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Drake Lane Park Site – Stream Corridor Restoration Metro Greenspace Enhancement Project # 922545

Funding year: 2001

City of Hillsboro Parks and Recreation

Oregon Fish & Wildlife Office
MAY 07 2003

Goals and Purpose of the Project

The overall goal of the project was to expand the riparian corridor along approximately 1200' of Rock Creek at the Drake Lane Park site in Hillsboro, a 20 acre site owned by Metro and managed by the City of Hillsboro under an Inter-Governmental Agreement. A portion of the park site is a former pasture area with more than a quarter mile of frontage along Rock Creek. With the previous agricultural use, the extent of riparian vegetation was limited to a fairly narrow band of shrubs with few trees along the creek. Further, a trunk sewer line had been installed through the site some years ago, and cover vegetation cleared leaving one area of the stream bank with just grassy banks. The primary goal of this project was to broaden the band of riparian vegetation to at least a 50' band from the water's edge.

In addition to the corridor enhancement, a small wetland area (previously developed as a stock watering pond) was enhanced with native plantings. The pond / wetland had the opportunity to provide wetland habitat in close proximity to upland woodlands, key habitat for species such as red legged frogs and turtles.

The secondary goal was to involve local youth in the restoration and enhancement process, including planning, planting, monitoring and maintenance. Local schools and youth groups are interested in service learning opportunities, and hands-on learning.

The benefits of the projects include the direct benefit of habitat enhancement on a large natural area park site. By implementing the habitat work well in advance of park development, the improvements can be made for a lower cost because smaller plants can be used. In addition to the direct benefits to habitat at the site, the widespread community involvement has resulted in a broad sense of stewardship as well as better public understanding of natural area enhancement and management.

Project Description as it really happened

The first level of effort was directed at prepping the site over the summer of 2001 by removing invasive species (primarily Himalayan blackberry) so they would not threaten subsequent plantings planned for Fall 2001. Park maintenance crews mowed as much of the pasture grasses as possible to keep blackberries in check in the open areas, and to provide access to the riparian zone. Students from the Miller Education Center, Hillsboro's Alternative High School, spent several weeks working to manually remove blackberries, including digging up root crowns, from the riparian zone where they were betwixt and between existing native vegetation. The student work crew also removed tall

grasses in areas where mowers could not reach to prep these areas for fall plantings, to ensure they were accessible to planting crews. The site was mowed again in late summer to facilitate planting. A boom arm mower was brought in to mow soped areas not accessible by the regular mower.

A few weeks before planting, Hillsboro Park Maintenance crews installed the irrigation system, was a major undertaking. Although temporary, the system was installed underground so that it would be less susceptible to vandalism for the period in which it would be used, up to three years.

The planting plan was developed and plant locations marked with colored flagging coded to each variety of plant to be used. Considerable effort was put into the planting plan, as there was considerable variation in topography on the site. Some areas were quite low, and likely to be inundated during seasonal flooding for long periods. Other areas were perched fairly high, and would accept species with less tolerance for flooding. Similarly, some areas had partial shade, so were selected as appropriate sites for planting cedars, which appreciate some shade as they get started.

Once specific planting locations were identified, park staff and temporary workers used power augers to create planting holes so that actual planting would go more quickly. Adult corrections personnel also helped with site preparation, including removal of old farm fence and helping to dig holes. The pre-dug holes accomplished several things: it ensured holes were deep enough, properly located, and ready to go so that the big job of planting could be accomplished within the time allotted (4 hours on a SOLV work day) and the number of volunteers available. We were able to dig about 2/3 of the required holes in advance.

The first wave of planting took place in September 2001, with plantings of trees all along the creek corridor. This planting project was a partnership with SOLV and the "Washington County Clean and Green" program. Volunteers from Intel helped to plan the planting day, coming out to the site several times to help plan logistics for the day. The first planting involved more than 100 volunteers planting over 600 trees. It was a massive undertaking to get the trees staged to their locations along the long stretch of creek corridor. We used a system of colored tags, matching trees tagged with the tree name printed on colored paper to different colored flags. (Few volunteers can identify trees based on their leaves, and this made it simple.) Volunteers appreciated that the effort had been streamlined. It was still a lot of work to match plants to their desired location, plant them properly, and install needed protection.

Volunteers used a truck and trailer to deliver batches of trees to different staging areas around the site. The planting area was sectioned off into smaller zones, and as volunteers arrived, they were directed to a specific area to keep volunteers distributed.

The second wave of planting took place a few weeks later in October 2001, when another group of volunteers planted more than 700 shrubs. Plant protection materials (tubes, stakes, weed block mulch) were installed as items were planted or over the next few

weeks, as additional volunteer crews became available. Subsequent batches of plantings took place in spring of 2002 and another major planting in fall of 2002, again with an Intel / SOLV partnership.

The Miller Education Center student crew helped maintain plantings in the summer of 2002, reinstalling plant protection as needed, clearing away encroaching vegetation (grasses, HBB etc) and marking plants with flagging so they would stand out from the pasture grasses. Park maintenance crews maintained the irrigation system and mowed grass on the perimeter of the planting area so that it could be accessed. Manual clearing of the overgrown grasses between plants was a challenging and tedious task, but important as it helped to reduce competition with the new plants and kept the new plants identifiable. It also helped to assure that irrigation would reach the target plants. The work crew was able to monitor plant survival, and make adjustments as needed, ie expanding beaver exclusion cages where a plant had outgrown its original cage.

By breaking the project down into manageable phases, we were able to plant in installments, and get a sense of how things would relate to the site. We were able to plant a broader buffer than originally planned by adjusting the heads on the irrigation system to cover a broader area.

Plant survival has been remarkably good. There has been some predation by beavers, who seem to have a particular fondness for cedar trees (but they'll grow back) so sturdier beaver cages were built around the cedars. More than 1900 items have been planted at the Drake Lane site. (see attached list.)

Project Benefits:

The massive number of volunteers involved in the project over its many phases resulted in lots of our citizens getting first hand experience in habitat enhancement and restoration. Both youth and adults valued the opportunity to work at an undeveloped park site, and appreciated the effort that goes into preserving spaces for greenspace (and eventual public use) and enhancing areas for wildlife. A wide range of groups were involved, from elementary students who helped build bird houses for the site, to middle and high school students who participated in planting projects, and site prep and maintenance. Adults included business work groups (such as Intel), teachers and other community members who helped with planting, and adult corrections personnel who helped with site preparation. Everyone enjoyed being at the site, took pride in being part of a big accomplishment, and is looking forward to returning to the site in the future.

Students were able to incorporate hands-on learning and experience at the site with their academic work. This included the Miller Education Center summer program students (summer 2001 and summer 2002) as well as students coming out to the site as volunteers on planting days or through organized class activity. One elementary school class has "adopted" the site as a study area for the next two years, and has made regular field trips to assist with monitoring and other science projects at the site. This student group has received grants through a local foundation to help with their project at our site; they are

very excited to be doing real work at a site that will be open to the community in the future. (see attached clipping.)

Work tasks and Timelines as it actually happened:

Site preparation & Planning:	Spring & Summer 2001
Install irrigation	Summer 2001
Planting (in multiple phases)	Fall 2001 through Fall 2002
Plant protection	Fall 2001 through fall 2002
Maintenance / monitoring	Spring 2002- ongoing

Project Budget:

The following is a listing of reimbursable direct expenses.

Plant materials:	\$7,361.75
Planting supplies:	\$2,007.90
Irrigation Supplies:	\$2,993.06
Rentals:	\$ 879.34
Labor / personnel:	\$7,991.99
Water & other:	<u>\$1,303.49</u>
TOTAL	\$22,537.53
Grant amount:	\$20,000.00
Balance above grant amount:	\$ 2,537.53 (counted as match)

Project Match:

Direct expenses above grant amount:	\$ 2,537.53
Purchase of tools for work crews:	\$ 419.96
Installation of water meter:	\$13,921.00
Project Manager 223.5 hrs	\$ 6,982.14
Park maintenance staff (80+ hrs)	\$ 1,200.00
Volunteer Time (2,778 hours)	\$19,056.00
Donated materials (bird & duck houses)	<u>\$ 100.00</u>
Total match:	\$44,216.63

TOTAL PROJECT BUDGET

Reimbursable expenses (grant amount)	\$20,000.00
Project Match	<u>\$44,216.63</u>
Grand total project cost:	\$64,216.63

How project relates to the Greenspace Program

The Drake Lane park site is jointly owned by Metro and the City of Hillsboro. It is a 21 acre greenspace site purchased and assembled from several parcels that is being managed by the City of Hillsboro under the terms of an intergovernmental agreement. It is located at the confluence of Rock Creek and Dawson Creek in Hillsboro, and is a 'target area' of the Greenspace program. There are additional publicly owned sites up and downstream

of Drake Lane; altogether, there is more than 160 acres of public land along Rock Creek within the Hillsboro City limits.

While this project was directed as a habitat restoration and enhancement grant, it also accomplishes environmental education goals. Adults and youth have been involved in project implementation, affording opportunities to learn about native plants, riparian habitats, invasive species and natural resource management. The community is very supportive of restoration and enhancement efforts, and has made it a goal in the Hillsboro 2020 Vision Plan, an action plan for the City of Hillsboro. The Drake Lane Park site is within easy walking distance of a relatively new school, Imlay Elementary, which is located about 6 blocks away. It is very likely this school will utilize the park for outdoor education in the future.

Although a master plan for the park has not yet been developed, at some point in the future this site will be a public greenspace park. By implementing habitat improvement now, years in advance of this opening as a park site, there is a lot of time for plants to develop and grow without the pressures from human activity. A \$3 tree can grow for a period of years to be the equivalent of a \$50 tree by the time the park is open.

What worked, what didn't, helpful hints & advice for other project managers

The colored flag / tree match system: This concept evolved over the course of the project, from a simple color chart matching tree species with flag colors, to a more fool-proof color match system. The original system worked as long as volunteers were able to properly identify different types of trees, which not everyone could do. This was especially challenging in late fall when plants dropped their leaves. At the suggestion of the volunteers, we moved to a system where each plant was tagged with a color (that also had a name tag) that matched the different colored flags used. This increased volunteer efficiency, effectiveness and satisfaction tremendously, and made the planting virtually fool proof. This takes a lot of effort and preparation, however. It takes many hours to label and group each and every plant, which typically don't come labeled from growers as they might in a retail nursery. The more you can streamline things to improve volunteer efficiency, the better the planting day will go.

Beaver cages out of chicken wire: Chicken wire is fairly inexpensive and relatively easy for volunteers to handle. However, beavers are not easily fooled, and determined animals will find a way to climb over / pull down the cages. They really like cedar trees, and would go to a lot of work to bite one. We had to reinforce cages, build them higher or use four stakes rather than just three so they were sturdier. The beavers seemed to sometimes just bite off a tree and not drag it away or eat it. While they preferred cedars over everything else, there was a small amount of damage to some other trees. The cedars are regrowing from the remaining stumps, however.

Auger holes – easier than hand digging: This is a godsend, and I recommend it to anyone undertaking a large project. A two person auger is needed to create larger holes for bigger plants (ie 10" hole for 5 gal plant) and a one man auger is sufficient (8" hole) for a

one gallon plant. Because of the nature of power equipment, we used park staff (or temp workers) to operate the augers for liability reasons for our early fall planting days. In some places the ground was hard and this was arduous work. However, we did allow some volunteers who had experience with this type of machine to operate an auger in preparation for a late fall planting. The ground was moist, this was easy to use and no problems were encountered. Our department has now purchased a one man auger as the majority of planting projects use smaller plant materials.

Find lots of partners: While there is a lot of effort to using volunteers, there is a tremendous community payback. People welcome the opportunity for hands-on involvement in enhancement / restoration projects. We didn't turn any volunteers away. Cub scouts built bird houses, small children helped on planting day by picking up empty pots and tying flag ribbon to the plants to help with monitoring later on. Volunteers with less physical ability helped run registration, refreshment or first aid tables for others. Volunteers were amazed with the size and scope of the project, and having things extremely well planned and organized made for a satisfying experience for everyone, and demonstrated the capability and skill of a public agency. One volunteer group led to another, the word spread that there was a neat project where the community could help. SOLV in particular is a great partner, very effective at recruiting and training volunteers. This project fit perfectly with their Washington County Clean & Green September event. Through SOLV, we made contacts with Intel and other business community volunteers.

Bigger plants are often worth the extra money. With the security of an irrigation system, we were able to invest in some larger plants where they were available, ie 2 - 5 gal plants instead of just 1 gal size. The larger plants are big enough to stand out from the surrounding grasses. It requires about the same level of protection as a smaller plant, so there is no other cost impact than the increased cost of the larger plant. In a few years, the impact from starting with a larger plant will be substantial. However, sometimes the native plant nurseries don't have larger plants available, and one has to make do with what is available. We have found that volunteers have an easier time handling potted plants rather than bare-root stock. It takes care to handle and plant bare root plants properly, and volunteers need to be carefully trained. (When there is a big group, it is hard to make sure everyone is properly trained.) Also, bare root material must be planted during the winter months when plants are dormant. When weather is crummy, volunteers may hurry through a task without as much care as is needed.

Although the majority of plant material used was 1 gallon, we were able to use some larger plant materials and this gave more impact to the site in terms of before and after conditions. If a site is not irrigated, I would be cautious on using larger plants primarily because of the risk of losing them to drought; the loss of a more expensive plant has a bigger financial impact. There seems to be a balance between a plant big enough to survive its first year and those that are so big they can't make do without the extra help of irrigation.

Pay attention to the site details, subtle variations in topography and solar exposure. This excellent suggestion was made to me by one of the grant funding committee members,

who commented that even minor variations in topography of this largely floodplain site would affect the survival rates of plants. This park site does experience flooding of a somewhat flashy nature because it is at the confluence of two urban streams. While some areas might only get brief periods of inundations, other areas likely remain flooded or saturated for a very long period of time. I carefully studied the variations in existing vegetation at the site to get clues as to what would thrive at comparable elevations. Areas that were lower were planted with primarily ash and willow, higher areas were planted with species such as alder (their fast growth provides good cover quickly) and big leaf maple. The presence of a large garry oak tree in the floodplain encouraged me to experiment with planting oak trees nearby. The first phase oaks survived, so another batch was planted in the second phase of planting.

The wetland pond was developed as a stock pond to capture and hold water through much of the summer. Planting plans for the pond area were developed after watching the changes in water level during a season.

Beavers & willows: If I had to do this project over, I would plant a lot more willows close to the stream's edge. These trees, of course, do well in this location, but they also survive beaver predation, sending up multiple new shoots if the main trunk is removed. I would plant more as "sacrificial" lambs for beavers. We planted a lot more willows in the last phase of planting. We used some willow cuttings at this site, but haven't had great success.

Irrigation. We found we needed to make modifications to operation of the irrigation system. It was activated immediately after the first planting, and used for about one month, then shut down until the next summer. Midway through the next summer, after noticing signs of stress on some plants, we realized that water was not soaking in to the root zone. Maintenance staff had set the timers for water to come on daily for short periods, an appropriate timing for turf, but not for trees, which needed less frequent but deeper watering. Fortunately, this was corrected before it was too late.

Monitoring and Maintenance Plan

The site will be irrigated as needed in the summer of 2003, probably late July through September. It is not anticipated that irrigation will be needed in 2004, unless severe drought conditions exist. Parks maintenance staff will routinely check the status of the irrigation system to ensure that it is functioning as needed. The Miller Education Center students will help to maintain the site in the summer of 2003, checking on the status of plant survival, protection (especially beaver cages), and cutting back tall grasses between the plants in the enhancement area. Other volunteer groups may be brought into assist with maintenance. The project manager will continue to visit the site several times seasonally to make sure things are going well and to address any problems that may come up. Photographs of the site will help to keep a visual record of plant growth and survival rates.

The weedblock fabric and mesh tubing have a life expectancy of about 5 years, which should be an adequate term to provide protection for the enhancement plantings. At the end of the term, they should be tall enough that competition from the pasture grasses won't be a problem. The extremely slow growing oak trees will probably require protection for ten years.

DRAKE LANE PARK - ITEMS PLANTED

	QUANTITY	DATE	TOTAL QTY
<u>TREES</u>			
Acer macrophyllum (Big Leaf Maple)	25	9/14/01	80
	30	11/01/02	
	25	9/12/02	
Alnus rubra (Red Alder)	150	9/14/01	270
	10	10/18/01	
	60	11/01/02	
	50	09/12/02	
Fraxinus latifolia (Oregon Ash)	200	9/14/01	295
	45	11/01/02	
	50	09/12/02	
Malus fusca (Pacific Crab Apple)	50	10/18/01	50
Oemleria cerasiformis (Indian-plum)	50	10/18/01	50
Picea sitchensis (Sitka Spruce)	40	9/14/01	50
	10	10/18/01	
Populus balsamifera (Black Cottonwood)	25	11/01/02	25
Quercus garryana (Garry Oak)	20	2/14/01	40
	20	09/12/02	
Salix lucida ssp lasiandra (Pacific Willow)	150	9/14/01	150
Salix scouleriana (scouler's willow)	100	09/12/02	100
Sambucus caerulea (Blue elderberry)	2	2/27/02	2
Sambucus racemosa (Red elderberry)	75	10/18/01	75
Thuja plicata (Western Red Cedar)	30	9/14/01	121
	1	2/27/02	
	30	11/01/02	
	60	09/12/02	
			1308 trees
<u>SHRUBS</u>			
Amelanchier alnifolia (Serviceberry)	2	2/27/02	2
Cornus stolonifera (Redtwig Dogwood)	150	10/18/01	150
Holodiscus discolor (Oceanspray)	3	2/27/02	3
Physocarpus capitatus (Pacific Ninebark)	100	10/18/01	100
Ribes sanguineum (Red Flowering Currant)	3	2/27/02	3
Rosa nutkana (Nootka Rose)	9	2/27/02	9
Rosa pisocarpa (Clustered Rose)	100	10/18/01	100
Spiraea douglasii (Douglas spiraea)	100	10/18/01	150
	50	09/12/02	
Symphoricarpos albus (Snowberry)	100	10/18/01	100
			617 shrubs
<u>OTHER</u>			
Carex obnupta (Slough Sedge)	10	10/24/01	10 other
			1935 total items planted

Reimbursable Expense Summary – Drake Lane Habitat Enhancement Project

Plant Materials

09/14/01	Northwest Native Plants Inc	\$1706.25
10/18/01	Northwest Native Plants Inc	\$1,862.50
02/27/02	Northwest Native Plants Inc	\$ 97.00
09/30/02	Northwest Native Plants Inc	\$2,075.00
10/31/02	Northwest Native Plants Inc	\$1,600.00
10/21/02	Northwest Native Plants Inc	\$ 21.00
	<i>subtotal:</i>	\$7,361.75

Planting supplies

03/07/02	Terra Tech plant protection tubes & stakes	\$ 133.01
09/07/01	Familian Northwest – flagging bundles	\$ 24.93
09/07/01	United Pipe Supply – flagging bundles	\$ 56.96
09/13/01	Home Depot – perf pipe for plant protection	\$ 58.00
09/21/01	CSI Geosynthetics – tyvar mulch fabric & staples	\$ 450.00
03/01/02	Home Depot – drain pipe for tree protection	\$ 50.00
03/07/02	Home Depot – pipe, hexnet fence for tree protection	\$ 67.85
10/31/02	Home Depot – hex net fencing – tree protection	\$ 67.40
09/14/02	Parr Lumber – wood stakes for tree protection	\$ 26.80
10/15/02	Home Depot hex net fencing & tubing	\$ 91.85
09/06/02	CSI Geosynthetics – tyvar fabric mulch & staples	\$ 315.00
11/02/01	CSI Geosynthetics – tyvar fabric mulch & staples	\$ 315.00
07/01/02	Home Depot – hex net, flagging tape, tools etc	\$ 127.65
07/10/02	Home Depot – hexnet fencing, stakes etc	\$ 88.31
09/13/02	Home Depot – supplies: stakes, fence, flagging tape, cable ties, etc	\$ 135.14
	<i>subtotal</i>	\$2007.90

Rentals

06/30/01	Ron Jon's – portapotty rental	\$ 100.00
07/30/01	Ron Jon's –portapotty rental	\$ 100.00
08/31/01	Hertz (rental of riding trencher – install irrigation)	\$ 377.50
10/11/01	Mac Rental – rent 2 man auger	\$ 52.00
10/18/01	Mac Rental – rent 2 man auger	\$ 69.84
09/27/02	Star rental – rent 2 2-man augers to prep site	\$ 70.00
06/30/02	RonJon's –portapotty rental	\$ 100.00
	<i>subtotal</i>	\$ 879.34

Labor / Personnel

11/05/01	Miller Education Ctr (Hillsboro School District)	\$3,750.00
1/22/03	Miller Education Ctr (Hillboro School District) summer labor crew at park '02	\$3,750.00
09/14/02	Onsite commercial – temp labor to prep site (6 helpers over several days)	\$ 491.99
	<i>subtotal</i>	\$7,991.99

Irrigation supplies:

09/24/01	United Pipe Supply – irrig materials	\$ 2,735.76
08/31/01	United Pipe Supply – irrig materials	\$ 87.11
09/04/01	United Pipe Supply – irrig materials	\$ 17.63
09/05/01	United Pipe Supply – irrig materials	\$ 17.36
09/06/01	United Pipe Supply – irrig materials	\$ 16.21
09/06/01	United Pipe Supply – irrig materials	\$ 20.01
09/06/01	United Pipe Supply – irrig materials	\$ 25.13
09/06/01	Best Buy – gravel to backfill irrig. trench thru driveway	\$ 21.00
09/11/01	Parr Lumber (stakes for irrig heads)	\$ 24.00
07/05/02	United Pipe supply – irrigation materials	\$ 28.85
	subtotal	\$ 2,993.06

Other:

04/21/03	Albertson's – slide and print film	\$ 18.88
04/23/03	Caren's Photo – slide & film developing	\$ 13.82
09/14/02	Albertsons – wood shavings for duck houses	\$ 9.68
	Water for plants – fall '01 thru fall '02	\$1,261.11
	subtotal	\$ 1,303.49

Recap:

Plant Materials:	\$ 7,361.75
Planting supplies	\$ 2,007.90
Rentals	\$ 879.34
Labor / personnel	\$ 7,991.99
Irrigation supplies	\$ 2,993.06
Other:	\$ 1,303.49

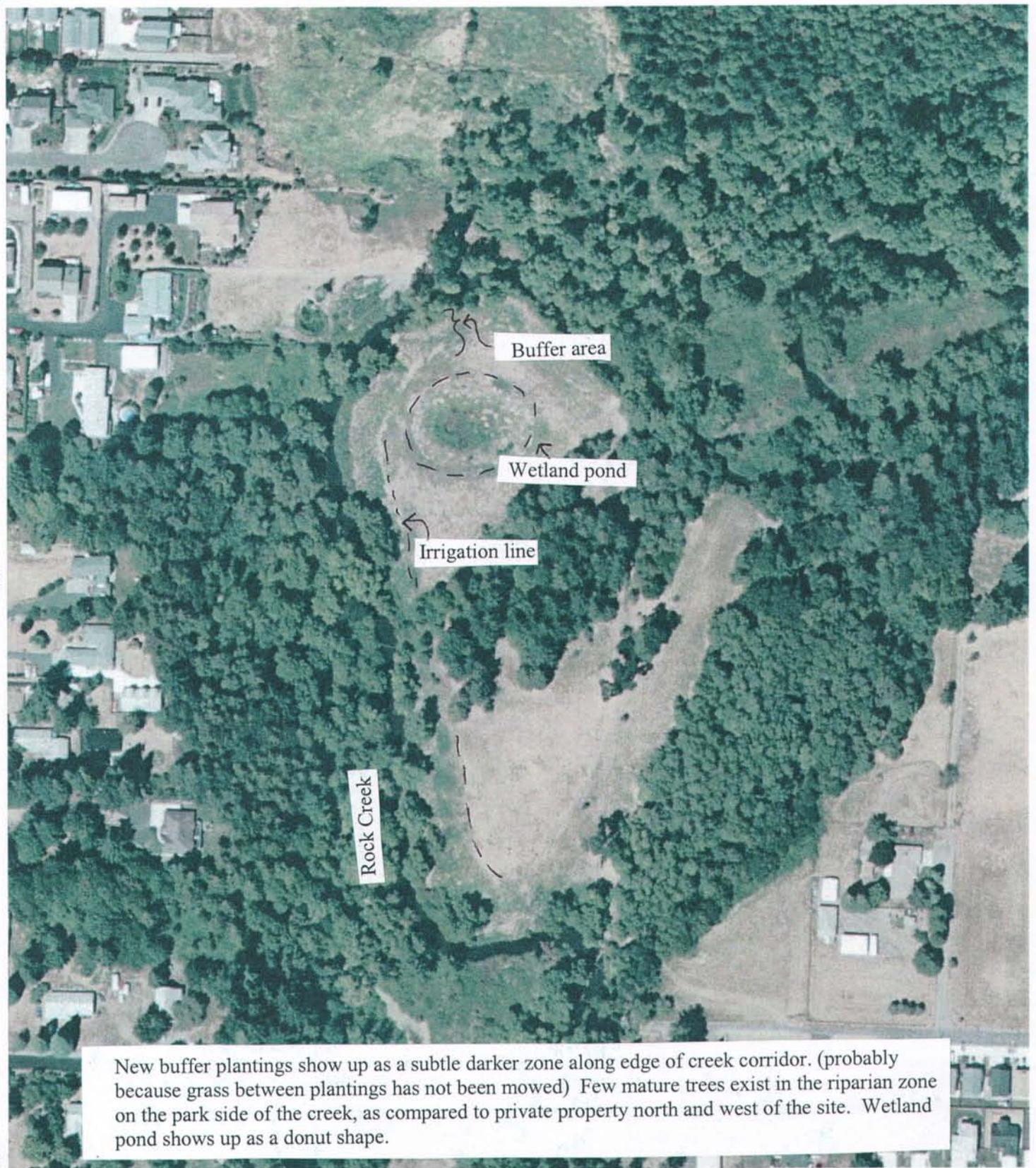
Grand total: \$22,537.53

Volunteer Hours Summary – Drake Lane

Date	Person / group	Project / task	Total hours	Value
June/July 2001	Miller Education Center Students and Teachers	Site prep, remove invasives & clear site for planting (*value above work contract amount)	1468 hrs	\$7,340.00
August 2001	Intel Wash Co Jail Crew	Planning and preparation for planting day Site prep, fence & brush removal	132 hrs 5 hrs	\$2,904.00 \$ 32.50
September 2001	Joe Grillo Laurie Mullen Thomas Molina Intel Intel/SOLV	Planting layout Bring out tool trailer for volunteer event Site prep, unload plants Site prep & planning Planting trees	72 3 hrs 2 hrs 5 hrs 12 hrs 345 hrs	\$ 468.00 \$ 19.50 \$ 13.00 \$ 32.50 \$ 78.00 \$2,242.50
October 2001	LDS church Intel Centro Cultural MEC school	planting shrubs planting planting planting & protection	63 hrs 30 hrs 24 hrs 48 hrs	\$ 409.50 \$ 195.00 \$ 156.00 \$ 312.00
January 2001	Wash Co. Juvenile crew	install weedblock fabric	40 hrs	\$ 260.00
March 2002	Terry Ball & boy scouts	tree protection, tubes, cages etc	70 hrs	\$ 455.00
May 2002	Cub scouts MEC summer crew	build and install bird houses maintain plantings	8 hrs	\$ 52.00
June/July 2002	Intel/SOLV Will Dreissen	Students (value beyond contract amount) Teachers (wage is \$24 / hr) install plantings and protection; wood duck houses prepare for planting day, install protection	71 hrs 66 hrs 198 16 hrs	\$ 461.50 \$1,584.00 \$1,287.00 \$ 104.00
December 2002	Tony Connolly & boy scouts	install plantings and tree protection	100 hrs	\$ 650.00
TOTAL VOLUNTEER HOURS			2,778 hours	\$19,056



DRAKE LANE PROPERTIES ENHANCEMENT AREA

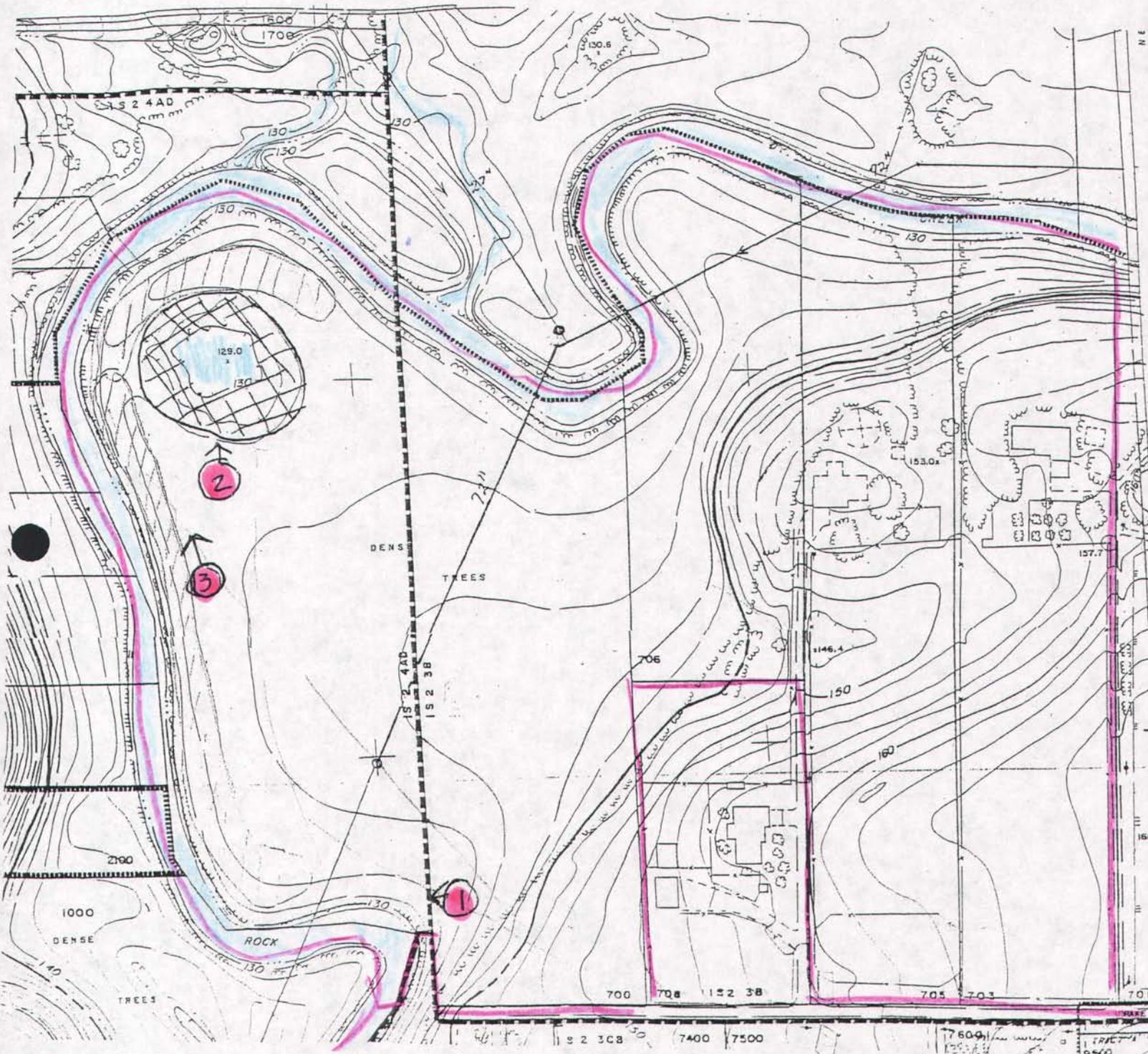


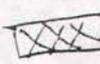
SCALE: 1" = 200'

JULY 2002

DRAKE LANE PARK SITE
PROJECT CONCEPT SKETCH

PHOTO POINTS



-  Park Site Boundary
-  New Vegetative Buffer Area
-  Wetland buffer enhancement

Park site is approximately 20 acres in size, consisting of several parcels with former residences. The project targets a portion of the park formerly used for pasture and haying.



BEFORE: Photo Point 1: existing condition is pasture. Maintenance staff mows level portion of site to prevent blackberry encroachment.



BEFORE: Near Photo Point 1: Creek is on far left of photo. Tall grasses dominate riparian vegetation, although there are some trees.



BEFORE: Photo Point 2: Wetland pond dries up by late summer. This was built as a stock pond to serve the pasture, but will be planted for wildlife enhancement.



BEFORE: Near Photo Point 3: Looking across site toward creek (residence is on west side of creek). Tall grasses dominate riparian vegetation, although there are scattered trees and shrubs.



Before: Near Photo Point 2. September 2001. Wetland pond area has dried up over course of summer.





Intel / SOLV volunteers at Drake Lane, 2001

Photo Point 1: Plants are grouped according to variety, then driven to various staging areas close to each planting zone. Each plant is marked with bright ribbon so it is visible the next season when grasses are tall.





Near Photo point 3. Planting nearing completion, plants have been given tree tubes, fabric weedblock mulch.



Photo Point 2: Volunteers working on planting at the wetland pond (which is completely dry by September).



9/15 DRAKE LANE INTEL-SOLV



Photo point 3: (looking south, not north) Photo shows how the site had been prepped with close mowing, installation of irrigation system and plants installed with plant protection (weedblock fabric and tubes.) Additional protection was installed at a later time (we ran out of supplies on this work day.)





Photo Point 2: Planting locations took into consideration fluctuating water levels.



After: Near Photo Point 3. August 2002. Shows how plantings from fall 2001 have been maintained with manual removal of competing grasses, and protection.



AFTER: Photo Point 1: April 03. New buffer plantings along south side of site. Some plants don't show up well among grasses. Good survival rate.



AFTER: Photo Point 3: Plantings along west side of site. Irrigation post in center of picture shows how buffer is now much wider after another series of plantings in 02. Density of plants prohibits mowing between plants.



AFTER: Photo Point 3: April 03. View along west side of site.



AFTER: Photo Point 3 (viewed from opposite direction) April 03. Plantings along west side of site. Plants doing well.



AFTER: Photo Point 2: November 02 (above) and April 03 (below). New buffer plantings around wetland pond.



Drake Lane

Hillsboro Argus - TUESDAY, FEBRUARY 13, 2001

Metro grants aim to restore parks

As part of its Greenspaces program, Metro has given Hillsboro almost \$20,000 to help restore Drake Lane Park and Cornelius nearly \$5,500 to help restore Steamboat Park.

It also awarded environmental education grants of \$8,000 each to Hillsboro's Jackson Bottom Wetland Preserve and the Student Watershed Research Project (SWRP) at the Oregon Graduate Institute in Hillsboro.

The grant money was provided by the U.S. Fish and Wildlife Service.

Drake Lane Park is a 20-acre natural area where Rock and Dawson creeks converge in

northeast Hillsboro. In Cornelius, Steamboat Park has about 430 feet of Tualatin River frontage. The grants will help pay for removing invasive non-native vegetation and replanting with native vegetation.

The Jackson Bottom grant will enable that organization to instruct about 100 middle and high school teachers in the techniques of "nature mapping."

Over at OGI's Saturday Academy, SWRP's students engage in long-term water

quality monitoring. The program also trains eighth grade through 12th grade teachers so they can teach others.

The Oregon Environmental Council received an \$8,000 grant to publish a "50 Ways to Love Your River" guide for the Tualatin Basin. The guide will offer ways to reduce nonpoint source pollution and how to plan citizen action to improve watershed health.

The Tualatin Riverkeepers and the Tualatin River Watershed Council will be OEC's partners.



Michal Thompson / The Argus

Sixth grader Kelly Jenkins and teacher Laurie Loescher brace Courtney Olson against the mud at Rock Creek on Friday. The class field trip was part of a three-year restoration project.

Creek restoration teaches science to students

By Heather Adams
The Argus

"There's something moving in there! Poor little thing. We can't do a test on it."

Eastwood Elementary School sixth grader Stephanie Hummel caught "a black wiggly thing" when she leaned into Rock Creek on Friday to test water quality.

"What if it doesn't have any food?" she protested as a classmate dropped a pH test tablet into the vial.

Hummel and the rest of Laurie Loescher's sixth grade

class took the second of six field trips last week to the creek near 239th Avenue.

Their tests provide hands-on science lessons and are part of a three-year project to turn former farmland into a nature park.

During their last visit, "We went in the creek, then we looked for algae and stuff like that," said student Tom Chinick.

On both trips, he said, students tested pH, water temperature and ground temperature.

"We make sure that it's healthy," said Kylie Soelberg.

Kelsey Hoth admitted, "Last time I didn't have too much fun. ... I didn't do too much."

After taking a water sample Friday, she said, "I wasn't expecting it to be this fun."

During the field trips, students "look for what's healthy and what's not," Loescher said.

After they collect results, students chart and compare their readings, she said.

Once students have six readings, "They'll look for causes of unhealthiness and figure out ... what needs to be done to help it," Loescher

said.

Students also will develop PowerPoint presentations as part of the project, which is funded by a grant from Hillsboro Schools Foundation.

Later this year, they'll bring fifth graders to the creek and recommend how restoration should continue.

Sam Achziger had advice for next year's sixth graders.

"Come prepared for anything," he said. He recommended wearing water pants and tall rubber boots.

"You think you're not going to slip, but you'll slip."