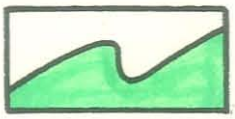
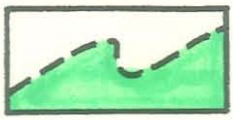
ROCKAWAY BEACH LOCAL WETLANDS INVENTORY UPDATE (June 1993)

Wilson, Scoles, Moses group (WSM): 1993
David Evans and Associates (DEA): 1991-92

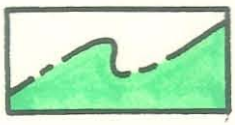
KEY TO COLORED DRAFT MAPS (Bluelines)



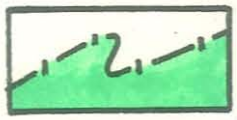
(1) Reliable -- WSM field-evaluated wetland boundary; same as original DEA boundary in some areas



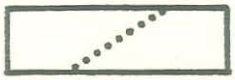
(2) Reliable -- DEA or WSM boundary: appears to be correct to specified accuracy in most areas but not carefully field-evaluated by WSM



(3) Unreliable -- DEA boundary: received only cursory WSM inspection or not checked; line appears to be inaccurate in many areas and/or requires instrument survey to closely locate



(4) Unreliable -- WSM boundary (very approximate); requires instrument survey to closely locate



known culvert location

WSM Sampling Point

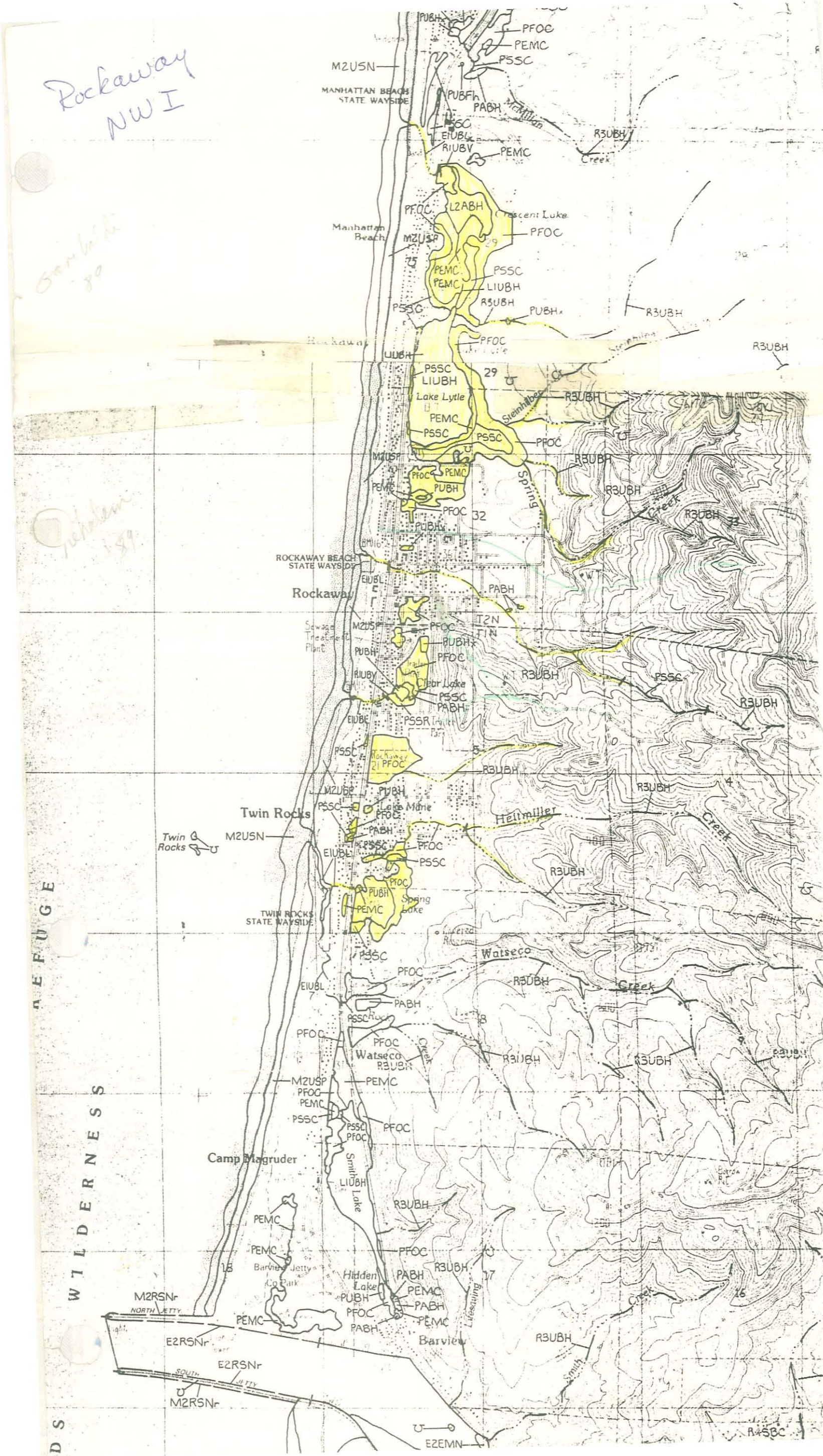
DEA Sampling Point evaluated by WSM

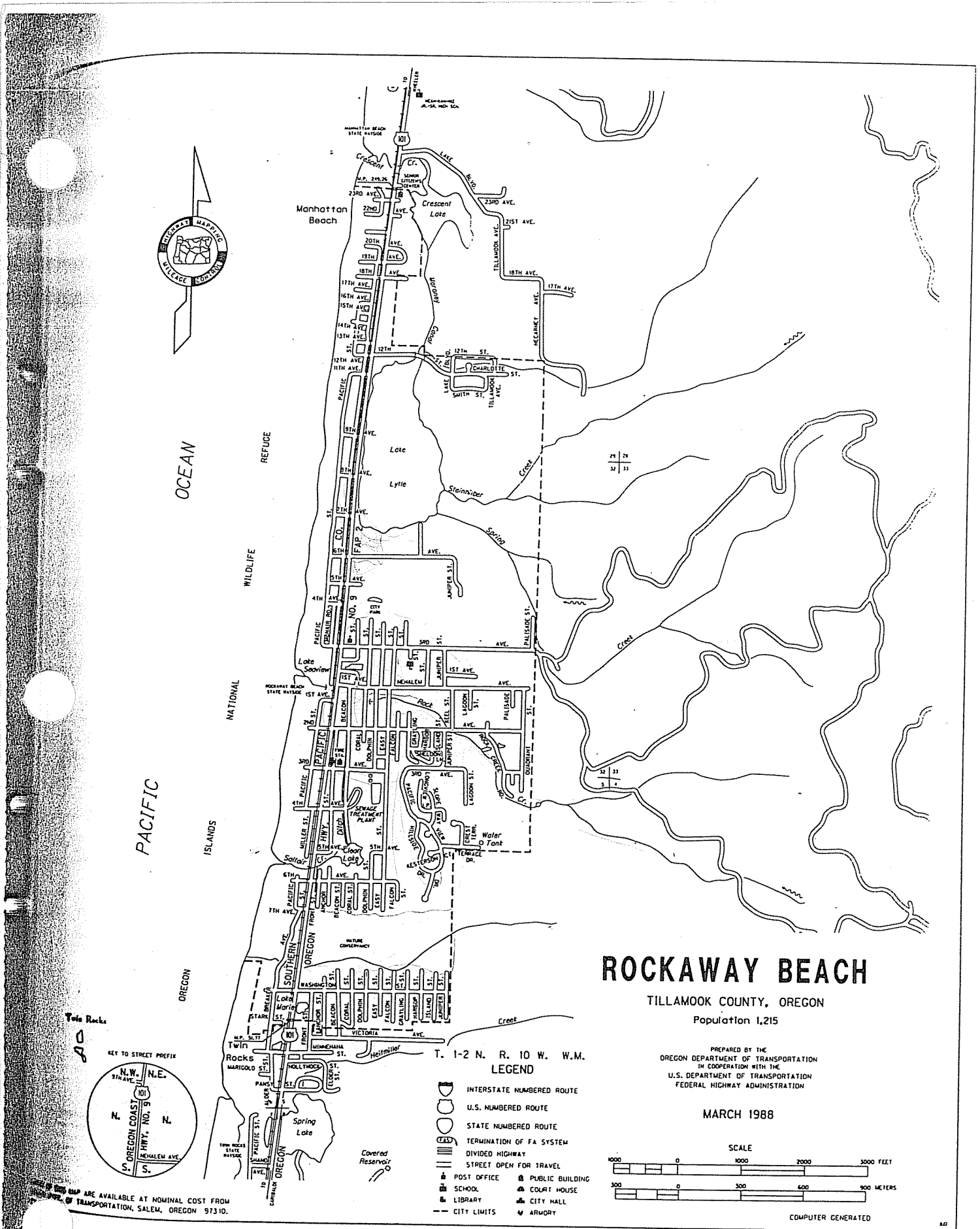
Explanation:

Wetland identification followed 1987 Corps of Engineers Manual methodology as conditioned by recent guidance from the Division of State Lands and Corps. All depicted wetland boundaries are approximate. Boundary line types (1) and (2) are considered generally reliable (accurate) within the specified Local Wetlands Inventory accuracy limits of ±25 feet. In many such areas, obvious wetlands smaller than the 0.5 acre specified lower size limit have been mapped. However, small remnant or created wetlands in man-made drainageways (e.g. roadside ditches) are generally not mapped. Boundary line type (1) was closely inspected by WSM. Boundary line type (2), while considered to be generally accurate because of bounding development patterns, topography or other features, was not carefully evaluated by the WSM team.

Boundary line types (3) and (4) are unlikey to be accurate within DSL-specified limits in many areas. These areas were not carefully evaluated because A) they were not identified as work focus areas for the WSM team, B) they possess logistical constraints such as very dense woody vegetation and an absence of nearby cultural features which prevent the practical definition of wetland boundaries on the available base maps, and/or C) trespass considerations. The eventual refinement of wetland boundaries in these areas should consist of a delineation-level analysis, including field staking and formal survey, as the need arises.

Rockaway
NW I





MAPS OF THIS TYPE ARE AVAILABLE AT NOMINAL COST FROM THE OREGON DEPARTMENT OF TRANSPORTATION, SALEM, OREGON 97310.

Loverna Wilson, Environmental Consultant Botany / Plant Ecology
1835 N.E. Steele Avenue, Corvallis, Oregon 97330 (503) 752-4156

22 December 1992

Mr. Don Mason
City Recorder
P.O. Box 5
Rockaway, OR 97136

RE: Rockaway Beach Wetland Management Plan
Completion of Wetland Field Studies

Dear Mr. Mason:

I have been discussing the completion of the field studies for the wetland management plan for Rockaway Beach with Mike Morgan and Emily Roth. They have described to me the work that you need in order to complete the basic wetland inventory, and I have put together a proposed work plan for completing these tasks. An outline of the work is given below. Total cost for this work is $12,480, and a budget is enclosed with this letter.

Three people would be working on the project, and I thought you would like to have some background information on each of us. I have an M.S. in Botany (Plant Ecology) from OSU. I have been a consulting plant ecologist since 1979, and have been working for myself since 1983. My first wetlands project was also in 1983, and now most of my work is wetlands oriented. I perform wetland assessments and boundary delineations, prepare wetland removal/fill permit applications, design mitigation plans, and teach classes in wetland methods and wetland plant identification.

Phil Scoles is the owner and Principal of Scoles Associates, Inc., an independent consulting firm that specializes primarily in wetland delineation and mitigation, environmental assessment, and soil and ground water investigation. Phil has a B.S. in Soil and Water Science from UC Davis, and is a Certified Professional Soil Scientist. He has many years of wetlands experience, and has focused a large portion of his professional work on hydric soils in the Northwest.

Todd Moses has an M.A. in Physical Geography from University of Colorado at Boulder. His emphasis now is landscape ecology, surface water hydrology, and wetlands ecology. He has performed many wetland delineations and assessments, and he has designed and installed bioengineering and riparian corridor restoration systems.

In addition to his wetlands work, he has had extensive experience in field mapping and technical map graphics since 1982. He was formerly with the J.D. White Company as a Senior Environmental Planner, and has recently begun his own consulting service.

Phil and I have worked together on many wetland projects, including teaching a wetland class to the CREST people in Astoria in 1989. Both Phil and I have worked with Todd, and on several occasions we have all three worked on wetland projects together, including one this summer.

PROPOSED WORK PLAN

I have divided the work plan into four tasks with a budget for each task. I have also described in some detail what we will be doing for each component so that you will have an idea of what the work will be providing for you.

TASK 1. COMPLETION OF FIELD WORK – Schedule Amendment

This is the primary work that Emily Roth at DSL discussed with us. It would include sampling approximately 40 additional sites in the study area. These would be of two types: (1) samples that would provide more wetland information in larger wetland areas that have inadequate sample data at this time, and (2) samples that would allow us to locate preliminary wetland/upland boundaries in the vicinity of Rock Creek and Lake Lytle. The City would select for us the areas that need to be delineated. In all areas where we work, we would field check and refine the existing wetland maps, as well as check several sites for which DSL has questions related to the earlier field studies.

The tasks shown in the budget include the following work, to be completed during one long week in late January or early February (weather permitting). Phil Scoles and Loverna Wilson would review the existing data that has been collected prior to conducting the field work. We would then spend one day in the field with Emily Roth (DSL), Mike Morgan (City of Rockaway Beach), and any other personnel of your choice, learning of your concerns about and insights into the study area. Our colleague, Todd Moses, would also be participating in this site review. Todd, Phil and Loverna would spend part of a field day working together to assure consistency in the field work. After that, Todd and Loverna would work together for two field days, followed by Todd and Phil completing the work in two more field days.

TASK 2. PRODUCTION OF MODIFIED WETLAND MAPS

Part of our job will be to refine the wetland maps over as much of the study area as possible during our field studies, and to determine wetland boundaries in the areas of immediate concern to the City.

We would be responsible for providing ~~final~~ draft updated wetland maps including all modifications to the existing wetland maps. These updated maps would be on properly registered mylar overlays that you could use with your current topographic and plat base maps. - according to CWI/WCPI? Rules → submitted to the DSL for review by June 30, 1993

TASK 3. WETLANDS IDENTIFICATION CLASS

One of the items Emily Roth was concerned about was the lack of accuracy in the overlay of the previous wetlands map on the City's plat maps. The cost for a consultant to ground truth and accurately define all the wetland areas on the plat maps as they relate to the actual property lines would be very high.

We are suggesting that as an alternative, we would teach a class on routine wetland identification techniques to two or three of your city employees. They are already familiar with the study area and the locations of platted lots, etc. These people could then be responsible for ground checking the wetland areas against the property lines on the plat maps when the specific information was needed and as money and/or time was available.

Phil and Loverna would teach a two-day workshop, about half classroom work and half field work, to train these people in the basic skills of wetland determination, including information on hydrology, hydric soils, and hydrophytic vegetation. We would come back to Rockaway Beach in a few weeks for a follow-up session, checking field identifications, going over problems that the trainees had encountered, answering additional questions, etc.

In this way, the City will have some trained people on staff to do basic wetlands assessments and determinations. We could be on call when areas were complex or when problem sites were encountered.

TASK 4. MITIGATION SITES IDENTIFICATION

A final option for you to consider would be our providing some input concerning potential wetland mitigation sites either in the City or in the vicinity. We assume some of this information will be obtained during completion of the field studies. Therefore, we could be able to provide mitigation site information for a small additional cost. This budget allows a day for Phil and I to identify and describe potential sites, and a day for Todd to prepare a map showing these areas.

The budget for this work assumes that the City will provide the existing baseline maps for us to work with. We also agree that no changes in budget or work scope will be made without prior approval and agreement between the City and the project team. If you wish us to proceed, please sign and return one copy of this letter to me. The second copy is for your files.

We are looking forward to the opportunity to work with you on completing the baseline wetlands data you require for your wetland management plan. If you would like to call me, I'd be glad to discuss the work plan with you and answer any questions you may have. I will be out of town until January 3, 1993, but will be in the office after that date. Happy holidays to you.

Sincerely,

Loverna Wilson 12-22-92

Loverna Wilson
Plant Ecologist

Enclosure

cc: Mike Morgan

ACCEPTED BY: Dee Mey DATE: January 13, 1993
City of Rockaway

FROM: Loverna Wilson DATE: 22 DECEMBER 1992

BUDGET ESTIMATE: Rockaway Beach Wetland Management Plan

	WILSON HRS @ 50	SCOLES HRS @ 50	MOSES HRS @ 40	TOTAL COST
TASK 1: Completion of Field Work				
1. INFORMATION REVIEW	4	4		400
2. REVIEW SITE (w/CITY, DSL)	8	8	8	1120
3. FIELD STUDIES	24	24	40	4000
TOTAL LABOR	36	36	48	5520
EXPENSES				
Mileage (500 mi @ .30)	150			
Phone	30			
Field supplies	25			
Postage and shipping	10			
Lodging	400			
Food	250			
TOTAL EXPENSES				865
TOTAL, TASK 1				638
TASK 2: Production of Modified Wetland Maps			48	1440
Expenses: Supplies				200
TOTAL, TASK 2				1640
TASK 3: Wetlands Identification Class				
1. CLASS PREPARATION	4	4		400
2. TWO-DAY CLASS	16	16		1600
3. FOLLOW-UP FIELD DAY	10	10		1000
TOTAL LABOR	30	30		3000
EXPENSES				
Mileage (500 mi @ .30)	150			
Copying	20			
Phone	25			
Lodging	80			
Food	80			
TOTAL EXPENSES				355
TOTAL, TASK 3				3355
TASK 4: Mitigation Sites Identification				
1. ID AND DESCRIPTION	8	8		800
2. MAP PREPARATION			10	300
TOTAL LABOR	8	8	10	1100
TOTAL, TASK 4				1100
TOTAL BUDGET				12480

Summary & Report
Mapping Notes

Summary information of City of Rockaway Beach Local Wetland Inventory:

Total Wetland Acres: 227.4 acres

Study Area: City limits, north end of Cresent Lake to the north end of Twin Rocks. Most of the area west of Highway 101 was not included.

Total Number of Wetlands: Still needs to be determined

Loverna Wilson, Environmental Consultant Botany / Plant Ecology

1835 N.E. Steele Avenue, Corvallis, Oregon 97330 (503) 752-4156

August 2, 1993

Emily Roth
Division of State Lands
775 Summer Street NE
Salem, OR 97310

RE: Rockaway LWI

Dear Emily:

Here are the reports, data sheets, and backup information for the Rockaway LWI field work that Phil Scoles, Todd Moses and I have been working on. You already have the draft maps for this project.

Here is what I have included in this package. It is similar to the information I sent for Gearhart last week.

Project Summary and Report

A summary of the project objectives is in the first section, followed by study area summary, methods, mitigation recommendations, and project personnel. As with Gearhart, I'd like feedback about how this information fits with what you expect from this sort of study.

Wetland Summary Sheets

There are nine of these as described in the study area summary. There is a brief description of the basin at the end of each sheet. I also included a key to the NWI classification codes used on the summary sheets.

Data Sheets

First there are the seven data sheets that resampled DEA sites that were problem areas. These are followed by 24 data sheets for new WSM sample sites, and lettered A through X. Also included is a summary table showing the map sheet number and location for each of the WSM sample points, and a table of plant species codes used on the data sheets with their common and scientific names.

Field Notes

In case it would be helpful, I have enclosed copies of Todd's and my field notes.

NWI Maps

These are the sections of the Garibaldi and Nehalem quads (1989) that cover the study area. I used these maps to get the NWI classification codes for each of the wetlands.

If you have any questions or I've forgotten anything, give me a call. I'm coming to Salem on Thursday, and I'll drop off the Red Notebook (DEA's stuff) and their draft map while I'm in town. It seems much easier than mailing it!

Sincerely,

Loverna

Loverna Wilson
Plant Ecologist

Enclosures

ROCKAWAY BEACH
LOCAL WETLANDS INVENTORY (LWI)
WSM STUDY

Summary and Report

Introduction

This report provides information required by the DSL Wetland Inventory Guidelines for LWIs. Included in this report are (1) a summary of the goals and objectives of this study, (2) a study area summary, (3) a description of field and mapping methods, (4) mitigation recommendations, and (5) qualifications of personnel.

Project Objectives

In 1991 the initial field work was conducted for a wetlands inventory for Rockaway Beach. Difficulties were encountered toward the end of the study, and the work was not completed. We were asked by Division of State Lands to complete the field sampling for an LWI for Rockaway. Our objectives were:

1) to check all sites that DSL was concerned about because of inconsistent data and/or contradictory observations;

2) to refine the wetland map in areas of particular concern to the City (e.g., Rock Creek drainage) and property owners;

3) to field check (and correct, if necessary) as many of the 1991 wetland boundaries as time and budget constraints allowed;

4) to do sampling in large wetland areas with few or no data points;

5) to identify some potential mitigation areas; and

6) to teach a 2-3 day workshop on wetland identification to some city employees.

As the study progressed, the focus of the study was modified somewhat by the City and by DSL. It became clear that the first three objectives were the most important areas to pursue within our limited time and budget. As those tasks expanded, the City decided to transfer funds for objective 6, the wetlands workshop, into the tasks of checking specific problem sites and refining and correcting the wetland map (objectives 1, 2, & 3).

In addition, objective 4 was addressed only as it fit into the needs of objectives 1-3. Throughout the study, questions about particular sites arose that needed to be addressed as part of the first three objectives. As we became more familiar with the study area, we found that many of the large wetlands were obviously wet and the boundaries were relatively distinct. Therefore, it seemed more productive to refine the mapping information rather than take sampling data in areas that were not problem areas.

Objective 5, mitigation recommendations, were addressed in our study, and are described later in this report.

Study Area Summary

There are nine large wetland complexes in the Rockaway Beach study area. In many places they have been fragmented through filling, draining, and other development pressures. They often are similar in vegetation associations, and often are still connected hydrologically. Therefore, we have described each of them as one unit, although they may have many large and small wetland pieces or components. From north to south, they are:

WSM - 1 Crescent Lake complex

WSM - 2 Lake Lytle complex

WSM - 3 Seaview Lake

WSM - 4 Unnamed wetland east of Seaview Lake

WSM - 5 Rock Creek complex

WSM - 6 Clear Lake complex (including north TNC property)

WSM - 7 The Nature Conservancy property (south TNC property)

WSM - 8 Lake Marie/Railroad complex

WSM - 9 Spring Lake complex

Each of these wetlands is discussed in more detail on the wetland summary sheets.

In a typical LWI, a summary for the study area is prepared that provides acreages for the study area, total acreages for each wetland, and total acres of wetland in the study area. However, assembling that information is beyond the scope of this field study.

← can you do a summary for this study?

Methods

A team of three wetland scientists was hired to complete the wetlands field work and mapping for Rockaway. A description of our professional qualifications and experience is included at the end of this report.

We met with Division of State Lands (DSL) and City of Rockaway Beach personnel to learn what DSL and Rockaway needed to complete this project. We were provided with all the maps and data sheets that had been completed during the original inventory work in 1991. The maps we had to work with included:

- A set of the ortho-photo maps with topographic lines that were used as field maps during the 1991 study (DEA 1991). Date: January 1984. Scale: 1′ = 100" (1:1200).
- Oregon Department of Transportation aerial photography, blue-line reproductions of "Ocean Shores" series, sheets 9-12. Scale: 1" = 200′ (1:2400). Flown January 13, 1984.
- A set of assessor's plat maps for the City of Rockaway, including an index map. Plat map scale: 1" = 100′ (1:1200).
- National Wetlands Inventory maps for the study area (US Fish and Wildlife Service. 1989. Garibaldi, Oreg. and Nehalem, Oreg. 7.5" quads.). Scale: 1" = 12000′ (1:24000).
- Color infrared satellite air photo, enlarged from 1" = 24000′ (1:48000). Date: September 28, 1983.

Wetland determinations and delineations were conducted using the methods of the 1987 Corps of Engineers Wetlands Delineation Manual. As described in the manual, the interaction of hydrology, vegetation, and soil results in the development of characteristics unique to wetlands. If an area is saturated or flooded with water for a long enough period of time, it loses all its oxygen (becomes anaerobic). Lack of oxygen in the soil changes the characteristics of both soil and vegetation. By examining the hydrology, soil and vegetation of an area, we can determine if a site is wet enough long enough to be classified as a wetland.

Oregon's coastal wetlands present a special challenge. The weather is very wet and mild, providing conditions that foster the growth of many wetland species in areas that lack wetland hydrology. Therefore, it is important in problem areas to obtain hydrology data during the spring growing season in order to document that wetland conditions actually exist. We conducted field surveys in late March, late May, and early June 1993. We

were pleased with the timing because the spring had been so wet that wetland hydrology was still evident in seasonally hydric areas, and vegetation was also well developed.

We used a clean set of plat maps with DEA's wetlands transferred onto them as field maps. During field studies, we checked DEA sample sites that were problem areas, assessed boundary lines that were in question, and checked boundaries in areas of concern to the city and/or DSL (e.g., the Rock Creek drainage, Minnehaha area, etc.). We sampled when necessary, determined boundaries, and paced or measured the boundary locations wherever possible. Corrections, modifications, or confirmation information were then entered directly onto the field maps. As additional questions came in from the City or from DSL, we added these to our study program.

Seven DEA sample sites were resampled during the WSM study. These were given the same numbers as the DEA samples for ease of matching the data sheets (e.g., sample plot DEA 5 was resampled and numbered WSM-5a).

In addition, we sampled 24 additional sites which are designated alphabetically, A through X, and generally proceed from north to south. (There is no sample point "I" since it can easily by confused with "1".) A summary of WSM sample sites and their locations is included with this report. Also included is a list of the plant species codes used on the data sheets with scientific and common names.

Draft Map Preparation

After completion of field studies, wetland boundaries from the "working" plat maps were transferred to clean versions of the same map sheets using a light table. These final draft maps show wetland boundaries, sampling locations, and the designated wetland codes. An index map is also included.

The numbering system for the city plat maps is complex, so we numbered them from 1 to 28 to simplify field identification. Included with this report is a key that provides the city map codes, the corresponding WSM map numbers, and whether or not a draft wetland map was prepared. There are 20 plat maps that cover our scope of work. Areas for which draft wetland maps have not been produced are

(1) outside the scope of work,

(2) contain no wetlands as depicted on the original DEA mapping, and/or

(3) are well outside the current development zone and possess no cultural features on which to "pin" a wetland boundary.

A number of specific limitations to map accuracy should be noted. Some of the study area is undeveloped, with few or no cultural features for field orientation. Topographic mapping from aerial photography is also imprecise in forested terrain, and many undeveloped areas are heavily wooded, especially east of town. The combination of these two factors make it impossible to accurately define and map the wetland boundary in undeveloped areas using the techniques employed in this study. When accurate wetland boundaries are needed for one of these areas, a wetland specialist should delineate and flag the boundary, and then it can be professionally surveyed and mapped.

One other mapping note: on some of the maps it appears that the wetlands extend out into the streets. This occurs when the platted street is wider than the existing street. For example, South Second Avenue east of Highway 101 is mapped as being 65 ft wide, but the current paved area is only 20 ft wide. Hence, wetlands can look like they extend into the street on paper but not actually do so on the ground.

LWI guidelines require that the minimum size wetland to be mapped is 0.5 acre (about 100 ft x 218 ft). We mapped at a considerably smaller minimum in Rockaway to meet the city's needs. The most common lot size in Rockaway averages about 0.1 acre (e.g., 50 ft x 100 ft, 65 ft x 75 ft). In order for the city to have good wetland information for property owners, we mapped any identified wetland area that occupied one-third of a city lot, a minimum of about 0.04 acre (approximately 50 ft x 35 ft).

Final Map

Draft maps and all backup information is being provided to DSL. They will review the information, and work with us to finalize the wetland boundaries. When DSL has approved the LWI boundaries, we will prepare final maps for Rockaway and DSL.

Mitigation Recommendations

The primary area that has high mitigation potential is the Rock Creek drainage. The lower part of Rock Creek is a wide floodplain wetland. As part of development in the Rock Creek area, many street rights-of-way have been filled and culverted across the wetland between Nehalem Avenue and South Second Avenue. At the east end of the area, fill for South Marine Street extends from Nehalem Avenue to South Third Avenue.

It would be very difficult to obtain permits to build in the wetlands adjacent to these road rights-of-way. Therefore, an excellent mitigation technique would be to remove the fill material from these rights-of-way through the wetlands, and restore the original hydrologic patterns. This would reduce the fragmentation of the Rock Creek wetlands and increase wetland values such as wildlife habitat, water retention and filtration. The upland ends of the streets would be cul-de-sacs rather than through streets, but this is often considered an amenity. Lots adjacent to the wetlands would have the added value of being next to undeveloped natural areas.

Some of the street segments to be considered for removal are:

- all of South Marine between South Second and South Third,
- and parts of Lagoon, Keel, Juniper, and Island Streets between Nehalem Avenue and South Second.

Another potential mitigation site in the Rock Creek area is Block 64, TL# 2800, 2300, and 2400 (Map 2N 10 32CD; WSM map 17). Most of this area between Harbor and Island Streets has been dewatered through ditching, filling, and the construction of Island Street. If the fill material and ditching in the vicinity of sample site WSM-H was removed (with or without the removal of a segment of Island Street), the whole wetland area north of the stream channel could be restored.

One other suggestion: the City owns a small lot on Map 2N 10 32CA (WSM map 14) Block 13, TL 6500. It is partially filled, but it could be restored to wetland as part of a mitigation plan.

Project Personnel

Loverna Wilson has a M.S. in Botany (Plant Ecology) from Oregon State University. She has been a consulting plant ecologist since 1979, and started her own consulting company in 1983. Her first wetland project was also in 1983, and since then the proportion of her workload related to wetlands has been increasing until most of her work is wetlands oriented. She performs wetland assessments and boundary delineations, prepares wetland removal/-fill permit applications, designs mitigation plans, and teaches classes in wetland methods and wetland plant identification.

Phil Scoles is the owner and Principal of Scoles Associates, Inc., an independent consulting firm that specializes primarily in wetland delineation and mitigation, environmental assessment, and soil and ground water investigation. Phil has a B.S. in Soil and Water Science from UC Davis, and is a Certified Professional Soil Scientist and a Certified Professional Soil Consultant. He has many years of wetlands experience, and has focused a large portion of his professional work on hydric soils in the Northwest, with special emphasis on disturbed sites and agricultural wetlands.

Todd Moses has an M.A. in Physical Geography from University of Colorado at Boulder. His emphasis now is landscape ecology, surface water hydrology, and wetlands ecology. He has performed many wetland delineations and assessments, and he has designed and installed bioengineering and riparian corridor restoration systems. In addition to his wetlands work, he has had extensive experience in field mapping and technical map graphics since 1982. He was formerly with the J.D. White Company as a Senior Environmental Planner. He now has his own consulting firm, Watershed Applications. He is also affiliated with the Urban Streams Council in Portland.

Phil and Loverna have worked together on many wetland projects, including teaching a wetland class to the CREST people in Astoria in 1989. Both Phil and Loverna have often worked with Todd, and on several occasions we have all three worked on wetland projects together.

Loverna Wilson, Environmental Consultant Botany / Plant Ecology

1835 N.E. Steele Avenue, Corvallis, Oregon 97330 (503) 752-4156

TRANSMITTAL

DATE: 15 July 1993

TO: Emily Roth
Division of State Lands

FROM: Loverna Wilson LW

PROJECT: Rockaway Beach LWI

TRANSMITTED: Draft Wetland Map

VIA: US Mail

COMMENTS: Here are the draft maps for the WSM (Wilson-Scoles-Moses!) LWI for Rockaway, as well as our field maps. I have also included a couple of sheets that Todd prepared to help interpret the draft maps, as well as some notes he sent to me with the maps. Some of the information will be in the LWI report (coming soon), but I thought it might be helpful now if you have a chance to work with them next week. Hopefully by the end of next week I will send you the report, data sheets, and wetland summary sheets. Call if you have any questions.

ROCKAWAY BEACH LOCAL WETLANDS INVENTORY UPDATE (June 1993)
Wilson, Scoles, Moses group (WSM)

Draft map LWI coverage by City assessor's map (see city-wide map key)

City Code	WSM Code	Draft Map	City Code	WSM Code	Draft Map
2N 10 29BD	1	Yes	2N 10 32DB	15	No
2N 10 29AC	2	No	2N 10 32CC	16	Yes
2N 10 29CA	3	Yes	2N 10 32CD	17	Yes
2N 10 29DB	4	Yes	2N 10 32 DC	18	Yes
2N 10 29DA	5	No	1N 10 5BB	19	Yes
2N 10 29DC	6	Yes	1N 10 5BA	20	No
2N 10 29CC	7	No	1N 10 5AB	21	Yes
2N 10 32BB	8	No	1N 10 5BC	22	Yes
2N 10 32AB	9	No	1N 10 5BD	23	Yes
2N 10 32BC	10	Yes	1N 10 5CB	24	Yes
2N 10 32BD	11	Yes	1N 10 5CA	25	Yes
2N 10 32AC	12	No	1N 10 6DD	26	Yes
2N 10 32CB	13	Yes	1N 10 5CC	27	Yes
2N 10 32CA	14	Yes	1N 10 5CD	28	Yes

Areas for which draft maps have not been produced were 1) outside the scope of work, 2) contain no wetlands as depicted on the original DEA mapping, and/or 3) are well outside the current development zone and possess no cultural features on which to "pin" a wetland boundary. Forested wetland areas cannot be reliably located using aerial photography and available topographic mapping in this area.

NOTES TO LOVERNA (6/15/93)

- Mapping:
  - There are 20 maps that cover our general scope of work. Areas for which draft maps have not been produced were 1) outside the scope of work, 2) contain no wetlands as depicted on the original DEA mapping, and/or 3) are well outside the current development zone and possess no cultural features on which to "pin" a wetland boundary.
  - Air phot interpretation is of limited value in this area since most areas are forested. Forested wetlands cannot be reliably located using aerial photography, especially since the available topographic base mapping is so poor.
  - The mapping scheme (4 categories) can be simplified to two (2) categories (reliable boundary and unreliable boundary) for final mapping.
  - I have not (yet?) identified watershed boundaries on the finished draft maps, in part because the topographic base mapping (that used by DEA) is very unreliable. If we are required to do this we should probably use USGS (enlarged).

- WSM Sampling:
  - I resolved the various ways we identified field data points on the mapping sheets to letters of the alphabet (designated A thru Y, proceeding generally from north to south -- 24 data sheets)
  - There is no sampling point "I" (sampling convention not to use "I" since it looks like 'l)
  - Not all map data sheets appear to be complete and they are not consistent in the way they are filled out
  - It's probably easier to use our (WSM) tax map code to identify mapping sheets on the data sheets as long as we include the table that shows the correspondence between the city code and the WSM code
  - I could not find data sheets or points on the working maps corresponding to LW-1, LW-7, LW-8 or LW-9 -- we either didn't use these sampling point designations or they're in your field notes

General Notes on our Methodology:

- We took both original data at new sampling points and evaluated DEA sampling locations where Emily identified discrepancies (orange-tagged data sheets in big red book).
- We focused our work effort on clarifying wetland boundaries in certain key areas (especially Rock Creek) and in the vicinity of certain lots identified by the City or DSL.
- We sacrificed a greater sampling density for our new LWI boundary determinations in order to better resolve the boundary. This was done mainly

by careful pacing (occasionally taping) and identification of property corners in conjunction with airphoto interpretation of mainly cultural features.

- The necessity for considerable bushwacking was a major time component.
- An additional important limitation on mapping accuracy was private property access.

TODD MOSES
WATERSHED APPLICATIONS

434 NW 6th Avenue
Suite 305
Portland, Oregon 97209
503 / 224-9645

November 16, 1993

Joanne Dickinson
City of Rockaway Beach
P.O. Box 5
Rockaway Beach, OR 97136

RE: Addendum sheets for the Rockaway Beach draft LWI

Dear Joanne:

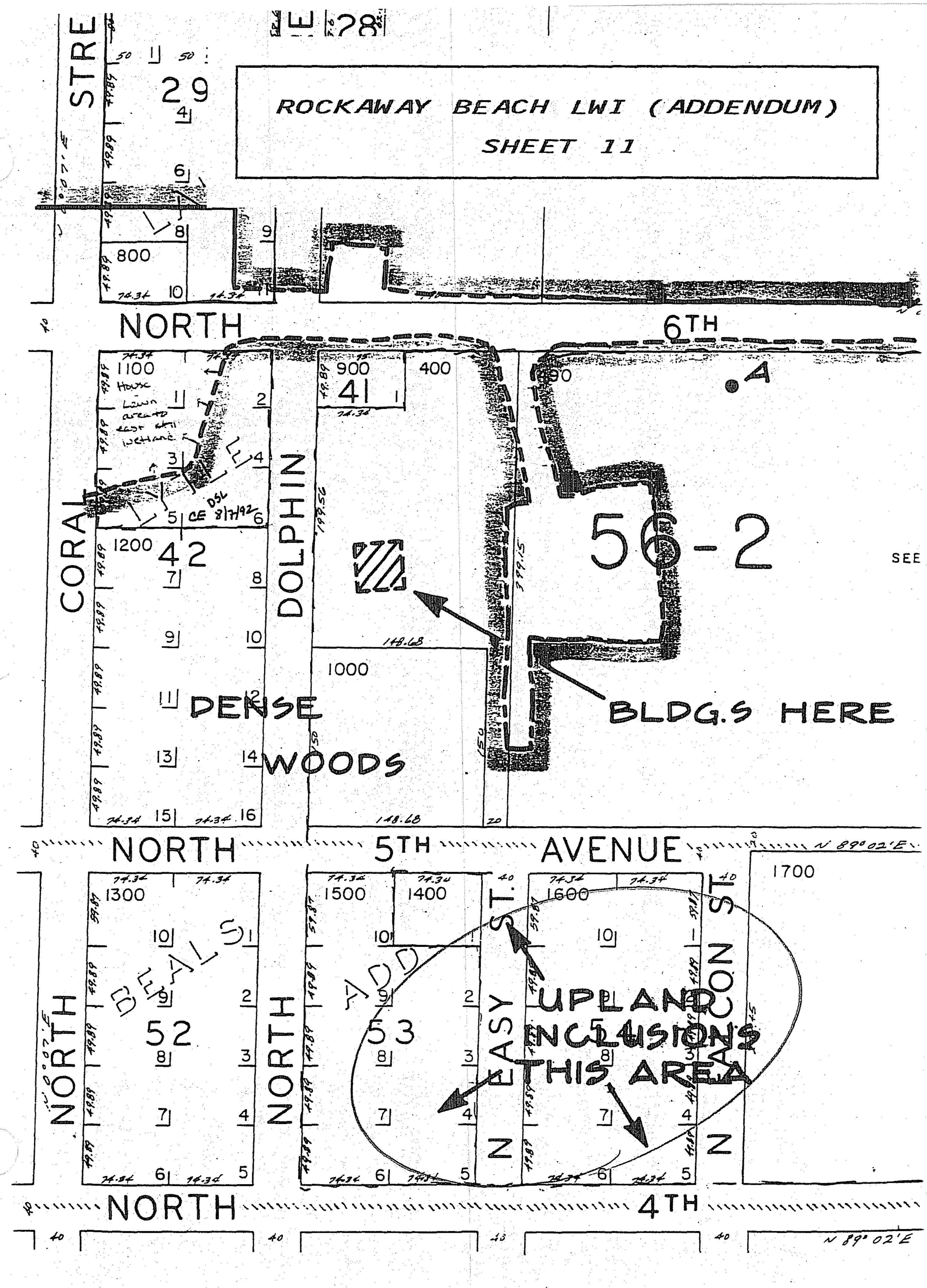
Enclosed please find four 8-1/2 x 11" addendum sheets for the Rockaway Beach draft LWI (Sheets 11, 22, 25 and 28). The sheets record the changes (circled in yellow) requested by Emily Roth of the Division of State Lands. These update sheets should be affixed to your copy of the appropriately numbered full-sized sheet (WSM June 1993 draft maps). Emily retains the originals.

Sincerely,

Todd Moses

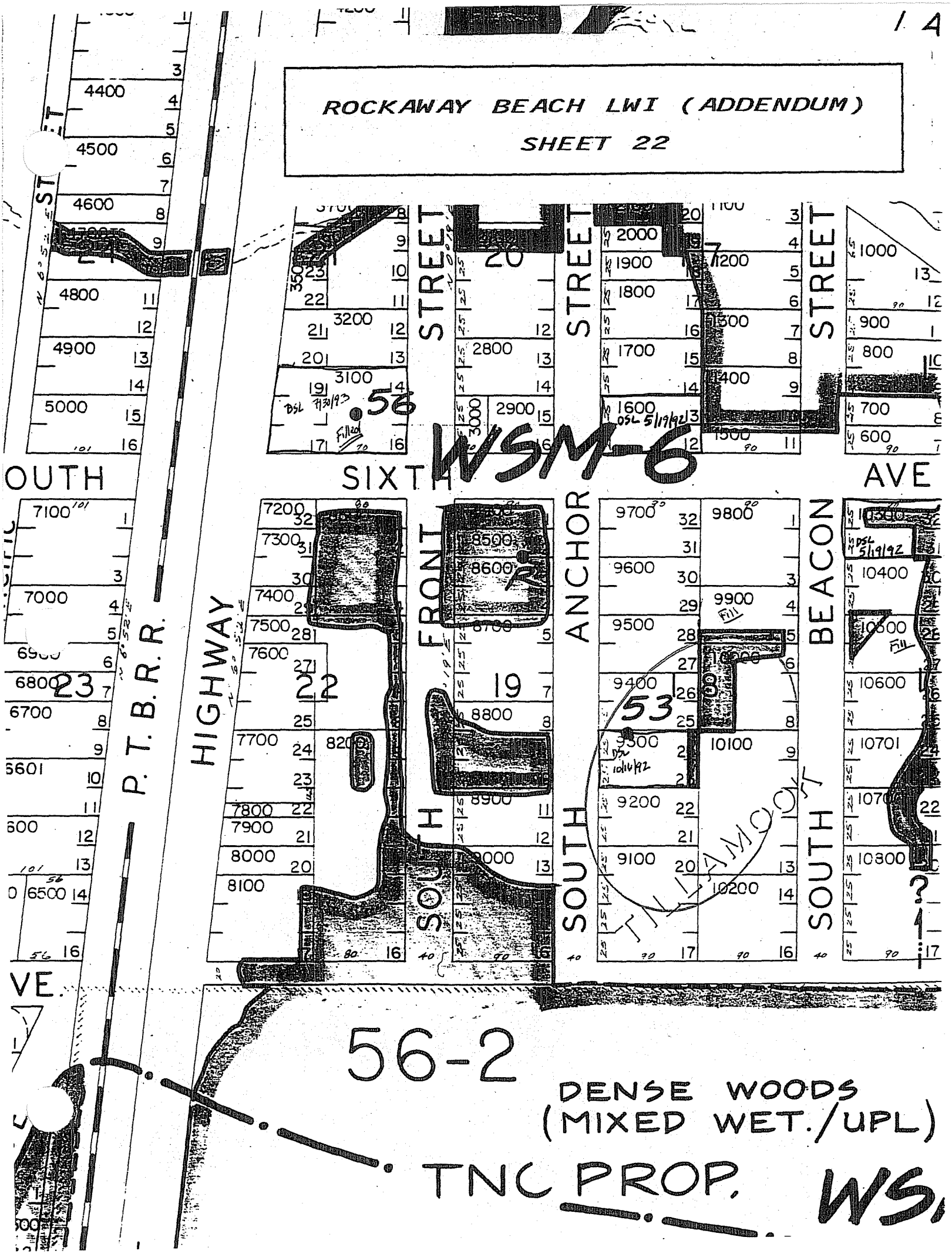
enclosures

cc: Emily Roth, DSL
Mike Morgan
Loverna Wilson


ROCKAWAY BEACH LWI (ADDENDUM)
SHEET 11
NORTH 6TH
NORTH 5TH AVENUE
NORTH 4TH
CORAL
DOLPHIN
EASY ST.
CON ST
STRE
NORTH
29
41
42
52
53
56-2
DENSE WOODS
BLDG.S HERE
UPLAND INCLUSIONS THIS AREA
BEALS ADD
800
1100
1200
900
400
1000
1300
1500
1400
1600
1700
A
SEE
N 89° 02'E
CE DSL 8/7/92

ROCKAWAY BEACH LWI (ADDENDUM)

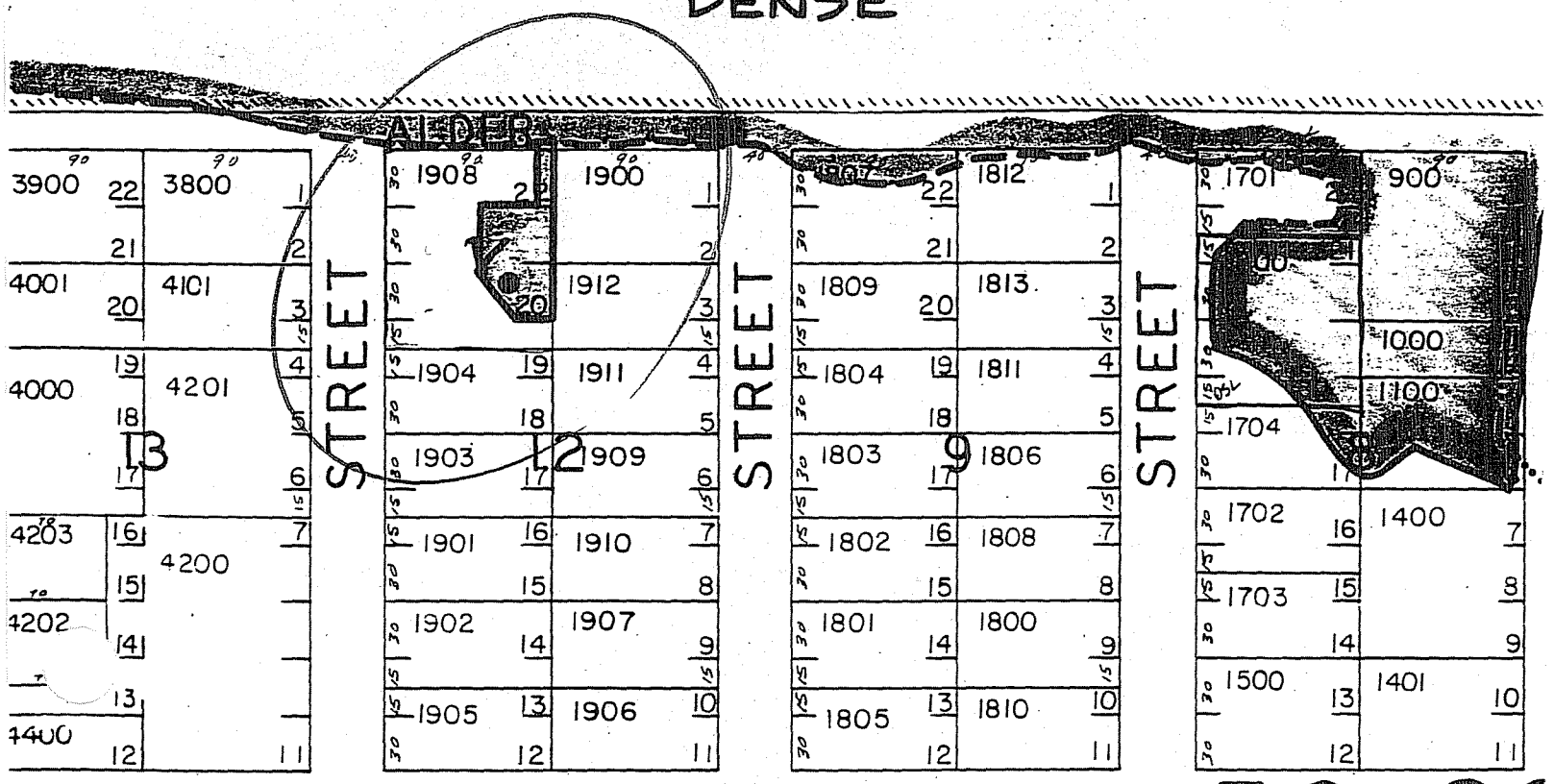
SHEET 22



ROCKAWAY BEACH LWI (ADDENDUM)
SHEET 25

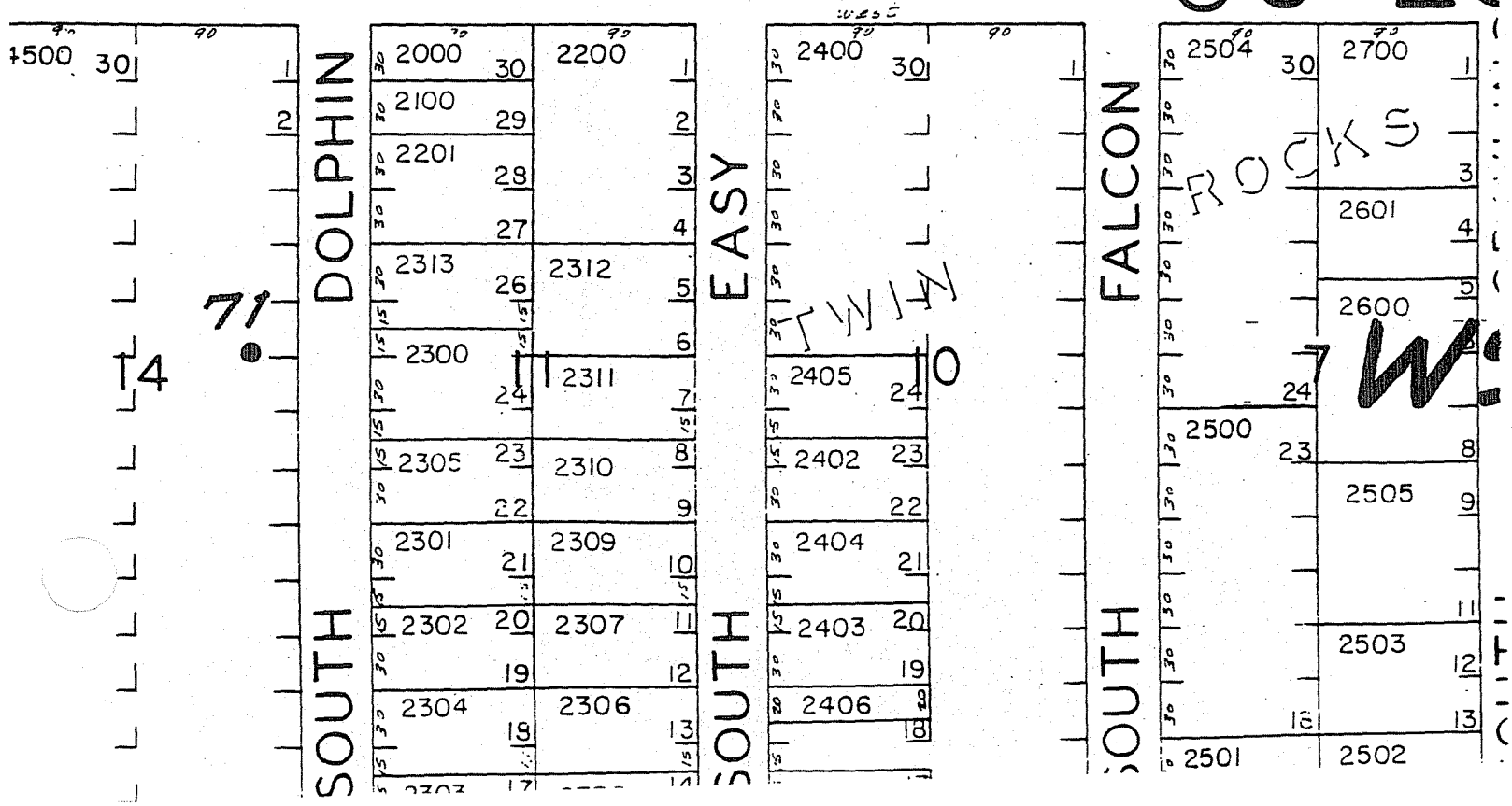
SEE MAP IN 10

DENSE

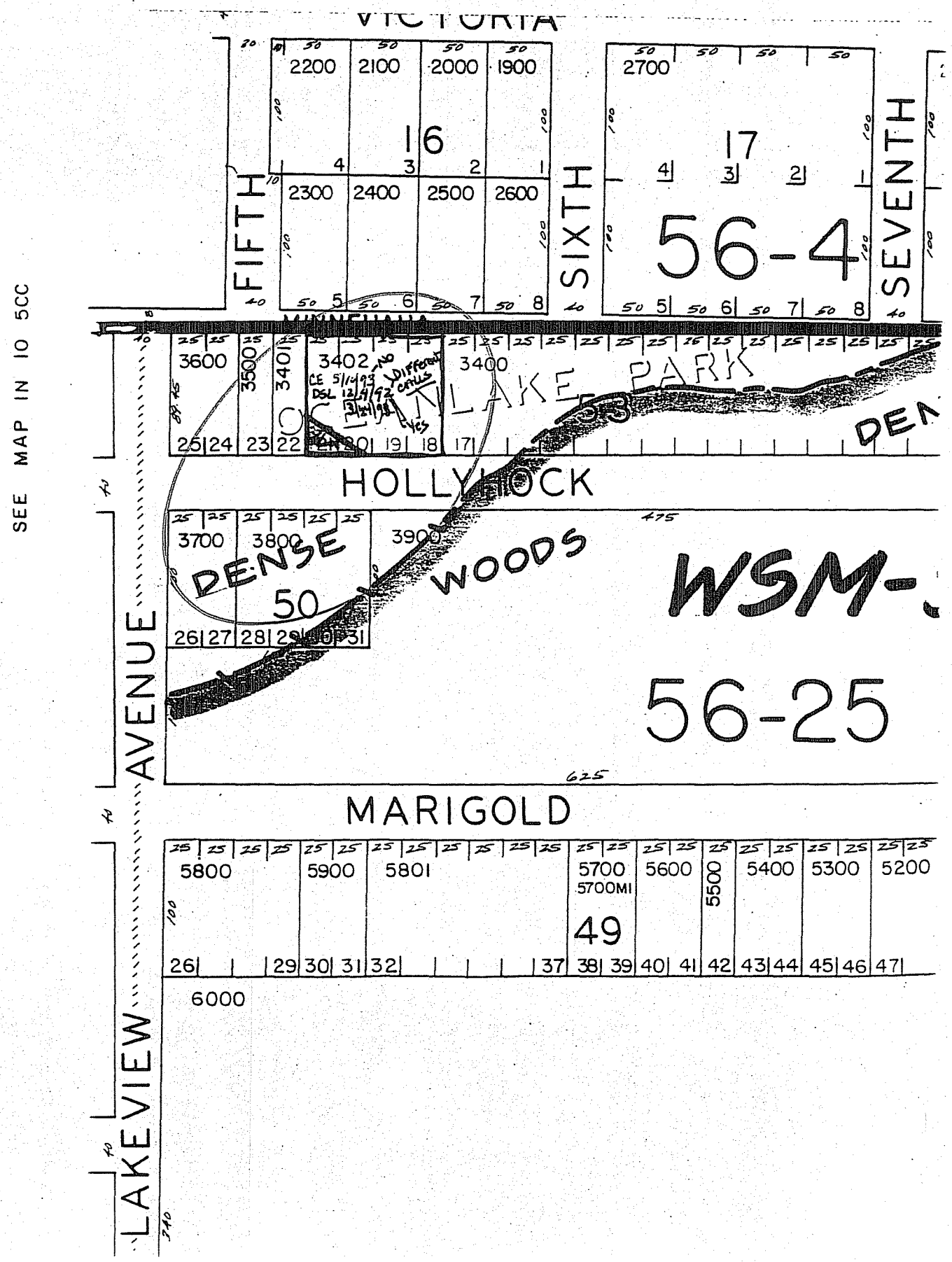


WASHINGTON

56-28



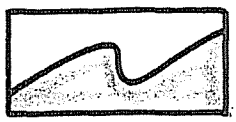
ROCKAWAY BEACH LWI (ADDENDUM)
SHEET 28



ROCKAWAY BEACH LOCAL WETLANDS INVENTORY UPDATE (June 1993)

Wilson, Scoles, Moses group (WSM): 1993
David Evans and Associates (DEA): 1991-92

KEY TO COLORED DRAFT MAPS (Bluelines)



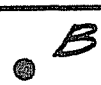
(1) Reliable -- WSM field-evaluated wetland boundary; same as original DEA boundary in some areas

(2) Reliable -- DEA or WSM boundary: appears to be correct to specified accuracy in most areas but not carefully field-evaluated by WSM

(3) Unreliable -- DEA boundary: received only cursory WSM inspection or not checked; line appears to be inaccurate in many areas and/or requires instrument survey to closely locate

(4) Unreliable -- WSM boundary (very approximate); requires instrument survey to closely locate

known culvert location



WSM Sampling Point

DEA Sampling Point evaluated by WSM

Explanation:

Wetland identification followed 1987 Corps of Engineers Manual methodology as conditioned by recent guidance from the Division of State Lands and Corps. All depicted wetland boundaries are approximate. Boundary line types (1) and (2) are considered generally reliable (accurate) within the specified Local Wetlands Inventory accuracy limits of ±25 feet. In many such areas, obvious wetlands smaller than the 0.5 acre specified lower size limit have been mapped. However, small remnant or created wetlands in man-made drainageways (e.g. roadside ditches) are generally not mapped. Boundary line type (1) was closely inspected by WSM. Boundary line type (2), while considered to be generally accurate because of bounding development patterns, topography or other features, was not carefully evaluated by the WSM team.

Boundary line types (3) and (4) are unlikey to be accurate within DSL-specified limits in many areas. These areas were not carefully evaluated because A) they were not identified as work focus areas for the WSM team, B) they possess logistical constraints such as very dense woody vegetation and an absence of nearby cultural features which prevent the practical definition of wetland boundaries on the available base maps, and/or C) trespass considerations. The eventual refinement of wetland boundaries in these areas should consist of a delineation-level analysis, including field staking and formal survey, as the need arises.

Wetland Summary Sheets

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: April 1, 1993 **Wetland Code # WSM-1**

LOCATION: Crescent Lake complex

Legal: T2N R10W, Sec 29

Other: North of NE 12th, east of Highway 101

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC, PEMC, L1UBH, L2ABH

HYDROLOGIC BASIN: Spring Creek

What did your study show? → **SOIL:** mapping unavailable

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Carex obnupta*
Picea sitchensis	*Rubus spectabilis*	*Lysichitum americanum*
Tsuga heterophylla	*Spiraea douglasii*	
Thuja plicata	*Sambucus racemosa*	
Pseudotsuga menziesii		

COMMENTS:

Emergent and shrub-scrub wetlands form a broad fringe along Crescent Lake (primarily on the east side) and the slough linking it to Lake Lytle, forming a large contiguous area with very high wetland value. These lowland communities merge with progressively higher, forested ground to the east. These heavily forested areas are a mosaic of upland and wetland communities. Wetlands occur along minor watercourses and as pockets within the wetland/upland mosaic. Most development is located west of the lake along Highway 101.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: April 1, 1993 **Wetland Code # WSM-2**

LOCATION: Lake Lytle complex

Legal: T2N R10W, Sec 32 (N 1/2), Sec 29 (S 1/2)

Other: East side of Highway 101, south of NE 12th, north of N Third

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC, PEMC, PUBH, L1UBH

HYDROLOGIC BASIN: Spring Creek/Steinhuber Creek

SOIL: mapping unavailable

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Carex obnupta*
Picea sitchensis	*Rubus spectabilis*	*Lysichitum americanum*
Tsuga heterophylla	*Spiraea douglasii*	*Oenanthe sarmentosa*
Thuja plicata	*Sambucus racemosa*	*Scirpus microcarpus*
Pseudotsuga menziesii		*Juncus effusus*

COMMENTS:

A complex of wetland communities similar to those on Crescent Lake occur along Lake Lytle, with emergent and shrub-scrub communities forming a band along the lake edges, with a forested upland/wetland mosaic on higher ground, especially on the east side.

This site, like Crescent Lake, is a large contiguous wetland area with high wetland values. A remnant sphagnum bog community is located in the southern part of the complex on the east side of Highway 101. The bog extends east from the highway along the undeveloped North Forth Street right-of-way to at least the vicinity of the small pond north of the city park. This unique community is rare in Oregon.

Most development in the area has been limited to Highway 101 and a few isolated sites along North Sixth Street.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: March 30, 1993 **Wetland Code # WSM-3**

LOCATION: Seaview Lake

Legal: T2N R10W, Sec 32 (SW 1/4)

Other: East of Highway 101; between Highway 101 and Coral St.; between N First and N Second

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PUBHx

HYDROLOGIC BASIN: Rock Creek

SOIL: mapping unavailable

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
	Salix spp.	*Juncus effusus* *Ranunculus repens* *Holcus lanatus*

COMMENTS:

This is a small excavated pond in a heavily used commercial and residential area. The pond has steep banks and only a narrow fringe of wetland vegetation. Wetland values are relatively low because of small size and isolation from other wetlands.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: March 27, 1993 **Wetland Code # WSM-4**

LOCATION:

Legal: T2N R10W, Sec 32 (SW 1/4)

Other: East of Highway 101; south of N Third on Dolphin; TL 5600, 6600, 7400

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PEMC,

HYDROLOGIC BASIN: Rock Creek

SOIL: mapping unavailable

Typical colors: (Site C)

0-8" 10YR 3/2; mottles common, distinct, 7.5YR 3/4; silt loam; moist - saturated.
8-16" 2.5YR 3/2; mottles many, distinct, 7.5YR 3/3-4; loam; saturated
>16" 5Y 4/2 to 5GY 5/; mottles many prominent, mixed; silty clay loam; saturated

DOMINANT VEGETATION:

Canopy	**Shrub Layer**	**Herbaceous Layer**
Alnus rubra	*Salix spp.*	*Scirpus microcarpus* *Holcus lanatus* *Juncus effusus*

COMMENTS:

This is a small remnant wetland in an old residential area. Some recent wetland alterations have occurred in this area. Wetland value is low because of small size, isolation, disturbance, and marginal wetland hydrology.

[Note: This little area is probably part of the Seaview Lake hydrologic area, but by the time I realized it, it was too late to consolidate them and renumber the rest of the wetlands. We can do that on the final map if you like. L. Wilson]

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Wetland Code # WSM-5

Date of Field Verification: March 29 - April 1, 1993
May 27, 1993

LOCATION: Rock Creek complex

Legal: T2N R10W, Sec 32 (S 1/2)

Other: East of Highway 101, between Nehalem and S Third; at the east end, extending south of S Third between Keel and Palisade

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC, PEMC, PABH

HYDROLOGIC BASIN: Rock Creek

SOIL: mapping unavailable

Typical colors: (site L)

0-10" 10YR 3/3; no mottles; loam
>10" 5Y 3/1-2; mottles many, prominent, 7.5YR 3/4; sat.

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Lysichitum americanum*
	Rubus spectabilis	*Carex obnupta*
	Lonicera involucrata	*Oenanthe sarmentosa*
	Sambucus racemosa	*Ranunculus repens*
		Maianthemum dilatatum

COMMENTS:

The lower part of this wetland system was a very broad floodplain wetland, but it has been severely fragmented and partially dewatered by road and housing construction, filling, and ditching. Much of this alteration is historical, although localized filling continued currently. Most areas are palustrine forested wetlands. There are several sites that could provide good restoration/mitigation opportunities.

Wetland Summary Sheet - WSM-5 (continued)

A large area of forested wetland/upland mosaic associated with several small ponds and the wooded riparian corridor of Rock Creek remains in the upper (east) part of the drainage in the vicinity of Rock Creek Road and Marine Street. This largely undeveloped area possesses high wetland values and excellent restoration/mitigation opportunities.

A large area of shrub-scrub and forested wetland between South Third and South Second Avenues (spanning undeveloped South Coral Street right-of-way) is included in this complex although drainage patterns here are unclear. Despite its size, isolation and the location of this site in the midst of commercial and residential development somewhat reduces its overall wetland value.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Wetland Code # WSM-6

Date of Field Verification: March 29-31, 1993
May 27, 1993

LOCATION: Clear Lake complex (including north TNC property)

Legal: T1N R10W, Sec 5 (NW 1/4)

Other: East of Highway 101, between Highway 101 and Easy Street, from S Third to S Seventh

SIZE: (outside scope of work)

NWI CLASSIFICATION: PFOC, PSSC, PEMC, PABH, PUBH, R1UBV

HYDROLOGIC BASIN: Clear Lake

SOIL: mapping unavailable

Typical colors: (Site R)

0-11" 7.5YR 3/2; silt loam; very moist to saturated
>11" 10YR 3/1-2, silty clay; saturated

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Lysichitum americanum*
Picea sitchensis	*Lonicera involucrata*	*Carex obnupta*
	Rubus spectabilis	*Oenanthe sarmentosa*
		Juncus effusus

COMMENTS:

At the northeast end of this complex (at South Third Avenue and Easy Street) is a large sewage treatment pond. A trailer park and other development has occurred in this area, but a large block of high quality shrub-scrub and forested wetland remains between the treatment pond and Clear Lake to the south.

Wetland Summary Sheet - WSM-6 (continued)

The Clear Lake complex also encompasses the north part of The Nature Conservancy (TNC) property south of Clear Lake. This property preserves a large contiguous stand of old growth conifers in a mosaic of wetland and upland plant associations. Most of the extensive wetland area between Clear Lake and TNC property has now been fragmented by historical and present-day filling for development.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: May 27, 1993 **Wetland Code # WSM-7**

LOCATION: The Nature Conservancy complex (south TNC property)

Legal: T1N R10W, Sec 5

Other: East of Highway 101, south of S Seventh to Washington, from Breaker to Juniper, plus a small drainage from Washington to Stark between Harbor and Juniper.

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC

HYDROLOGIC BASIN: North Twin Rocks Basin (DEA map)

SOIL: mapping unavailable

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Lysichitum americanum*
Picea sitchensis	*Rubus spectabilis*	*Carex obnupta*
Tsuga heterophylla	*Spiraea douglasii*	*Oenanthe sarmentosa*
Thuja plicata		*Juncus effusus*
Pseudotsuga menziesii		

COMMENTS:

This area encompasses most of TNC property which for convenience is mapped as all wetland. It actually encompasses both forested wetland and upland habitat types with many old growth trees, snags, and large downed woody debris. Although not analyzed in this study, the area is apparently primarily wetland in the lower ground at the west end, becoming progressively drier to the east as elevation increases.

A small wedge-shaped area included in this unit is on the west side of Highway 101 and the railroad tracks. This is dominated by Salix, Spiraea, and Carex obnupta.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Date of Field Verification: April 1, 1993 **Wetland Code # WSM-8**

LOCATION: Lake Marie/Railroad complex

Legal: T1N R10W, Sec 5 (SW 1/4), Sec 6 (SE 1/4)

Other: East from Breaker to S Front St. and First Ave.; and south from Washington to Minnehaha

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC, PEMC, PABH, PUBH

HYDROLOGIC BASIN: North Twin Rocks Basin (DEA map)

SOIL: mapping unavailable

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana* *Spiraea douglasii*	*Carex obnupta* *Potentilla pacifica* *Oenanthe sarmentosa* *Juncus effusus*

COMMENTS:

This complex includes the small Lake Marie and related wetlands on both sides of Highway 101. This area was apparently once contiguous before it was bisected by the highway and railroad tracks. The area supports mostly older residential and commercial development. Fragmentation in this area reduces its wetland values.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

WETLAND SUMMARY SHEET

Wetland Code # WSM-9

Date of Field Verification: March 29-32, April 1, 1993
May 27, 1993

LOCATION: Spring Lake complex

Legal: T1N R10W, Sec 5 (SW 1/4)

Other: East from Highway 101 to Laurel; south from Minnehaha to Spring Lake

SIZE: (outside scope of work)

NWI CLASSIFICATION:* PFOC, PSSC, PEMC, PUBH

HYDROLOGIC BASIN: Spring Lake/Heitmiller Creek

SOIL: mapping unavailable

Typical colors: (Site X)

0-14" 7.5YR 3/2; no mottles, loam (histic epipedon); saturated

DOMINANT VEGETATION:

Canopy	Shrub Layer	Herbaceous Layer
Alnus rubra	*Salix hookerana*	*Lysichitum americanum*
Picea sitchensis	*Lonicera involucrata*	*Carex obnupta*
Thuja plicata	*Rubus spectabilis*	*Juncus effusus*
	Spiraea douglasii	

COMMENTS:

A large area of contiguous forested wetland and upland extends eastward from Spring Lake and northeast along the Heitmiller Creek corridor. Spring Lake is fringed with emergent and shrub-scrub wetlands. Wetland values are high because of large size and minimal fragmentation, although wetland alterations have occurred at the edges of this area. Most development has occurred along Highway 101 at the north and south ends of the lake, and along the stream corridor and associated wetlands northeast of the lake.

*NWI classification codes are given at the end of this section.

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

NATIONAL WETLANDS INVENTORY (NWI)
CLASSIFICATION CODES

The following are the NWI classification codes relevant to the Rockaway LWI (from USFWS NWI Maps, Garibaldi, Oreg. and Nehalem, Oreg. 7.5" quads.)

L1UB = lacustrine limnetic unconsolidated bottom
L2AB = lacustrine littoral aquatic bed

PAB = palustrine aquatic bed
PEM = palustrine emergent
PFO = palustrine forested
PSS = palustrine shrub-scrub
PUB = palustrine unconsolidated bottom

R1UB = riverine lower perennial aquatic bed

non-tidal:

C = seasonally flooded
H = permanently flooded
x = excavated

tidal:

V = permanently flooded

Data Sheets

WSM map (18)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.2N, R.10W, SE 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: _____
Wetland No.: WSM-5 Plot No.: WSM-5a (DEA 5)
Tax Map/Lots: 2N10 32 DC; between TL 2700 & 1700
Condition: disturbed - cut for roadway
Plot Location: North of S. Second Ave., in Ocean St. ROW Between TL 2700 & 1700.
Landform: road cut in hillside (old)
Normal Circumstances? YES/NO/UNK
Topography: flat
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Scirpus microcarpus	OBL	30	H	✓					
Carex obnupta	OBL	50	H	✓					
Veronica americana	OBL	10	H						
Juncus effusus	FAW+	15	H						
Holcus lanatus	FAC	40	H	✓					
Lotus corniculatus	FAC	20	H						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: _____

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: Poorly drained Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-6"	10YR-5Y 3/1	no; SiL, saturated
AC	6-12"	2.5Y 3/2 to 5Y 3/1	; SiL, saturated
C	7 12"	5Y 4/1	decaying rock frags = 7.5YR 4/6
	refusal at 17"		

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE has sufficient positive indicators in criteria depth
Comments: Soil was removed to make roadway - intercepted water perched on weathered bedrock

HYDROLOGY

Inundation and Depth: YES/NO/UNK 1-2 IN. Depth of Major Portion of Root Zone: 6 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO at surface IN.
Hydrology Alteration: YES/NO road cut intercepted water perched on weathered bedrock
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE has ground water seepage that meets criteria
Comments: _____

DETERMINATION

Jurisdictional Wetland? YES/NO ? May be too small to be jurisdictional
Comments: wetland area - ~ 30' wide by 75' long

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM map (18)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1(N)/S, R.10W, ___ 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: 11:20 am
Wetland No.: WSM-5 Plot No.: WSM-6a (DEA6)
Tax Map/Lots: 2N 10 32 DC
Condition: undisturbed
Plot Location: North of S. Second Ave, east roadside of Palisades, ~ 250' N of S. Second.
Landform: adjacent to road, backslope sloping W
Normal Circumstances? YES/NO/UNK
Topography: " " " , hummocky, logged historically
Atypical Situation? (YES)/NO/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Scirpus microcarpus	OBL	15	H	✓					
Juncus effusus	JUOF	15	H	✓					

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Above road cut: hemlock, alder, twinberry, salal, evergreen and red huckleberry, swordfern — upland

SOIL

Series/Phase: ___ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/(NO)
Classification: ___ Drainage Class: poorly Aquic Conditions? YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
C	0-8"	—	fill material: mixed colors & rock
A	8-12	2½ Y 3/2	silt loam, saturated
C	12"	—	subsoil — 10YR 5/8 & 5Y 5/1 in swirls; occ. weathered rock

Criteria Depth: (12) 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/(INDEFINITE) Partially filled; maybe partially excavated
Comments:

HYDROLOGY

Inundation and Depth: (YES)/NO/UNK 3 IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO at surf. IN.
Hydrology Alteration: (YES)/NO roadside ditch intercepts hillside ⇒ seepage
Wetland Drainage Pattern: (YES)/NO Pattern Type: Roadcut - partially filled depression
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ✓ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE
Comments: water flows S in ditch to South Second Ave.

DETERMINATION

Jurisdictional Wetland? YES/(NO)?
Comments: Created wet area — impounded by road fill — seepage created by road cut.

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 2N, R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3/29/93 Time: 5:30 p.m.
Wetland No.: WSM-5 Plot No.: WSM-26a (DEA 26)
Tax Map/Lots: 2N10 32CD between 5300 & 4300
Condition: Undisturbed
Plot Location: At end of fill material, Grayling ROW south of Nehalem
Landform: bottomland
Normal Circumstances? (YES)/NO/UNK
Topography: flat
Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Carex obnupta	OBL	25	H	✓	Rubus spectabilis	FAC	5	SS	
Lysichitum americanum	OBL	20	H	✓	Alnus rubra	FAC	45	T	✓
Oenanthe sarmentosa	OBL	15	H	✓					
Scirpus microcarpus	OBL	15	H	✓					
Ranunculus repens	FACW	5	H						
Sambucus racemosa	FACU	1	SS						

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Shift to upland is abrupt at edge of slope up; hemlock, Red alder, Salal, Red huckleberry, sword fern; are dominant on slope

SOIL

Series/Phase: _____ Survey Mapping Verified? (NOT PUBLSHD) Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: _____ Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
		not sampled	

Criteria Depth: _____ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE assumed - inundation present ✓
Comments:

HYDROLOGY

Inundation and Depth: (YES)/NO/UNK 2-3 IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO _____ IN.
Hydrology Alteration: YES/(NO)
Wetland Drainage Pattern: (YES)/NO Pattern Type: _____
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE
Comments:

DETERMINATION

Jurisdictional Wetland? (YES)/NO all three parameters met.
Comments:

Field Investigator(s): (T.Moses), (P.Scoles), (L.Wilson) Checked By: L. Wilson

WSM Map (17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T 3N, R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3/29/93 Time: 5:40
Wetland No.: WSM-5 Plot No.: WSM 26b (DEA 26)
Tax Map/Lots: 2N10 32cD between 5300 & 4300
Condition: Undisturbed
Plot Location: South of Nehalem, end of Grayling; transition point from wetland to upland
Landform: footslope
Topography: at break in slope at bottom
Normal Circumstances? (YES)/NO/UNK
Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
RUSP	FAC	60	SS	✓					
RUDI	FACU-	(5)	SS						
LOIN	FAC	30	SS	✓					
ALRU	FAC	50	T	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/(INDEFINITE) 100% of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: All FAC or FACU- - Transition zone on wetland edge; FAC-dominated communities not indicative of wetlands on Oregon coast (See Plot 8, comments)

SOIL

Series/Phase: Survey Mapping Verified? (NOT PUBLSHD) Hydric Soils List:? YES/NO
Classification: Drainage Class: Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-14"	10YR 2/1-2	OG debris - a lot
	14"+	10YR 3/2	very moist

Criteria Depth: ____ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: (NONE) ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/(NO)/INDEFINITE
Comments:

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK ____ IN. Depth of Major Portion of Root Zone: ____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/(NO) ____ IN.
Hydrology Alteration: YES/(NO)
Wetland Drainage Pattern: YES/(NO) Pattern Type:
Other Indicators: (NONE) ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/(NO)/INDEFINITE
Comments:

DETERMINATION

Jurisdictional Wetland? YES/(NO) Lacks wetland indicators in all three parameters.
Comments: This is on transition from wetland to upland

Field Investigator(s): (T.Moses, P.Scoles, L.Wilson) Checked By: L. Wilson

WSM map (17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 2N / S, R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: 4:30 pm
Wetland No.: WSM-5 Plot No.: WSM-3a (DEA 3)
Tax Map/Lots: 2N10 32cD #8500 (BLOCK 61)
Condition: cleared, poisoned in 1992
Plot Location: NE corner, S 2nd & Easy, center of lot
Landform: Alluvial terrace
Normal Circumstances? YES/NO/UNK
Topography: flat
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
SCMI	OBL	90	H	✓					
RUDI	FACW-	70	W	✓					
Equisetum telmateia	FACW	40	H	✓					
Salix	FACW-OBL	20	SS	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 75 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments:

SOIL

Series/Phase:
Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification:
Drainage Class: SWD
Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-7"	10YR 3/4	NO; loam, mois+
AB	7-12"	10YR 3/3	loam; can't distinq. mottles from decaying rock, very moist
B	>12"	2½ Y 3/2	few disknct 7.5 YR 3/4; saturated

Criteria Depth: 6 (10 or more just below A layer) IN.
Effectively Drained? YES/NO/UNK (Partially)
Relic Characteristics? YES/NO/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION
Soil Criterion Met? YES/NO/INDEFINITE (lacks soil saturation near surface) Hydrologic indicator
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN.
Depth of Major Portion of Root Zone: 7 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 12 IN.
Hydrology Alteration: YES/NO perimeter ditching along S. Second & S. Easy St.
Wetland Drainage Pattern: YES/NO Pattern Type:
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES
Hydrology Criterion Met? YES/NO/INDEFINITE lacks saturation in major part of root zone
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO Lacks suffiziont (soil & hydrol. indicators
Comments: House on site till 4-5 years ago — herbacided last year

Field Investigator(s): T.Moses, P.Scoles, L.Wilson
Checked By: L Wilson

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH | Project/City: ROCKAWAY BEACH LWI
T, R, S: T.2N, R.10W, SW 1/4 OF SEC. 32 | County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: 5:40p.m. | Wetland No.: WSM-5 Plot No.: (DEA 38) WSM 386
Tax Map/Lots: 2N10 32CD #5800 | Condition: mowed lawn
Plot Location: Falcon (E side) North of 2nd, center of lot
Landform: Alluvial terrace | Normal Circumstances? YES/NO/UNK
Topography: flat, possibly graded for lawn | Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
lawn grass		100	H	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/(INDEFINITE) ____% of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: this lawn has been here since 1947

SOIL

Series/Phase: ____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List? YES/(NO)
Classification: ____ Drainage Class: SWP Aquic Conditions? YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
AC	0-7"	10YR 3/4	loam, no mottles, moist
2C	7-18"		sand, no mottles, moist
3C	18-116"	2.5Y 4/2	7.5YR 3/4 mottles common distinct, silt loam, very moist

Criteria Depth: 6 IN. Effectively (partially) Drained? (YES)/NO/UNK Relic Characteristics? YES/(NO)/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION
Soil Criterion Met? YES/(NO)/INDEFINITE lacks soil saturation in uppermost horizon
Comments:

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK ____ IN. Depth of Major Portion of Root Zone: 7" IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 17 IN.
Hydrology Alteration: (YES)/NO ditching along Falcon St.
Wetland Drainage Pattern: YES/(NO) Pattern Type: ____
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES
Hydrology Criterion Met? YES/(NO)/INDEFINITE lacks wetness in major part of root zone
Comments:

DETERMINATION

Jurisdictional Wetland? YES/(NO) lacks sufficient soil & hydrol. indicators.
Comments:

Field Investigator(s): T.Moses, (P.Scoles), (L.Wilson) Checked By: L. Wilson

WETLAND DETERMINATION DATA SHEET

Applicant:	CITY OF ROCKAWAY BEACH	**Project/City:**	ROCKAWAY BEACH LWI
T, R, S:	T1N, R.10W, SW 1/4 OF SEC. 32	**County, State:**	TILLAMOOK COUNTY, OREGON
Field Date:	3-29-93 **Time:** 5:00 pm	**Wetland No.:**	WSM-5, **Plot No.:** WSM 38a (DEA 38)
Tax Map/Lots:	2N10 32CD #5800 (BLOCK 62)	**Condition:**	disturbed
Plot Location:	On Falcon, N of 2nd (2nd lot, E side of road, S side of lot) TL 5800		
Landform:	Alluvial Terrace	**Normal Circumstances?**	(YES)/NO/UNK
Topography:	gently sloping to west	**Atypical Situation?** YES/(NO)/UNK	**Problem Area?** YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Sambucus racemosa	FACU	40	SS	✓					
Ranunculus repens	FACW	20	H	✓					
LYAM	OBL	10	H	✓					
RUDI	FACU-	50	W	✓					
ALRU	FAC	50	T	✓					

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 60 % of domin. species are OBL, FACW, FAC+ and/or FAC

Comments: Edge of lawn – (E edge)

SOIL

Series/Phase: ____ **Survey Mapping Verified?** NOT PUBLSHD. **Hydric Soils List?** YES/(NO)

Classification: ____ **Drainage Class:** SWP **Aquic Conditions?** YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-10"	10 YR 4/2	Common dist 5YR 3/4 loam, moist. ←
B1	10-13"	2.5Y 4/2	7.5YR 4/6; loam, moist; (many prominent mottles)
B2	13-18"	" +	" ; mottle & matrix interturned, indistinguishable, very moist
B2	>18"	2.5Y 3/2	7.5YR 3/4 common, distinct; loam, saturated

Criteria Depth: 10 IN. **Effectively Drained?** YES/(NO)/UNK **Relic Characteristics?** YES/(NO)/UNK

Other Indicators: ✓ NONE ____ GLEYED MATRIX ____ HISTOSOL/HISTIC EPIPEDON ____ CONCRETIONS ____ SULFIDIC ODOR ____ SANDY W/ORGANIC ACCUMULATION

? → **Soil Criterion Met?** (YES)(NO)/INDEFINITE lacks [soil saturation] near surface hydrology

Comments:

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK ____ IN. **Depth of Major Portion of Root Zone:** 10 IN.

Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) **Water Table and Depth:** (YES)/NO 18 IN.

Hydrology Alteration: (YES)/NO surrounding urbanization

Wetland Drainage Pattern: YES/(NO) Pattern Type: ____

Other Indicators: ✓ NONE ____ SEDIMENT DEPOSITS ____ WATER-STAINED LEAVES ____ DRIFT LINES ____ WATER MARKS ____ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/(NO)/INDEFINITE lacks wetness in major part of root zone

Comments:

DETERMINATION

Jurisdictional Wetland? YES/(NO) lacks sufficient soil & hydrol. indicators.

Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson **Checked By:** L. Wilson

WSM Map (11)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3N, R. 10W, NW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 4/1/93 Time: _____
Wetland No.: WSM-2 Plot No.: ~~WSM-1~~ (A)
Tax Map/Lots: 2N10 32 BD, TL 4900
Condition: Undisturbed
Plot Location: (WSM Map # 11) - South side of N. Sixth Ave., between Dolphin & Juniper
Landform: flat, old lake margin
Normal Circumstances? YES/NO/UNK
Topography: _____
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
SCMI	OBL	75	H	✓					
VAEF	FAW+	10	H	✓					
LYAM	OBL	15	H	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Nearly areas have CAOB & Salix; all areas other than fills have wetland veg.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: Poorly drained Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics

Criteria Depth: _____ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE
Comments: SOIL NOT SAMPLED; AQUIC MOISTURE REGIME

HYDROLOGY

Inundation and Depth: YES/NO/UNK >6 IN. Depth of Major Portion of Root Zone: not eval. IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 0 IN.
Hydrology Alteration: YES/NO
Wetland Drainage Pattern: YES/NO Pattern Type: bottomland
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS X WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE has ground water saturation in criteria depth
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO All three parameters satisfied
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (13)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3 N / S, R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 4:00 pm
Wetland No.: WSM-2 Plot No.: (B)
Tax Map/Lots: 2N 10 32 CB, Block 15, TL 100
Condition: undisturbed
Plot Location: North central part of TL 100, SW corner of N. Fourth and Coral
Landform: Normal Circumstances? (YES)/NO/UNK
Topography: flat bench Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Alnus rubra	FAC	30	T	✓	Polystichum munitum	NL	10	H	✓
Pinus fusca	FAC+	30	S	✓	Carex obnupta	OBL	10	H	✓
Crataegus douglasii	FAC	5	S	✓	Blechnum spicant	FAC+	1	H	
Rubus spectab.	FAC	5	S	✓	Athyrium filix-femina	FAC	1	H	
Gaultheria shallon	NL	5	S	✓			1		
Sorbus scopulina	NI	1	S						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE ~Yes 71 % of domin. species are OBL, FACW, FAC+ and/or (FAC)
Comments: On the rainy north coast, a plant community dominated by FAC species (plus salal and swordfern) is not an indicator of wetland conditions.

SOIL

Series/Phase: Survey Mapping Verified? NOT PUBLSHD Hydric Soils List:? YES/NO
Classification: Drainage Class: SWP Aquic Conditions? YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-6	10YR 2/1	None; SiL; vMoist
AB	6-13	10YR 3/2	Many dist. 7.5YR 4/4-6; SiL; Sat.
B	13->17"	10YR 3/3	common dist.; SiL; Sat

Criteria Depth: 10 IN. Effectively Drained? (YES)/NO/UNK Relic Characteristics? (YES)/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE has aquic moisture regime, and positive indicators.
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 8 IN.
Hydrology Alteration: (YES)/NO surrounding areas filled
Wetland Drainage Pattern: YES/(NO) Pattern Type:
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE has ground water saturation in criteria depth
Comments:

DETERMINATION

Jurisdictional Wetland? (YES)/NO Plant community composition indicates this
Comments: site is not wet enough — salal (GASH.) and swordfern (POMU) plus FAC-dominated community is typical upland mix on the rainy north coast.

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 5 N / S, R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 3:25 pm
Wetland No.: WSM-4 Plot No.: (C)
Tax Map/Lots: 4N 10 32CA, Block 12, TL 7400
Condition: Undisturbed
Plot Location: South of N. Third, E side of Dolphin; middle of lot
Landform: depression
Normal Circumstances? YES/NO/UNK
Topography: flat
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Holcus lanatus	FAC	60	H	✓					
Scirpus microcarpus	FACW	25	H	✓					
Anthoxanthum odoratum	FACU	10	H	✓					
Poa sp.	–	1	H						
Lotus corniculatus	FAC	5	H	✓					
Equisetum telmateia	FACW	5	H	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 80 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments:

SOIL

Series/Phase:
Survey Mapping Verified? NOT PUBLSHD Hydric Soils List:? YES/NO
Classification:
Drainage Class: PD
Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-8"	10 YR 3/2	Common dist 7.5 YR 3/4; SiL, VM-Sat.
B	8-16"	2.5Y 3/2	Many dist 7.5 YR 3/3-4; L; Sat.
Bg	>16"	5Y 4/2 to 5GY 5/1	Many prom. mixed; SiCL; Sat

Criteria Depth: 10 IN.
Effectively Drained? YES/NO/UNK
Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ✓ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE has sufficient positive indicators in criteria depth
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN.
Depth of Major Portion of Root Zone: 6" IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON)
Water Table and Depth: YES/NO 6" IN.
Hydrology Alteration: YES/NO adjacent areas filled
Wetland Drainage Pattern: YES/NO Pattern Type: remnant swale
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE has ground water saturation in criteria depth
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO All three parameters satisfied.
Comments:

Field Investigator(s): T. Moses, P. Scoles, L. Wilson
Checked By: L. Wilson

WSM Map 16

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 2 N / S, R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 4-1-93 Time: _____
Wetland No.: WSM-5 Plot No.: DW70 (D)
Tax Map/Lots: 2N10 32CC, BLOCK 59 TL 1400
Condition: Old fill
Plot Location: North of S. Second, East side of Coral *
Landform: _____
Normal Circumstances? (YES)/NO/UNK
Topography: Level
Atypical Situation? YES/NO/(UNK) Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
ALRU	FAC	25	T	x	LYAM	OBL	15	H	X
SALIX SP.	FAC-0.31	40	T	x	MADI	FACW-	15	H	X
LOIN	FAC	10	S						
RUSP	FAC	40	S	x					
RUDI	FACW-	20	V	X					
Ribes	-		S						

Hydrophytic Vegetation Criterion Met? YES/NO/(INDEFINITE) 67 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: much bare ground, litter covered; Ribes sp. is creeping; small forested stands of SCMI close to ditch. Percent of FAC/FACW is also 67% - see comment on plot B.

SOIL

Series/Phase: Fill Material Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: SWP Aquic Conditions? YES/(NO)/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-15"	10YR 3/4 & 2.5Y 6/3 (rock)	loam, moist no mottles.
Below fill	5Y 2.5-3/1	many prom. 5YR 3/3 mottles, loam saturated	
Fill material along Coral St. is 0-12" 10YR 3/2 no mottles.			
grassy loam, V. moist - saturated			

Criteria Depth: 10 IN. Effectively Drained? (YES)/NO/UNK (Filled) Relic Characteristics? (YES)/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/(NO)/INDEFINITE
Comments: Native soil begins at 15"; No color change in fill material even though old.

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth (YES)/NO 10 IN.
Hydrology Alteration: (YES)/NO urban development to W, S, N
Wetland Drainage Pattern: YES/(NO) Pattern Type: Filled
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/(INDEFINITE)
Comments: Heavy rain last night, unlikely water table approaches surface (major part of root zone)

DETERMINATION

Jurisdictional Wetland? YES/(NO) Soil & vegetation parameters not satisfied.
Comments: * Old fill (prob. > 10 years)

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (16)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3 N R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 9-31-93 Time: 11:00
Wetland No.: _____ Plot No.: ~~DD6~~ (F)
Tax Map/Lots: 2N 10 32 CC Block 51, TL 19000
Condition: Undisturbed
Plot Location: SE corner of S. Second Ave. and Coral
Landform: _____ Normal Circumstances? (YES)/NO/UNK
Topography: flat Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Alnus rubra	FAC	20	T	✓	Athyrium filix-fem.	FAC	>1	H	
Lonicera involucrata	FAC	50	S	✓	Rubus discolor	FAC	>1	V	
Salix	OBL-FACW	25	S	✓					
Lysichitum americanum	OBL	40	H	✓					
Carex obnupta	OBL	40	H	✓					
Rubus spectabilis	FAC	1	S						

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100% of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: _____

SOIL

Series/Phase: _____ Survey Mapping Verified? (NOT PUBLSHD) Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: _____ Aquic Conditions? (YES)/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-4"	5YR 2.5/2	loam; lots of roots
	4-"	10 YR 2/2	loam; saturated

Criteria Depth: 10 IN. Effectively Drained? YES/(NO)/UNK Relic Characteristics? YES/(NO)/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE aquic moisture regime
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 9 IN.
Sat. at 4 in.
Hydrology Alteration: YES/(NO)
Wetland Drainage Pattern: YES/(NO) Pattern Type: _____
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE _____
Comments: _____

DETERMINATION

Jurisdictional Wetland? (YES)/NO all three parameters satisfied
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map 17

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 2N R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 9/1/93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~DK-14~~ (G)
Tax Map/Lots: 2N 10 32 CD, BLOCK 62, TL 5500
Condition: _____
Plot Location: North of S. Second, West side of Grayling; SE corner of TL 5500
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: _____ Atypical Situation? YES/NO/UNK Problem Area? YES/NO

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
RUDI	FACU-	90	V	X					
LYAM	OBL	<5	H						
ALRU	FAC	5-7	Trees	X					
RARE	FACW	<5	H						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 50 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Above description for entire parcel; red alder/Himalayan blackberry community is not a wetland community on the coast.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: MWD Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A1	0-10	10YR 3/2-2	none SiL, moist
A2	10-13	10YR 3/3	none SiL, moist
B	>13	2.5Y 4-3/2	7.5YR 3/4 mottles many prom. L

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE _____
Comments: _____

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO >16 IN.
Hydrology Alteration: YES/NO Urbanized
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE lack ground water saturation in criteria depth
Comments: Heavy rain last night

DETERMINATION

Jurisdictional Wetland? YES/NO None of wetland parameters satisfied
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM map 17

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3 N, R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 4/1/93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~1~~ 12 (14)
Tax Map/Lots: 2N10 32 CD, Block 64, TL 2300
Condition: _____
Plot Location: North of S. Second Ave., west of Island; SW corner of TL 2300
Landform: Bottomland
Normal Circumstances? YES/NO/UNK
Topography: flat
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
RARE	FACW	70	H	X					
SCMI	OBL	20	H	X					
LYAM	OBL	<5	H						
RUSP	FAC		S	X					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: _____

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: PD Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-3	10YR 3/4	none / SiL moist
BA	3-6	10YR 3/4 & 5YR 4/2	many distinct 7.5YR 4/6 SiL, V. moist
B1	6-12	5YR 4/2	many prom. 7.5YR 4/6, SiL, V. moist
B2	12+-16	2.5Y 3/2	common prom. 7.5YR 4/6, SL, V. moist

Criteria Depth: 16 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK (why?)
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE has relict positive indicators in criteria depth, effectively drained by adj. ditch
Comments: >16 5Y 3/1 no mottles, SL, saturated

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 16 IN.
Hydrology Alteration: YES/NO adj. area to north filled for road
Wetland Drainage Pattern: YES/NO Pattern Type: remnant swale
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE lack ground water saturation in criteria depth.
Comments: Adjacent shallow drainage ditch, water surface a few inches below ground in adj. ditch

DETERMINATION

Jurisdictional Wetland? YES/NO Does not have wetland hydrology. This sample point is on the transition point between upland & wetland, in a greatly disturbed area.
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map 17

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.2N, R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 4/1/93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~1W-13~~ (J)
Tax Map/Lots: 2N 10 32 CD: Block 64, TL 2400
Condition: undisturbed
Plot Location: North of S. Second Ave, west side of Island; west side of TL 2400
Landform: Alluvial terrace (higher)
Normal Circumstances? YES/NO/UNK
Topography: slopes to northwest
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
RARE	FACW	30	H	X					
LYAM	OBL	20	H	X					
Tolmiea menziesii	FAC		H						
* RUDI	FACU-	20	V	X					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 67 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: RUDI seedlings, area cleared in recent past
seedlings of RUDI abundant - will become a dom. element

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: somewhat poorly Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-4	10YR 3/3	none SiL, moist
B	4-14	2.5Y 4/2	many prom. 5Y 3/4 SiL, moist
Bg	14+	5Y 4/1	many prom. 7.5YR 3/3 SiL, saturated

Criteria Depth: 4/10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE locks aquic moisture regime in control depth, relict indicators
Comments: Hydric. doesn't match soil appearance - effectively drained

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: 10 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 14 IN.
Hydrology Alteration: YES/NO bottomland disconnected from channel
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE locks ground water saturation within criteria depth
Comments: _____

DETERMINATION

Jurisdictional Wetland? YES/NO Hydrology parameter not satisfied
Comments: Site is drained because of ditching plus road construction across the Lock Creek drainage.

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3N, R. 10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 3:00 pm
Wetland No.: WSM-5 Plot No.: ~~1D1RA~~ (K)
Tax Map/Lots: 2N 10 32CD, BLOCK 64, TL 2800
Condition: undisturbed
Plot Location: North of S. Second Ave, east of Harbor; middle of TL 2800
Landform: old floodplain, adj. to Rock CK.
Normal Circumstances? YES/NO/UNK
Topography: Sloping to W
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Ranunculus repens	FACW	80	H	✓					
Juncus effusus	FACW+	5	H						
Salix hookeriana	FACW-	1	SS						
Oenanthe sarmentosa	OBL	15	H	✓					
Rubus discolor	FACW-	5	V						
Veronica americana	OBL	>1	H						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100% of domin. species are OBL, FACW, FAC+ and/or FAC
Comments:

SOIL

Series/Phase:
Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification:
Drainage Class: SWP
Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-16"	10YR 3/2	none; SiL, moist-JM
	>16"	2.5Y 3/2	common from. 5YR 3/4, loam, sat.

Criteria Depth: 10 IN.
Effectively Drained? YES/NO/UNK
Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION
Soil Criterion Met? YES/NO/INDEFINITE
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN.
Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON)
Water Table and Depth: YES/NO 15" IN.
Hydrology Alteration: YES/NO ditched creek, fill, etc.
Wetland Drainage Pattern: YES/NO Pattern Type: remnant floodplain
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES
Hydrology Criterion Met? YES/NO/INDEFINITE
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO Soil & hydrology parameters not satisfied.
Comments: Site is drained because of road construction across Rock Creek drainage plus ditching and filling near by.

Field Investigator(s): T.Moses, P.Scoles, L.Wilson
Checked By: L. Wilson

WSM map 17

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T2N R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 4/1/93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~Dot 15~~ (L)
Tax Map/Lots: 2N 10 32 CD, BLOCK 50, TL 11500
Condition: undisturbed
Plot Location: SE corner of S. Second Ave. and Dolphin; N end of TL 11500
Landform: Old drainageway
Normal Circumstances? (YES)/NO/UNK
Topography: gently sloping - level
Atypical Situation? YES/(NO)/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
ALRU	FAC	80	T	X	CAOB	OBL	5+	H	
RUSP	FAC	20	S	X	RUDI	FACU-	<5	V	
SARA	FACU	20	S	X	OESA	OBL	<5	H	
Holly (Ilex)	NL	10	S		POMU	NL	<5	H	
LYAM	OBL	15-20	H	X					
MADI	FACU-	80	H	X					

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 60 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: This plant association is toward the drier end of the wetland gradient - transitional vegetation

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: _____ Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-10	10YR 3/3	no mottles, Loam,
	10+	5Y 3/1-2	many prom. 7.5YR 3/4, saturated

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE _____
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 10 IN.
Hydrology Alteration: YES/(NO) _____
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE 2 other pits had W.T. @ 8" in 12"
Comments: (at 8" & 6") - Widely separated pits.

DETERMINATION

Jurisdictional Wetland? (YES)/NO All the parameters satisfied
Comments: Partially diverted - upgradient woods partially intercepted but not effectively drained; shallow-rooted false lily & the valley has been allowed to invade
Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM map 16

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 4N / S, R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 9/1/93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~1~~ (E)
Tax Map/Lots: 2N 10 32CC BLOCK 59 TL 900
Condition: Undisturbed
Plot Location: North of S. Second, west side of Dolphin
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: flat Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
POPA	OBL	50	H	X					
SCMI	OBL	45	H	X					
LYAM	OBL	<5	H						
EQTE	FACW	<5	H						

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100 ✓ % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: _____

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: PD Aquic Conditions? (YES)/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-8	10YR 3/2	many V. faint mottles v. moist SiL
B	>8"	2.5Y 3/2	many prom. 7.5YR 3/4 mottles SiL, saturated

Criteria Depth: 10 IN. Effectively Drained? YES/(NO)/UNK Relic Characteristics? YES/(NO)/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE has positive indicators in criteria depth ✓
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 8 IN.
Hydrology Alteration: (YES)/NO urban development to W, E, N, & S
Wetland Drainage Pattern: (YES)/NO Pattern Type: remnant depression
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE urbanized area but not locally disturbed ✓
Comments: adj. to LT

DETERMINATION

Jurisdictional Wetland? (YES)/NO all three parameters satisfied ✓
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

(17)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH — Project/City: ROCKAWAY BEACH LWI (M)
T, R, S: T. 3N, R. 10W, SW 1/4 OF SEC. 32 — County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: 12:00 noon — Wetland No.: WSM-5 Plot No.: ~~100~~ 1a
Tax Map/Lots: 2N10 32CD, BLOCK 15, TL 19802 — Condition: undisturbed
Plot Location: SW Corner of S. Second Ave. and Keel; NE corner of TL 19802
Landform: Bottomland, slope > NW — Normal Circumstances? (YES)/NO/UNK
Topography: mostly flat — Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Lysichitum amer.	OBL	15	H	✓	Viola glabella	FACW+	<1	H	
Maianthemum dil.	FACU-	20	H	✓	Hydrophyllum fendleri	FAC	<1	H	
Sambucus racemosa	FACU	50	S	✓	Tolmeia menziesii	FAC	<1	H	
Cardamine angulata	FACW	20	H	✓	Oenanthe sarmentosa	OBL	<1	H	
Alnus rubra	FAC	20	T	✓	Claytonia sibirica	FACW	<1	H	

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 60 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Definitely transitional vegetation here

SOIL

Series/Phase: — Survey Mapping Verified? (NOT PUBLSHD.) Hydric Soils List:? YES/NO ★
Classification: — Drainage Class: SWP — Aquic Conditions? YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A1	0-8	10YR 3/3-4	Loam, no mottles; moist
A2	8-14	7.5 YR 3/2	" " , very moist
B1	14-20"	" "	too faint; Loam; sat.
B2	>20"	2.5 Y 3/2	common prom. 2.5 YR 2.5/4, sat.

Criteria Depth: 6 IN. — Effectively Drained? (YES)/NO/UNK — Relic Characteristics? YES/(NO)/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/(NO)/INDEFINITE lacks saturation in uppermost horizon
Comments:

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK ___ IN. — Depth of Major Portion of Root Zone: 12 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) — Water Table and Depth: (YES)/NO 14 IN.
Hydrology Alteration: (YES)/NO channelized ck.
Wetland Drainage Pattern: (YES)/NO Pattern Type: relict – drained by channelized ck.
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/(NO)/INDEFINITE lacks saturation in major part of root zone
Comments:

DETERMINATION

Jurisdictional Wetland? YES/(NO) lacks sufficient soil & hydrol. indicators
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson — Checked By: L. Wilson

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T 2N R.10W, SW 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: 12:20
Wetland No.: WSM-5 Plot No.: ~~WD-5~~ b (N)
Tax Map/Lots: 2N 10 32 CD, BLOCK 15, TL 19802
Condition: undisturbed
Plot Location: SW corner of S. Second Ave and Keal; N end of TL 19802
Landform: bottomland, slope → NW
Normal Circumstances? YES/NO/UNK
Topography: mixed, w/subtle depression
Atypical Situation? YES/NO/UNK
Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Lysichitum amer.	OBL	40	H	✓					
Maianthemum dil.	FACU-	20	H	✓					
Alnus rubra	FAC	10	T	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 67 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Much bare ground, but cover is definitely dominated by LY/AM here.

SOIL

Series/Phase:
Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List? YES/NO *
Classification:
Drainage Class: PD
Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-14"	10 YR-2.5Y 3/2	many dist. 7.5 YR 3/3-4; loam; saturated.
B	14"	2.5 Y 3/2	faint; sandy loam; sat.

Criteria Depth: 12/10 IN.
Effectively Drained? YES/NO/UNK
Relic Characteristics? YES/NO/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION
Soil Criterion Met? YES/NO/INDEFINITE mottled to surface
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN.
Depth of Major Portion of Root Zone: 10 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 6 IN.
Hydrology Alteration: YES/NO nearby channelized creek
Wetland Drainage Pattern: YES/NO Pattern Type: swale
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES
Hydrology Criterion Met? YES/NO/INDEFINITE saturated in major part of root zone
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO All three parameters met.
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson
Checked By: L. Wilson

WSM Map (18)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH | Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1N, R.10W, SE 1/4 OF SEC. 32 | County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-30-93 Time: 12:00 | Wetland No.: WSM-5 Plot No.: ~~003~~ (0)
Tax Map/Lots: 2N10 32DC, BLOCK 3, TL 4000 | Condition: undisturbed
Plot Location: South of Nehalem, east of Marine; south part of TL 4000
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: Swale, sloping → W Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Rubus spectabilis	FAC	40	SS	✓					
Sambucus racemosa	FACU-	40	SS	✓					
Athyrium filix-femina	FAC	1	H						
Polystichum munitum	NL	1	H						
Maianthemum dilatatum	FACU-	1	H						
Blechnum spicant	FAC+	71	H						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 50 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: FAC/FACU dom. community lacks wet. hydrology on Oregon coast (see comments, Plot B)
Edges of swale: TSHE, GASH, VAPA, ALRU community

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: _____ Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-4"	5YR 2.5/2	lots of organics; loam; moist; no mottles
	4-13"+	5YR 3/2	none; many roots; loam; moist

Criteria Depth: _____ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE _____
Comments: _____

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO _____ IN.
Hydrology Alteration: YES/NO _____
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE _____
Comments: _____

DETERMINATION

Jurisdictional Wetland? YES/NO Lacks definite indicators for all three parameters
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (18)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH | Project/City: ROCKAWAY BEACH LWI
T, R, S: T. 3 N, R.10W, SE 1/4 OF SEC. 32 | County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-30-93 Time: 11:45 | Wetland No.: WSM-5 Plot No.: ~~DOE~~ (P)
Tax Map/Lots: 2N10 32DC NE of TL 5000 | Condition: Disturbed - cut and fill
Plot Location: On Marine St. roadway, ~300' S of Nehalem
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: slight slope → S on roadway Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Scirpus microcarpus	OBL	30	H	✓	Ranunculus repens	FACW	20	H	✓
Oenanthe sarmentosa	OBL	40	H	✓	Lonicera involucrata	FAC	<1	S	
Blechnum spicant	FAC+	5	H						
Rubus spectabilis	FAC	15	S	✓					
Alnus rubra	FAC	20	T	✓					
Rubus discolor	FACU-	5	S						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100✓ % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Adjacent forest: TSHE/GASH/POMU community w/VAOV, VAPA, & ALRU,

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: not applic. Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
AC	0-8"	5YR 5/8, 10YR 6/3 main colors	Variegated clay & weathered bedrock
	refusal at 8 in.		

Criteria Depth: 8 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE Soil above bedrock excavated for road construction
Comments: Cut/fill for roadway: cut intercepted weathered bedrock which perches rainwater and intercepts groundwater.

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO seepage IN.
Hydrology Alteration: YES/NO cut for roadway - created by road cut
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE created seepage — no measurable ground water
Comments: See soil comment. in bedrock.

DETERMINATION

Jurisdictional Wetland? YES/NO ? - Artificially created wet area generated by cut/fill activity during roadway construction. Areas adjacent to roadway are upland (see veg. comment).
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map 19

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, NW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 5:40
Wetland No.: WSM-6 Plot No.: DA (Q)
Tax Map/Lots: 1N 10 5BB; Block 8, TL 2000
Condition: not disturbed recently
Plot Location: Between S. Third and S. Fourth; east side of Anchor; middle of TL 2000
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: _____ Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Carex obnupta		80	H	✓					
(Alder stumps)									

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: _____

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: somewhat poorly Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
AC	0-48+"	Mixed	mixed - fill material

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE soil imported from another wetland, so relict characteristics
Comments: Surface of this material is 12"+ higher than adjacent wetland area. present

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 16" IN.
Hydrology Alteration: YES/NO filled >20 years ago (when owner purchased → Jack Pickering & was already filled)
Wetland Drainage Pattern: YES/NO Pattern Type: Filled
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE
Comments: Saturation is below major part of root zone.

DETERMINATION

Jurisdictional Wetland? YES/NO Lacks positive indicators for soil & hydrology.
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

DEPARTMENT OF THE ARMY
PORTLAND DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2946
PORTLAND, OREGON 97208-2946

Reply to
Attention of:

March 9, 1993

Planning and Engineering Division

SUBJECT: Wetland Determination - Rockaway Beach - South Anchor Street)

F.M. Samuel Realty
ATTN: Florence Samuel, Broker
PO Box 750
Rockaway Beach, Oregon 97136

Dear Ms. Samuel:

At your request, we have completed review of the property, indicated on the map (Enclosed) and located at Lots 400, 600 and 2000, Block 8, Elmore Park, Section 32. T.2N., R.10W., WM in Rockaway Beach, Tillamook County, Oregon for possible U.S. Army Corps of Engineers jurisdiction under the Clean Water Act.

Our review indicates there are wetlands on the property, outlined in red and highlighted that will require a Department of the Army permit prior to the placement of fill material. The previously filled upland area was measured as indicated on the map. The property owner, Mr. Jack I. Pickering assisted with the measurements and was informed that no further filling of wetlands was to take place unless a Federal and State permit was obtained.

If you have any questions, please contact me at the Astoria Field Office, Route 5 Box 30, Astoria, Oregon 97103 or telephone (503) 325-1135.

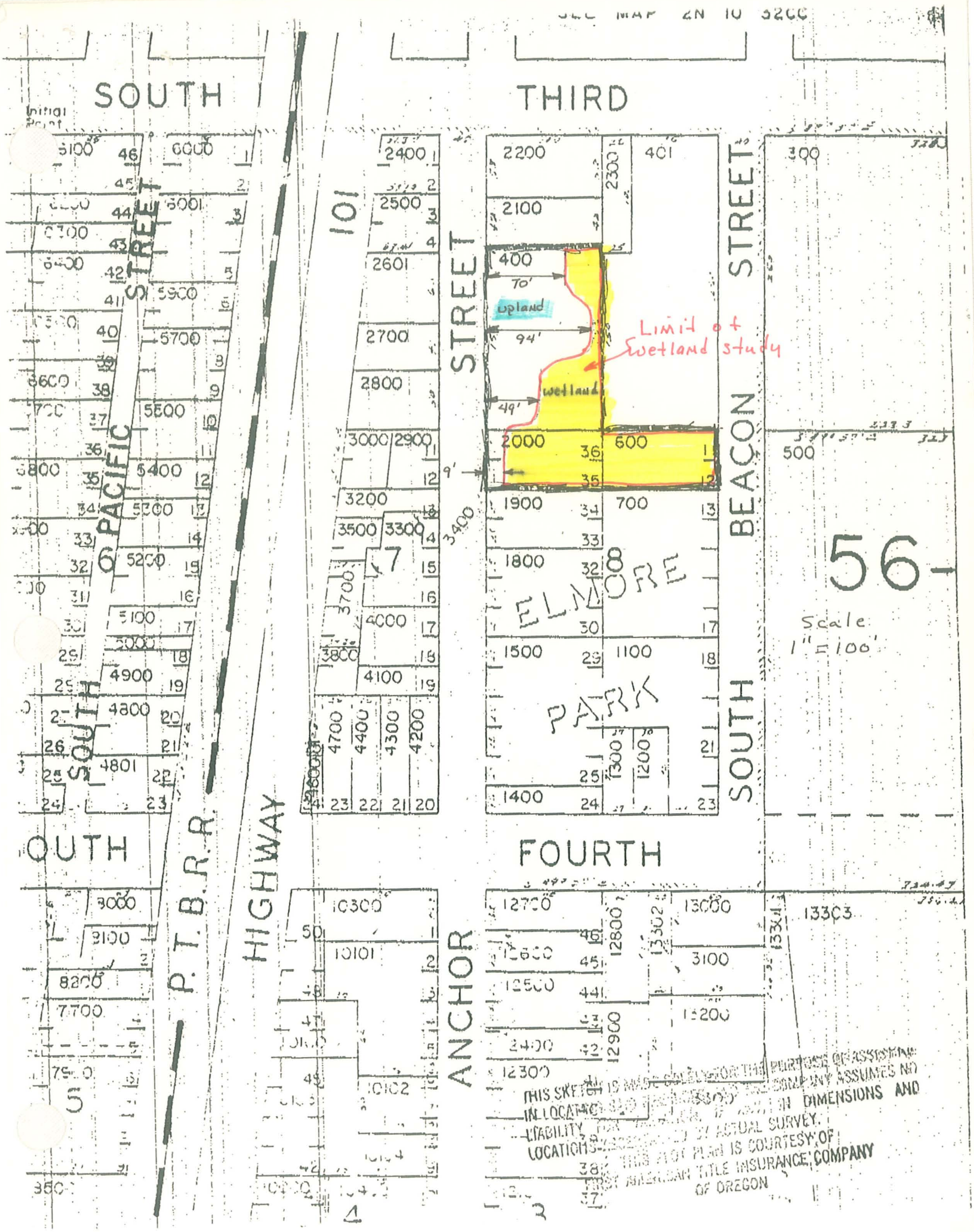
Sincerely,

Gerald H. Black
Environmental Protection Specialist
Resource Protection and
Fish and Wildlife Section

Enclosures

Copy Furnished

ODSL (Roth)
City of Rockaway Beach (Mason)
Jack I. Pickering


SEE MAP 2N 10 32CC
SOUTH THIRD
Initial Point
SOUTH PACIFIC STREET
HIGHWAY 101
P.T.B.R.R.
STREET
SOUTH BEACON STREET
ANCHOR
FOURTH
SOUTH
ELMORE PARK
56-
8
7
6
5
4
3
upland
wetland
Limit of wetland study
70'
94'
49'
9'
Scale 1" = 100'
2200
2100
2300
401
400
2000
600
1900
700
1800
1500
1100
1400
1300
1200
300
500
2400
2500
2601
2700
2800
3000
2900
3200
3500
3300
3400
3700
4000
3800
4100
4700
4400
4300
4200
4600
6100
6000
6001
6300
6400
5900
5700
5500
5400
5300
5200
5100
5000
4900
4800
4801
12700
12800
13302
13000
13303
13301
12600
12500
3100
13200
2400
12900
12300
10300
10101
10102
3000
3100
8200
7700
THIS SKETCH IS MADE SOLELY FOR THE PURPOSE OF ASSISTING IN LOCATING SAID PREMISES AND THE COMPANY ASSUMES NO LIABILITY FOR VARIATIONS, IF ANY, IN DIMENSIONS AND LOCATIONS ASCERTAINED BY ACTUAL SURVEY.
THIS PLOT PLAN IS COURTESY OF FIRST AMERICAN TITLE INSURANCE COMPANY OF OREGON

WSM Map 22

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, NW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-30-93 Time: 5:00 pm
Wetland No.: WSM-6 Plot No.: DP4 (R)
Tax Map/Lots: 1N10 5BC; BLOCK 19, TL 8400, 8500, 8600
Condition: Undisturbed except for brush clearing
Plot Location: South side of S. Sixth Ave. between Front and Anchor; plot between TL 8500 & 8600
Landform: _____ Normal Circumstances? YES/NO/UNK
Topography: flat Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Alnus rubra	FAC	10	T		Athyrium filix-fem.	FAC	1	H	
Picea sitchensis	FAC	10	T						
Salix (much cut down)	FACW/OBL	50+?	SS	✓					
Lonicera involucrata	FAC	15	SS	✓					
Lysichitum americanum	OBL	15	H	✓					
Carex obnupta	OBL	35	H	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Lots of the Salix recently cut and piled.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: _____ Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	0-11"	7.5YR 3/2	Silt loam - very moist to sat.; 5YR 3/3 ped partings
	>11"	10YR 3/1-2	silty clay - saturated.

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ✓ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE _____
Comments: _____

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: _____ IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 9 IN. (10 min.)
Hydrology Alteration: YES/NO Sat. at 5"
Wetland Drainage Pattern: YES/NO Pattern Type: _____
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE _____
Comments: North side ditch is filled w/water.

DETERMINATION

Jurisdictional Wetland? YES/NO all parameters met.
Comments: This site is wetter on west side: 100% cover of CAOB/LYAM with Salix and Lonicera involucrata; even a little Spiraea douglasii.

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (23)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, NW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: _____ Time: _____
Wetland No.: WSM-6 Plot No.: _____ (5)
Tax Map/Lots: 1N10 5BD Block 11, TL 7500
Condition: filled
Plot Location: NE corner of S. Seventh and Dolphin; NE corner of TL 7500
Landform: _____ Normal Circumstances? (YES)/NO/UNK
Topography: _____ Atypical Situation? (YES)/NO/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
CAOB	OBL	40	H	✓					
JUEF	FACW	25	H	✓					
HOLA	FAC	30	H	✓					

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: ALSO LOCO, SCMI, ALRU, 3 SALIX SP. SEEDLINGS

SOIL

Series/Phase: _____ Survey Mapping Verified? (NOT PUBLSHD) Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: poorly drained Aquic Conditions? (YES)/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
O-12	0-12"		FILL (MIXED SOIL COLORS), saturated
A	>12"	5Y 2.5/1	NATIVE SOIL, saturated

Criteria Depth: 10 IN. Effectively Drained? YES/(NO)/UNK Relic Characteristics? YES/(NO)/UNK
Other Indicators: ___ NONE ✓ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE has aquic moisture regime
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: 6 IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 3 IN.
Hydrology Alteration: (YES)/NO INEFFECTIVELY FILLED
Wetland Drainage Pattern: (YES)/NO Pattern Type: relict swale, filled many years ago
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE
Comments: AREA SLOPES GENTLY TO NORTH

DETERMINATION

Jurisdictional Wetland? (YES)/NO all three parameters satisfied
Comments: MORE FILL & DRIER TO WEST OF 'S', DEEPER FILL TO NORTH (TAX LOT 7200) BUT REMAINS WET

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM map 24

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, SW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 1:15
Wetland No.: _____ Plot No.: ~~2~~ (T)
Tax Map/Lots: 1N 10 5CB, BLOCK 20, TL 1303
Condition: old fill; recently cleared
Plot Location: North of Washington, at end of Anchor on west side, N end of TL 1303
Landform: _____ Normal Circumstances? (YES)/NO/UNK
Topography: slightly sloping → N Atypical Situation? (YES)/NO/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Rubus spectabilis	FAC	75	S	✓	Carex obnupta	OBL	10		✓
Lysichitum amer.	OBL	50	H	✓	Alnus rubra	FAC	40		✓
Majanthemum dil.	FACU-	10	H	✓					
Athyrium filix-fem.	FAC	20	H	✓					
Blechnum spicant	FAC+	5	H						

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 83 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Although recently cleared, remnant veg. is recognizable, and there are adjacent undisturbed sites to examine, too.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: _____ Drainage Class: somewhat poorly Aquic Conditions? (YES)/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
AC	0-14"	mixed	fill material, SiL, very moist to saturated
Ab	14-+18"	10YR 3/1	native soil, SiL, saturated

Criteria Depth: 10 IN. Effectively Drained? YES/(NO)/UNK Relic Characteristics? (YES)/NO/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE ineffective filled, still has aquic moisture regime
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 12 IN.
Hydrology Alteration: (YES)/NO area filled (~15")
Wetland Drainage Pattern: YES/NO Pattern Type: bottomland (partially filled)
Other Indicators: ✓ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE has ground water saturation in criteria depth despite previous filling.
Comments: _____

DETERMINATION

Jurisdictional Wetland? (YES)/NO all three parameters are satisfied
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (24)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, SW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: 12:50 pm
Wetland No.: WSM-7 Plot No.: ~~24~~ (U)
Tax Map/Lots: 1N10 5CB, BLOCK 17, TL 700
Condition:
Plot Location: North of Washington, west side of Beacon; near PISI clump; south of recent fill.
Landform: Swale
Normal Circumstances? YES/NO/UNK
Topography: flat
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Juncus effusus	FACW+	60	H	✓					
Lysichitum amer.	OBL	20	H	✓					
Oenanthe sarm.	OBL	25	H	✓					
Holcus lanatus	FAC	10	H						
Picea sitchensis	FAC	10	T						

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments:

SOIL

Series/Phase: Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO
Classification: Drainage Class: very poorly Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-18"	7.5YR-10YR 3/2	None, Sat., loam, organic

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE has sufficient positive indicators in criteria depth
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK ___ IN. Depth of Major Portion of Root Zone: ___ IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 0" IN.
Hydrology Alteration: YES/NO
Wetland Drainage Pattern: YES/NO Pattern Type: depression (remnant)
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE has ground water saturation in criteria depth
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO All three parameters are satisfied
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (25)
Checked in field - remapped (V)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, SW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: _____
Wetland No.: near WSM-7 Plot No.: ~~28A~~ (V)
Tax Map/Lots: 1N10 5CA, BLOCK 12, TL 1908
Condition: _____
Plot Location: North of Washington, east side of Dolphin; SE corner of TL 1908
Landform: depression
Normal Circumstances? (YES)/NO/UNK
Topography: slopes to north
Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Alnus rubra	FAC	30	T	✓					
Sambucus racemosa	FACU	30	S	✓	Stand cattails				
Rubus spectabilis	FAC	60	S	✓					
Maianthemum dilatatum	FACU-	50	H	✓					
Athyrium filix-femina	FAC	15	H	✓					
Polystichum munitum	NL	5	H	✓					

Hydrophytic Vegetation Criterion Met? YES/(NO)/INDEFINITE 50 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: FAC-dominated communities do not reflect wetland hydrology on the Oregon coast. (See Commerbio, Plot B)

SOIL

Series/Phase: _____
Survey Mapping Verified? (NOT PUBLSHD). Hydric Soils List:? YES/NO
Classification: _____
Drainage Class: Somewhat poorly Aquic Conditions? YES/NO/(UNK)

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-14"	10YR 2/1	None, loam, sat.

Criteria Depth: 10 IN.
Effectively Drained? YES/(NO)/UNK Relic Characteristics? YES/(NO)/UNK
Other Indicators: ✓ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE meets hydric soil criteria
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN.
Depth of Major Portion of Root Zone: 9 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: (YES)/NO 3 IN.
Hydrology Alteration: (YES)/NO Adjacent (N) area filled; cut off hydrology
Wetland Drainage Pattern: (YES)/NO Pattern Type: remnant depression
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? (YES)/NO/INDEFINITE has ground water saturation in criteria depth
Comments: _____

DETERMINATION

Jurisdictional Wetland? (YES)/(NO) lacks hydrophytic plant dominance
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson
Checked By: L. Wilson

WSM Map (27)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, SW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: _____
Wetland No.: WSM-9 Plot No.: 23 (X)
Tax Map/Lots: 1N10 5CC Block 8, TL 7901
Condition: _____
Plot Location: S of "Hollyhock ctr line ~ 100'; east of Dogwood; S end of TL 7901
Landform: foot slope
Normal Circumstances? YES/NO/UNK
Topography: sloping gently to south
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Alnus rubra	FAC	20	T	✓	Spiraea douglasii	FACW	5	S	
Athyrium filix-fem.	FAC	20	H	✓					
Equisetum telmateia	FACW	20	H	✓					
Lonicera involucrata	FAC	60	S	✓					
Lysichitum amer.	OBL	30	H	✓					
Carex obnupta	OBL	25	H	✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100% of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: This plot is ~ 10' south of plot W.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD Hydric Soils List:? YES/NO UNK
Classification: _____ Drainage Class: Somewhat poorly Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
A	0-14"	7.5YR3/2	None, Loam* organic, sat.

Criteria Depth: 10✓ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ✓ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE lacks positive indicators, but has aquic moisture regime; thus, it meet hydric soil criteria
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK _____ IN. Depth of Major Portion of Root Zone: 10 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 12 IN.
Hydrology Alteration: YES/NO _____
Wetland Drainage Pattern: YES/NO Pattern Type: swale, outer edge
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE has ground water saturation in criteria depth
Comments:

DETERMINATION

Jurisdictional Wetland? YES/NO all three parameters satisfied.
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (18)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T 3N, R.10W, SE 1/4 OF SEC. 32
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 3-29-93 Time: _____
Wetland No.: WSM-5 Plot No.: ~~WSM-5~~ (Y)
Tax Map/Lots: 2N10 32DC, Block 4, TL 2800
Condition: disturbed; adjacent fill
Plot Location: North of S. Second Ave., East side of Neptune; TL 2800'
Landform: depression
Normal Circumstances? YES/NO/UNK
Topography: flat, overflow to ditch
Atypical Situation? YES/NO/UNK Problem Area? YES/NO/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
West End (ponded):					E end - not ponded:				
Juncus effusus	FACW+	10		✓	Lysichitum americanum	OBL	40		✓
Carex obnupta	OBL	10		✓	Canarille samentosa	OBL	40		✓
Alnus rubra	FAC	20		✓	Rubus spectabilis	FAC	15		✓
Scirpus microcarpus	OBL	5			Alnus rabra	FAC	25		
Salix	FACW-OBL	10		✓					

Hydrophytic Vegetation Criterion Met? YES/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: Veg on edges of ponded area, in clumps

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/NO (unk)
Classification: _____ Drainage Class: very poorly drained Aquic Conditions? YES/NO/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
	not evaluated -- assumed hydric due to standing wtr.		

Criteria Depth: _____ IN. Effectively Drained? YES/NO/UNK Relic Characteristics? YES/NO/UNK
Other Indicators: ___ NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? YES/NO/INDEFINITE Assumed - standing water
Comments:

HYDROLOGY

Inundation and Depth: YES/NO/UNK pond IN. (west end) Depth of Major Portion of Root Zone: not eval. IN.
Saturation Criteria: 45 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/NO 0 IN.
Hydrology Alteration: YES/NO upgradient clearing for urban development
Wetland Drainage Pattern: YES/NO Pattern Type: depression / pond
Other Indicators: ___ NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/NO/INDEFINITE
Comments: Impounded by Neptune St.

DETERMINATION

Jurisdictional Wetland? YES/NO All three parameters satisfied.
Comments:

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM Map (27)

WETLAND DETERMINATION DATA SHEET

Applicant: CITY OF ROCKAWAY BEACH
Project/City: ROCKAWAY BEACH LWI
T, R, S: T.1 N, R.10W, SW 1/4 OF SEC. 5
County, State: TILLAMOOK COUNTY, OREGON
Field Date: 5-27-93 Time: _____
Wetland No.: WSM-9 Plot No.: ~~23A~~ (W)
Tax Map/Lots: 1N10 5CC, BLOCK 8, TL 7901
Condition: mowed
Plot Location: South of Hollyhock, east of Dogwood; plot ~90' S of Hollyhock/tr. line on TL 7901.
Landform: footslope
Normal Circumstances? (YES)/NO/UNK
Topography: sloping to south
Atypical Situation? YES/(NO)/UNK Problem Area? YES/(NO)/UNK

VEGETATION

Species	Indicator Status	% Cover	Layer	Domin.	Species	Indicator Status	% Cover	Layer	Domin.
Ranunculus repens	FACW	60	H	✓					
Holcus lanatus	FAC	30	H	✓					
Equisetum telmateia	FACW	20	H	✓					
Anthoxanthum odoratum	~~FACW~~ FAC	20	H	✓					
Salix hookeriana	FACW-	5	S						

Hydrophytic Vegetation Criterion Met? (YES)/NO/INDEFINITE 100 % of domin. species are OBL, FACW, FAC+ and/or FAC
Comments: On edge of transition from wetland to upland.

SOIL

Series/Phase: _____ Survey Mapping Verified? NOT PUBLSHD. Hydric Soils List:? YES/(NO)
Classification: _____ Drainage Class: mod. well drained Aquic Conditions? YES/(NO)/UNK

Horizon	Depth	Matrix Color	Mottle Contrast & Color, Texture, Moisture, Other Characteristics
Ap	0-8"	10YR 2/2	None, SiL, VM
A	8->14"	10YR 2/1	" " "

Criteria Depth: 10 IN. Effectively Drained? YES/NO/UNK (N/A) Relic Characteristics? YES/(NO)/UNK
Other Indicators: X NONE ___ GLEYED MATRIX ___ HISTOSOL/HISTIC EPIPEDON
___ CONCRETIONS ___ SULFIDIC ODOR ___ SANDY W/ORGANIC ACCUMULATION

Soil Criterion Met? (YES)/NO/INDEFINITE lack sufficient indicators in criteria depth
Comments: _____

HYDROLOGY

Inundation and Depth: YES/(NO)/UNK _____ IN. Depth of Major Portion of Root Zone: 8 IN.
Saturation Criteria: 18 DAYS (YEAR-ROUND GROWING SEASON) Water Table and Depth: YES/(NO) >14 IN.
Hydrology Alteration: YES/(NO) _____
Wetland Drainage Pattern: YES/(NO) Pattern Type: _____
Other Indicators: X NONE ___ SEDIMENT DEPOSITS ___ WATER-STAINED LEAVES
___ DRIFT LINES ___ WATER MARKS ___ LIVE OXIDIZED RHIZOSPHERES

Hydrology Criterion Met? YES/(NO)/INDEFINITE lacks ground water saturation in criteria depth
Comments: _____

DETERMINATION

Jurisdictional Wetland? (YES)/NO lack soil & hydrol. parameters.
Comments: _____

Field Investigator(s): T.Moses, P.Scoles, L.Wilson Checked By: L. Wilson

WSM SAMPLING - Spring 1993

Map Sheet	Original Map Label	Final Designation	Location
11	LW 17	A	Between Dolphin and Juniper Streets, just south of North Sixth Avenue
13	13A	B	Between Beacon and Coral Streets north of North Third Avenue; Block 15, Lot 100
14	14A	C	Between North Dolphin and North Easy Streets south of North Third Avenue; Block 12, Lot 7100
16	LW 10	D	Between South Coral and South Dolphin Streets north of South Second Avenue; Block 59, Lot 1400
"	LW 11	E	Just east of "D", Block 59, Lot 900
"	LW 6	F	Between South Coral and South Dolphin Streets just south of South Second Avenue; Block 51, Lot 19000
17	LW 14	G	Between South Falcon and South Grayling Streets north of South Second Avenue; Block 62, Lot 5500
"	LW 12	H	Between South Harbor and South Island Streets north of South Second Avenue; Block 64, Lot 2300
"	LW 13	J	Between South Harbor and South Island Streets north of South Second Avenue; Block 64, Lot 2800
"	LW 13A	K	Between South Harbor and South Island Streets north of South Second Avenue; Block 64, Lot 2400
"	LW 15	L	Between South Dolphin and South Easy Streets just south of South Second Avenue; Block 50, Lot 11500
"	'A'	M	Between South Juniper and South Keel Streets just south of South Second Avenue; Block 15, Lot 19802
"	'B'	N	Immediately west of "M", Lot 19802
18	LW 3	O	Between South Marine and South Neptune Streets south of Nehalem Avenue; Block 3, Lot 4000

Map Sheet	Original Map Label	Final Designation	Location
18	LW 2	P	In South Marine Street R.O.W. between Nehalem and South Second Avenues; just southwest of Lot 3900 (Block 3)
19	19A	Q	Just east of South Anchor Street between South Third and South Fourth Avenues; Block 8, Lot 2000
22	LW 4	R	Between South Front and South Anchor Streets just south of South Sixth Avenue; Block 19, Lot 8500 / 8600
23	LW 16	S	Between South Dolphin and South Easy Streets south of South Sixth Avenue; Block 11, Lot 7500
24	24B	T	Between South Front and South Anchor Streets north of Washington Street (just south of The Nature Conservancy property); Block 20, Lot 1303
"	24A	U	Between South Anchor and South Beacon Streets north of Washington Streets; Block 17, Lot 700
25	25A	V	Between South Dolphin and South Easy Streets north of Washington Street; Block 12, Lot 1908
27	27A	W	Between Dogwood and Elder Avenues south of Hollyhock Street; Block 8, Lot 7901
"	27B	X	Immediately south of "W", Lot 7901
Addenda:			
18	LW 5	Y	North of South Second Avenue between Neptune and Ocean Streets

CITY OF ROCKAWAY BEACH
LOCAL WETLAND INVENTORY (LWI)
WSM STUDY

DATA SHEETS - PLANT SYMBOLS AND NAMES

Code	Scientific Name	Common Name
ALRU	Alnus rubra	red alder
CAOB	Carex obnupta	slough sedge
EQTE	Equisetum telmateia	giant horsetail
HOLA	Holcus lanatus	velvetgrass
JUEF	Juncus effusus	soft rush
LOCO	Lotus corniculatus	bird's-foot trefoil
LOIN	Lonicera involucrata	black twinberry
LYAM	Lysichitum americanum	skunk cabbage
MADI	Maianthemum dilatatum	false lily-of-the-valley
OESA	Oenanthe sarmentosa	water parsley
POMU	Polystichum munitum	swordfern
POPA	Potentilla palustris	marsh cinquefoil
RARE	Ranunculus repens	creeping buttercup
RUDI	Rubus discolor	Himalayan blackberry
RUSP	Rubus spectabilis	salmonberry
SAHO	Salix hookerana	Hooker's willow
SARA	Sambucus racemosa	red elderberry
SCMI	Scirpus microcarpus	small-fruited bulrush

Field Notes

WATERSHED APPLICATIONS

- environmental assessments
- ecological planning and design
- stream corridor / wetland restoration
- bioengineering and instream structures

TODD MOSES
Geomorphologist /
Restoration Practitioner

434 NW 6th Avenue, Suite 305
Portland, OR 97209
503 / 224-9645

Roseburg

Map 18

PLOT 5A ROAD CUT / FILL *

SCMI *

CAREX SP. *

KEAM

LOCO JUEN

HOLA

JUEF

W.T. at surface

0-6 10YR 3/1 OR 5Y 3/1

>6": SiL

2.5Y 3/2 - 5Y 3/1, SiL

W/depth becomes 5Y 3/1, SiL

weathered material starts at 12" 5Y 4/1 65% decaying rock fragments 2.5YR 4/6

refusal at 17"

Soil sampled on road cut

Area that is wet: 30 x 75'

Downslope side of road is fill (contained by 30', 4-5" DBH alders)

Inventory (LW1)

Accuracy 20-25' of actual boundary (± 25')

Characterize ea. wetland community and upland w/ at least one (1) sample point

Raining
LW16 (DEA 49) 4/1/93 MUP 23
Approx. same location as DEA Sample

Appears to have ~ 12" of fill
mixed soil forms fill
Native soil below ± 12"
5Y 2.5/1
W.T. at 3"
CAOB 40%
JUEF 25%
HOLA 30%
also LOCO, SCMI
alder seedlings
willow seedlings

gentle slope to north

More fill & drier to west (toward Dolphin)
Fill ~ 16" near Dolphin
W.T. at 16"
more blackberry seedlings

Talked to builder (owner of lot 7500)

Built 1980
Imported fill
± 4.5' deep on lot 7200
Mowed CAOB, some SCMI
willow seedlings
standing water, ponding
native soil - dark brown peaty material

4/ DEA #91 Map 7

* Rubus is Rubus sanguine.

0-8 10YR 3/3 SiL moist

8-12+ 7.5YR 3/4 SiL no mottles moist

Sample near edge

Disturbed

CAOB

RUSP

ALRU

Undisturbed (already human caused)

TSHE human

GASH

Spruce

10-15 year old trees (conifers)

Road (dirt) disturbance

Loverna Wilson's field notes

Check for Emily! Rockaway.
-29-93

Tax lot 1100
Lots 5 & 6, block 8,
Wash & Orangburg

Twin Rocks:
Ocean Lake Park
Lots 2 & 3, block 2
Lots 18 through 21 - block 53

Y Wetland at 2N1032DC #2800 Map 18

Lot on 2nd between Neptune & Ocean (N side
fill on corner ~75' EW 60 NS (to lot line)

~

* ~45' more N is wet, then fill to end of 3rd lot
→ Standing water, *JUEF, *CAOB, SCMI, *ALRU, Salix*
this is impounded by road (Neptune).
Second area N is cut rather than filled; also 75' EW
→ wet area, then does have a little
arm back — and sloping up —
LYAM,
OESA
RUSP

On sides, ALRU, Cascara, more RUST & SARA

Wet beyond first fill to 50' from Ocean Ave.

(1)

DEA #5 (our Plot 5a) map (18)
Sample near NE corner of lot 30

This is in "road way" -

This area is wet —
~ 75' NS, & ~ 30' EW at sample point

Phil says, below soil was removed to make road cut - intercept water perched on weathered bedrock which is near surface here.

Veg on roadway - on data sheet

Veg to E - above cut
TSHE
ALRU
PISI
SARA
GASH
RUSP

Veg to W - below road toward stream

PISI
TNPL
ALRU
RUSP
GASH
POMU
SARA
touches of LYAM, CAES, & dead fern

DEA #31 - Our 31a map (17)
NE Corner 2nd & Easy - 2N10E32CD PSCO

Not wet because not saturated to surface, reflected in soil colors, etc. (see data sheet).
Saturation below 12" however, which feeds the vegetation (Scirpus & lowland)

Fill - [illegible] Grayling, S of Nehalem Map (17)

DEA 26 - our 26a 5:30 pm

Wetland is confined to bottomland — just about even w/ S end of fill "tongue".

CAOB, LYAM, OESA, SCMI, RARE
CARA, RUSP
ALRU

Abrupt shift going upslope w/ to
TSHE
GASH, VAPA
POMU
Red alder

Transition [illegible] an bottomland edge:

0-14" 10YR 2/1-2 OG debris lots
14" 10YR 3/2 very moist
* RUSP, RUDI, LOIN, ALRU
60% 5% 30%

Map (18) lot 3800 3-30-93
- Marine north of S. 2nd

Lot filled for leveling (all upl.)
North of fill - steep slope.
North edge of fill:
Hemlock
Alder ALRU
Salal
Red huckleberry
Swordfern

Bottom of slope is Rock Cr. drainage (skunk cabbage)

NOTE: wetland corridor along Rock creek in this area (Neptune - Keel) is PFO - ALRU/LYAM - CAOB Assoc.

DEA #53 - Anchor St - map # (22)
TL#9300: Now has been filled w/ rock, and has newly poured foundation

Lot 9400 to N = is still undisturbed: is mapped as wet, but I'm puzzled: It's much higher than recently filled piece.

3-30-93

It has been filled some time back, with large rock — then an old foundation poured which is mossy-covered.

*Alder & Salix is 20'-25' tall, 2-4" dbh.

Under is *RUDI, POMU, CAOB, Eng. Ivy, Stachys, LOIN, Geum Mac.

* I'd say it's not wet.

There is a pit in native soil between the two filled areas; water table at 8". in pit — ~14-18" below fill surface.

DEA # 56 Map (12)

Filled area being overgrown — (rocky fill)

Mixed grasses, Leucanthemum, Urtica, Plantago lanceolata, RUDI, Equisetum telmateia, Scotch broom, Rumex acetosella,

Thin layer of new rocky fill spread over old fill.

Ditch on E side flooded — JUEF & PHAR SCMI on edges; OESA in it. (2-3' below existing grade.

6

3-3-93

DEA # 48 — Map (12)

Wetland E of Clear Lake, N end of Dolphin (at ≤ 6½')

The DEA people accidentally sampled at transition edge — that's why Salal (GASH) is included — which is NOT NI, but NOL (not listed) because & UPL.

along bank is:
THPL, ALRU, PICO w/ RUDI, GASH PHAR
Myrica californica, RARE, & other grasses

In wet is:
ALRU/LOIN/LYAM/CAOB assoc. w/ scattered PISI or TSHE on hummocks. Some ATFilix-femina, two

Don't know what SPHO is.
Salix hookeriana?

7

Possible Mitigation sites:

(1) Remove marine between 2nd & 3rd
Restore large wetland complex -
(major stream flows through there)

(2) Make suggested same for some streets between 2nd & Nehalem
e.g. any from Lagoon to Island

Sheet (16), block 58, TL# 3300 -
Little house facing coral S of Nehalem
has standing water under it.

Sheet (16), block 59, TL#1900 - (Across St from ↑)
PHAR, LYAM, JUEF, SCMI comm.
Very soggy.
House being constructed on #1902
(to the N)

DEA #8 — Sheet (16), TL# 100
Corner Nehalem & Dolphin - SW corner
Big house on ~~lot~~ lot - SCMI & LYAM coming up ~~through~~ bark dust on S & W sides. Evidence of ponding on W side earlier this season.

Minnehaha — sheets 27-28
wetland boundaries S of there:
No access (or limited & unmapped)
No survey boundaries, nothing to tie into.

If you need a line that is accurate, you'll need a surveyed boundary. $$$

Little wetland patch SW of (sheet 27) TL# 3600 (Block 53) (sheet 28) is
a ~~round~~ rectang clump of CAOB, then
a narrow channel SW, (~50')
then a crescent in a trail
of OESA, JUEF, RARE
Callitriche in ponded part. (~300 ft²)
Whole crescent 50' long × 25' wide
~50 ft to CAOB ← ~30'×15'
Both are very squishy & black
All upland around us: TSHE/RUSP-
GASH/POMU

3-31-93

Map (27) TL# 5000 & 5100
Upland - End of Minnehaha & 3rd
Not wet as mapped.
* ALRU/TPISI / RUSP / Maianthemum & POMU & SARA (40% cov)

Going S & then W toward Elder, dense RUDI & RUSP up to edge of actual wetland at Elder & Hollyhock
SP was LYAM - CAOB - OESA in standing water

DEA # 76 - map (24)
At Breaker & Washington TL # 3700

This must be a misplaced sample point.
This is an elevated, well-drained neighborhood. The parts that aren't house/yard are TSHE/GASH/POMU

3-31-93

DEA # 67 # TL 701 Map ( )
1 Veg. data is UPL while placed in wetland area. The actual map line looks OK, but the data sample point was south of it, in the adjacent upland (it's the only nearby spot w/ RUDI, SARA)

The wetland at this point is JUEF, LYAM, CAOB & H_2O mixed with higher hummocks of mixed grasses, a tree or two, etc.

This whole area is disturbed and irregular in spots - making boundary much more complex than is shown.

DEA # 71 TL # 4500 Block 14 Map (25)
Between Coral & Dolphin, N of Stark

The only spot in this TL that is alder-dominated has RUSP/MADI as dominates w/ a little SARA & POMU. The only RARE was on road verge, no doubt watered by street runoff. The rest of the

3 : 13

Site was hemlock / GASH-RUSP/
POMU-MADI assoc.

DEA #54 TL 13200' Map (19)
SE of Fourth & Anchor - edge of big wetl.
There may have been no hydrol
in Aug 97 but end of March 98
is deep standing water - 6" from
edge of gravel Rd.

Veg is dense and lush:

CRON
JUEF
Salix
SPDO

} Dom - almost 100% cover

Others: OESA, Veron. amer, LYAM, (LOIN on edges) SCMI

12

Possible Violations?

October 7, 1993

Dear Don:

Here is a list of the sites I would like you to look at and try to estimate the year the fill was place:

Map: 2N 10 32BC
Block 50, 10100
Block 43, 8201
8500

Map: 2N 10 32CB
Block 15, 300

Map: 2N 10 32CA
Block 12, 8600
8500
Block 13, 6601

Map: 2N 10 32CD
Block 65, 1400
Block 64, 2200 (8-10)
Block 63, 3400 (15-18) Is this Sheldon?

Map: 2N 10 32DC
Block 3, 3800

Map: 1N 10 5BB
Block 8, 400
2000

Map: 1N 10 5BC
Block 18, 9900

Map: 1N 10 5BD
Block 10, 1005
1000

Map: 1N 10 5CB
Block 17, 700 (1-3) Is this Sigafoos?

Map: 1N 10 5CC
Block 13, 11000

That should do it. Thanks. See you on the 12th of October.

Emily