



CITY OF PORTLAND ENVIRONMENTAL SERVICES



1120 S.W. Fifth Ave., Room 400, Portland, Oregon 97204-1972
(503) 823-7740, FAX (503) 823-6995

March 14, 1995

Patrick T. Lee
Planning and Capital Development Division
Metro Greenspaces Program
600 NE Grand Avenue
Portland, OR 97232-2736

Re: Revised Final Report, Restoration Grant No. 902790

Dear Mr. Lee,

Persuant to your request, please find attached the revised final report for the above mentioned grant. If you have any questions, contact me at 823-7745.

Sincerely,

Richard O. Vapp
Engineering Associate

attachment

cc: Marion Yee, Grants and Contracts Compliance

**GABRIEL PARK
GREENSPACES RESTORATION PROJECT**

• FINAL REPORT •
January 26, 1995
Revised March 14, 1995
written by Rick Lapp

Project Description

Gabriel Park is located on the south side of SW Vermont Street between SW 37th Avenue and SW 45th Avenue. The park covers approximately 90 acres, most of which are lawns, baseball fields, tennis courts, and picnic areas. Roughly twenty percent of the park is forest with small drainages and streams flowing from east to west. Vermont Creek originates outside the southeast corner of the park, and flows east through the park until it flows under SW 45th near SW Nevada Court, and flows along SW Vermont St. approximately three quarters of a mile where it joins Fanno Creek.

The park is bounded primarily by developed R7 (Single Family Dwellings, 7000 square foot minimum lot size) residential neighborhoods that use surface storm drainage. The majority of roof drains flow into the street where they collect in storm drains. The east side of the park has approximately 50 acres of drainage that culminate at a 24 inch outfall just inside the park at SW 37th, north of SW Nevada Court.

The above mentioned drainage flows westerly for approximately 1500 feet, where it joins Vermont Creek. A strip, ranging from 100 to 250 feet wide on each side, of this drainage is saturated most of the year. This drainage area is of primary concern to this project, because the drainage channel had become deeply incised, and contributed sediment into Vermont Creek.

This project will eliminate the existing erosive conditions and further reduce/remove total suspended solids (TSS) and other pollutants of concern in the storm water from entering Vermont Creek from this intermittent tributary. This project will also provide educational opportunities for schools in the area and the public.

The project goals have been carried out through lining the incised channel with medium (8 inch diameter) to large (4 foot diameter) boulders over a crushed gravel base. The low flows will be diverted to a wet meadow area via a buried pipe with a distribution manifold discharge. Higher flows will bypass to the newly lined channel.

The meadow and adjacent areas have been planted with native grasses, flowers, shrubs, and trees. There will be three types of plant communities: Woodland Edge, consisting of shrubs and trees; Swale Community, consisting of shrubs and grasses; and Meadow, consisting of grasses and forbs. The Meadow Community has been specifically designed to replicate the Deschampia Wet Meadows once prevalent throughout the Willamette Valley.

There is an area towards the west side of the park where the park baseball fields drainage system flows. This area was planted in Swale Community plantings as part of this project.

Work Tasks and Timelines

The design of the project was produced by the Bureau of Environmental Services in collaboration with Mike Faha & Associates, Landscape Architects. The plants for the project were purchased, nurtured and maintained by the Bureau of Parks and Recreation, Horticultural Services Division. Rock and pipe work was done by Jim Cassetta Construction. Landscape installation was done by neighborhood volunteers.

Timelines were as follows:

Design and public comment	Fall 1992 - Spring 1994
Construction	Summer 1994 - Fall 1994
Landscape Installation	Fall 1994
Ongoing Maintenance and Monitoring	Fall 1994 - Fall 1999

Project Budget

Local Share:

Pre-Design/Project Management	\$27,691.70
Design/Project Management	\$57,645.39
Survey	\$ 669.76
Drafting	\$ 3,541.27
Inspection	\$ 2,726.26
Construction Management	\$ 5,628.08
Testing	\$ 314.49
Other Construction Activities	\$16,313.15
Contractor Support	\$ 7,990.10
Construction	\$52,602.20
Other Project Activities	\$ 5,747.59
Landscape Materials	<u>\$16,174.32</u>
	<u>\$197,044.31</u>

92.4% of project cost

Metro Grant Share:

Landscape Materials	<u>\$16,174.32</u>
---------------------	--------------------

7.6% of project cost

Project Staff / Workers / Volunteers

Bureau of Environmental Services:

Project Manager, Russ Lawrence
Design Project Manager/Grant Manager, Rick Lapp
Drafting, Don Troxell
Public Involvement, Diana Hinton
Education Specialist, Lynn Vanderkamp
Fanno Basin Manager, Steve Hawkins

Parks Bureau:

Gabriel Park Operations, Bob Downing
Planning, Mary Ann Cassin and Ben Shoop
Plant Nursery/Layout, Jim Schiller

Landscape Design, Mike Faha & Associates

Horticulture Specialist, Mark Wilson

Workers and volunteers are too many to number in this report. Landscape planting took place on five different days, with turn outs from ten people to 40 people of all ages.

Benefits of the Project

- Improved storm water quality.
- Slower storm water flows, and little to no erosion from the storm water drainage channel.
- Improved lawn-to-forest transition zone.
- Education opportunities for both students and neighbors of the park through classroom activities and information signs to be installed at the project location.
- Improved wildlife habitat.
- Reduce hazards for park users by raising the bottom of the storm water channel (which was as deep as eight feet in places).
- Planted approximately 17,000 trees, shrubs, grasses, forbs and flowers (not including seeded plants).

How the Project relates to the Greenspaces Program

This project creates natural habitat in an area that is undergoing rapid urbanization. It has created a wet meadow and rehabilitates a stream corridor. This is concurrent with the Program goal of demonstration projects involving the restoration and/or enhancement of wetland and wildlife habitat areas, streams and riparian corridors. The education opportunity portion of the project is one of the most important benefits in that there are a number of schools within the area, and the easy access to the site by the public.

What Worked/What Didn't/Helpful Hints

Partnering with the Parks Bureau worked well to get neighbors and student groups together for planting. Having the Parks Bureau grow the plant materials saved money by enabling us to purchase the plants at cost. Planting the landscape by neighbors, students and others created a feeling of ownership for those who participated.

Maintenance and Monitoring Program

To guarantee the survival of the planted materials, we have installed an irrigation (sprinkler) system around the perimeter of the project. Funding has been provided to the Parks Bureau to irrigate the site, remove nuisance plants, and replace failed plant materials for a two year establishment period. Sediments will periodically be removed from the inlet system, and the clean outs will be flushed as required to maintain an even flow to the wet meadow. After the establishment period, BES will turn the project maintenance over to Parks. Photo visits will take place quarterly for a period of five years, at which time a final report will be submitted outlining the project.



CITY OF PORTLAND ENVIRONMENTAL SERVICES



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January 26, 1995

Mel Huie
Project Manager
Metropolitan Greenspaces Program
METRO
600 N.E. Grand Avenue
Portland, OR 97232-2736

Re: Greenspaces Restoration Grant, Contract No. 902790, Final Report

Please find enclosed the final report for the Gabriel Park project. I have ordered photographs and slides, and should deliver them to you by the end of the first week in February.

Please call me at 823-7745 if you have any questions.

Sincerely,

Rick Lapp
Engineering Associate

attachment

cc: Marion Yee, Grants and Contract Compliance

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Benefits of the Project

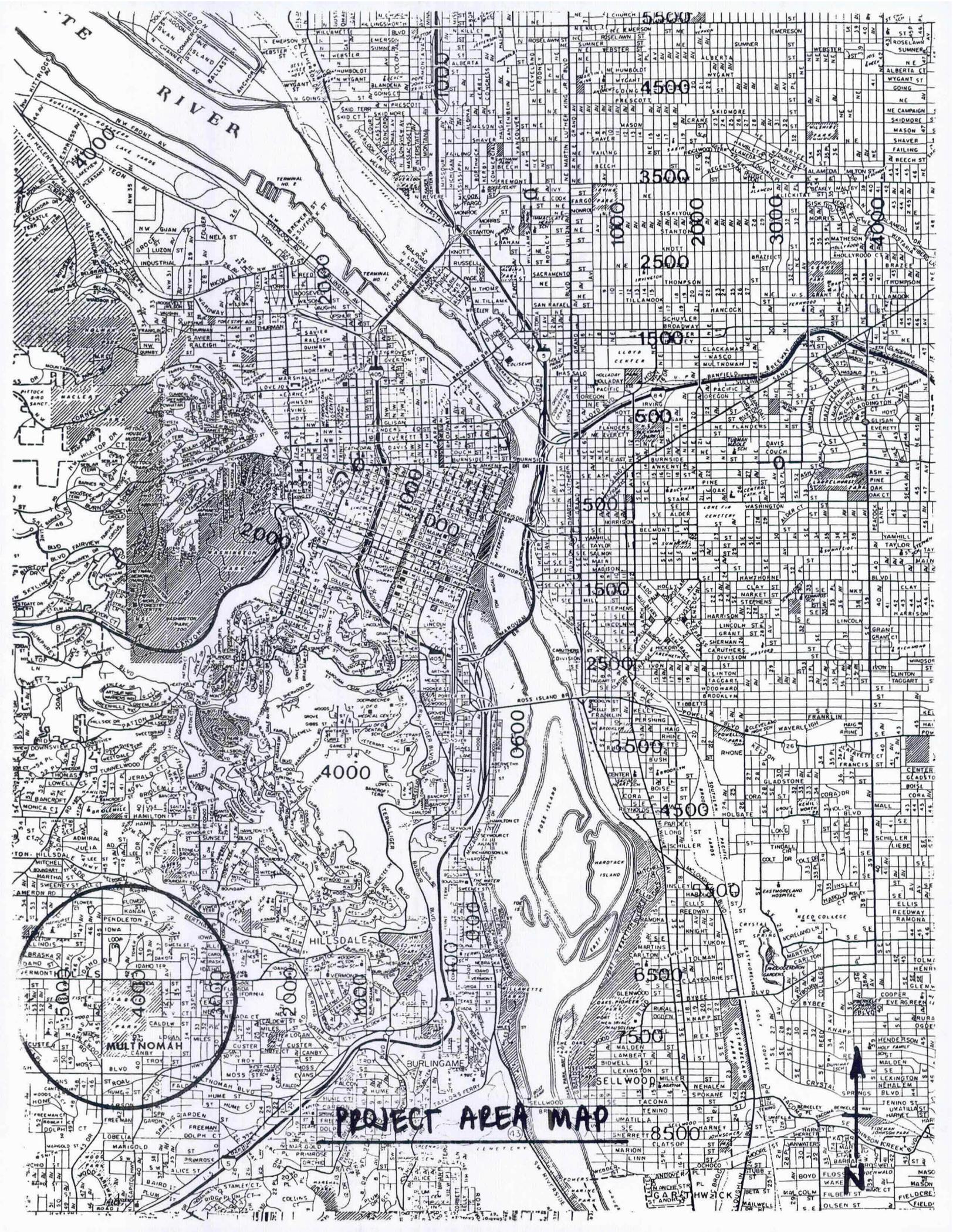
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WILLAMETTE RIVER

2000

4000

1000

1500

2500

4500

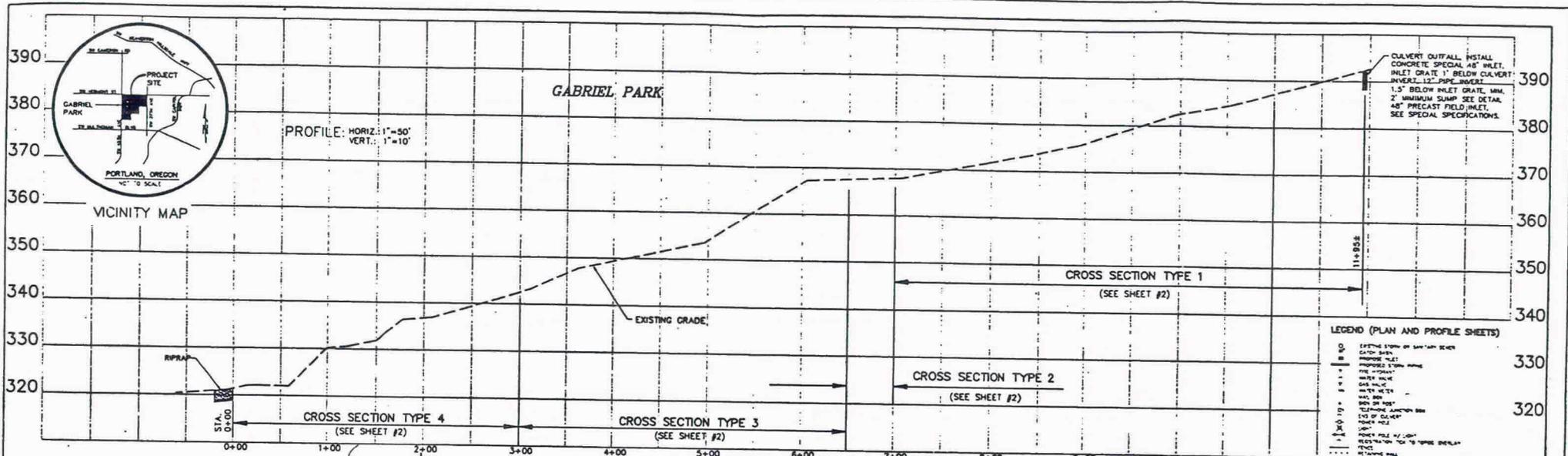
6500

7500

PROJECT AREA MAP

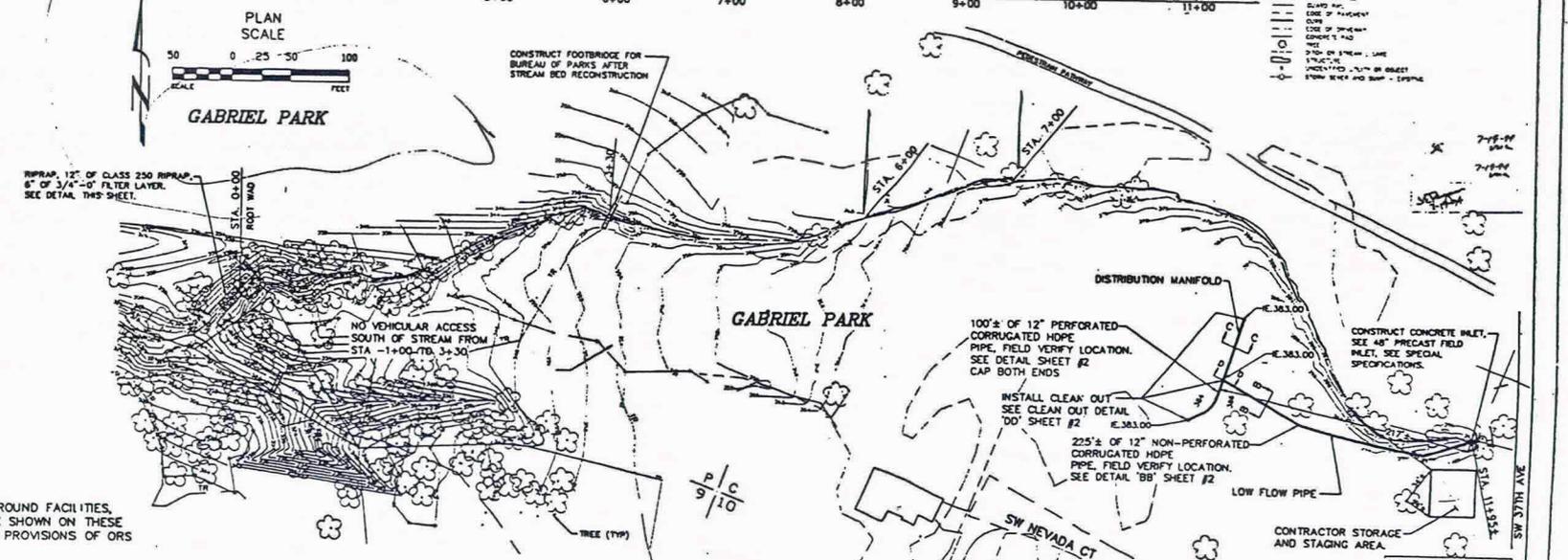
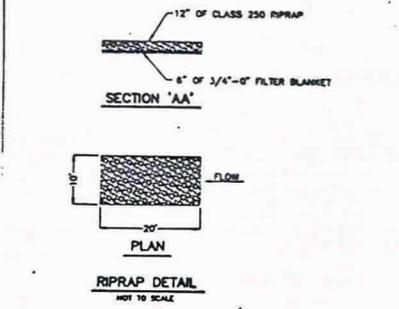
MULNOMAH





LEGEND (PLAN AND PROFILE SHEETS)

- 0 (EXISTING) SYMBOL OR SIZE IN SHEET
- 1 (PROPOSED) SYMBOL OR SIZE IN SHEET
- 2 (PROPOSED) SYMBOL OR SIZE IN SHEET
- 3 (PROPOSED) SYMBOL OR SIZE IN SHEET
- 4 (PROPOSED) SYMBOL OR SIZE IN SHEET
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- 19 (PROPOSED) SYMBOL OR SIZE IN SHEET
- 20 (PROPOSED) SYMBOL OR SIZE IN SHEET



POTENTIAL UNDERGROUND FACILITY OWNERS
 ONE CALL
 UTILITY NOTIFICATION CENTER
 246-8899

AT & T	CITY WATER
CHEVRON PIPELINE	CITY
HP NATURAL GAS	HP PIPELINE
OLYMPIC PIPELINE	PP & L
SAVIA FC PIPELINE	STATE WPPS
SPRINT	VERBENT
WESTERN UNION	
COLLIERIA CITY (ASTORIA BS)	
PARADISE CITY (ASTORIA BS)	
TO CITY (4627500)	

NOTICE TO EXCAVATORS:
 IN ORDER TO PROTECT UNDERGROUND FACILITIES, EXCAVATORS PERFORMING WORK SHOWN ON THESE PLANS MUST COMPLY WITH THE PROVISIONS OF ORS 757.541 TO 757.571.

CONTRACTED BY	DESIGN NO.	DATE
PROJECT COMPLETED	CONST. NO.	DATE
MAP CORRECTED BY	CHECKED BY	DATE
DATA ENTERED ON 1/4 SEC. MAP BY	DIVISION SUP.	DATE
DATA ENTERED ON DIST. MAP BY	FILE NO.	DATE
DESIGNED BY	DESIGN NO.	DATE
DRAWN BY	CONST. NO.	DATE
CHECKED BY	DIVISION SUP.	DATE
FILE NO.	DATE	APPROVAL

CITY OF PORTLAND ENVIRONMENTAL SERVICES

MIKE UNDERBERG
 COMMISSIONER OF PUBLIC UTILITIES

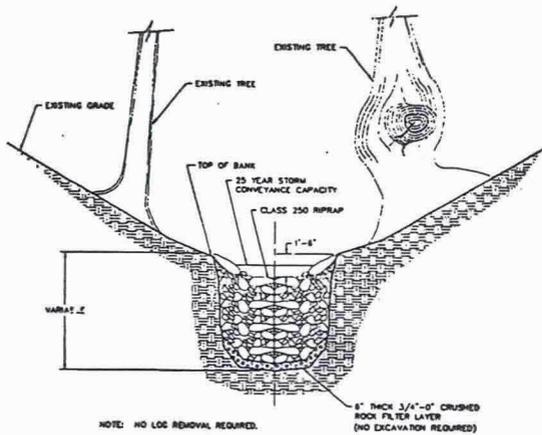
APPROVALS

VICTOR F. RHODES, P.E.
 CITY ENGINEER

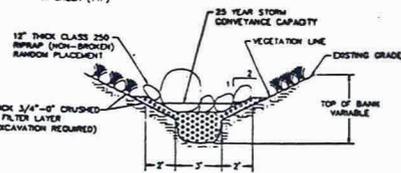
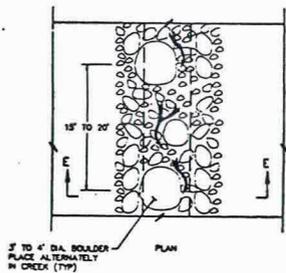
REGISTERED PROFESSIONAL ENGINEER
 VICTOR F. RHODES
 LICENSE NO. 1178
 CIVIL & ENVIRONMENTAL

GABRIEL PARK WETLAND AND RIPARIAN DEVELOPMENT

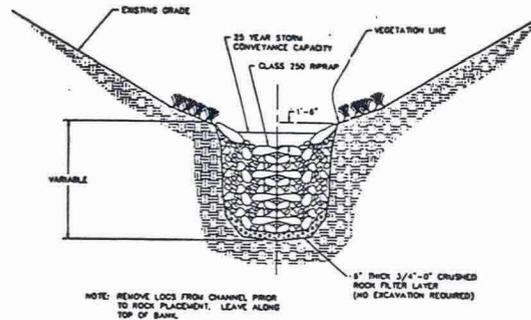
1/4 SECTION
 3725
 JOB NO.
 5096
 SHEET NO.
 102



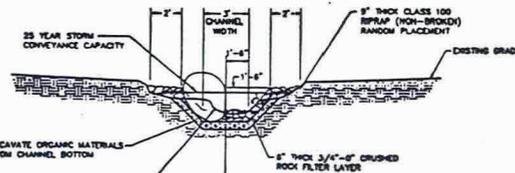
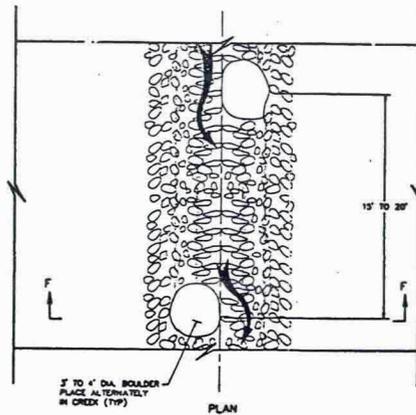
CROSS SECTION HH
STREAM SECTION TYPE 4
STATION 0+60 TO 3+10



CROSS SECTION EE
STREAM SECTION TYPE 1
STATION 7+00 TO 12+00

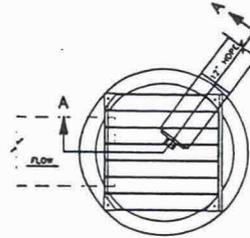


CROSS SECTION GG
STREAM SECTION TYPE 3
STATION 3+10 TO 6+00

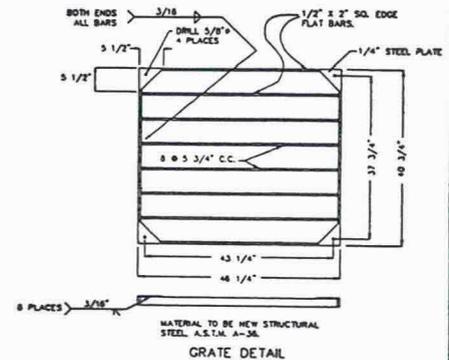


CROSS SECTION FF
STREAM SECTION TYPE 2
STATION 6+00 TO 7+00

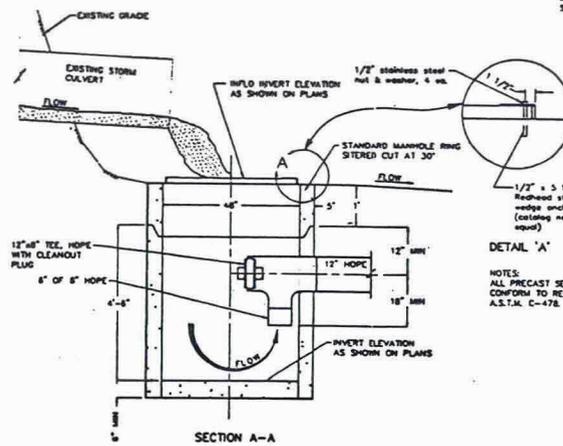
SCALE 1/4"=1'



PLAN VIEW

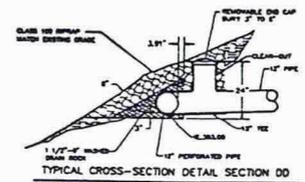


GRATE DETAIL



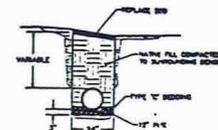
48" PRECAST FIELD INLET

NOT TO SCALE



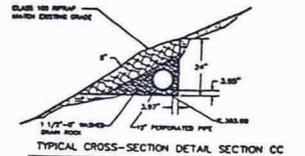
TYPICAL CROSS-SECTION DETAIL SECTION DD

NOT TO SCALE



TYPICAL CROSS-SECTION DETAIL SECTION BB

NOT TO SCALE



TYPICAL CROSS-SECTION DETAIL SECTION CC

NOT TO SCALE

CONSTRUCTED BY	DESIGNED BY	DESIGN NO.
PROJECT COMPLETED	DRN	/L
MAP CORRECTED BY	DRAWN BY	CONS. NO.
DATA ENTERED ON 1/4 SEC. MAP BY	CHECKED BY	
DATA ENTERED ON DIST. MAP BY	CHECKED BY	DIVISION SUP.

CITY OF PORTLAND
ENVIRONMENTAL SERVICES



GABRIEL PARK
WETLAND AND RIPARIAN
DEVELOPMENT

1/4" SECTION
JOB NO.
5096
SHEET NO.

W5096502, 27/3/94, OF CS.42

MASTER PLANT LIST

REL.	PLANT MATERIAL
Tree	
10 ea.	Abies grandis
113 ea.	Rhus typha
52 ea.	Fraxinus latifolia
52 ea.	Populus trichocarpa
10 ea.	Tsuga heterophylla
Shrub	
32 ea.	Acer glaberrimum
32 ea.	Ampelopsis quinifolia
8 ea.	Corylus cornuta
8 ea.	Hedysarum procurrens
1000 ea.	Melaleuca verticillata
8 ea.	Oenothera biennis
36 ea.	Physocarpus opulifolius
36 ea.	Physocarpus multiflorus
36 ea.	Prunus emarginata
2 ea.	Ribes sanguineum
1100 ea.	Rosa nutkana
52 ea.	Salix lasioandra
8 ea.	Salix scouleriana
16 ea.	Sambucus racemosa
1100 ea.	Symphoricarpos albus
Grand Fir	
	Black Cottonwood
	Western Hemlock
Vine Maple	
	Serviceberry
	Western Hazelnut
	Oceanspray
	Large Leaf Oregon Grape
	Osoberry
	Ninebark
	Western Sword Fern
	Bitterscherry
	Red-flowering Currant
	Mocking Rose
	Pacific Willow
	Scouler's Willow
	Red Elderberry
	Saluberry

REL.	PLANT MATERIAL	REL.	PLANT MATERIAL
150 ea.	Achillea millefolium	Western Tarragon	
450 ea.	Anaphalis margaritacea	Pearly Ever-lasting	
750 ea.	Aquilegia formosa	Red Columbine	
225 ea.	Aster chinensis bulb	Pacific Aster	
225 ea.	Aster subspicatus	Aster	
1800 ea.	Bromus californicus	California Bromo-Grass	
150 ea.	Carramus quinarian	Common Camellia	
900 ea.	Claytonia amara	Farewell-to-Spring	
3600 ea.	Elymus glaucus	Wild Blue Eye	
900 ea.	Erythronium californicum	California Poppy	
2000 ea.	Festuca rubra + v. viridis	Red Fescue Bunchgrass	
900 ea.	Lupinus bicolor	Two-color Lupine	
900 ea.	Lupinus polyphyllus	Large Leaf Lupine	
2400 ea.	Reyesii (Crested)	Wheat + bunchgrass	
300 ea.	Solidago canadensis	Canadian Goldenrod	
900 ea.	Sporangium emersum	Simple stem Burreed	
Wetland Emergents			
1000 ea.	Carex straminea	Slough Sedge	
1000 ea.	Elymus glaucus	Spine Rush	
1000 ea.	Carex diandra	Dense Sedge	
6224 ea.	Juncus effusus	Soft Rush	
1000 ea.	Juncus emulidus	Dagger Rush	
474 ea.	Juncus tenuis	Sander Rush	
150 ea.	Iris tenax	Dragon Iris	

NOTE: The portion of Zone II (Zone No. 30,800 sq. ft.) shall consist of plant material as specified. However, the plant community is to be established as follows: 50% of area - Specified understory 50% of area - Specified open grasses (unless overstory)

HYDRUSES AND SWALE BED ONLY. ALL OTHER PLANTS BY OWNER.

PLANT COMMUNITY ZONES / GABRIEL PARK

ZONE	NAME	REL.	PLANT MATERIAL
I. WOODLAND EDGE	GROUND LAYER	8 ea.	Abies grandis
		8 ea.	Rhus typha
	UNDERSTORY	4 ea.	Acer glaberrimum
		3 ea.	Ampelopsis quinifolia
		3 ea.	Corylus cornuta
		5 ea.	Hedysarum procurrens
		1 ea.	Melaleuca verticillata
		4 ea.	Oenothera biennis
		1 ea.	Physocarpus multiflorus
		3 ea.	Prunus emarginata
OVERSTORY	3 ea.	Abies grandis	
	3 ea.	Rhus typha	

II. SWALE COMMUNITY

LAYER	REL.	PLANT MATERIAL
GROUND LAYER	8 ea.	Abies grandis
	8 ea.	Rhus typha
	1 ea.	Achillea millefolium
	1 ea.	Aster chinensis bulb
	1 ea.	Aster subspicatus
	1 ea.	Anaphalis margaritacea
	2 ea.	Carex straminea
	2 ea.	Elymus glaucus
	7 ea.	Juncus effusus
	10 ea.	Juncus tenuis
UNDERSTORY	3 ea.	Physocarpus opulifolius
	1 ea.	Rosa nutkana
	1 ea.	Sambucus racemosa
OVERSTORY	4 ea.	Fraxinus latifolia
	2 ea.	Salix lasioandra
	4 ea.	Populus trichocarpa
EMERGENT PROPAGULES	17 ea.	Juncus effusus

III. MEADOW	REL.	PLANT MATERIAL	
EMERGENT PROPAGULES	1 ea.	Carex straminea	
	1 ea.	Elymus glaucus	
	1 ea.	Juncus emulidus	
	1 ea.	Juncus effusus	
	1 ea.	Juncus tenuis	
	1 ea.	Sporangium emersum	
	GRASS & FORB SEEDS	1 ea.	Achillea millefolium
		1 ea.	Aster chinensis bulb
		1 ea.	Aster subspicatus
		1 ea.	Anaphalis margaritacea
1 ea.		Bromus californicus	
1 ea.		Carramus quinarian	
1 ea.		Claytonia amara	
1 ea.		Erythronium californicum	
1 ea.		Festuca rubra + v. viridis	
1 ea.		Lupinus bicolor	
FORB PROPAGULES	1 ea.	Carramus quinarian	

NOTE: All Emergent Propagule Plantings shall be made as follows: 1" dia. in clusters of 10-15 plants per 100 sq. ft.

DESIGNED BY	DATE
PROJECT COMPLETE	
DATE ENTERED ON THE RECORD	
DATE ENTERED ON THE PLAN	

CITY OF PORTLAND
ENVIRONMENTAL SERVICES

PROJECT TEAM
 Mark Lane & Associates
 Landscape Architects
 Mark Lane & Associates

VRHAINST TRIBUTARY TASSO CREEK REHABILITATION PROJECT
 GABRIEL PARK SITE
REVEGETATION PLAN

372' 30" 5096

INVOICE

CITY OF PORTLAND
 OFFICE OF FINANCE AND ADMINISTRATION
 GRANTS RECEIVABLE

INVOICE NO. 85-02369

PLEASE PAY TO:

**CITY TREASURER
 203 CITY HALL
 PORTLAND, OREGON 97204**

CONTACT: GRANTS ANALYST
 Marion Yee
 (503)823-6863

CUSTOMER: Metropolitan Service District
 Attn: Mel Huie, Proj. Mgr.
 600 NE Grand
 Portland, OR 97232

FOR PROPER CREDIT: PLEASE INDICATE THIS INVOICE NUMBER ON YOUR REMITTANCE 85-02369

DESCRIPTION	DATE OF ISSUE	INVOICE NO.	AMOUNT DUE								
	12/15/94	85-02369									
Bureau of Environmental Services Grant ID# E10 Gabriel Park Restoration For costs incurred from Spring and Fall 1994 plants Grant Identifier 10120-1-0235/902790 <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Authorized Amount</td> <td style="text-align: right;">20,000.00</td> </tr> <tr> <td>Previously Billed</td> <td style="text-align: right;">6,277.75</td> </tr> <tr> <td>Total This Billing</td> <td style="text-align: right; border-top: 1px solid black;">9,896.57</td> </tr> <tr> <td>Contract Balance</td> <td style="text-align: right;">3,825.68</td> </tr> </table>			Authorized Amount	20,000.00	Previously Billed	6,277.75	Total This Billing	9,896.57	Contract Balance	3,825.68	9,896.57
Authorized Amount	20,000.00										
Previously Billed	6,277.75										
Total This Billing	9,896.57										
Contract Balance	3,825.68										
<i>BES - Ric Lapp Gabriel Park Restoration.</i>											
TOTAL DUE FOR INVOICE NO. 85-02369			\$9,896.57								

PURSUANT TO SEC. 5.48.040 OF THE CITY CODE, ACCOUNTS NOT PAID WITHIN THIRTY(30) DAYS AFTER THE DATE OF INVOICE, SHALL BE FORWARDED TO THE CITY ATTORNEY FOR COLLECTION.

Request for Reimbursement/Greenspaces Demonstration Grant Program

BILLING FORM

Organization City of Portland, Bureau of Environmental Services

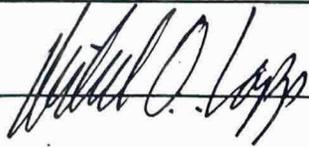
Address 1120 SW 5th Ave., Room 400, Portland, OR 97204-1972

Phone (503) 823-7745

Project Title Gabriel Park

Metro Contract No. 902790

Local Project Manager Richard Lapp

Signature of Local Project Manager 

Date December 13, 1994

Personnel Costs

1. a) Describe Personnel Costs, Date(s) Service Provided and Who Provided Them. Attach Receipts.

No personnel cost reimbursement is requested.

- Were the personnel services provided by a state of Oregon certified Disadvantaged/Women Owned Enterprise/Minority Business Enterprise? Enclosed is a copy of the certified list.

YES _____ NO _____

Additional Comments:

- b) Document Local Match (Volunteer Hrs. @ \$4.75/hr, submit your own time sheets)
- c) Reimbursement Request from Metro (local match must be at least 50% of this request):

Materials, Plants and Supplies

1. a) Describe the materials, plants and supplies you purchased. Where did you buy them? Attach Receipts.

See attached plant list. The plants were purchased from the City of Portland, Bureau of Parks and Recreation, Horticultural Services, Wetland Plants Nursery.

Did you purchase the materials, plants and supplies from a state of Oregon certified Disadvantaged/Women Owned Enterprise/Minority Business Enterprise? Attached is the state certified list.

YES _____ NO X _____

Additional Comments:

b) Document Local Match:

50% of attached plant list total.

c) Reimbursement Request from Metro (local match must be at least 50% of this request):

\$ 9896.57

(continued)

Billing Form (page 3)

Equipment Rental

1. a) Describe the equipment rented and the work done. Who did you rent from? Attach receipts.

No equipment cost reimbursement is requested.

Did you rent the equipment from a state of Oregon certified Disadvantaged/Women Owned Enterprise/Minority Business Enterprise?

Attached is the state certified list.

YES _____ NO _____

Additional Comments:

b) Document Local Match:

c) Reimbursement Request from Metro (local match must be at least 50% of this request):

Professional Services (only nonprofits eligible for reimbursement)

1. a) Describe the service and cost. Who provided the services? A maximum of 10 percent is reimbursable. Attach receipts.

No Professional Service cost reimbursement is requested.

Was the service provided by a state of Oregon certified Disadvantaged/Women Owned Enterprise/Minority Business Enterprise? Attached is the state certified list.

YES _____ NO _____

Additional Comments:

b) Document Local Match:

c) Reimbursement request of Metro:

MAIL THIS FORM TO: Mel Huie, Project Manager
Metropolitan Greenspaces Program
Metropolitan Service District
2000 S.W. First Ave.
Portland, Oregon 97201
(503) 220-1186

PORTLAND PARKS AND RECREATION

PARK OPERATIONS



6437 SE DIVISION STREET, PORTLAND, OREGON 97206

TELEPHONE (503) 823-1600

FACSIMILE (503) 823-2246



CHARLIE HALES, COMMISSIONER

CHARLES JORDAN, DIRECTOR

Plants Supplied for Gabriel Project Spring and Fall 1994

Qty	Description	Each	Amount
Trees			
10	Abies grandis	20.00	200.00
134	Acer circinatum	30.00	4,020.00
8	Acer macrophyllum	12.00	96.00
73	Alnus rubra	15.00	1,095.00
34	Fraxinus latifolia	12.00	408.00
2	Prunus emarginata	10.00	20.00
8	Psteudotsuga menziesii	10.00	80.00
13	Thuja plicata	3.00	39.00
10	Tsuga heterophylla	20.00	200.00
Shrubs			
16	Amelanchier alnifolia	2.50	40.00
325	Cornus stolonifera	2.50	812.50
5	Holodiscus discolor	12.00	60.00
418	Mahonia nervosa	3.00	1,254.00
8	Oemleria cerasiformis	12.00	96.00
26	Physocarpus capitatus	2.50	65.00
135	Polystichum munitum	3.00	405.00
7	Ribes sanguineum	12.00	84.00
530	Rosa nutkana	2.50	1,325.00
27	Salix lasiandra	2.50	67.50
155	Salix scouleriana	2.50	387.50
6	Sambucus racemosa	2.50	15.00
1618	Symphoricarpos albus	2.50	4,045.00
Wetland Plants			
100	Camisia gamish	.85	85.00
1215	Carex obnupta	3.00	3,645.00
1000	Eleocharis palustris	.15	150.00
86	Iris tenax	1.25	107.50
6224	Juncus effusus	.10	622.40
1000	Juncus ensifolius	.25	250.00
475	Juncus tenuis	.25	118.75
			19,793.15

GABRIEL PARK--RESTORATION Year 2

Photos A-J Examples of Stream Bed Conditions

Photos 5/18/93 Before Construction, After Boundaries Set #1-25

Photos 2/4/94 After Clearing #1-25

Photos 12/13/94 After Stream Work and Planting #1-25

MASTER PLANT LIST

SQ. FT.	PLANT MATERIAL	PLANT MATERIAL	PLANT MATERIAL
1000	Abies grandis	Guard Fir	
100	Alnus rubra	Red Alder	
50	Fraxinus latifolia	Oregon Ash	
50	Populus trichocarpa	Black Cottonwood	
10	Tsuga heterophylla	Western Hemlock	
1000	Acer crinitatum	Vine Maple	
30	Amelanchier alnifolia	Servicberry	
8	Corylus cornuta	Western Hazelnut	
8	Hedysarum discolor	Ocarropa	
1000	Mahonia nervosa	Large Leaf Dragon Grape	
8	Demaria cerasiformis	Osoberry	
36	Physocarpus capitatus	Minibark	
605	Polypodium vulgatum	Western Sword Fern	
2		Buttercherry	
8		Red-flowering Currant	
1100	Rosa nutkana	Hooker Rose	
52	Salix lasandra	Pacific Willow	
84	Salix scouleriana	Scouler's Willow	
16	Sambucus racemosa	Red Elderberry	
1148	Symphoricarpos albus	Sn. cherry	

NOTE: The portion of Zone II, (Zone No. 20,500 sq. ft.) shall consist of plant material as specified; however, the plant community is to be established as follows:
 50% of area - Specified understorey
 50% of area - Specified open areas (Open overstorey)

HYDRATED AND BULBIFIED ONLY. ALL OTHER PLANTS BY OTHERS.

PLANT COMMUNITY ZONES / GABRIEL PARK

ZONE	TYPE	PLANTING NOTES
I. WOODLAND EDGE		
GROUND LAYER	Elymus glaucus Festuca ovina	8 sq. ft. hydrate in mix throughout 5 sq. ft. hydrate in mix throughout
UNDERSTOREY	Acer crinitatum Amelanchier alnifolia Corylus cornuta Hedysarum discolor Mahonia nervosa Demaria cerasiformis Physocarpus capitatus Polypodium vulgatum Rosa nutkana Salix scouleriana Sambucus racemosa	4.4 sq. ft. multi-spec. 30 sq. ft. moist soil 3.4 sq. ft. 15 sq. ft. dry moist soil 3.4 sq. ft. 20-40 sq. ft. dry moist soil 5.4 sq. ft. 15 sq. ft. dry soil 1 sq. ft. groups of 15, 20 sq. ft. dry soil woodland settings 4.1 sq. ft. 30 sq. ft. part shade dry moist 1 sq. ft. groups of 3, 10, 20 sq. ft. shade only moist soil 3.4 sq. ft. 40 sq. ft. dry soil 3.4 sq. ft. 40 sq. ft. dry soil 1.2 sq. ft. groups of 3, 7, 25 sq. ft. dry moist soil 1.2 sq. ft. 30 sq. ft. dry moist soil 1.2 sq. ft. 40 sq. ft. moist soil
OVERSTOREY	Abies grandis Alnus rubra Tsuga heterophylla	3.4 sq. ft. 80-100 sq. ft. moist soil 4.1 sq. ft. groups of 1, 25, 50 sq. ft. dry moist soil 1.2 sq. ft. 50-100 sq. ft. part shade moist soil

II. SWALE COMMUNITY

LAYER	TYPE	PLANTING NOTES
GROUND LAYER	Bambusa nana Festuca ovina Acer sp. Aster sp. Cirsium sp. Lupinus sp. Rumex sp.	4.5 sq. ft. hydrate in mix throughout 5.0 sq. ft. hydrate in mix throughout 4.0 sq. ft. hydrate in mix throughout 1.0 sq. ft. hydrate in mix throughout 1.0 sq. ft. hydrate in mix throughout 2.0 sq. ft. hydrate in mix throughout 2.0 sq. ft. hydrate in mix throughout 1.0 sq. ft. hydrate in mix throughout
UNDERSTOREY	Physocarpus capitatus Rosa nutkana Sambucus racemosa	2.2 sq. ft. 20 sq. ft. moist soil 2.0 sq. ft. groups of 1, 7, 20 sq. ft. moist soil 1.0 sq. ft. groups of 1, 7, 20 sq. ft. moist soil
OVERSTOREY	Fraxinus latifolia Salix scouleriana Sambucus racemosa	4.5 sq. ft. 50 sq. ft. moist soil 2.0 sq. ft. 50 sq. ft. moist soil 2.0 sq. ft. 30 sq. ft. moist soil 4.5 sq. ft. 50 sq. ft. moist soil
EMERGENT PROPAAGULES	Juncus sp.	1" propagules, wet areas

III. MEADOW

ZONE	TYPE	PLANTING NOTES
EMERGENT PROPAAGULES	Carex sp. Eleocharis palustris Juncus sp. Sagittaria arifolia	1" propagules, wet areas 1" propagules, wet areas 1" propagules, moist/wet areas 1" propagules, wet areas
GRASS & FERN SEED	Agrostis sp. Carex sp. Festuca sp. Lupinus sp. Rumex sp. Sagittaria sp.	1/2 sq. ft. hydrate in mix throughout 1/2 sq. ft. hydrate in mix throughout
FORM PROPAAGULES	Carex sp. Sagittaria sp.	1" propagules, wet areas 1" propagules, wet areas



CONSTRUCTED BY:	DATE:
PROJECT COMPLETE:	BY:
DATE CORRECTED BY:	DATE CHECKED BY:
DATE ENTERED ON 1/4" SCALE BY:	DATE CHECKED ON 1/4" SCALE BY:
DATE ENTERED ON 1/8" SCALE BY:	DATE CHECKED ON 1/8" SCALE BY:
REVISION:	DATE:
DATE:	DATE:
DATE:	DATE:

CITY OF PORTLAND
ENVIRONMENTAL SERVICES



PROJECT TEAM
 Mark L. & Associates
 Landscape Architects
 Mark L. & Associates, Inc.
 Mark L. & Associates, Inc.

VERMONT TRIM-TASK 1 ANNUAL REVEGETATION PROJECT
 GABRIEL PARK SITE
REVEGETATION PLAN

3725
 5096
 3 of 2

PHOTO POINTS