

Newport Transportation System Plan Final Technical Memorandum #10 - Biological/Wetland Review

Prepared for

City of Newport
169 SW Coast Highway

Prepared by

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CITATION

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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1. INTRODUCTION

The Oregon Department of Transportation (ODOT) has retained Parametrix to conduct data research and analysis, field verification and preliminary road siting to determine whether local access roads in the South Beach area of Newport could be constructed to provide access to land within the UGB that is zoned for development and adjacent to US 101.

As part of the alternatives analysis process, Parametrix performed wetland determinations within the footprint of a variety of proposed routes. These included the following:

- One through route alignment on the west side of US 101 between SE 35th Street and SE 50th Street (see Figure 1).
- One through route alignment on the east side of US 101 also between SE 35th Street and SE 50th Street, incorporating access to the proposed SE 40th Street access road to serve South Shore Village.
- A variety of smaller access routes to provide for localized circulation in the vicinity of existing industrial development immediately adjacent to and directly served by driveways to/from US 101.

The purpose of the analysis is to determine the extent of potential impacts to jurisdictional wetlands based on wetland function and area affected associated with each of these options, and to identify opportunities for modifying existing US 101 access points while minimizing these impacts.

This memorandum is not a wetland delineation identifying potentially jurisdictional boundaries. Rather, it is a determination of wetland presence/absence observed within the study area. Parametrix staff performed wetland field determinations on August 21, 2007, visiting the various alternative route alignments where feasible. Additional wetland determination documentation performed includes a review of existing wetland inventories and reports, Lincoln County Soils Survey, National Wetland Inventory maps, and topographic maps.

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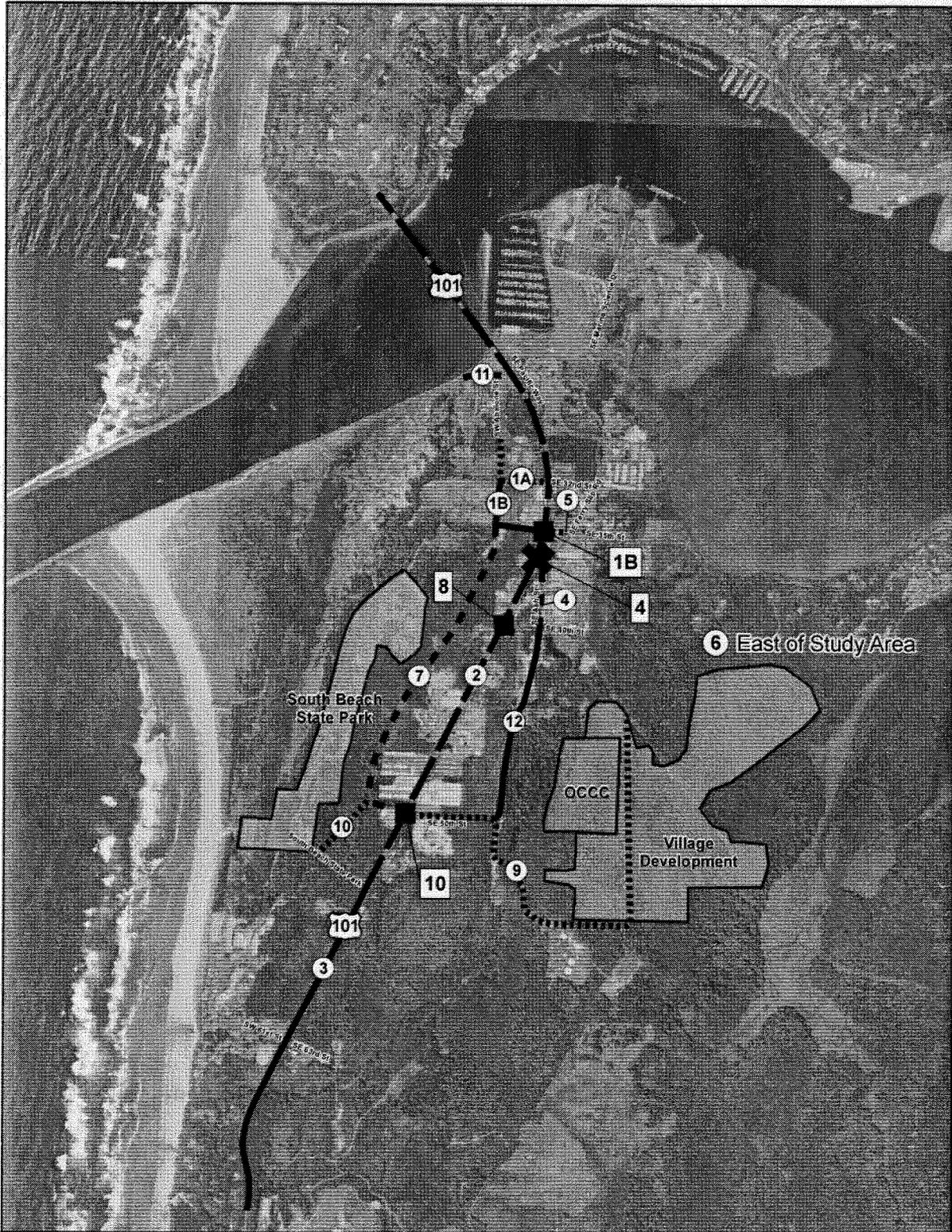
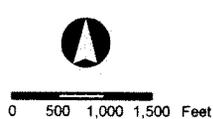


Figure 1: South Newport Proposed Improvements



Legend

-  Intersection Improvements 1B
-  Close Intersection

Project Symbology

- | | | |
|--|---|--|
|  1A |  4 |  10 |
|  1B |  5 |  11 |
|  2 |  7 |  12 |
|  3 |  9 | |

Geographic Data Standards:

Projected Coordinate System
Oregon State Plane South

Data Source(s):

USDA, ESRI, Parametrix

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* Location of projects 7, 9, and 12 to be determined.

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2. STUDY AREA DESCRIPTION

The study area is located in Newport's South Beach, on either side of US 101 south of the Yaquina Bay Bridge. Vicinity properties are a combination of residential, commercial and light industrial developments. Substantial new development is proposed in the area to the east of the state highway with new intersections proposed at 40th Street (and ultimately at 50th Street). This new development would consist of mixed employment and residential uses, a college campus and a county park. On the west side of the state highway land is dominated by various industrial and retail uses adjacent to the highway and the South Beach State Park (including both day use and campground areas) located between the developed parcels and the Pacific Ocean.

Topography in the project area consists of a series of north/south-oriented terraces comprised of sandstone and basalt. Elevations range from 0 feet to approximately 400 feet National Geodetic Vertical Datum (NGVD) on the hilltops to the east of the study area. Topography along the western alignment alternative is characterized by low hills on the northern one-sixth of the proposed alignment study area, with low-lying, flat topography in the southern five-sixths of the study area. Topography on the eastern alternative is relatively flat along the abandoned north/south-oriented railroad grade. Hills east of the railroad grade rise moderately steeply. To the west, the terrain varies between moderate slopes on the west to relative flat or slightly concave depressions.

Wetland resources in the project vicinity are commonly situated within these low-lying depressions, which were often inundated at the time field work was conducted. These depressions generally are linear in shape and are oriented north/south parallel to and located along the bases of hill slopes. Roadways and unpaved driveways cross wetlands near the eastern alignment in several locations.

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3. ANALYSIS METHODOLOGY

Prior to the field investigation, Parametrix staff reviewed available environmental data for the site. This included an examination of topographic maps, aerial photographs, the National Wetland Inventory (NWI) map (USFWS 1981) and NWI online mapper (USFWS 2007) which is shown in Figure 2, and the Soil Survey of Lincoln County Area, Oregon (NRCS 1997) which is shown in Figure 3. The NWI map for the site is based on the Newport 7.5-minute quadrangle, with imposed wetland polygons based on color infrared aerial photographs at a scale of 1:24,000.

Parametrix conducted on-site wetland determinations on August 21 2007. The determinations were conducted pursuant to the parameters detailed in the *Corps of Engineers Wetland Delineation Manual* and addendums (*1987 Manual*). The *1987 Manual* requires evidence of three parameters in order to determine that wetlands occur on a site: hydrophytic vegetation, hydric soils, and wetland hydrology.

3.1 VEGETATION

For an area to be classified as a wetland, a majority of the dominant plant species identified must be hydrophytes, plants adapted to life in saturated soil conditions. In the National List of Plant Species that Occur in Wetlands: 1988 National Summary and 1993 Supplement: Northwest (Region 9) (Reed 1988 and 1993), plant species are categorized according to their likelihood of occurring in wetlands. The categories include obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or upland (UPL). If greater than 50 percent of the dominant plant species are OBL, FACW, or FAC, the vegetation is considered to be hydrophytic.

3.2 SOILS

The *1987 Manual* defines wetland soil as soil that is "...saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation." Acceptable field evidence of non-sandy mineral wetland soils is gleying, soils with a chroma of 1, and soils with a chroma of 2 with mottling. Chroma is the intensity of a color and a low chroma indicates that the soil has been exposed to reducing conditions. Mottling of the soil indicates a fluctuating water table that allows the soil to become oxidized for parts of the growing season. In addition, the Natural Resources Conservation Service (NRCS) Soil Survey of Lincoln County Area, Oregon (1997) was consulted to determine soil types potentially present within the study area.

3.3 HYDROLOGY

Wetland hydrology, as defined in the *1987 Manual*, must be "inundated or saturated by water to the surface for at least 5 percent of the growing season. Areas that are inundated or saturated to the surface for 5 to 12.5 percent of the growing season may meet the requirement for wetland hydrology if other positive indicators are present. Areas that are inundated or saturated to the surface for more than 12.5 percent of the growing season always have wetland hydrology."

The hydrology of the site was documented by recording the presence or absence of surface water, saturation, and evidence of inundation (drainage patterns, oxidized root channels, etc.) within suspect wetland areas.



Figure 2: NWI Wetlands



0 500 1,000 1,500 Feet

-  Freshwater Pond/Lake
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland

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Geographic Data Standards:

Projected Coordinate System:

Oregon State Plane South

Data Source(s):

USGS, ESRI, Parametrix

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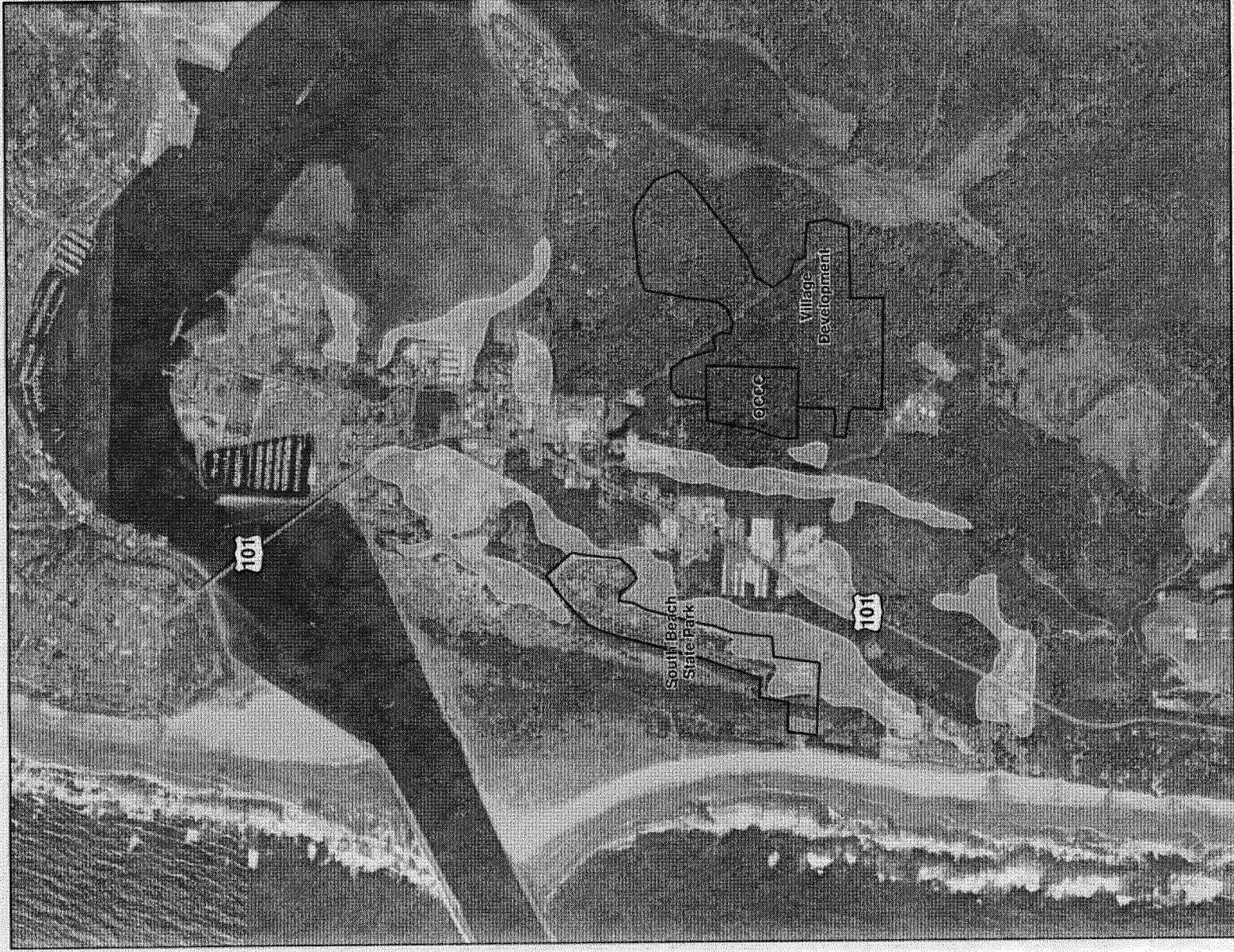


Figure 3: Hydric Soils



0 500 1,000 1,500 Feet

Hydric Soils

Geographic Data Standards:
 National Coordinate System
 Oregon State Plane South

Data Source(s):
 USDA, USGS, Parametrix

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4. RESULTS

4.1 DATA REVIEW

A review of the data described in the preceding chapter is presented in the following subsections and specific conclusions area identified.

National Wetland Inventory (NWI) Maps

The National Wetlands Inventory map for Newport, Oregon (as shown in Figure 2) identifies four wetland types within the project area. These are described in Table 1.

Table 1. National Wetlands Inventory (NWI) Mapping Analysis

Map Unit	Description
PEMF	Palustrine emergent
PSSC	Palustrine scrub-shrub
PUBH	Palustrine unconsolidated bottom
PFOC	Palustrine forested

Soils Survey

The Soil Survey of Lincoln County, OR (1997) includes sixteen soil types mapped within the study area vicinity (Table 2). Of the sixteen, five are recognized as hydric soils units. Figure 3 shows the location of the recognized hydric soils.

Table 2 - Soils Mapped Within the Study Area

Series	Soil Name	Drainage Class	Hydric
3C	Bandon fine sandy loam	Well drained	No
3E	Bandon fine sandy loam	Well drained	No
9A	Brenner silt loam	Poorly drained	Yes
12A	Coquille silt loam	Very poorly drained	Yes
14B	Depoe loam	Poorly drained	Yes
18G	Fendall-Templeton silt loam	Well drained	No
35E	Lint silt loam	Well drained	No
42C	Nelscott loam	Moderately-well drained	No
42E	Nelscott loam	Moderately-well drained	No
46A	Nestucca silt loam	Somewhat poorly drained	No
47C	Netarts fine sand	Well drained	Yes
47E	Netarts fine sand	Well drained	Yes
59C	Urban land-Nelscott complex	Moderately-well drained	No
60A	urban land-Waldport complex	Excessively drained	No
63A	Waldport fine sand	Excessively drained	No
67A	Yaquina fine sand	Well drained	No

South Beach State Park Master Plan

The South Beach State Park Master Plan (2003) identifies and ranks park habitat by suitability for park development. Suitability Classifications are as follows:

- Class 1: Highest quality resources. Trail development only
- Class 2: High quality resources. Trail development only
- Class 3: Moderate quality and/or common resource. Suitable for facility development.
- Class 4: Low quality resources, including developed areas. Suitable for facility development.

Except for a small section of park property (approximately 10 percent) in the northeast corner of the western alternative alignment, all areas within the alignment are **Class 1** habitat (see Figure 4).

4.2 FIELD SURVEY

Findings from the field survey of the two route alignments along either side of US 101 are described in the paragraphs below.

Western Alignment

The western alignment abuts the eastern boundary of South Beach State Park. Most of the area within this alignment is wetland, which extends west to east from the base of forested hills located in South Beach State Park on the west to the edge of commercial and industrial properties located to the east. Except for a small area to the north, wetlands occur along nearly the entire north-south alignment. Evidence indicates that most developed properties in this area required fill to avoid flooding.

Wetland areas appear to be semi-permanently inundated and include willow, Douglas spirea, and sedge. Vegetation throughout wetland areas is dense. Numerous snags are interspersed within dense emergent wetland vegetation in an otherwise open-canopy setting. The presence of snags may be indicative of historically drier conditions in these areas. One may speculate that development or other alterations to the landscape have confined or restricted drainage, leading to a more persistent and/or shallower water table. Upland vegetation assemblage consists of Sitka spruce/Douglas fir overstory with a broad-leaf shrub understory consisting mostly of salal and rhododendron

Wetland habitat in the western alternative has been affected by infringement from property development. Evidence of fill in wetlands is apparent in many places. Nevertheless, remaining wetlands are extensive and provide valuable habitat functions. The close proximity of a relatively intact forested upland buffer associated with South Beach State Park increases the value of habitat overall. There is no opportunity for sighting the western bypass without affecting significant wetland areas or without property acquisition.

Eastern Alignment

Wetlands along the eastern alignment are a mix of emergent and forested habitat. Wetlands in the vicinity of SE 40th Street and SE Ash Street have been disturbed through clearing, grading and placement of fill. Algal mats and drain patterns in the sandy soil are evidence of persistent wetland hydrology. Red alder and soft rush are becoming re-established in this wetland. Emergent wetlands farther south are populated primarily with slough sedge and soft rush, with willow, Douglas spirea, and Oregon ash fringing the area transitioning from wetland to upland. Adjacent upland species include lodgepole pine, Douglas fir, and red alder.

Forested areas west of the railroad grade and east of development are a well-interspersed matrix of wetland and upland. Areas observed during field work appeared to be approximately 40 percent wetland and 60 percent upland. Forested wetland areas consist primarily of red alder, willow and Oregon ash with occasional Sitka spruce and western red cedar. Groundcover includes skunk cabbage, slough sedge, western manna grass, small-fruited bulrush. Adjacent uplands include Douglas fir, Sitka spruce, lodgepole pine, and myrtle with an understory of salal, blackberry, evergreen huckleberry and rhododendron.

To the south, private and public roads dissect sections of presumably once contiguous wetland habitat. Wetlands to the south benefit from close proximity of forested upland habitat associated with Mike Miller County Park.

Wetlands within the proposed alignment are less extensive than those identified on NWI maps. Specifically, the abandoned railroad grade that roughly aligns with SE Ash Street was determined to be upland during field work (Figure 3, Symbol 12).

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Figure 4. Composite Suitability

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5. CONCLUSIONS

A public street network parallel to US 101 between SE 35th Street south to SE 65th Street would facilitate connectivity and access management along US 101. An adequate public street network would provide access to properties along US 101, minimizing the number of driveways onto the state highway. However, based on the findings of significant wetlands within the vicinity of both proposed alignments, implementing a street network parallel to US 101 would be a challenging prospect. Conclusions from this analysis are presented below for each of the alignment and/or local circulation options considered.

5.1 ROAD ALIGNMENT WEST OF US 101

The western alignment, running parallel to US 101 from SE 35th Street to SE 50th Street includes extensive semi-permanently flooded, scrub-shrub wetlands located on South Beach State Park property. These wetlands are relatively intact and make up part of a habitat complex that includes forested dunes on the adjacent park property to the west. Properties adjacent to US 101 and east of the potential western alignment appear to be located at least partially on fill material. Typically, this fill does not extend beyond the developed areas of each parcel. There is no opportunity for siting the proposed western alternative without affecting significant wetland areas.

In addition to the resource impacts of constructing a roadway alignment through wetlands, the west alternative will also be difficult and costly to construct requiring the removal of compressible soils and stabilization of the roadbed. As avoidance of significant areas of mature, relatively intact wetland habitat is not considered to be feasible and construction would be costly, development of a continuous north/south roadway in this area is not recommended at this time.

5.2 ROAD ALIGNMENT EAST OF US 101

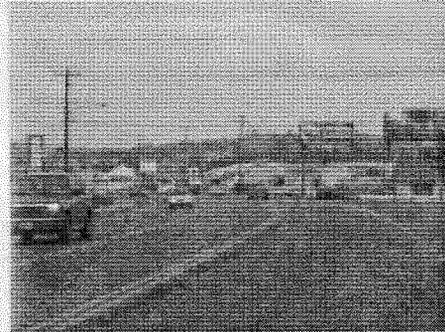
Development of a bypass along the eastern alternative would also affect wetlands. However, this area includes an abandoned railroad grade right-of-way established approximately at the toe of steeply sloped hills and terraces located to the east. The spatial extent of adverse effects to wetlands may be diminished considerably by use of the railroad grade alignment for development of a north/south local circulation system to reduce travel demand along US 101. It should be noted that sections of the abandoned railroad grade are now part of the Mike Miller County Park trail system and this trail function would need to be accommodated in any future roadway alignment. The eastern alignment would require grading and widening of the railroad bed and would be easier and more economical to construct than an entirely new alignment.

5.3 OPPORTUNITIES FOR MODIFYING US 101 ACCESS FOR EXISTING PROPERTIES

Based on the findings of the wetlands research and field surveys along the eastern and western sides of US 101, opportunities were considered for developing an access management strategy to reduce the number and/or location of existing driveways intersecting the state highway. Also useful in this assessment is the mapping of driveway locations and frequency that is illustrated in Figure 2-7 of Technical Memorandum #5 (a copy of which is included in Appendix A).

Opportunities along the West Side of US 101

Along the west side of US 101, existing development is largely built on former wetlands that have been filled to raise the grade roughly consistent with the adjacent highway. This development is concentrated between SE 32nd Street and the future SE 40th Street intersection, as well as further south from approximately one-half mile north of SE 50th Street to the vicinity of the SE 50th Street/US 101 intersection. The developed portions of parcels along the west side of the highway typically follow an irregular boundary with the adjacent wetlands, varying from one parcel to the next in terms of buildable depth from the highway. Additionally, the footprint of most development on these parcels is largely consistent with the filled area, leaving little space for a frontage or backage road that would not bisect or greatly impact this development.



Development of an access management strategy for the west side of US 101 between SE 32nd and SE 50th Streets must be responsive to a complex blend of needs and issues including:

- Maintaining the economic viability of local businesses which rely on highway access and visibility,
- Minimizing potential wetlands impacts, and
- Taking advantage of opportunities for changes that could occur with either redevelopment on specific parcels and/or with the proposed widening of US 101 identified in Technical Memorandum #8.

Review of existing parcels and driveway locations in relation to wetland findings along the west side of US 101 leads to the following proposed access management approach for the west side of the highway, moving from north to south:

- Area between SE 32nd Street and SE 35th Street:
With the development of Project # (SW Abalone Street) a new alternative route to provide for local, South Beach circulation would be provided for the two existing parcels in this area which currently have driveways directly onto US 101. These parcels would also have direct access onto SW 35th Street when this street is improved to add a west leg and a signal at its intersection with US 101. Closure of the two driveways accessing these parcels should be considered as redevelopment occurs and/or highway improvements are made with access provided via SW 35th Street or SW Anchor Way (which would connect with SW Abalone Street).
- Area between SE 35th Street and SE 40th Street:
There are six existing driveways on the west side of US 101 in this area, two of which currently serve a single parcel. With limited opportunities for backage road development in this area, access management options would largely consist of driveway consolidation (e.g., providing one access point per parcel), shared driveways (one opportunity may exist for this where existing developed parcels are adjacent), and/or development of a raised median when US 101 is improved to a five lane cross-section with local access limited to right-in/right-out turns. A

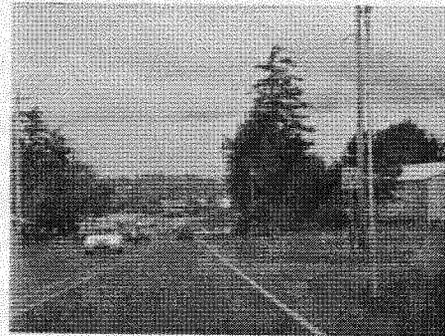
provision for U-turns at the intersection of US 101 at SE 35th and 40th Streets could be provided to accommodate trips to/from destinations to the north and south.

- **Area between SE 40th Street and SE 50th Street:**

There are eleven existing driveways on the west side of US 101 in this area. Two of these driveways currently serve a single parcel and consolidation could be considered. Additionally there may be opportunities for shared driveway access and/or crossover easements for two parcels near the center of this highway segment and for three parcels just north of SE 50th Street. If the existing access to/from South Beach State Park is relocated to the intersection of US 101 at SE 50th Street as proposed, some consideration should be given to providing a frontage road and/or connected parking lots with cross-over easements for the parcels immediately north of this intersection. This action would accommodate the closure of four existing driveways onto the highway and the relocation of access via the signalized intersection at SE 50th Street.

Opportunities along the East Side of US 101

Along the east side of US 101, existing development is also largely built on former wetlands that have been filled to raise the grade roughly consistent with the adjacent highway. This development is concentrated between SE 32nd Street and the future SE 40th Street intersection, and at various locations to south of SE 50th Street. The area north of SE 40th Avenue is well developed with little vacant land except around the future SE 40th Street intersection. Immediately south of SE 40th Street land adjacent to the highway is vacant for about a quarter of a mile. The highway frontage is fully developed south of this point to just south of the SE 50th Street intersection.



As with parcels on the west side of the highway, the developed portions of parcels along the east side of the highway south of SE 40th Street typically follow an irregular boundary with the adjacent wetlands, varying from one parcel to the next in terms of buildable depth from the highway. Additionally, the footprint of most development on these parcels is largely consistent with the filled area, leaving little space for a frontage or backage road that would not bisect or greatly impact this development.

Development of an access management strategy for the east side of US 101 between SE 32nd and SE 50th Streets must be responsive to a complex blend of needs and issues including:

- Maintaining the economic viability of local businesses which rely on highway access and visibility,
- Minimizing potential wetlands impacts, and
- Taking advantage of opportunities for changes that could occur with either redevelopment on specific parcels and/or with the proposed widening of US 101 identified in Technical Memorandum #8.

Review of existing parcels and driveway locations in relation to wetland findings along the east side of US 101 leads to the following proposed access management approach for this side of the highway, moving from north to south:

- Area between SE 32nd Street and SE 35th Street:

There are two existing driveways in this area. Alternative access is available via SE 32nd Street, Ferry Slip Road and/or SE 35th Street. Consideration should be given to closing these existing driveways and relocating parcel access to a local street when the parcels redevelopment and/or highway widening occurs.

- Area between SE 35th Street and SE 40th Street:

There are three existing driveways on the east side of US 101 along this highway segment. Generally, most parcels adjacent to the highway in this area also have access to SE Ferry Slip Road, SE Ash Street, and/or the future alignment of SE 40th Street. However, there appears to be at least one parcel which has no alternative access apart from the state highway. Additionally, there are limited opportunities to consolidate or share existing driveways in this area.

As with the west side, an access management strategy along this highway segment should consider development of a raised median when US 101 is improved to a five lane cross-section with local access limited to right-in/right-out turns or relocated to side streets. A provision for U-turns at the intersection of US 101 at SE 35th and 40th Streets could be provided to accommodate trips to/from destinations to the north and south.

- Area between SE 40th Street and SE 50th Street:

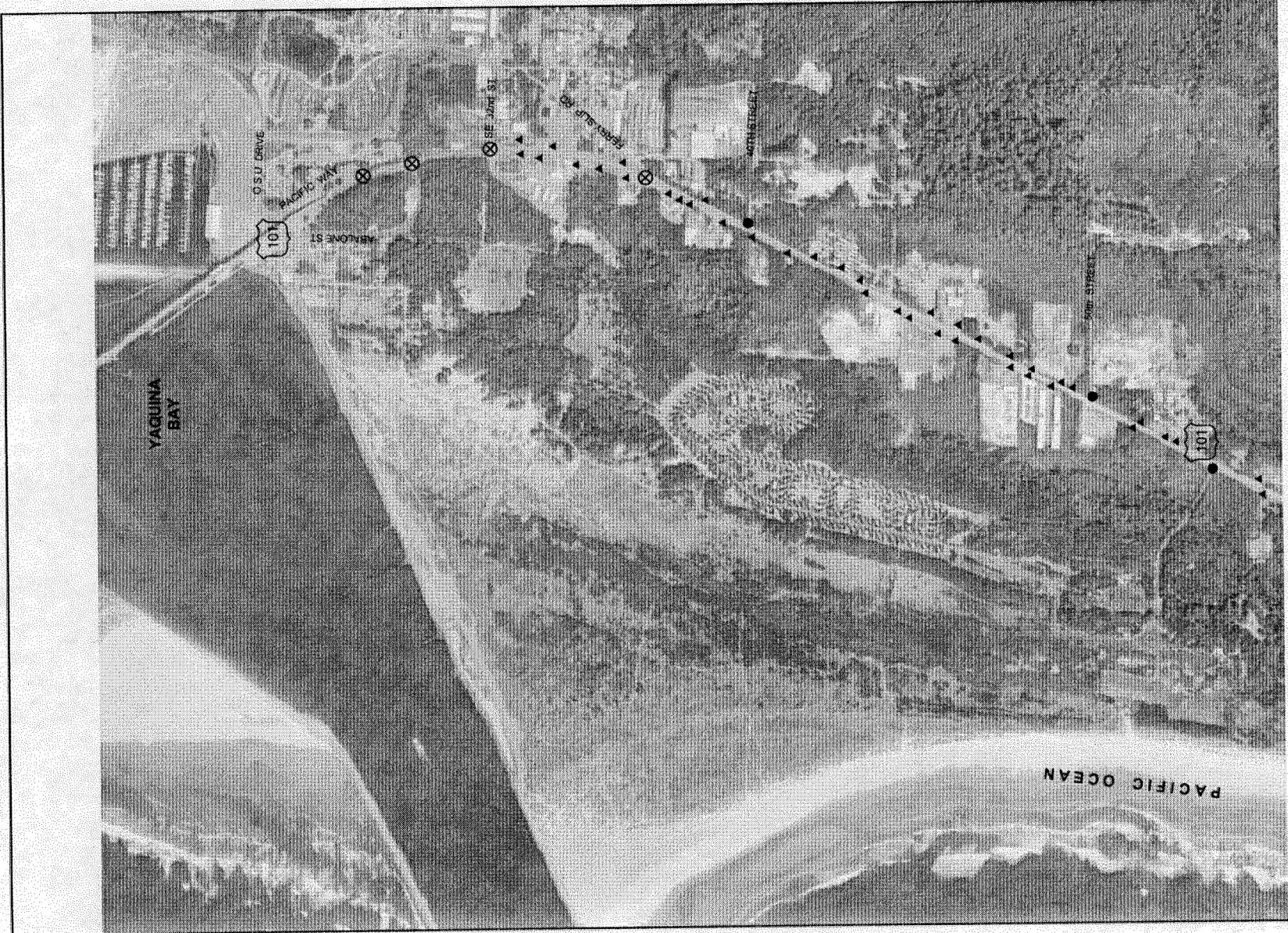
There are ten existing driveways on the east side of US 101 in this area. Four of these driveways currently serve two individual parcels (two driveway each) and at one location there appears to be use of a shared driveway. There may be opportunities for additional shared driveway access and/or crossover easements for three parcels near the center of this highway segment and for several parcels just north of SE 50th Street. While the relationship of existing business footprints to the filled area allows little room under current conditions for street extensions without wetland impacts, there may be some potential for the development of easements for local traffic circulation as parcels redevelop immediately north of SE 50th Street. Additionally, there are currently several small slivers of land running east/west between the highway and the railroad alignment which could be considered for local street circulation and parcel access as this area develops and redevelops.

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APPENDIX A

Existing Driveway Locations



LEGEND

- ⊗ STUDIED INTERSECTIONS
- PUBLIC STREETS
- ▲ DRIVEWAYS

Figure 2-7
South Beach Newport
Driveway Inventory