Photo Point 1

After completion of in-stream work

October 1997

Before streambank Stabalization

March 1997

Large Woody Debris & Gravel Placement location

Oct 1997

Photo Point 2

Prior to blackberry removal — Feb 1997

During Community Work Party to plant native plants — May 1997

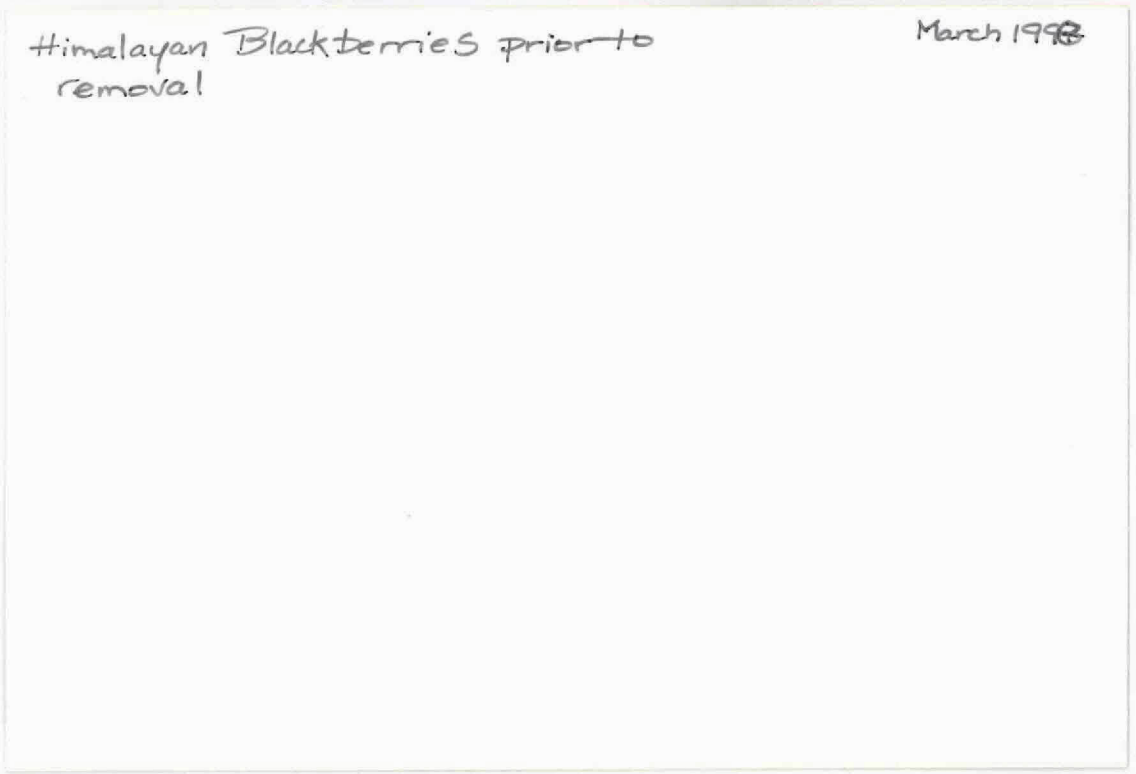
June 1997 — Plantings with new growth

One month after planting

Photo Point 3

Himalayan Blackberries prior to removal

March 1998



Cascade Education Corps removing blackberries

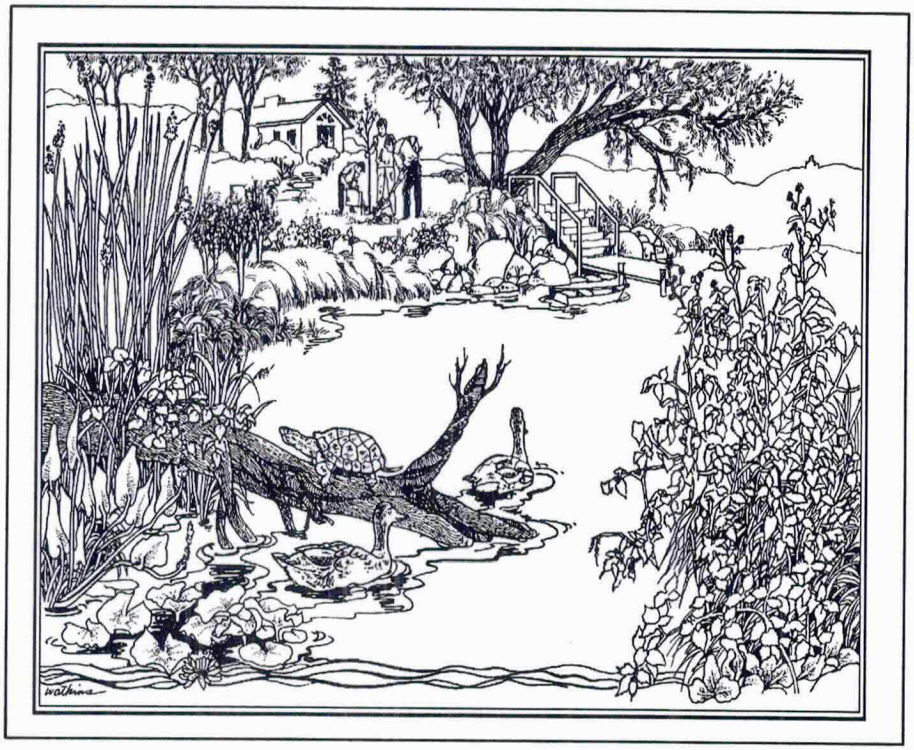
March 1998

Post blackberry removal with new native plants—tagged w/ red-tape

June 1998

Community Work Party
May 1997

Moonshadow Park/ Ash Creek
Metro Habitat Restoration Project
Final Report



Submitted by:
Tualatin River Watershed Council
Contract # 905415
July 1998

Moonshadow Park / Ash Creek Enhancement
Site Location Map

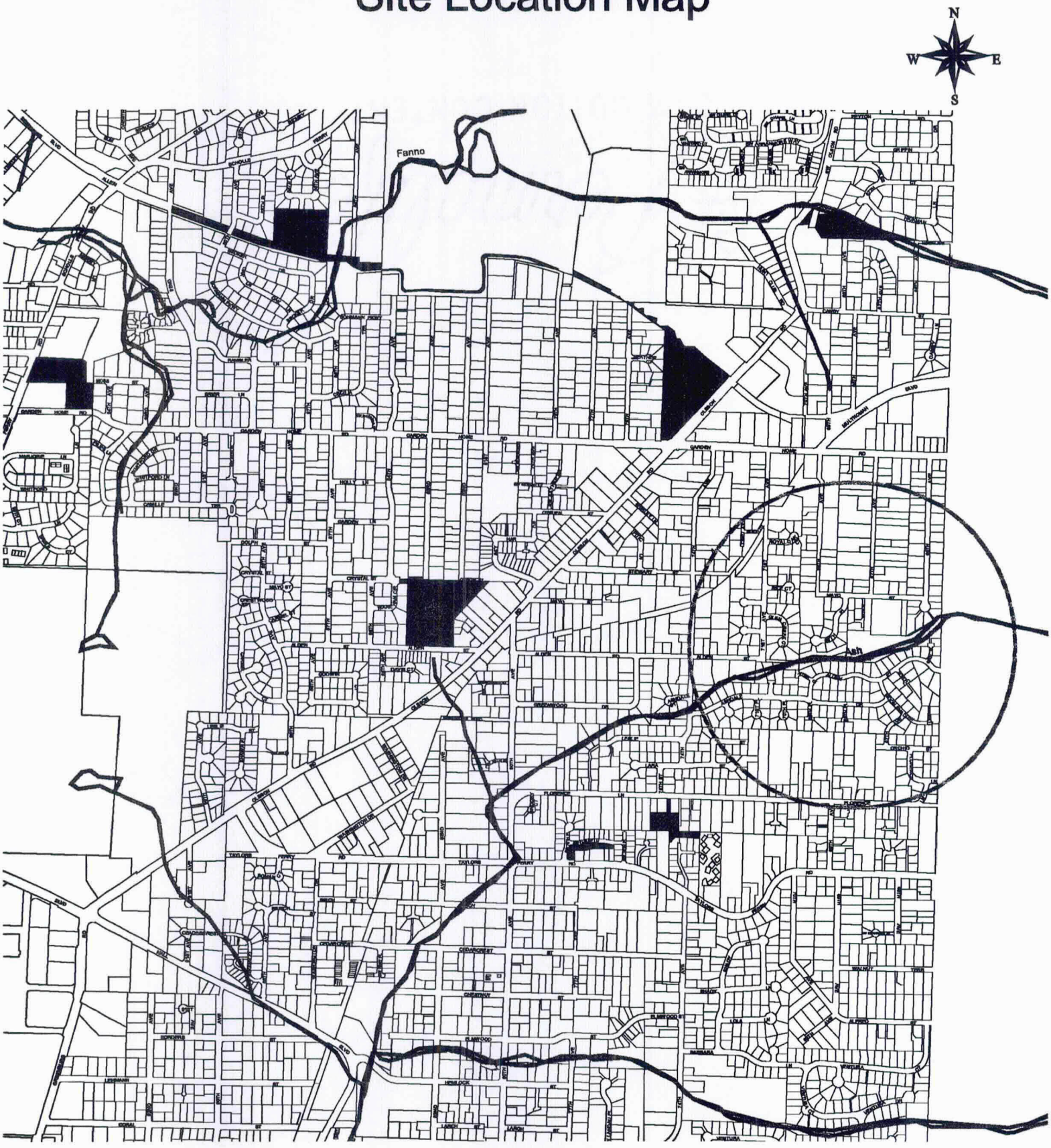
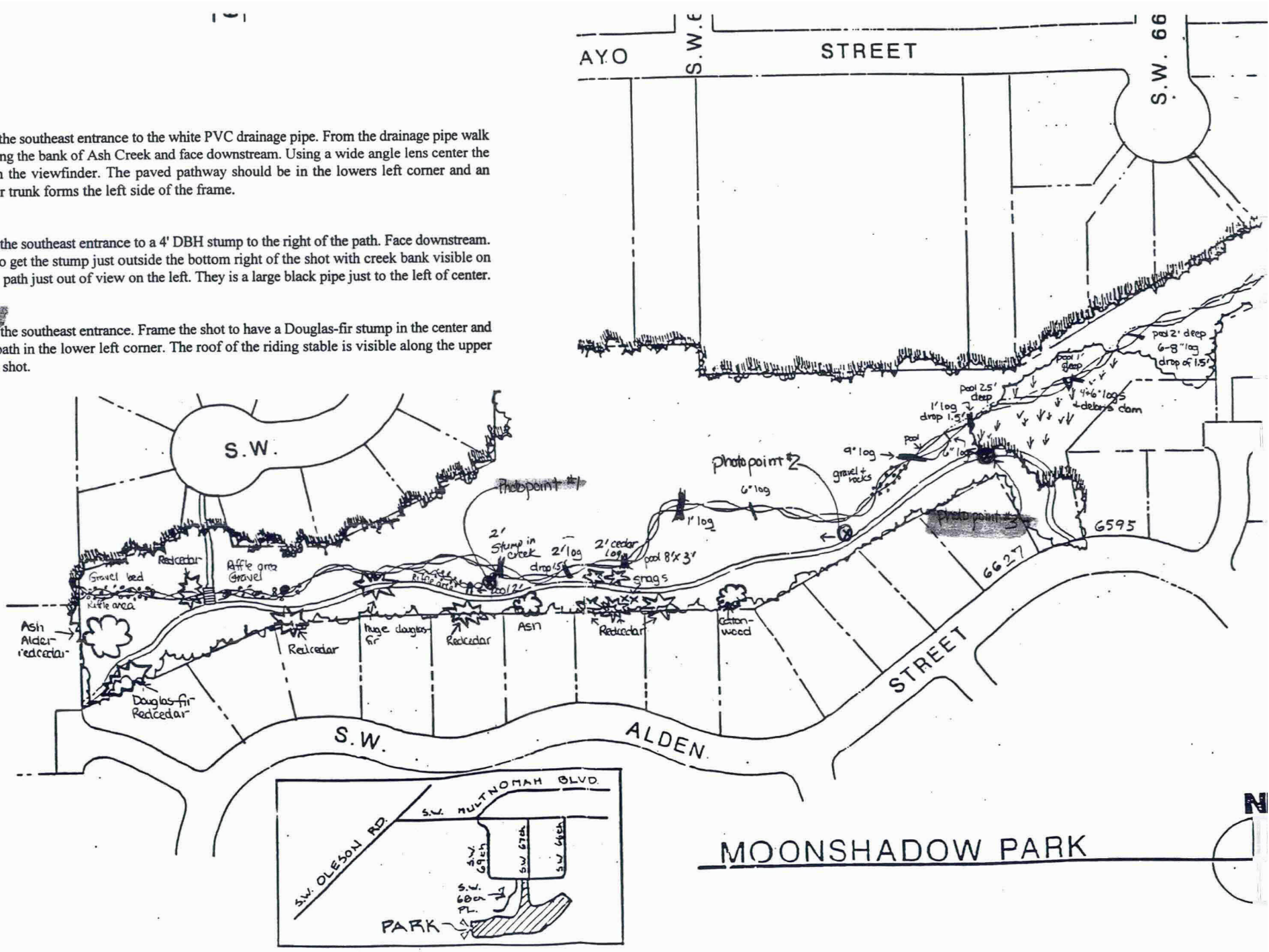


Photo Point #1
Walk 720' from the southeast entrance to the white PVC drainage pipe. From the drainage pipe walk upstream 40' along the bank of Ash Creek and face downstream. Using a wide angle lens center the drainage pipe in the viewfinder. The paved pathway should be in the lowers left corner and an 8"DBH red alder trunk forms the left side of the frame.

Photo Point #2
Walk 226' from the southeast entrance to a 4' DBH stump to the right of the path. Face downstream. Frame the shot to get the stump just outside the bottom right of the shot with creek bank visible on the right and the path just out of view on the left. They is a large black pipe just to the left of center.

Photo Point #3
Walk 130' from the southeast entrance. Frame the shot to have a Douglas-fir stump in the center and the edge of the path in the lower left corner. The roof of the riding stable is visible along the upper right half of the shot.



Project Description

Ash Creek meanders through a headwater riparian corridor dominated by a mixed forest of red alder, western red cedar and Douglas fir in Moonshadow Park. Ash Creek is a tributary to Fanno Creek, which along with Ash Creek is water quality limited for temperature, bacteria, habitat, and nutrients. The Ash Creek Watershed drains .72 square miles of moderately urbanized area above Moonshadow Park. This creek carries 32 cubic feet per second (cfs) for a 2-year storm event and is projected to increase to 65 cfs at full build out. As of 1997, Ash Creek Watershed contained approximately 27% effective impervious area.

Tualatin Hills Park and Recreation District (THPRD) owns and maintains Moonshadow Park. The understory along the creek had been highly disturbed by the placement of a sewer line and residential development on the upland slope; the corridor was dominated by Himalayan blackberry in the understory. Hydrologic changes due to urbanization are of moderate concern for the relatively small channel. Intact wetlands and floodplain help to absorb some of the land use related impacts. A single asphalt trail runs parallel to the creek and provides access for visitors from both the north and south side of the Park. Dumping of yard debris by neighbors into the Park has been a problem in the past.

Project objectives include: enhancing fish (resident cutthroat) and wildlife habitat by shading the stream with native vegetation and removing non-native vegetation, and adding large woody debris and spawning gravel; improving water quality by shading the creek, managing soil erosion, and educating neighbors about lawn care and storm water management; covering up the exposed sewer line; and promoting community stewardship of the creek.

To enhance the greenway along the creek, service crews removed non-native plants (Himalayan blackberries and ivy) in March 1997 and May 1998. Over 40 neighborhood volunteers participated in three successive work parties in April and May 1997 to re-vegetate the area with native plants. A fourth work party was held in September 1997 to remove blackberry regrowth and add more native plants as part of the Intel- SOLV Washington County Clean and Green event.

To address the exposed sewer pipe and eroding stream bank, USA maintenance crews worked at the site in August 1997. After securing permits from the U.S. Army Corps, DSL, and ODFW, a concrete sleeve was poured around the exposed sewer pipe. Large woody debris was secured downstream of the sewer pipe to stabilize the eroding stream banks. Pole cuttings of willow and red osier dogwood were added to the bare banks. Gravel was also placed downstream to enhance fish spawning habitat.

The project involved a number of activities to increase neighborhood awareness and promote long-term stewardship of the creek. First, flyers were sent out to 200 Park neighbors on a regular basis to explain the project, notify them about upcoming work parties, and encourage them to get involved. Storm drains leading to Ash Creek were stenciled during the first work party in April 1997. A "Stream Care" brochure about organic lawn care and composting was developed and distributed throughout the

neighborhood. In addition, a Naturescaping for Clean Rivers workshop was help at the Garden Home Recreation Center in May 1998.

Goals and Benefits

The removal of non-native vegetation and the addition of native plants will increase wildlife habitat, augment canopy cover and shade along the stream. Removal of invasive species will promote revegetation of canopy trees. This in turn will reduce stream temperatures and improve habitat for both fish and wildlife including amphibians, songbirds, bats and wood ducks.

The stabilization of eroding stream banks along the creek will prevent further soil loss and sediment discharge into the creek. The addition of large woody debris and gravel to the stream will enhance fish (resident cutthroat) habitat by improving spawning areas and provide additional underwater fish habitat. Large woody debris will also help slow storm water flows and keep the stream connected to its floodplain. This in turn helps to reduce downstream flooding. Covering up the exposed sewer pipe will help improve aesthetics and minimizing further down cutting along the path.

Because the project area is within a highly used park and within close proximity to a residential area, this project will provide wildlife and plant viewing opportunities, volunteer stewardship, and educational benefits. The brochure developed for "Stream Friendly Home Care" is being used throughout the Tualatin Basin to educate the public.

Work Tasks and Timelines

March 1997

- Meet with project partners to review work plan
- Send notices to neighbors to explain project and alert them about blackberry removal
- Contact and arrange for service crew to assist with blackberry removal
- Gather information on native plant nurseries, pricing, and species availability
- Order native plant material
- Research information for stream friendly brochure
- Prepare and mail postcards to neighbors to advertise the April 3rd community meeting

April 1997

- Develop planting plan
- Arrange for plant material delivery
- Recruit neighbors for community work parties (telephone calls, contact media)
- Conduct community work party on April 26

May 1997

- Conduct community work parties on May 4 and May 10
- Arrange for watering of new plants

June 1997

- Consultants prepare plan for placement of large woody debris and gravel for spawning beds
- Prepare and submit permits to U.S. Army Corps of Engineers, Division of State Lands and the Oregon Department of Fish and Wildlife and Washington County
- Monitoring and water plantings

July 1997

- Distribute "Stream Care" brochure to neighbors
- Monitor and water plantings

August – September 1997

- USA maintenance crews installs concrete sleeve over exposed sewer pipe, conducts bank stabilization site work and places gravel for spawning beds in Ash Creek
- Service crews hired to remove blackberries
- Work party held on September 20th as part of the Intel-SOLV Washington County Clean and Green Project

November 1997

- Service crew hired to remove blackberries and install willow cuttings along eroded banks

March – April 1998

- Service crew hired to remove blackberries and plant native vegetation
- Conduct site visit for Metro Greenspaces Project Managers
- Prepare and distribute flyers advertising Naturescaping workshop to neighbors
- Issue press releases to advertise Naturescaping workshop
- Placed woody debris in stream

May 1998

- Conduct Naturescaping workshop on May 9th at Garden Home Recreation Center

Project Budget

	Description of Services	Cost or Cash Value	Reimbursement Request from Metro
Personnel and Labor Costs	• Service Crews • Project coordination and admin. • Workshops • Graphics	$12,471	$4976
Materials and Supplies	• Native Plants • Printing & Mailing • Film & Developing • Refreshments for work parties	$1556.51	$2062.18
Equipment Rental	• Dumpster fees • Room rental • Truck rental	$570	0
Professional Services	• Project design and supervision	$1473.61	$2000
Total		$16071.12	$9159.22

Project Staff/ Workers/ Volunteers

Tualatin River Watershed Council:
Jacqueline Dingfelder, Coordinator
Unified Sewerage Agency:
Kendra Smith, Technical Advisor
Steve Kennon, USA Maintenance Crew
Tualatin Hills Park and Recreation Department:
Elayne Barclay, Park Naturalist
Service Crew:
Cascade Education Corps
Consultants/Advisors (In-kind):
Greg White, Fisheries Biologist, CH2M Hill
Dave Whitaker, Hydrologist, CH2M Hill
Naturescaping for Clean Rivers
Linda Robinson

Project Relationship to Greenspaces Program

Goals of the Greenspaces Program include: establishing a regional system of interconnected natural areas, trail and greenways for wildlife and people; preserving the diversity of plant and animal species; and educating citizens and encouraging environmental awareness so citizens will become involved stewards of natural areas.

This project supports the Greenspaces program by restoring a degraded section of Ash Creek, thereby restoring connectivity of natural conditions along the creek. The project improves water quality by minimizing erosion and sediment input from exposed stream banks. The project encourages environmental stewardship by involving neighbors in the implementation and maintenance phase of the Ash Creek enhancement project. By working directly with neighbors and distributing informational material (brochures, Naturescaping for Clean Rivers workshop), the project also raised awareness about individual practices and impacts on water quality.

What Worked/ What Didn't/ Helpful Hints

Although we provided ample advance notice regarding removal of blackberries along Ash Creek, a couple of neighbors contacted Tualatin Hills Park and Recreation District and expressed concern about the project. We were able to address their concerns by explaining why non-native invasive species are detrimental to the riparian area and how the site will look after replanting. We encouraged the neighbors to attend work parties and assist with plantings. Hiring youth crews to tackle the blackberry piles made the task less daunting for neighbors. Removing blackberries before spring growth allowed the native understory vegetation (lady ferns, buttercup) already present to start taking over. Complaints ceased once the new growth appeared along the creek. In fact, several neighbors sent a letter of support to continue funding for the project.

The scope of the project as originally conceived was expanded to add large woody debris and gravel to the creek to enhance fish habitat and to cover up an exposed sewer pipe. This entailed extending the project schedule, drafting and submitting permits for in-stream work, and supervising an USA work crew. In retrospect, the permit turn around time was a limiting factor along with coordination of the work crew's availability. Additional funding and use of equipment or horses would have helped facilitate greater large woody debris placement.

One year after the initial plantings, re-vegetation along the south side of Ash Creek has been a success. We have achieved about an 80% plant survival rate and the blackberries are currently in check. The in-stream work (placement of large woody debris and gravel, and covering up the exposed sewer line) has met the project goals of reducing erosion, improving water quality, and improving fish habitat.

We received overwhelming support from the community for this project. Over 75 neighbors have been directly involved in attending work parties or the Naturescaping for Clean Rivers workshop. Many neighbors also expressed an interest in working with Tualatin Hills Park and Recreation District during the next phase of restoration activities.

Advice for Other Project Managers

1. Inform residents early and often. Approximately 200 neighbors received five separate mailings to explain the project purpose and provide regular updates, advertise work parties, announce the community meeting, and recruit participants for the Naturescaping for Clean Rivers workshop.

2. Limit work parties to four hours and make it fun! Planting and removing blackberries is hard work. We used service crews to remove the bulk of the blackberries and engaged volunteers for the plantings. We limited work parties to four hours and provided refreshments at each one. We also sent out follow-up thank you notes to participants.

3. Obtain permits early. Obtaining permits from regulatory agencies often takes longer than planned. Anticipate delays ...start the process months ahead of when you need the permits, especially if the in-stream work window is limited.

4. Be sure to have appropriate technical support for your project. We were fortunate to have a fisheries biologist and hydrologist offer their services on a pro- bono basis. Adequate technical staff is necessary to develop plans, conduct engineering or hydrologic studies, supervise crews, ensure proper installation and placement of large woody debris, and minimize site impacts.

Monitoring and Maintenance Plan

The condition of the planted areas will be formally monitored on an annual basis. The percent cover of native versus non-native plants in $10m^2$ plots will be examined in the spring. Species will be identified and the number and percent cover in each plot will be monitored. Regeneration of non-natives will be controlled so that they represent less than 25% of the understory cover within 4 years, and native vegetation will make-up 75%. Volunteer work parties or service crews will address regrowth of non-natives at least twice each year. Another work party is scheduled for this fall when Moonshadow Park will be the site of the 1998 Intel-SOLV Washington County Clean and Green event. Additional funding has been obtained from the Oregon Community Foundation Tualatin Valley Water Quality Endowment Fund to continue removing invasive non-natives and planting natives in the spring of 1999. Neighborhood or community service volunteers and THPRD staff will do summer watering.

The impact of human uses will be assessed twice per year to monitor change over time. Data sheets and monitoring protocol developed by PSU for THPRD to inventory Park District natural resources will be used to assess the state of dumping, encroachment, littering, etc. Workshops on environmentally safe alternatives to lawn and home care will continue and Moonshadow Park will be targeted for tours and other educational uses. The wood duck nest box will be cleaned each fall and che

Human Impact and Biological Change Moonshadow Park

Initials of Observer(s)_____
Date_____ **Time**_____

I. Human Impact

User impact

1. Mark direct impact and give coordinate

☐ unauthorized trail	☐ bare ground	☐ trampled vegetation	☐ personal storage
☐ parking	☐ campfire	☐ gardening	☐ unauthorized planting
☐ tree house	☐ hut	☐ camping	☐
☐ other:			

2. Litter and dumping and coordinate of major dump sites

☐ bottles/cans	☐ wrappers	☐ cigarettes	☐ appliances	☐ yard debris
☐ auto parts describe:				
☐ construction debris		☐ other describe:		

Overall score:

☐ 0- litter very minor or non-existent
☐ 1-scattered only near entrances or park structures (bathrooms, viewing platforms, bridges)
☐ 2- some litter found in several areas, along trails and occasionally off trail and behind private residence or occasionally in stream or pond and/or near park structures.
☐ 3- litter is apparent in all areas of park and/or major dumping site present and/or stream or pond is inundated with litter.
☐ 4- park is overwhelmed by litter and dumping throughout

☐ Photo taken?

3. Are there any hazardous chemical, industrial, or household wastes present (i.e. lawn chemicals, paint spray, batteries, paint, oil, gas, solvent, contaminated containers, drug waste, other). Please describe location (give map coordinates) damage, odor and possible source.
☐ Photo taken?

_____
_____
_____
_____

4. Check any apparent acts of vandalism on or to park property or resources. Give map coordinates.

☐ graffiti on structures	☐ graffiti on rock or veg.	☐ carving on structure	☐ carving on rock or veg.	☐ vehicle tracks
☐ shrub or tree cutting	☐ breakage of trees or shrubs	☐ hunting	☐ fishing	☐ animal trapping
☐ digging	☐ arson describe:			
☐other describe:				

II. Biological Change

☐ cats leashed unleased	☐ cat evidence describe:
☐ dogs leashed unleashed	☐ dog evidence describe:
☐ other domestics describe: leashed unleashed	

Note changes made to natural area due to any animal activity (example: beaver damage due to dams)._____

CH2M HILL SUBJECT Moonshadow Park - Ash Creek BY D. Whitaker PROJECT NO. DATE