
(Draft) Section 1
EXECUTIVE SUMMARY

INTRODUCTION

This Flood Hazard Management Plan (FHMP) details the planning process, technical analysis, and improvement recommendations to reduce flood hazards in the North Beach area of Washington. North Beach, a coastal community in Grays Harbor County, has a history of regional and localized flooding. The area is characterized by flat, low-lying land and wetlands. Precipitation in the region is 75 inches annually, with 80 percent of this occurring between October and March.

This document is the third phase of a planning effort undertaken by Grays Harbor County for the southern half of the coastal area of the County. In 1995, the County prepared the Grayland Flood Hazard Reduction Plan for the southern portion of this area, extending south from Salt Aire Shores to a natural drainage boundary east of Grayland Beach State Park. In 1997 the County prepared a Flood Hazard Management Plan covering the area from Salt Aire Shores north to Westport. This Flood Hazard Management Plan covers the North Coast Area. The Study Area extends from the Conner Creek crossing of Highway 109, north to the Copalis River and inland, one-half from the coast. It includes the communities of Ocean City and Copalis Beach (Figure 1-1).

PROBLEMS, ISSUES, AND GOALS

A public meeting was held in Ocean Shores on February 4, 1999. At that meeting the residents identified a number of local drainage and shallow flooding problems in the Study Area, a number of them were associated with Highway 109, which passes through the length of the Study Area. Together with information provided by the County, four problem areas were selected for detailed study. These are:

- Silver Maple Resort – Roosevelt Road
- Haven-by-the-Sea
- Depressed area adjacent to Johnson' Mercantile
- Rod's Resort

In addition, a hydraulic study of Conner Creek was carried out. This study did not address the migration of the stream channel, which was the subject of another study in 1997. Instead, its objective was to evaluate the possible backwater effects of the numerous bridges that have been constructed across the creek in the vicinity of Ocean City and to address creek impact on local drainage.

The main goals of this FHMP are as follows:

- Improve the protection of public health and safety from flooding threats in the North Beach Study Area.
- Provide practical, cost-effective solutions that will result in measurable reductions in flooding frequency, duration, and frequently flooded area damages.
- Improve County regulations and programs to control flooding impacts to future growth.

MAJOR FINDINGS

The ocean outlet of Conner Creek has continued the northward migration documented in the 1997 Study. By the beginning of 1999, the creek had migrated north of Heath Road, cutting beach access formerly afforded by that road. As of June, 1999 the outlet was located just south of Benner Road in Copalis Beach, about one-quarter mile south of the Copalis River. The hydraulic study carried out for this project determined that the bridges across the creek do not have much of an influence upon the creek at higher flows. Only one of the bridges backs up flood waters to any measurable degree and the backwater effect from that bridge is about one-third of a foot in elevation. The flood elevation of the creek through Ocean City is 13 to 15 feet for the more frequent 2-year event and 15 to 18 feet for the 100-year event. The results for the 100-year event are generally consistent with the FEMA flood insurance maps which show some creek flooding in the Ocean City Area. Local drainage conditions to the creek will generally be adequate except for once every year or two when high flows (and higher water levels) in the creek could cause temporary backups in the drainage ditches and local streams draining to the creek. Slow drainage conditions could persist for a few days until the creek level receded.

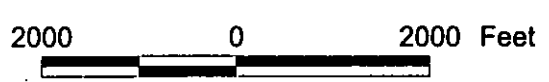
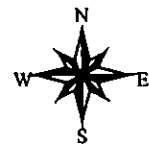
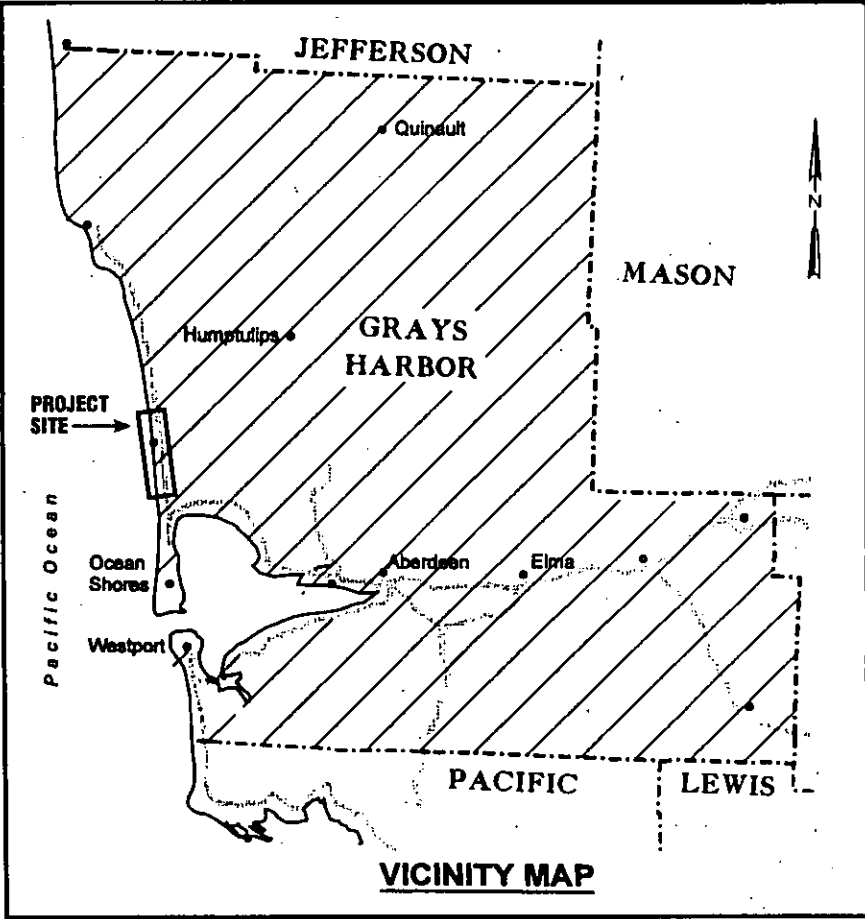
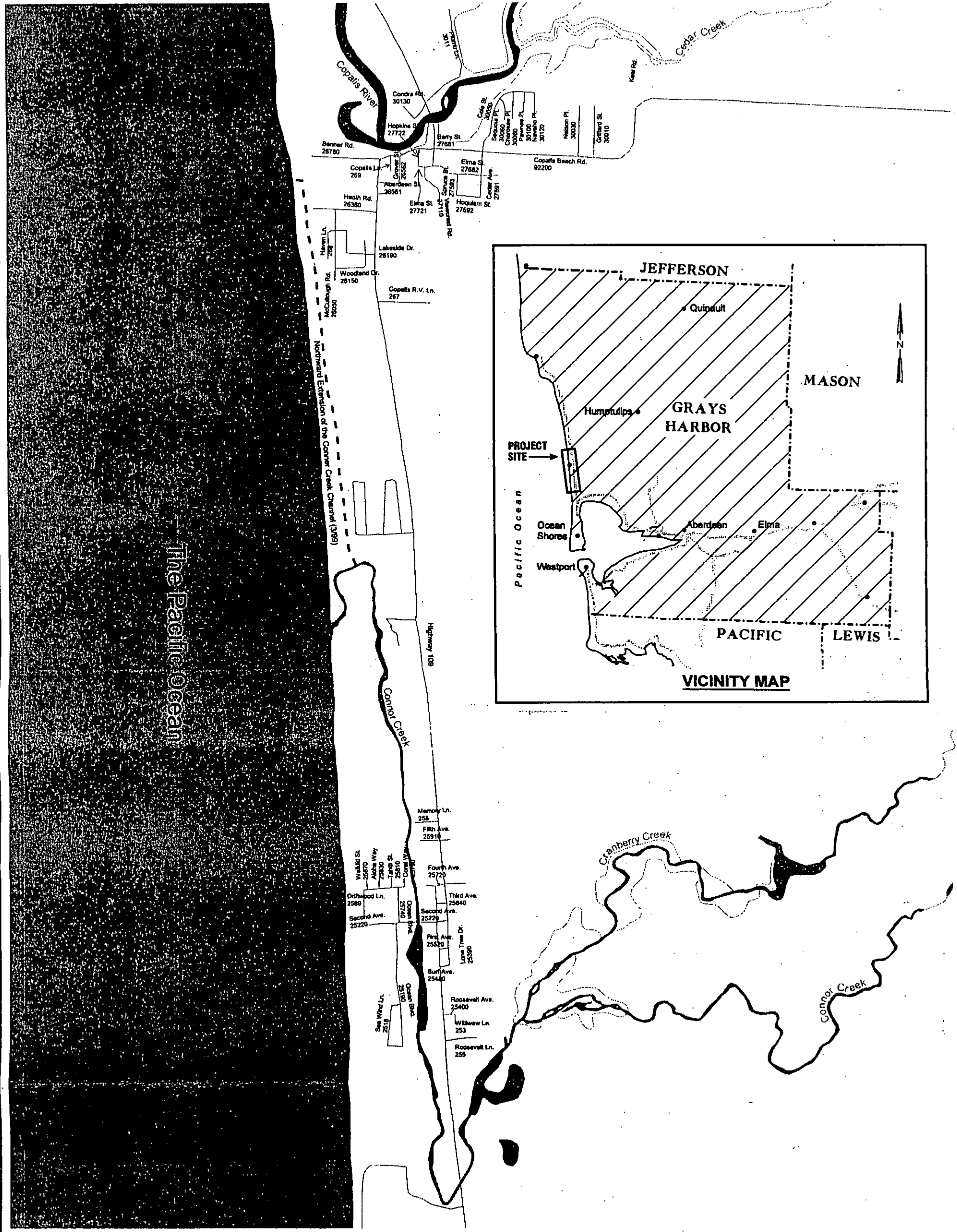


Figure 1-1 Study Area

Four specific flood problem sites were analyzed as summarized below. The local landowners that would benefit from these improvements are urged to form cooperative partnerships with the County, and in several cases with the State Department of Transportation, to implement the recommended solutions.

- **Silver Maple Resort:** A length of culvert should be constructed to remove a blockage of the local highway drainage system to its natural outlet.
- **Haven-by-the-Sea:** Limited available topographic data prevented a definitive solution. It appears that the Heath Road drainage system at the north side of this site has adequate capacity to convey outflow from Haven-by-the-Sea Neighborhood, although this will need to be confirmed. An old, collapsed stormwater pipe that formerly piped flow to Heath Road should be replaced.
- **Johnson's Mercantile:** High water levels in the nearby Copalis River or a heavy local rainstorm associated with an extreme high tide can result in ponded water conditions of 2 to 4 feet in depth, closing a local road and flooding the store. However, the area impacted by the local flooding is small and an alternate road access exists to the neighborhood. Therefore the substantial cost of structural measures which would eliminate this problem do not appear justified. Affected property owners should consider raising structures above the flood level of 13.5 feet.
- **Rod's Resort:** This property lies within a minor saddle in the drainage system for Highway 109. It is recommended that a short segment of the highway ditch south of the resort be excavated down by up to one foot to promote better drainage.

Other findings include:

- Flood and drainage problems in the Study Area are exacerbated by development because of increased runoff from impervious areas and fill that blocks surface and subsurface flows.
- The County has limited funding available for problems that are not related to roadways.
- Much of the area is wetlands and/or floodplain.

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- Flooding in these areas cannot be prevented.
 - Permits will be needed for work in floodplains and wetlands.
 - Solutions to flooding should focus on reducing damages and hazards rather than on preventing flooding. Solutions should not damage wetlands, nor should they simply move the flooding problem to other locations.

SUMMARY OF PROPOSED SOLUTIONS

The recommended flood hazard reduction measures were selected following site-specific analyses of problem areas. A summary of these policy and capital improvement recommendations is presented in Table 1-1.

LIST OF RECOMMENDED ACTIONS

Several general actions have been identified that will substantially reduce flood hazards in the North Beach area.

- Development in floodplains, flood storage areas, and drainage courses should be regulated through the following County actions:
 - Regulate development in Floodplains
 - Prevent filling of drainage pathways and wetlands through vigorous enforcement of regulations
 - Review all filling activities for adverse upstream and downstream effects
 - Consider Development of Flood Storage Conservation Easements
 - Develop Flood Hazard Public Education Programs
 - Coordinate planning with County divisions and other jurisdictions
 - Reduce filling of land beneath homes to the minimum necessary for elevation of the homes and their septic systems

- After implementation of recommended capital improvements, individual homeowners and businesses that are still flooded should consider elevating their structures as needed.

<p align="center">Table 1-1 North Coast Flood Hazard Management Plan Recommendations</p>		
	<p align="center">Policy and Program Recommendations</p>	<p align="center">Capital Improvement Project Recommendations</p>
<p>Area-Wide Issues</p>	<ul style="list-style-type: none"> • Regulate development in flood-plains and wetlands and impacts to drainage courses • Evaluate revisions to FEMA mapped floodplain boundaries • Coordinate flood hazard management activities with other County divisions and other agencies • Consider development of a conservation easement program to preserve flood storage areas • Develop flood hazard public education programs 	<ul style="list-style-type: none"> • Elevate affected homes and businesses where necessary
<p>Local Drainage Issues</p>		<p>Silver Maple Resort – Install/upgrade highway culverts</p> <p>Haven-by-the-Sea - Replace deteriorated pipe (further study needed to confirm)</p> <p>Johnson’s Mercantile – None recommended</p> <p>Rod’s Resort – Deepen existing highway ditch</p> <p>(See Section 5 for more details)</p>