Microsoft.

Description of Proposed Actions:

Bank repair at upper end of previous enhancement project to protect the rest of the project downstream. Previous enhancement work included riparian revegetation (down slope from Microsoft). Appears complete and successful, just needs maintenance. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 4 – ***Issaquah Creek Log Placement below SE 56th St.***

Date: 6/16/06 & 7/6/06 **TWC Crew**: Greg J./Mark I./ Jenni C.

Chinook Plan #: ---

Parametrix Rpt. #: ---

Project Type: Add LWD to main channel Issaquah Creek. Bank Stabilization. Invasive plant management and revegetation.

Location:

LB / RB

Parametrix Rpt. Subreach: MS2

Relation to other features, road crossings, buildings, tributary mouths, etc.: Extending upstream from previous project at Microsoft (#3) to SE 56th Street bridge.

Description of Proposed Actions:

Long, relatively straight and uniform channel through young forest. Lots of glides and runs. Recommend generalized woody debris placement. Some minor bank instability that could be addressed with LWD placement. Fairly complex topography and plant communities. Mountains-to-Sound planting areas could be expanded to address other areas dominated by invasive plants. (Good example of conifer revegetation and shading advantages). See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Mountains to Sound planting areas along left bank could inhibit access. They have placed some fabric along banks (See, also, Project #10 for failed fabric repair).

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 5 – ***Pickering Streambank Repair***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/Large Woody Debris Placement

Location:

LB / RB

Parametrix Rpt. Subreach: MS3

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Just upstream of SE 56th Street bridge, left bank.

Description of Proposed Actions:

8' high X ± 150' long vertical bank to be stabilized and woody debris added. Access would impact young alder forest to 4" diameter, few larger alder, cottonwood. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 6 – ***Pickering Cascades***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 4

Project Type: Fish Passage/ Channel Restoration

Location:

LB / RB: Mid-channel

Parametrix Rpt. Subreach: (MS4 / MS5)

Relation to other features, road crossings, buildings, tributary mouths, etc.: Mainstem adjacent to mouth of North Fork. 2-2.5' high rock weir may be an impediment to fish passage.

Description of Proposed Actions:

Partially remove and rearrange boulders in existing cascades. Add wood to result in improved and more diverse habitat; fish-passable cascades. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 7 – ***Bush Lane Properties***

Date: 6/16/06 **TWC Crew**: Mark I./Greg J.

Chinook Plan #: 206 **Parametrix Rpt. #:**

Project Type: Bank Stabilization/ Large Woody Debris/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Bush Lane – east bank Issaquah Creek from mouth of North Fork to I-90.

Description of Proposed Actions:

Stream, riparian, and floodplain restoration on 1,200 feet of Issaquah Creek east bank from mouth of North Fork to I-90. Possible side channel and riparian wetland creation, riparian restoration. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 8 – ***Pickering Reach***

Date: 6/16/06 **TWC Crew**: Mark I./Greg J.

Chinook Plan #: 207

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Pickering Reach – west bank of Issaquah Creek from SE 56th Street to I-90.

Description of Proposed Actions:

Remove hardened banks, floodplain restoration, side channels, and riparian enhancement along 1,800 feet of the west bank of Issaquah Creek. Build from restoration work done by the City in 1998. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 9 – ***Pickering: Add Wood Cover to Scour Hole***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: ---

Parametrix Rpt. #: ---

Project Type: Large Woody Debris/ Bank Stabilization

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
By Costco

Description of Proposed Actions:

Add large wood to punch bowl, left bank. Bank is moderately eroded but wood is mostly to add cover to large existing scar hole. "Root wad revetment" may be on surface or dug into bank. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 10 - ***Lower Issaquah Creek Bank Fabric Repair/Replacement***

Date: 6/16/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Repair and replacement of bank-protecting fabric, primarily along the left stream bank. The project would entail pulling out remnants of old synthetic fabric and replacing it with natural coir fabric and then planting additional native vegetation through the coir. Also see concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 11 - ***Right Bank Riparian, 1-90 to Gilman***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: ---

Parametrix Rpt. #: ---

Project Type: Riparian Vegetation/ Bank Stabilization/ Large Woody Debris

Location:

LB / RB Upstream of I-90

Parametrix Rpt. Subreach: MS09

Relation to other features, road crossings, buildings, tributary mouths, etc.:
RB upstream of I-90

Description of Proposed Actions:

This potential project would stabilize the right (east) Issaquah streambank with wood and vegetation at feasible locations extending between Interstate 90 and Gilman Boulevard. Implementation would primarily involve removing Japanese knotweed and Himalayan blackberry, and replanting native vegetation.
In addition, some log habitat structures would be placed along the streambank where accessible with construction equipment.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Map says city owned. TDR site on left bank.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 12 - ***Left Bank Riparian, 1-90 to Gilman***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach: MS09

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Between Gilman and I-90

Description of Proposed Actions:

This project would primarily involve revegetation of the area between professional buildings and the creek. Presently, reed canarygrass and willows are mowed to ± 3 feet high, presumably to preserve views. In-stream habitat would benefit from increased shade and recruitment of small and large woody debris along with leaf litter.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Business property owners would obviously like to keep their view of the creek.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 13 – ***Main Stem Riparian, Gilman to Juniper***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 5

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB The Parametrix report refers to the right bank; could be expanded to include both banks

Parametrix Rpt. Subreach: MS10

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Gilman Boulevard to Juniper

Description of Proposed Actions:

This reach of the main stem of Issaquah Creek includes a number of non-descript riparian problems: Non-native vegetation is predominant, much of the bank length is hard-armored with rock and other engineered materials, functional buffers are absent or narrow, little wood is present, and much of the banks have been cleared for views. Progress may be difficult along this confined reach, but recommended actions include rubble removal, non-native vegetation removal, replanting with native vegetation, and placing wood where there are opportunities to do so without unduly constricting flow.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 14 – ***Left Bank Riparian, Below Juniper***

Date: 6/22/06 & 7/6/06

Chinook Plan #: 209

TWC Crew: Greg J./Mark I./ Jenni C.

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Wetland

Location: MS11

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Left bank downstream of Juniper

Description of Proposed Actions:

The WRIA 8 Chinook Salmon Conservation Plan describes project #I-209 - Streamside property downstream of Juniper Street: Stream, riparian, wetland and floodplain restoration at undeveloped 5-acre parcel. Includes 370 feet of Issaquah Creek west bank just downstream of Juniper Street. Private land would require acquisition prior to restoration. Property is partially in the floodplain, but much of it is also above.

However, we found that the wetland area appeared smaller than shown on reference maps. The stream bank is fairly high with many non-wetland plants – bigleaf maple, hazelnut, snowberry, lots of ivy and holly, and Himalayan blackberry throughout a large field. The area could be more effectively planted for riparian habitat (not wetland restoration), thereby widening the effective buffer. Floodplain and wetland restoration/enhancement did not appear to be as feasible as implied by the chinook plan description due to the height of the streambank and lack of wetland characteristics. Though possible, extensive excavation would be required to create wetlands and/or an active floodplain in this area.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

TDR Property

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 15 – ***Riparian Enhancement @ Juniper Street Bridge***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 6

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Per the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*, riparian revegetation would be planted downstream of Juniper Street along the right bank in the vicinity of some previously-placed logs.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 16 – ***Riparian Enhancement Upstream of Juniper***

Date: 6/22/06, 9/14/06

TWC Crew: Greg J. / Mark I. / Jenni C.

Chinook Plan #: I-212

Parametrix Rpt. #: PM7

Project Type: Riparian Vegetation/ Wetland

Location: Upstream of Juniper, 550' Issaquah Creek

LB / RB

Parametrix Rpt. Subreach: MS12

Relation to other features, road crossings, buildings, tributary mouths, etc.:
TDR property to be purchased by City.

Description of Proposed Actions:

This potential project for riparian, wetland, and floodplain enhancement at this site was previously identified as Project I-212 in the WRIA 8 *Chinook Salmon Conservation Plan*. The property includes approximately 550 feet of Issaquah Creek frontage just upstream of Juniper Street along the west (left) bank. The toe of the bank has been armored with riprap in the past. The buffer is very narrow and is dominated by invasive vegetation such as Himalayan blackberry, Japanese knotweed, English ivy, and holly.

The concept plan for this site includes reducing the slope of the upper bank between existing large trees and the installation of logs in these areas. The extent of bank armoring would be reduced and the riparian buffer would be widened with removal of invasive vegetation and establishment of additional native trees and shrubs.

See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

The City has recently purchased this property.

Issaquah Streams:

Prospective Project Summary Form/Checklist

TWC project ID: 17 – ***Log Structures @ School District Offices***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 8

Project Type: Large Woody Debris/ Bank Stabilization

Location:

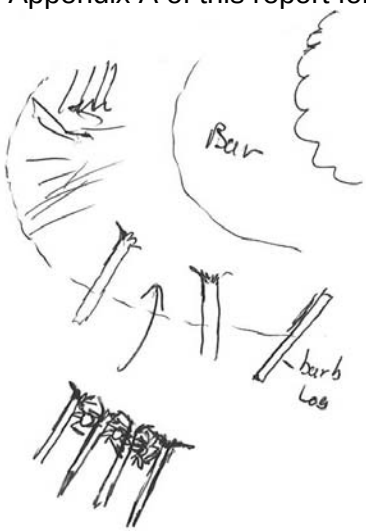
LB / RB

Parametrix Rpt. Subreach: MS13

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

This project would add more wood to the high sandy bank area at the upper end of the project area, installed in a dense grid-like pattern similar to the log arrangement that presently exists at the downstream end, where a project at this location was done in 2003. Logs would be anchored to the bed and banks and chained to other logs, creating an interconnected structure of logs protecting the bank and providing cover. The bank would also be densely planted with live willow stakes driven deeply enough to ensure they penetrate into the water table. See concept plans in Appendix A of this report for further details.



Notes – unusual constraints, exceptional benefits or urgency, etc.:
Basic project already done. This project would be to add to, repair, modify.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 18 – ***Backwater/Wetland @ School District Offices***

Date: 6/22/06 & 7/6/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #:

Parametrix Rpt. #: 9

Project Type: Riparian Vegetation/ Wetland/ Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach: MS13

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Off-channel habitat would be created along the left (west) bank upstream of the previous project at the school offices. The project would probably be a backwater as opposed to side channel. A 4-foot-high cut would be needed to connect the "old channel" to the stream's water surface: a lot of excavation would be needed.
Alternatively, a small ponded area could be excavated to increase diversity of habitats and edges within existing wetlands and the larger project area (east end of field). Some removal and control of invasive plants is also needed. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Beware liability to school during flood events – Need to be careful to not strand fish. Could be educational/interpretive area associated with school district buildings.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 19 – ***Cybil-Madeline Park***

Date: 6/22/06 & 7/6/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 211

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Wetland

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

A wetland swale, probably a remnant of an old side channel to Issaquah Creek, is located in an open field between the main stem of the creek and Rainier Boulevard North, south of NW Holly Street, at *Cybil-Madeline Park.* This area was identified as the location of Project I-211 in the WRIA 8 *Chinook Salmon Conservation Plan,* which described the site as having degraded stream and riparian habitat that offers excellent potential for restoration. It was also identified as part of Wetland IC-8 in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix, 2003).

Currently, this wetland area is a grass and buttercup swale with little structural or plant species diversity. This plan proposes to excavate a series of depressions to intercept wetland hydrology. These areas would be revegetated with a variety of native trees, shrubs, and emergent wetland plants to increase edges and habitat values. Snags would also be installed. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Could divert East Fork water to increase wetland hydrology in marginal field. Possibly incorporate other park elements – picnicking, play areas.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 20 – ***Armor Reduction & Wood Placement Below East Fork***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 213

Parametrix Rpt. #:

Project Type: Bank Stabilization

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

The project proposed for this site entails removal of much of the present rock armoring and reconfiguring the remainder to secure an integrated complex of large wood, including primarily root wads and logs with root wads attached, as depicted on the concept plan for this location (Appendix A of this report). Riparian restoration would also occur extending out into adjoining field or meadow areas, including the removal of non native, invasive plant species where needed in addition to native plantings to provide an increased functional stream buffer width.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 21 – ***Armor Reduction, Right Bank Below Dogwood***

Date: 6/22/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: ---

Parametrix Rpt. #: ---

Project Type: Bank Stabilization/ Large Woody Debris/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach: MS15

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Just downstream of Dogwood Street.

Description of Proposed Actions:

An intensely rock-armored bank protects a private home at this location. Potential project would reduce the amount of armoring, as and if feasible, and then modify and/or soften the banks to provide better habitat. Localized soil amendments and native plantings amongst the remaining armoring would occur, and wood could be incorporated into the rock armoring if it could be done without compromising bank stability.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

(Armoring probably is really needed to protect the house – high bank, outside of bend.)

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 22 - ***Armor Reduction, Right Bank Above Dogwood***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Extending ± 200' upstream from Dogwood Street bridge on right bank.

Description of Proposed Actions:

A long section of the right bank of Issaquah Creek is rip-rapped bordering Dogwood Street and is of low habitat quality. Due to the presence of the street, there is little room to conduct a habitat improvement project, and the bank must remain stable. It may be possible to add sufficient wood to force passive channel shift to left, but this would be a difficult project.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Borders Dogwood

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 23 – ***Main Stem Armor Reduction Typical, Dogwood to Sunset***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Large Woody Debris/ Bank Stabilization/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Between Dogwood and Sunset/Hatchery

Description of Proposed Actions:

Both banks are armored with riprap at various locations along this section. The project as defined would develop a typical plan to:

1. Put logs in amongst the riprap, using existing riprap as anchors and armoring;
2. Remove existing invasive vegetation – ivy, blackberries, knotweed, etc. and;
3. Add soil and plantings to the riprap armoring, possibly holding soil in place with fabric in pockets or throughout.

The typical plan would be adapted to individual properties depending on owner interest and cooperation, funding, etc.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Dispersed project areas on private property.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 24 – ***Issaquah Riparian Neighborhood***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

This project would restore native riparian vegetation to three lots with large backyards along the right (east) bank of Issaquah Creek. The streambank is presently covered with ivy, some Himalayan blackberry, and morning glory. The prospective project would entail:

1) Removing non-native vegetation.
2) Planting native vegetation.
3) Subject to further evaluation, it may also be feasible to place log structures in the stream, but more armoring may be needed to do so, which is at cross purposes – it would generally be beneficial to reduce armoring.

(Woody debris option not included for scoring purposes.)

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 25 – ***Issaquah Apartments Riparian & Bank Stabilization***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 10

Project Type: Riparian Vegetation/ Bank Stabilization/ Large Woody Debris

Location:

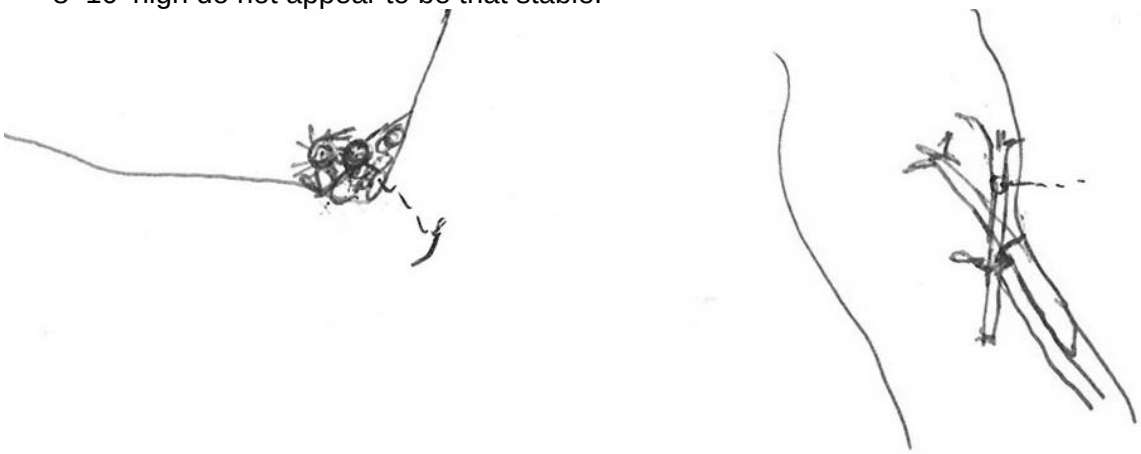
LB / RB

Parametrix Rpt. Subreach: All of MS18

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

1) Riparian buffer enhancement (remove invasives, plant natives) along apartments as identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*.
2) In addition, place toe logs and fill behind with gravel/cobble. Streambanks ± 8'-10' high do not appear to be that stable.



Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 25.5 – ***Main Stem Riparian @ Newport***

Date: 7/18/06 **TWC Crew**: Greg J./ Jenni C.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Wetland

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
South of Newport Way riparian zone

Description of Proposed Actions:

This area was mapped mostly as wetland, but does not appear to be accurate. Previous work has been done at this location in the past associated with bridge replacement, including in-stream log structures and removal of a house. However, the riparian area still needs invasive plant management, especially Himalayan blackberry and knotweed removal with native revegetation improve habitat. Portions of the area may have been planted in past.

Notes – unusual constraints, exceptional benefits or urgency, etc

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 26 – ***Wildwood Trail Invasives Removal & Wood Placement***

Date: 6/27/06 **TWC Crew**: Greg J., Mark I.

Chinook Plan #: 219

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

This project was identified as Project I-219 in the WRIA 8 *Chinook Salmon Conservation Plan*. According to that description, an existing mature shade canopy and other native vegetation are being lost from the area between Issaquah Creek and the Wildwood Boulevard Trail due to an infestation of English ivy and other weeds. (The trail is otherwise known as the Hatchery Intake Weir Access Road.) The concept plan for this area includes the eradication of English ivy and other invasives to protect the native tree overstory and promote the growth of native plants in the understory.

In addition, the adjoining section of creek is fairly straight and uniform, providing limited habitat function with only sparse amounts of large wood in the channel and few pools. It is therefore also proposed that log complexes be placed in the stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan (Appendix A of this report).

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 27 – ***Johnson Property (Guano Acres) Floodplain Restoration***

Date: 6/27/06 & 7/6/06 **TWC Crew**: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 220

Parametrix Rpt. #: 11, 14

Project Type: Wetland/ Riparian Vegetation/ Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

The Johnson Property or "Guano Acres" site, referenced as Project I-220 in the WRIA 8 *Chinook Salmon Conservation Plan,* includes a 600-foot-long section of the right bank main stem Issaquah Creek immediately downstream of the hatchery intake weir. The associated wetlands were previously identified as part of a large wetland complex, Wetland IC-13, in the *City of Issaquah Stream Inventory and Habitat Evaluation Report* (Parametrix, 2003). The site is a mosaic of meadows, recovering native vegetation, and invasive vegetation including Himalayan blackberry thickets. It also includes remnant side- or high-flow channels.

Proposed habitat enhancements at this site include the creation and/or restoration of side channels, and associated riparian and riparian wetland habitats. Log complexes would also be placed in the existing stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Upper end can be fish passable with a low-gradient flume or pipe. Use stream channel project to diversity/enhance adjacent wetlands with backwaters. Revegetation and habitat structures in fields near old shacks.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 28 – ***Hatchery Intake Weir Modifications***

Date: 6/27/06 **TWC Crew:** Mark I., Greg J.

Chinook Plan #: 221

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Recommendations for hatchery intake weir modifications are tied closely to the concept design for Site 27. Presently, flow approaching the weir can take three different pathways: 1) piped to provide hatchery water supply, 2) through the fish ladder to provide fish passage over the weir, and 3) over the spillway. The spillway is impassable for fish, yet its high flows relative to the fish ladder outfall attract fish and encourage them to spend a lot of effort trying to pass over it as opposed to more productive efforts at passing over the ladder.

It is proposed that stream base flows which presently pass over the spillway be diverted instead through a fish-passable bypass channel across the Site 27 or "Guano Acres" area. This would add a fourth flow pathway for water to take past the intake weir. Those fish arriving at the bypass weir during normal, base flow conditions would no longer be deceived into following spillway flows in futile attempts to pass over the weir. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

The Corps of Engineers has also prepared a design for upgrading the intake dam and fish ladder. It involves modifying (widening and lengthening) the fish ladder to conform with current fish passage standards. The dam would remain because it is needed for the water supply intake for the hatchery. The design was done under the Section 206 program, which at the present has no funding.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 29 – ***Issaquah Right Bank Erosion Repair***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 12, 13

Project Type: Bank Stabilization/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach: MS25

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Behind large building

Description of Proposed Actions:

This project was identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report.* The project would stabilize a steep, eroding section of the right streambank, probably using a combination of rock and logs. However, the bank is high and steep with poor access, so its feasibility or cost effectiveness is not particularly high. Available floodplain on left bank could accommodate any overbank flow or slight channel shift associated with implementing the project.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

May be access difficulties

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 30 – ***Main Stem Reach Scale Wood Above Diversion Weir***

Date: 6/27/06 **TWC Crew:** Greg J., Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Overall, the channel through this section has good floodplain on both sides, but has few log or log jam features needed to form discreet pool/riffle sequences and provide habitat with overall diversity and complexity. In-stream habitat types through the reach consist predominantly of glides and runs, which are both shallow habitat types, and the pools that are present are mostly poorly-formed and relatively shallow. The in-stream habitat along this section lacks diversity and cover in spite of the shrubby floodplain vegetation along its banks.

It is recommended that numerous logs in various groupings and configurations be placed along both banks throughout this reach, adding such wood where access permits. Much of the area adjacent to the stream is City-owned, and the low banks make trenching wood into the banks feasible. The channel is not sensitive to minor shifts due to the presence of low, undeveloped floodplains on both banks. Examples of similar such log placement are shown on the conceptual plans for Sites 26, 27, and 40 in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 31 – ***Left Bank Issaquah Bank Stabilization***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 15

Project Type: Bank Stabilization/ Large Woody Debris/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach: MS27

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Bank instability at this location had been identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report* and had been assigned a priority of medium. In the summer of 2006, we found bank vegetation to be regrowing and that a debris jam had formed at the base of the previously unstable slope. Homes are situated approximately 15 feet above the banks. Given that the channel and banks at this location appear to be in the process of stabilizing on their own, we do not advocate making a bank stabilization project at this location a priority at this time. However, it should be observed over time and may become a higher priority if active bank erosion recurs.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 32 – ***Right Bank Issaquah Side Channel***

Date: 6/27/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 16

Project Type: Channel Creation/ Relocation/ Restoration

Location:

LB / RB

Parametrix Rpt. Subreach: MS27

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

An existing side channel at this location had been identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report* with a recommendation that it be enhanced. The potential enhancements we evaluated for this project involve the placement of logs and root wads along the channel.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 33 – ***South Issaquah Greenway Below Sycamore***

Date: 6/27/06, 7/11,18/06 **TWC Crew**: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 224

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Large Woody Debris/ Channel Creation, Relocation, Restoration

Location:

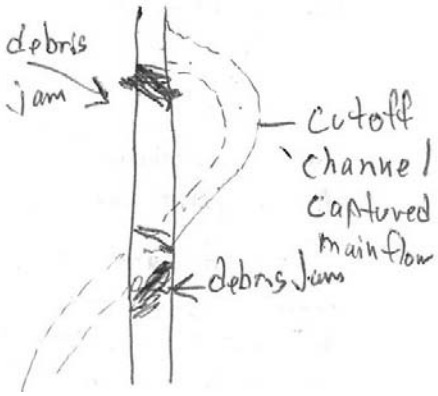
LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.: 3500'! Downstream from Sycamore

Description of Proposed Actions:

As described in the WRIA 8 Chinook Salmon Conservation Plan, this long reach was straightened and channelized in 1960s. The banks are low with riprap. The City has added some wood, but the stream is a straight, blank "slate" with low banks. Wood could be put almost anywhere. Mountains-to-Sound stream bank plantings are present along the right bank. Sinuosity could be restored by creating channel bends, relocating the channel, and/or creating cutoff channels. This could be done on a large scale, reactivating old channel(s) through a reed canarygrass meadow, incorporating wetland enhancements with backwaters, creating topographical diversitym, and revegetation. Lots of snags and fallen trees, old ditches. Good habitat now, great slate for enhancement.



Notes – unusual constraints, exceptional benefits or urgency, etc.:

(The City implemented further enhancements at this location in the summer of 2006.)

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 34 – ***Sycamore Backyard Revegetation***

Date: 6/30/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: ---

Parametrix Rpt.#: ---

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach: MS29

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Upstream from Sycamore Street bridge.

Description of Proposed Actions:

In this neighborhood, a high number of private residential yards have mown turf right up to the stream's edge. This situation has a negative impact on the stream. In order to provide shading, less herbicide and pesticide run-off and create a more natural condition, homeowners would plant native vegetation along the stream edge. This planting could be integrated into other vegetation in the yard by working into existing planting beds and transitioning back into ornamental vegetation at an appropriate point away from the creek.

The concept plan serves as a prototype, narrow bank revegetation project. It provides a demonstration/typical planting plan to address bank revegetation while still retaining stream views. For example, clusters of tall spindly trees over tough ground cover. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Much, but not all, of the streambank is armored. The stream has very little wood, and needs some, but more wood may cause flooding. Rock armoring is old and reinforced by roots and vegetation. Could add wood to existing armoring, but armoring is fairly stable and healed over.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 35 – ***Squak Valley Park North***

Date: 6/30/06 & 7/11/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 226

Parametrix Rpt. #:

Project Type: Large Woody Debris/ Wetland/ Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.: Upstream of Sycamore

Description of Proposed Actions:

A berm built in the 1930s exists along much of the length of Issaquah Creek, west of Issaquah-Hobart Road and upstream of the Sycamore neighborhood in the City-owned Squak Valley Park. Removal of berm sections is described as project #226 in the WRIA 8 Chinook Salmon Conservation Plan.

The concept design for this site includes removing the northernmost section of berm near the mouth of Kees Creek at Issaquah Creek. The berm would also be breached at several additional locations extending to the south, with corresponding backwater enhancement areas associated with each.

Existing wetland depressions in the grassy field would also be expanded and deepened for topographic diversity and wetland enhancement. Wetland restoration and/or creation would include habitat features such as snags, logs, and brush piles, as well as removal of invasive plants and revegetation with native plants in the wetland and associated stream and wetland buffers. Log habitat structures would also be placed associated with the created backwater areas. Also, to encourage pool formation, provide cover, and improve in-stream habitat diversity and quality overall, it is proposed that numerous logs in various groupings and configurations be placed along both banks of Issaquah Creek throughout this reach. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 36 – ***Wood Above Sycamore***

Date: 6/30/06 & 7/11/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

The stream channel upstream of Sycamore has few of the log or log jam features typically needed to form discreet pool/riffle sequences and provide habitat with overall diversity and complexity. As for several of the other project reaches identified, in-stream habitat types through this reach consist predominantly of glides and runs, which are both shallow habitat types. The pools that are present are mostly poorly-formed and relatively shallow. The in-stream habitat along this section lacks diversity and cover in spite of the vegetation along its banks.

It is recommended that numerous logs in various groupings and configurations be placed along both banks throughout this reach, adding such wood where access permits and where it would not cause flooding. Examples of similar such log placement are shown on the conceptual plans for Sites 26, 27, and 40 in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 37 – ***Issaquah Left Bank Broken Culvert***

Date: 6/30/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 17

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach: MS33

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Repair broken culvert as identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*. (May have already been repaired)

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 38 – ***Issaquah Right Bank Off-Channel***

Date: 6/30/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 18

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach: MS33

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Enhance existing secondary channel as identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*. Low priority per Parametrix report. NOT FOUND.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 39 – ***Issaquah Left Bank Riparian***

Date: 6/30/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 19

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach: MS33

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Riparian/outreach – the need for riparian revegetation was identified for this reach in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*.

A number of private residential yards have cleared yard areas right up to the stream's edge. In order to provide shading, less herbicide and pesticide run-off and create a more natural condition, homeowners would plant native vegetation along the stream edge. The planting plan would address bank revegetation while still retaining stream views. For example, clusters of tall spindly trees would still allow views of the creek. This project would be similar to project #34 in Sycamore, whose concept plans are provided in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 40 – ***Squak Valley Park South***

Date: 6/30/06 & 7/11/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 227

Parametrix Rpt. #:

Project Type: Wetland/ Riparian Vegetation/ Large Woody Debris/ Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.: Squak Valley Park south

Description of Proposed Actions:

The Squak Valley Park South site, referenced as Project I-227 in the WRIA 8 *Chinook Salmon Conservation Plan,* includes nearly one thousand feet of the right bank main stem Issaquah Creek immediately north (downstream) of the City limits. Similar to the Site 27 "Guano Acres" site, Squak Valley Park South is a mosaic of meadows, recovering native vegetation, and invasive vegetation including Himalayan blackberry thickets. It also similarly includes remnant side- or high-flow channels. In the process of conducting riparian and floodplain restoration along this reach, it is proposed that low-impact access routes to the main stem creek channel be identified whereby log complexes would be placed in the existing stream channel and along its banks. A schematic layout for such log structures is provided on the concept plan in Appendix A of this report. The placed log structures would be designed to encourage pool formation, provide protective cover, and improve habitat diversity and quality overall.

Wetland habitat features, such as backwaters, snags, logs, excavated depressions, increased edge habitat, complex plant communities, and removal/control of invasive plants would all be part of this large-scale side channel and wetland restoration project.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Could be large-scale nature park possibly with boardwalk trail and interpretive and historical elements. Combine with projects #35, #41.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 41 – ***Squak Valley Connector***

Date: 6/30/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 228

Parametrix Rpt. #:

Project Type: Wetland/ Riparian Vegetation/ Large Woody Debris/ Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

The potential Squak Valley Connector site is located on Transfer of Development Rights (TDR) lands, which would be acquired for wetland, floodplain, and riparian enhancements to join Squak Valley Park and Squak Valley Park South. It is referenced as Project I-228 in the WRIA 8 *Chinook Salmon Conservation Plan.*

Enhanced habitat features, such as backwaters, snags, logs, excavated depressions, increased edge habitat, complex plant communities, and removal/control of invasive plants would all be part of this larger-scale side channel and wetland restoration project. Existing depressional areas on this site would be expanded and/and deepened for topographic diversity and wetland enhancement. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Could be large-scale nature park possibly with boardwalk trail and interpretive and historical elements. Combine with projects #35, #40.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 42 – ***North Fork Reach Scale Riparian***

Date: 7/20/06 & 8/1/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 272

Parametrix Rpt. #: Riparian

Project Type: Riparian Vegetation/ Wetland

Location: Along entire lower North Fork from mouth to lower ravine

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
City proposed stream relocation/restoration included in this reach. TDR property.

Description of Proposed Actions:

This North Fork riparian enhancement project is referenced as Project I-272 in the WRIA 8 *Chinook Salmon Conservation Plan.* The project reach along the North Fork has been characterized as having buffers that are too narrow, having too much invasive vegetation, and lacking sufficient native vegetation. The creek also seems excessively confined by bank armoring, which is very pervasive and peculiar along this reach. Non-native vegetation includes Himalayan blackberry, bittersweet nightshade, morning glory, yellow iris, and Japanese knotweed.

Proposed improvements for this site include removing armoring, rubble, and other debris wherever possible, and increasing buffer widths as opportunities arise. Non-native invasive plants would be replaced with native riparian vegetation to increase shading to the stream, and food and cover for wildlife. Low flows and water quality (temperature) may decrease the benefits of in-stream work. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Creek seems excessively confined by armoring of homeowners. The creek is narrow and would likely be wider if bank erosion were a widespread problem.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 43 – ***NF Wood & Riparian @ East Lake Sammamish***

Date: 7/20/06 & 8/1/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: included in #272

Parametrix Rpt. #:

Project Type: Wetland/ Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Just upstream of car dealership along East Lake Sammamish Parkway

Description of Proposed Actions:

This site is bounded by the East Lake Sammamish Trail to the west, SE 62nd Street to the north, East Lake Sammamish Parkway SE to the east, and developed commercial properties to the south.

The upper section of stream through this area is characterized by reed canarygrass along its banks giving way to surrounding Himalayan blackberry thickets. The concept plans include area-specific riparian/wetland plantings to replace and out-compete reed canarygrass, Himalayan blackberry, and possibly Japanese knotweed. The narrow channel which winds its way through the reed canarygrass areas also provides an excellent opportunity to place wood in and along the stream to the benefit of fish and wildlife habitat without undo risk to surrounding infrastructure.

A fairly extensive wetland area also occurs on the site to the west of the stream. The wetlands are identified with signage, but are not mapped. A simple and inexpensive way to create and improve wetlands on this site would be to increase wetness or hydrology by plugging existing ditches. Wetland restoration and/or creation would include habitat features such as snags, logs, and brush piles, as well as removal of invasive plants and revegetation with native plants in the wetland and associated stream and wetland buffers. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 44 – ***NF Large Wetland @ Wellhead***

Date: 7/20/06 & 8/1/06

TWC Crew: Greg J. / Mark I./ Jenni C.

Chinook Plan #: 277

Parametrix Rpt. #:

Project Type: Wetland/ Riparian Vegetation/ Channel Creation, Relocation, Restoration/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
At bridge leading to Sammamish Plateau Well #7

Description of Proposed Actions:

This North Fork large wetland site extends from the Interstate-90 Front Street interchange downstream to the access road bridge leading to Sammamish Plateau Well Site #7. Beavers periodically build dams under the bridge, which can raise the water level by approximately three feet. The water level in the wetland fluctuates as the dams are removed in the course of access road maintenance and then subsequently rebuilt. This project also is referenced as Project I-277 in the WRIA 8 *Chinook Salmon Conservation Plan*

The proposed concept for this area is planting of trees to shade the creek where it widens and slows as it passes through the wetland area. Species such as willows would be chosen that can withstand the fluctuating water levels. Backwater areas could be excavated for diversity, but access for heavy equipment would be difficult. Wetland revegetation could also be accomplished with the installation of islands of trees and shrubs to increase edge habitat and diversity. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Possibilities for other wetland enhancements in this area? Could excavate backwater areas for diversity, but access would be difficult. Wetland revegetation could be done as islands of trees/shrubs to increase edge habitat and diversity.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 45 – ***Front Street Interchange***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 271 and 275 (same)
I-90 Stormwater - 276

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Front Street Interchange

Description of Proposed Actions:

Project I-276 as identified in the WRIA 8 *Chinook Salmon Conservation Plan* recommends reconfiguring the culverts under the Interstate-90 Front Street interchange to improve fish passage. This project would support and complement Site 47 which would improve upstream spawning habitat and opportunities. It is also related to Chinook Plan #271 for I-90 stormwater.

Though the existing North Fork culverts under the Front Street interchange appear to be backwatered and do not appear to be outright fish passage barriers, these culverts are both numerous and convoluted. They likely represent at least hindrances or impediments to upstream fish movements. Two of three road culverts could be eliminated by "cutting the corner," crossing Front Street only and eliminating crossings of both the I-90 westbound exit and entrance ramps. This would also free up space available within the clover leaves for detention ponds and other stormwater treatment facilities as needed.

The City has WSDOT drawings of a 66-inch diameter bypass pipe which appears to already exist under E Lake Sammamish Parkway north of both freeway ramps. It is shown as being 264 feet long with a 2.4-foot drop. However, the downstream invert of the bypass pipe appears to be several feet higher than the outfall invert of the 42-inch culvert under the westbound I-90 off-ramp which presently carries the streamflow. Both culverts discharge to the large wetland area described for Project #44. The feasibility of utilizing this existing culvert in a manner which would satisfy requirements for fish passage as well as requirements for functionality in terms of flow capacity, soundness, control of scour at the outfall, etc. would need to be evaluated and verified as a part of the final design process. This process would possibly be complicated by the presence of beaver dams in the wetland and low-gradient channel sections downstream. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 46 – ***NF Sedimentation Reduction @ Gravel Pit***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 279

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
At gravel plant

Description of Proposed Actions:

Project I-279 as identified in the WRIA 8 *Chinook Salmon Conservation Plan* recommends defining and implementing a project which would reduce sedimentation from the gravel plant. The project would widen vegetated riparian buffers and increase associated biofiltration, and investigate possible source control measures.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 47 – ***NF Spawning Channel @ Gravel Pit***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 279 – Gravel Plant Sediment, 280 – Riparian Vegetation

Parametrix Rpt. #:

Project Type: Spawning Habitat – possible LWD – Riparian Planting

Location: Channel Creation, Relocation, Restoration/ Large Woody Debris

LB / RB

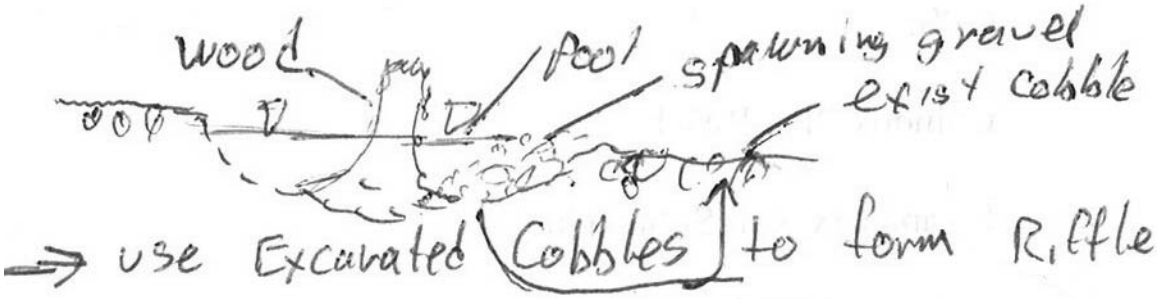
Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
In gravel pit area

Description of Proposed Actions:

Lower-gradient North Fork reaches provide suitable rearing habitat for coho and cutthroat, but the basin needs usable spawning habitat. Substrates are too fine for spawning in the lower reaches and too coarse in the upper.

The proposed design would provide spawning-sized gravel for these fish in the lower ravine areas with provisions made to keep it in place over time. As shown on the concept plan, pool depressions would be excavated out of the existing channel, and the excavated cobbles would be used to form the lower half of riffles downstream. Next, imported spawning gravels would be placed to form the upper portions of the riffles and the tailout areas of the pools. The large cobbles forming the lower halves of the riffles would hold spawning gravel in place, supplemented with additional larger substrate materials as needed. Log structures would then be placed in the pools for cover. Finally, invasive vegetation would be removed from the project area, and disturbed or otherwise sparsely vegetated areas would be revegetated with native vegetation.



Notes – unusual constraints, exceptional benefits or urgency, etc.:
The flow here is 1 cfs. Farther downstream there is a very mere trickle. Water infiltrates. Intermediate flow at “big wetland” near Sammamish well heads.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 48 – ***Parks Maintenance Facility***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 282, 283, 284

Parametrix Rpt. #: 20

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB Primarily left bank due to city storage sheds; related projects on right bank

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Mouth of East Fork to First Ave. NW. City maintenance yard on left bank.

Description of Proposed Actions:

This site is identified as Project I-282 in the WRIA 8 *Chinook Salmon Conservation Plan* and would involve relocation of the City's Parks Department maintenance facility, and restoration of stream and buffer areas along the East Fork of Issaquah Creek near its mouth.

Project aspects would include removal of bank armoring, placement of in-stream large woody materials, accentuation of pool-riffle sequencing, removal of non-native, invasive vegetation, riparian buffer restoration including native revegetation, and trail and interpretive features complementary of and consistent with park development. This restoration plan could be combined with a variety of restoration activities in this general area between Issaquah Creek and the East Fork. Projects Site 17, 18, 19, 20 and 49 could be combined as features of a "Confluence Park", including stream restoration, wetland restoration, increased wetland and stream buffers, educational/interpretive opportunities, picnicking and play areas. See concept plans in Appendix A of this report for further details.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 49 – ***East Fork Riparian @ Rainier***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 21

Project Type: Bank Stabilization/ Riparian Vegetation/ Channel Creation, Relocation, ad Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
At and downstream of Rainier Bridge.

Description of Proposed Actions:

The need for invasive vegetation removal and native revegetation was identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*. In addition, address failed downstream right bank armoring at bridge abutment near log structure.

Reslope the streambanks downstream of the bridge, removing riprap/rockeries along the right bank, and widen the channel. May require property acquisition. Pinch point below bridge seems to cause deposition under the bridge.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 50 – ***East Fork "Darigold" Riparian, Rainier to Front Street***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 21

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Between Rainier and Front Streets = "Darigold Reach"

Description of Proposed Actions:

Existing conditions include a narrow buffer, heavily rip-rapped banks, no wood, few pools, and an unidentified discharge to the creek (see photo). Banks are infested with non-native vegetation including Himalayan blackberry, Japanese knotweed, ivy, morning glory, and holly. This reach would benefit from extensive restoration/enhancement, but little space is available to do so without moving/removing existing Dairy facilities. Needed improvements should address buffer width, buffer vegetation, bank armoring, stream substrate, wood and cover in channel, pool/riffle sequencing.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 51 – ***East Fork Backyard Revegetation***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
East Branch upstream from Front Street.

Description of Proposed Actions:

Private residential homeowners have typically and pervasively cleared their yard areas right up to the stream's edge along the East Fork of Issaquah Creek within the City. In order to provide shading, less herbicide and pesticide run-off and create a more natural condition, homeowners would plant native vegetation along the stream edge. The planting plan would address bank revegetation while still retaining stream views. For example, clusters of tall spindly trees would still allow views of the creek. This project would be similar to project #34 in Sycamore, whose concept plans are provided in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 52 – ***East Fork Backyard Armor Reduction Typical***

Date: 7/20/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
East Branch upstream from Front Street

Description of Proposed Actions:

Both banks are armored with riprap and a variety of other materials/methods at various locations along the East Fork within the City. The project as defined would prepare concept/typical approaches to minimize (or minimize the effects of) armoring. This project would be similar to mainstem Issaquah Creek Project #23 downstream of the hatchery:

1) Reduce armoring where feasible.
2) Place logs in amongst the armoring materials, using existing armoring as anchors;
3) Remove existing invasive vegetation – ivy, blackberries, knotweed, etc. and;
4) Add soil and plantings to the riprap/armoring, possibly holding soil in place with fabric in pockets or throughout.

The typical plan would be adapted to individual properties depending on owner interest and cooperation, funding, etc.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 53 – ***East Fork Right Bank Office Riparian & Logs***

Date: 7/28/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 26

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach: EF5

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

As identified in the March 2003 Parametrix *Stream Inventory and Habitat Evaluation Report*, restore riparian conditions along right bank at office building:

1) Remove non-native shrubs beneath deciduous trees (big-leaf maple, cottonwood).
2) Replant with conifers and native shrubs.
3) The lower end of this reach would also provide a rare opportunity along the east branch to add Large Woody Debris.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Developed site includes parking lot and retaining walls that may hinder/prevent access.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 54 – ***East Fork Left Bank Riparian, Both Banks Wood***

Date: 7/28/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #: 27

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Along Sunset freeway off-ramp

Description of Proposed Actions:

Stream channel is very cobbly, lots of "seasoned" armoring along right bank – unclear what it protected. Proposed enhancements defined for this project include:

1) Left bank only – remove invasives from understory and replant with native shrubs – (this has already been done, by WSDOT, on the right bank).
2) Channel is very cobbly and seems stable enough here, and large enough, to add log structures if good access can be found.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 55 – ***East Fork WSDOT - 4 Trees***

Date: 7/28/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
East Branch, along Sunset freeway off-ramp.

Description of Proposed Actions:

The Washington State Dept. of Transportation (presumably) has cut four trees from along the top of a failing, vertical bank, then cut the sections near the stumps and dragged them farther from the creek. This let a lot of light into creek. Project definition is to:

1) Discourage landowner (WSDOT) from removing trees from the bank in this manner because:
    A) Recruited gravelly bank material is good substrate
    B) No structures were threatened
    C) It let in light
2) Place or leave the wood in the active stream channel, not up the bank.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 56 – ***Kelly Ranch Riparian***

Date: 7/31/06 & 8/1/06 **TWC Crew**: Greg J./ Jenni C.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Tibbetts Property upstream of Tibbetts Valley Park. "Kelly Ranch" and Squak Valley Nursery.

Description of Proposed Actions:

For perhaps 75-100 feet upstream of City's in-stream sedimentation pond, there is some placed wood, then some debris jams. Upstream of those, there is little in-stream wood. The defined project for this location would entail:

1) Removing non-natives from bank vegetation - HBB, morning glory, ivy.
2) Placing in-stream log structures in segments without wood and with few pools.
3) Replanting a wider riparian buffer in this ranch/farm setting with existing meadows and blackberries along creek.
4) Since the existing channel is fairly straight, meanders could be created actively by relocating some channel sections or passively by widening the flood plain on alternating sides of the existing straight channel.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

TDR properties. Horses appear to have been gone for some time (lower stretch) some horses upper, right bank. Tibbetts Manor wetland extends to south – wetland is more extensive than map shows. Opportunity for wetland restoration in fields with proposed stream buffer widening and revegetation.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 57 – ***Tibbetts Bank Stabilization @ Carlson Site***

Date: 7/31/06 **TWC Crew**: Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Address: 21003 SE 75th. A potential porject at this site would entail:

1) Address undermined power pole along the streambank.
2) Address undermined conifer trees' roots by placing protective bank logs with rounded rock behind.
3) Turn in-stream maple logs, which may block creek, parallel to the creek to prevent erosion which would become worse if a debris jam formed at this location.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 58 – ***Squak Mountain Nursery Buffer***

Date: 7/31/06 **TWC Crew:** Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB New homes, mowed areas / **RB** Nursery

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Riparian areas along nursery – right bank.
New homes – left bank.

Description of Proposed Actions:

Active nursery plant-growing areas are presently within a few feet of Tibbetts Creek on the right (east) bank – mowed grass makes a narrow functional buffer along the left bank. The defined project for this location would entail:

1) Removal of non-native vegetation from along the streambanks, including Himalayan blackberry.
2) Place log structures in the creek where applicable and while there's good access.
3) Revegetate a wider buffer with native plants.

Similar to project #56 – *Kelly Ranch Riparian*

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 59 – ***Tibbetts 0171 Trib. Passage @ SR 900***

Date: 7/31/06 **TWC Crew**: Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Creek crossing of SR 900 by Tibbetts Trib.

Description of Proposed Actions:

A steep concrete ramp occurs at the existing culvert outfall, followed by a plunge in excess of three feet in height. This situation precludes fish passage at SR-900 on Tibbetts Creek tributary #0171 (West Fork Tibbetts Creek). Reconfiguring the creek crossing and profiles of the adjoining sections would provide access for cutthroat and, possibly, coho.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Fish passage at SR-900 on W. Fork Tibbetts Creek is being addressed by WSDOT as part of the SR-900 widening project, which will be constructed in 2008. This project may have high cost/benefit due to relative headwater location.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 60 – ***Tibbetts Riparian SE 82nd, SE 83rd Area***

Date: 7/31/06 **TWC Crew**: Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation/ Bank Stabilization

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
SE 82nd, SE 83rd Area

Description of Proposed Actions:

The stream channel, banks, and buffer have been impacted through a residential area. Proposed elements of an enhancement plan for this section include:

1) Removing invasive streambank vegetation – ivy, HBB, near houses, but some HBB thickets in woods near houses.
2) Softening bank armoring as feasible.
3) Replanting with natives, including in armoring.
4) Limited possibilities for placing log structures near houses.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Similar to other projects at locations throughout the city

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 61 – ***Coal Mine Tailings Revisited***

Date: 7/31/06 **TWC Crew**: Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Coal mine tailings revisited

Description of Proposed Actions:

Vegetation is not consistently thriving at the County's project on sloped coal mine tailings. The project would entail re-evaluating and supplementing the plantings as determined by such a detailed evaluation.

The toe of the slope appears stable, so in-stream work does not appear to be necessary to stabilize the banks.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Lots of coal and petrified wood in channel. Interpretive opportunities about geology, coal, petrified wood formation, natural and human history of the area. Where did these tailings come from, both in terms of geology and who placed them near the creek?

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 62 – ***Tibbetts Log Weirs Below SR 900, Wood to Cover***

Date: 7/31/06 **TWC Crew**: Greg J.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Downstream from SR-900, crossing near southerly city limits

Description of Proposed Actions:

A series of 12 log weirs extends downstream of SR-900. Tibbetts Creek crossing near southerly city limits. They have deep plunge pools, but the pools have little cover. The project would be to add root wads, logs with root wads, and some small woody debris to provide cover in these pools. Also, remove temporary channel headcut/debris jam approximately 150' downstream with hand tools to address a temporary migration barrier.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 63 – ***Lower Laughing Jacobs Creek***

Date: 8/1/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #: 294

Parametrix Rpt. #: "Lawn to edge of the Lake"

Project Type: Riparian Vegetation/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Laughing Jacobs – Mouth to E. Lake Sammamish Parkway

Description of Proposed Actions:

The area of this Lower Laughing Jacobs Creek site extends from the mouth of the creek at Lake Sammamish upstream to the East Lake Sammamish Parkway crossing. The lower section passes through a privately-owned, park-like picnic area, with the upper section passing through brushy areas characterized by Himalayan blackberry thickets. Throughout the entire project area the channel is somewhat armored, narrow and rectangular in cross section, lacking in large woody debris and other pool-forming features, lined with non-native vegetation in varying degrees, and lacking in native streambank vegetation.

The anticipated stream enhancement and restoration project for this site would include:

1. Removing invasives – bittersweet nightshade, purple loosestrife, Japanese knotweed, yellow iris, morning glory, Himalayan blackberry.
2. Placing woody materials in the channel and along the banks, particularly along the open section for several hundred feet upstream of the mouth.
3. Removing and/or rearranging armoring in conjunction with log placement. Reducing the prevalence of uniform, vertical banks two to four feet high.
4. Widening the channel cross-section where rectangular; provide a wider floodplain.
5. Planting native streamside vegetation, leaving limited access in picnic areas.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Is this public or private property? Set up as a picnic area. Note: streamside shrubby vegetation gets much thicker upstream, but apply same approach.
1) remove invasives, 2) find access to adjust cross-section, reduce armoring and place wood, 3) native revegetation.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 64 – ***Laughing Jacobs Rock Berm Removal***

Date: 8/1/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Wetland

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Laughing Jacobs Creek

Description of Proposed Actions:

Upstream of East Lake Sammamish Parkway, there is a rock berm along the right bank which appears to be at least several decades old and separates the Laughing Jacobs Creek channel from a forested wetland floodplain area. The floodplain would be much more active, i.e. it would be flooded more often and to a greater extent, if the berm were not present. This proposed project would remove several sections of the berm by hand and/or by using hand tools to re-connect the stream channel to its floodplain. This would allow high flows to cross the wetland floodplain with greater frequency and intensity. Hand tools only would be used in order to minimize disturbance to the maturing forested wetland.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Channel relocation in this area makes some sense, but would be very disruptive of existing vegetation. Likewise, log structures could be added but would disrupt vegetation.

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 65 – ***Hans Jensen Campground Buffer***

Date: 8/1/06 **TWC Crew**: Greg J. / Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Along campground by Laughing Jacobs Creek

Description of Proposed Actions:

The present condition of this site includes:

- Lots of in-stream logs per completed County project (metal tags)
- Good substrate with cobbles and boulders
- Access points limited to about 3 from camp area to creek
- Localized, but not pervasive or widespread, eroding banks
- Generally good shrubby bank vegetation

A proposed project at this location would widen the vegetated buffer through the campground area (right bank) and remove the limited amount of invasive vegetation present.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 66 – ***Lewis Creek Backyard Revegetation***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Riparian Vegetation

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:
Lewis Creek

Description of Proposed Actions:

Similarly to projects in the Sycamore neighborhood (Project #34) and along the lower East Branch of Issaquah Creek (Project #51), a typical planting plan would be prepared and applied where lawn and landscaping vegetation extends down to the stream edge. Private residential homeowners have cleared their yard areas right up to the stream's edge in places along Lewis Creek within the City. In order to provide shading, less herbicide and pesticide run-off, and create a more natural condition, homeowners would remove invasive vegetation and plant native vegetation along the stream edge. Project implementation would also include outreach support and education, demonstration projects, volunteer labor, and/or small grant assistance. The planting plan would address bank revegetation while still retaining stream views. For example, clusters of tall spindly trees would still allow views of the creek. The concept plans for a similar project in the Sycamore neighborhood, #34, are provided in Appendix A of this report.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 67 – ***Lewis Creek Backyard Armor Reduction Typical***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Both banks are armored with riprap and a variety of other materials/methods at various locations along the East Fork within the City. The project as defined would prepare and implement a community-based, typical plan to reduce armoring and/or lessen its effects, such as supplementing armored areas with soil and/or in-planting with native vegetation. This project would be similar to mainstem Issaquah Creek Project #23 downstream of the hatchery, and would typically include the following elements:

1) Reduce armoring where feasible.
2) Place logs in amongst the armoring materials as feasible, using existing armoring as anchors;
3) Remove existing invasive vegetation – ivy, blackberries, knotweed, etc. and;
4) Add soil and plantings to the riprap/armoring, possibly holding soil in place with fabric in pockets or throughout.

The typical plan would be adapted to individual properties depending on owner interest and cooperation, funding, etc.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 68 – ***Lewis Creek Failed Bank & Yard Waste***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris

Location: Lewis Creek – see aerial

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

A very steep, failed bank, approximately 15 feet high, exists at the project location, possibly started by a fallen tree. The property owner has also placed a lot of yard waste on the bank, including small-to-medium-sized woody debris with limbs and logs to 8 inches in diameter. This small woody debris has been moderately effective at armoring toe. On the inside of the channel bend, a point bar has formed; the stream has room to move away from the failed bank. The proposed project involves the following elements:

1) Place additional small-to-large woody debris (not yard waste) to further armor the toe of the slope.
2) Remove non-native, invasive vegetation in the vicinity – ivy, Himalayan blackberry, morning glory, nightshade.
3) Replant with native vegetation.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 69 – ***Lewis Creek - Gabions***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Gabion removal/ Large Woody Debris/ Bank Stabilization

Location: Lewis Creek

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

An extensive gabion project presently "protects" a vertical streambank.
The proposed project would involve removal of the gabions and replacing them with one of the following:

1) Log toe armoring with additional gravel, cobbles, boulders and small woody debris placed between the logs and the slope. At right below.

2) Alternatively, logs could be placed in front of existing gabions to try to promote deposition, but the channel is narrow and the opposing bank is not that low. Moderate amounts of scour would need to occur for the channel to shift away from the gabion wall. At left, above.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID : 70 – ***Lewis Creek – Gabion Ghosts***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Large Woody Debris/ Bank Stabilization

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

At this location, rock-filled gabion baskets were previously placed, presumably to protect an eroding bank, but have since failed with much of the quarry spall fill having spilled out. The proposed project at this location would entail:

1) Removing the failed gabion "ghosts".
2) Assessing the armoring needs of bank to determine if armoring needs t be replaced.
3) If armoring needed, armoring the bank with logs and root wads in conjunction with existing riprap (or something similar).

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 71 – ***Spooner Property, Lewis Creek Fish Passage***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Under existing site conditions, an in-stream concrete structure is a fish passage barrier/impediment, though a deep plunge pool may allow some passage.

A *Preliminary Feasibility Analysis for the Lewis Creek Fish Passage Improvement at the Spooner Property* has been prepared by John Bethel and Dale Nelson at King County DNR. In it, five concept designs for this project are presented, involving combinations of the following:

1) Structure removal
2) Structure modification
3) Raise channel profile below plunge

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 72 – ***Lewis Creek Eroded Bank Repair***

Date: 8/17/06 **TWC Crew**: Greg J./Mark I.

Chinook Plan #:

Parametrix Rpt. #:

Project Type: Bank Stabilization/ Large Woody Debris

Location: Lewis Creek

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

Acute bank failure and erosion has occurred at this location, leaving a vertical streambank and a large "bite" out of the bank. It is proposed that this bank failure be addressed through the placement a number of logs, reorientation of existing logs, filling behind the placed logs with a combination of gravel, cobbles, boulders, and additional woody debris of various sizes, and native revegetation.

Notes – unusual constraints, exceptional benefits or urgency, etc.:

Issaquah Streams:
Prospective Project Summary Form/Checklist

TWC project ID: 73 – ***Lewis Creek Interstate 90 Fish Passage***

Date: 8/17/06

Chinook Plan #: **TWC Crew**: Greg J./Mark I.

Parametrix Rpt. #:

Project Type: Channel Creation, Relocation, Restoration

Location:

LB / RB

Parametrix Rpt. Subreach:

Relation to other features, road crossings, buildings, tributary mouths, etc.:

Description of Proposed Actions:

The connected culverts carrying Lewis Creek under I-90 and adjacent West Lake Sammamish Parkway to the north and Newport Way to the south are approximately 1,000 feet in combined length and constitute a complete barrier to upstream fish passage. The project evaluated would involve designing and implementing a new culvert system under these roadways that would be fish-passable. Such an undertaking would be difficult and costly and would primarily be the responsibility of the Washington Department of Transportation.

Notes – unusual constraints, exceptional benefits or urgency, etc.: