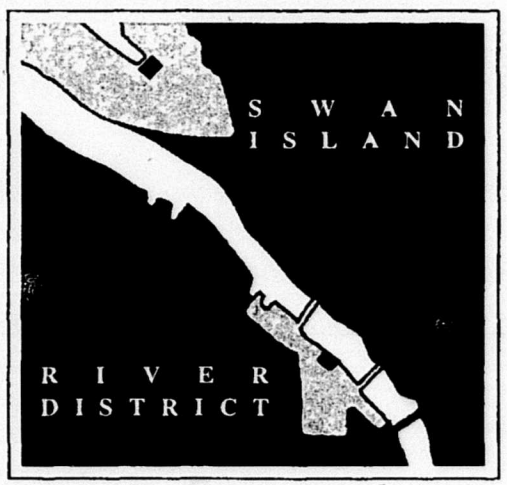
35457

RECOMMENDATION REPORT TO CITY COUNCIL

Submitted by

Overflow Treatment Facility Siting Task Force



September, 1995

OVERFLOW TREATMENT FACILITY

SITING TASK FORCE

Members

Steve Schell (Chair)	Member-at-Large
Pauline Anderson	Member-at-Large
Rich Brown	North-Northeast Business Association
Laurel Butman	University Park Neighborhood Association
Bud Erland	Member-at-Large
Sandra Hart	Northwest Natural Gas
Mike Houck	Member-at-Large
Jeff Lang	Corbett-Terwilliger-Lair Hill Neighborhood Association
Gary Madson	Lower Albina Council
Don Magnusen	Member-at-Large
Petra Mattes	Freightliner Corporation
Lawretta Morris	Member-at-Large
Bob Peterson	Overlook Neighborhood Association
Vern Rifer	Member-at-Large
Jim Robison	North Portland Odor Abatement Committee

Staff & Consultants

The Following Bureau of Environmental Services staff and consultants contributed to the Overflow Treatment Facility Siting Task Force decision-making process

Bureau of Environmental Services

Dean Marriott
Randy Miller
Jim Dixon
Eugene Lampi
Joy Feder
Gari Barnes
John Lang
Heather Clish
Lester Lee
Linc Mann
Terri Tufts

Barney & Worth, Inc

Don Barney
Tim Dabareiner
Karen Bringhurst
Erik Jensen
MaryAnn Cherrier

Claire Levine Writing & Research

Claire Levine

CH2M Hill

Gordon Nicholson

Zimmer Gunsul Frasca Partnership

Greg Baldwin
Charles Kelley
Paddy Tillett
Mike Dennis

AGI Technologies

Dave Rankin
Nancy Kraushaar

Ann Symonds & Associates

Ron Horres

Sverdrup Civil, Inc

Alan Aront
Jim Coulter
Larry Oliver

Brown & Caldwell

Walt Meyer

CONTENTS

EXECUTIVE SUMMARY

RECOMMENDATION

The Siting Task Force unanimously recommends the City Council authorize the following action as the City proceeds with plans to build a new combined sewage overflow treatment facility in the next decade to treat sewage and stormwater collected from Willamette River basins within Portland

Build the needed treatment capacity at two sites -- on Swan Island at the south end of the lagoon, and in the River District property along Front Ave The River District plant would provide primary treatment for combined sewage flows on the west side of the Willamette River, the Swan Island plant would provide primary treatment for flows from basins on the east side of the river However, two facilities should only be built under the following conditions

1 The City should proceed with the joint Swan Island - River District solution only if additional public or private funding outside the City sewer funds can be found by January 1999 These additional funds must cover the apparent difference between the estimated base cost of a single plant on Swan Island and the higher base cost plus the higher operations and maintenance cost of the joint solution (current estimates are $390-million and $415-million, respectively in 1994 dollars)

2 At a minimum, the sedimentation tanks should be buried and the associated burial costs funded within the project's capital budget

3 The development of the following amenities, or community based benefits, is assured at each of the two site areas Identification of amenities has been a key to community acceptance of the proposed facilities

a Swan Island

(1) Develop pedestrian paths between Basin and Lagoon Avenues
(2) Develop passive recreational facilities along the Swan Island Lagoon water edge
(3) Protect and enhance significant wetland in the area
(4) Develop a park environment around the Overflow Treatment Facility
(5) With the Port of Portland and/or other appropriate partners, develop pedestrian connections from the top of Mocks Crest bluff to the Swan Island industrial area and the overflow treatment facility's park setting
(6) Develop a pedestrian connection from the facility site to the Willamette River
(7) Establish a second access road to Swan Island along the river bank from River Street to Basin Street
(8) Reserve City-owned acreage not used on the site for the facility's development for possible future expansion of the capacity and treatment capability of the facility, allowing for interim uses
(9) Improve the boat ramp at the lagoon

b River District

(1) Develop park improvement on top of the sedimentation tanks that provide active recreational opportunities along the waterfront
(2) Develop simultaneously with the facility, the proposed river basin at or near the site, thus achieving construction economies
(3) Rebuild Front Avenue to provide vehicle access to the facility and the proposed park
(4) Develop public school facilities adjacent to the park
(5) Coordinate the planned "daylighting", or surfacing, of Tanner Creek in the River District, with construction of the basin
(6) Enhance public access to the Willamette River in the vicinity of the site

4 The City sewer fund should not be used to fund the costs of amenities However, the City should facilitate the creation of community partnerships of public and private sector entities to assure the development of recommended amenities If the cost differential between the two sites and the amenities for the River District site cannot be met by January 1999, then a single facility at Swan Island should be developed

5 If a single facility at Swan Island is chosen, then the amenities listed in 3a above should still be built In addition, the sedimentation tanks should also be buried and paid for within the capital budget

BACKGROUND AND CHARGE OF THE TASK FORCE

Almost every time it rains in Portland, sewers overflow into the Willamette River and Columbia Slough This overflow carries a combination of raw sewage and stormwater that undermines the water quality of Portland's rivers and streams

In 1990, the City of Portland began planning efforts to control these overflows Northwest Environmental Advocates initiated a lawsuit against the State Department of Environmental Quality (DEQ) and the City to address the problem An agreement between the City and the State, called the Amended Stipulation and Final Order, was signed in 1994, and calls for Columbia Slough overflows to be virtually eliminated by December 2000, and for Willamette River overflows to be drastically reduced by 2011

A keystone of the City's $700-million program for this reduction is the construction of an overflow sewage treatment facility in two phases, each completed by 2006 and 2011 to capture and treat combined sewer overflows collected in the Willamette River basin

Task Force Charge

Following an earlier public process to identify possible sites for the overflow treatment facility, a 15-person citizen task force was appointed in April 1995 by Portland City Commissioner Mike Lindberg to review a list of five potential sites under the following charge

Recommend by September 30, 1995 to the City of Portland one or more locations for facilities to treat combined sewer overflows into the Willamette River, giving careful consideration to cost effectiveness, environmental and community benefits, and the impacts for neighboring communities and all citizens of Portland

In its deliberations, the Task Force will give careful consideration and reach conclusions on

- *cost effectiveness as measured in construction and operating expenses, as well as the costs of associated community-based benefits,*
- *technical feasibility of the sites,*
- *benefits to the environment and the community, the impacts on neighboring communities and all citizens of Portland, and*
- *overall community support for the siting process and the Task Force's conclusions*

A summary of the Task Force process is contained in the body of this report Key actions taken before reaching final recommendations included

- analyzing technical and cost data,
- developing the potential for community based benefits to be derived from the facility project,
- establishing criteria for site selection,
- conducting public outreach to expand understanding of public concerns and interests,
- developing finding and conclusions,
- preliminary elimination of possible sites

SITE SELECTION CRITERIA

The Task Force developed criteria to base its selection of recommended sites These included technical considerations, (e g , site size, soil and seismic conditions), cost to Portland sewer ratepayers, the potential for partnerships and community-based benefits in the development of the facility and associated amenities, compatibility of placing an overflow treatment facility on property in planning for other purposes, positive economic impacts and negative physical impacts for adjacent property owners and other neighbors of the facility

FINDINGS

More than a dozen findings of the Task Force emerged as it moved toward its recommendations, covering such issues as availability and size of sites, buildability, land use and transportation/traffic impact considerations, and construction and operating impacts

Odor On the key issue of odor control, the Task Force concluded it is essential that the facility be designed with buried and covered sedimentation tanks and employing current technology to ensure that odor and noise does not extend outside of the facility or engender legitimate complaints from the public

Discharge permitting Environmental standards were a chief concern of the Task Force, including the important question of gaining a State permit to allow discharge of treated effluent from the new primary treatment facility into the Willamette River The City's Environmental Services Director, in a letter to the Task Force, noted that during the Task Force process the City became aware that it "may face a difficult task in obtaining a permit for a facility of the size planned that would discharge into the Willamette River "

He added that as more is learned through technical research and discussions with DEQ, it's possible that "we may have to conclude the City cannot cost-effectively discharge all of its effluent into the Willamette "

The Task Force took this information under advisement, and concluded that while the City's intention to reach agreement with DEQ for discharges into the Willamette is reasonable and adequate, the City should be prepared to design for discharge or treatment alternatives, such as pumping some of the effluent to the larger Columbia River for discharge, or additional treatment processes at a Willamette facility providing a higher level of pollutant reduction Of course, the added costs of such expanded treatment activity will also have to be taken into account as the City strives to stay within its $700 million budget for the Combined Sewer Overflow (CSO) program

Cost and cost savings Costs provided to the Task Force, it concluded, are broad estimates in need of research and refinement over the coming five to ten years as the project proceeds toward design and construction The Task Force recommends that the public expenditure for capital and operating costs from Portland sewer funds not exceed the cost of a single facility at the Swan Island site and not be used to pay the cost of amenities

In addition, the cost of the facility should be managed closely and developed in the most cost-effective manner possible, with every opportunity for cost savings explored vigorously and constantly throughout the life of the project

Community benefits, partnerships The Task Force found that community based benefits should be the result of leveraging the initial public investment in the overflow treatment facility (OTF) The facility should be used as a catalyst and not as a source of additional funds for those benefits The Task Force also found the pursuit of community benefits was an integral part of the facility development, and that the Swan Island, River District and North Macadam sites all presented good potential for bringing value added to the community if developed in conjunction with the facility

A wide variety of possibilities for benefits and community partnerships among public and private sector entities were identified in a series of workshops and meetings which drew active participation from developers, neighborhood and business associations, and public agencies

Community acceptance for siting the facility in each of these three areas was high, as reflected by statements, letters of support, and community survey responses

PROPOSED SITES ELIMINATED

Three sites were eliminated from consideration by the Task Force decision-making process -- PGE, Columbia Boulevard, and North Macadam The rationale for each site's removal included

> **PGE property** The primary criteria which led the Task Force to end further consideration of the PGE-owned site just north of OMSI in southeast Portland were apparent lack of community acceptance, the presence of existing development plans for virtually the entire property, the lack of potential for partnerships and community-based benefits for further development, and the likelihood of negative impacts on adjoining properties, including OMSI The concern of OMSI about loss of parking and revenues during facility construction was a major consideration

Columbia Boulevard property The primary criteria for removal of the proposed site at the City's existing sewage treatment plant on Columbia Blvd in north Portland were apparent lack of community acceptance, limited opportunity for community based benefits and partnerships, and the potential for negative impacts on surrounding areas North Portland community leaders presented strong resistance to use of the site, noting that the area already is host to the City's sewage treatment plant and sanitary landfill, as well as heavy industrial development They raised the principle of environmental equity in siting such facilities The Task Force responded to this presentation

North Macadam property This property, south of the Marquam Bridge in southwest Portland and owned by Schnitzer Investments and Zidell, Inc , was under consideration until the final action by the Task Force A strong case for community-based benefits and partnerships was put forward On the other hand, its location farthest upstream of the considered sites suggested a higher cost if pumping of some effluent to the Columbia River proved necessary Also, this smaller site, which could not support a single facility (also the case with River District) left no room for future expansion This site was coupled as an option with River District in the Task Force's final deliberations, and the Task Force members agreed Swan Island needed to be part of the solution A Swan Island and North Macadam combination did not meet technical criteria

BACKGROUND

Combined Sewer Overflow Program

Built early in this century, the City of Portland's original sewer infrastructure was designed to rid the City's neighborhoods and streets of combined sewage and storm runoff by using a single underground pipe network to carry this untreated flow to the Willamette River and the Columbia Slough Over time these waterways became increasingly polluted

The first major improvement to the sewer system occurred in the early 1950s with the construction of large interceptor sewers and a primary treatment plant on Columbia Boulevard in north Portland Major expansions to the treatment plant in the mid 1960s (expansion of primary treatment capacity) and in the mid 1970s (addition of secondary treatment) significantly improved the condition of untreated sewage discharges into the Willamette River and Columbia Slough Recent improvements have served to enhance the capacity and efficiency of the plant

However, even with these improvements, the collection/treatment system lacks the capacity to handle present sewage flows during rainy weather Consequently, many of the original sewer outfalls to the Willamette River and Columbia Slough are used today to relieve the system and prevent flooding in the collection system and at the treatment plant The discharges from these outfalls to the river and slough are called Combined Sewer Overflows (CSOs)

Combined Sewer Overflows

In Portland, the existing sewer system captures and treats approximately 96 percent of the sewage from homes and businesses The other four percent becomes part of the untreated overflow discharged at 42 outfalls on the Willamette River and 13 outfalls on the Columbia Slough

During a typical year, there are approximately 150 days of rainfall in Portland The magnitude and frequency of overflow varies, however, from one outfall to another Some outfalls overflow virtually every time it rains, whereas others overflow as few as 30 days per year In an average year, the City's combined sewer system discharges an estimated six billion gallons of urban stormwater mixed with sewage, which represents approximately 1,600 hours annually when bacterial water quality standards are exceeded because of CSOs

In 1990, the City initiated an engineering study to evaluate CSO control options Northwest Environmental Advocates initiated a lawsuit against DEQ and Portland regarding the need to address the CSO problem An agreement between the City of Portland and the State Department of Environmental Quality, the Amended Stipulation and Final Order (ASFO), was signed in 1994, calls for Columbia Slough overflows to be virtually eliminated by December 2000 and for Willamette River overflows to be drastically reduced by 2011 The City has prepared and adopted a CSO Management Plan which was approved by the State Department of Environmental Quality and Environmental Quality Commission

Controlling Overflows

The recommended CSO Management plan emphasizes a combined approach of stormwater reduction and CSO storage and treatment The first step in this approach is to focus on technically simpler and lower cost methods to prevent stormwater from entering the combined sewer system These projects, called Cornerstone Projects, reduce the overflow problem by removing large amounts of water from the sewer system

Collectively the Cornerstone Projects can reduce the six-billion gallon per year overflow problem by an estimated 40 to 50 percent Several projects, including sewer separation, sump (dry well) installation under street intersections, stream diversion and residential downspout disconnection efforts, are now underway to implement the Cornerstone Projects component

The second step entails constructing large facilities to store and treat remaining CSOs During Plan development it was determined that separate storage and treatment facilities for the Columbia Slough and Willamette River were most cost effective, with treatment of Columbia Slough CSOs at the existing Columbia Boulevard wastewater treatment plant

Construction and treatment of Willamette River CSO control facilities were determined to be necessary to reduce overflow events in the river to a frequency of four overflows in a typical winter and one overflow in three summers, a reduction of about 94 percent of the current annual CSO volume discharged into the Willamette Thus, one or more facilities are needed to handle up to 340 million gallons/per day of combined sewage and run-off in order to avoid overflows more than four times during winter months, and one time during an average summer

Typically, bacterial standards in the Willamette River would be exceeded, due to the City's CSOs, about 57 hours per year and only during the winter This level of control on the Willamette River was deemed to provide appropriate protection of public health and beneficial use of the river while balancing the socioeconomic cost of implementation

A large portion of today's combined sewer overflows would be handled by a proposed new overflow treatment facility (OTF) The CSO Management Plan and Facilities Plan guide the implementation of the CSO program The development of a new overflow treatment facility is an integral part of the planning effort

Thus, one or more OTFs would collect the 340 million gallons of overflow from the 42 outfalls along the Willamette River At the facility the flow would be separated and the grit would be transported in trucks to a landfill The sludge would be placed in a pipe where it would be returned to the regular sewer system for conveyance to the Columbia Boulevard Treatment facility The balance of the stormwater would receive primary treatment and discharged into the Willamette or Columbia Rivers

The Initial Search for a Site

The City's CSO Facilities Plan recommends a single overflow treatment facility located on or near the Willamette River between Ross Island and Swan Island The Columbia Boulevard Treatment Plant was not proposed in the plan due to higher capital costs

A preliminary site review process by the Bureau of Environmental Services (BES) resulted in identification of about a dozen sites which were the subject of the work of a 1994 citizen Site Review Committee The committee was charged with assisting the BES with the first siting phase and public involvement decisions regarding the overflow treatment facility The committee developed a short list of five sites -- three from the original list and two added during the site review process

The three original sites selected for further consideration were properties on Swan Island, North Macadam Avenue in southwest Portland, and a PGE owned site in southeast Portland just north of OMSI's new home Property in the planned northwest Portland River District area was added and Columbia Boulevard (site of the existing city sewage treatment plant in north Portland) was placed again on the list as a backup location

In developing its recommendations, the 1994 Site Review Committee considered a number of other issues Within the context of the overall CSO program, the need for an overflow treatment facility and the reasons for locating it on the Willamette River were reviewed in detail This included an examination of a variety of planning and zoning issues together with a preliminary inquiry into multiple-objective amenities and how these issues have been handled in other communities

A significant issue which arose during the first site review was environmental equity The distribution of the five sites for further consideration was a reflection of that issue The committee also recommended that thoughtful community involvement be incorporated in all aspects of the Combined Sewer Overflow program - not just those relating to Overflow Treatment Facility site selection process

In August 1994, the short-list recommendations were accepted by the City Council with the caveat that BES consider multiple sites as well as a single site to spread potential community benefits

OVERFLOW TREATMENT FACILITY AN OVERVIEW

At a new overflow treatment facility, combined sewer overflows from the Willamette River basin would receive primary treatment, including settling out of solids and disinfection The basic OTF treatment units are influent pumping, screening, primary sedimentation, and disinfection

The flow passes through mechanically cleaned screenings to remove large debris, litter, sanitary household products, and other aesthetically unacceptable material associated with stormwater and sewage Screenings removed from the flow will be pressed to reduce the water content and stored in bins until trucked to a landfill for disposal

After screening, the flow will pass into large enclosed sedimentation tanks where, in a quiescent condition, up to 50 percent of the suspended solids will settle to the bottom of the tank and be removed as sludge Floatable materials will rise to the water surface and be skimmed off The primary sludge and skimmings will be pumped in a new 12 to 18-inch diameter pipeline back to the existing interceptor system for conveyance to the Columbia Boulevard treatment plant for further treatment and disposal

For initial planning purposes disinfection using sodium hypochlorite, an industrial strength liquid bleach, is assumed Gaseous chlorine will not be used because of safety concerns Because chlorine in the treated CSO effluent is toxic to aquatic life, dechlorination, use of sodium bisulfite has also been assumed

However, because sodium hypochlorite, like all chlorine compounds, can create undesirable compounds which are released into the environment, the City is evaluating alternatives to chlorine disinfection At the present time it has not been shown that other alternatives, such as ultraviolet light, are effective in disinfecting CSOs Nonetheless, it is possible that new technologies will emerge that obviate the need for chemical treatment

After disinfection and dechlorination, the treated CSO would be discharged to the Willamette River though an outfall and diffuser The diffuser is intended to discharge the treated CSO at a location and over a stretch of river necessary to meet water quality standards

Treatment Plant Issues

Safety issues, traffic impacts, odors, and noise impacts of the OTF are planned to be kept under control The facility will be designed and constructed to meet all required building and occupational safety codes

Chemicals used at the facility will present minimal risk to adjoining land uses As indicated above, sodium hypochlorite will be used in lieu of gaseous chlorine The liquid sodium hypochlorite and sodium bisulfite will be stored in curbed containment areas in the unlikely event a storage tank leaks No other process chemicals are expected at this time No bulk storage of maintenance chemicals such as oils, greases, and solvents will occur at the OTF Stored quantities will only be as necessary for short term maintenance needs

Traffic impacts for the OTF will be associated initially with construction of the facility Construction is anticipated to generate 150 to 250 vehicle trips per day for the four-year construction period Operational traffic will generally occur only when the facility is operating, estimated to be about 125 days per year

During operation the facility will require eight to 12 personnel and a similar number of vehicle trips
Maintenance will occur typically during weekdays and generate zero to four trips per day
Chemical deliveries will be during the weekdays and generate a similar number of trips per day
Screenings removal will generate zero to two trips per day when operating

Odor and noise The facility will only operate during times of wet weather Controls will be employed that, under normal operating conditions, will prevent odor from being detectable to persons outside the treatment plant

Odorous air released from the flow will be contained within the buildings and treatment tanks and vented through odorous air scrubbers The facility will be maintained under a slight negative pressure to control leakage of odorous air The odorous air scrubbers will remove greater than 99 percent of the odorous compounds in the exhausted air Following each storm event, the tanks are cleared and readied for the next event Maintaining the tanks in a clean state will help prevent odor buildup

The facility will be designed to meet all State and City noise abatement standards for the land use in which the facility is ultimately sited With an enclosed building and possible constructing of key plant components underground, noise is not expected to be a problem

TASK FORCE DECISION-MAKING PROCESS

Overflow Treatment Facility Siting Task Force

In May 1995, Commissioner Mike Lindberg appointed 15 citizens to the Overflow Treatment Facility Siting Task Force to examine the five proposed locations for the new Overflow Treatment Facility Specifically, the Task Force was given the following charge

Recommend by September 30, 1995 to the City of Portland one or more locations for facilities to treat combined sewer overflows into the Willamette River, giving careful consideration to cost effectiveness, environmental and community benefits, and the impacts for neighboring communities and all citizens of Portland

In its deliberations, the Task Force will give careful consideration and reach conclusions on

cost effectiveness as measured in construction and operating expenses, as well as the costs of associated community-based benefits,
technical feasibility of the sites,
benefits to the environment and the community
the impacts on neighboring communities and all citizens of Portland, and
overall community support for the siting process and the Task Force's conclusions

The Task Force will make its recommendation to the Portland City Council via the Commissioner-in-Charge of the Bureau of Environmental Services

The Overflow Treatment Facility Siting Task Force set nine meetings between May and September 1995, including one for a public hearing A meeting schedule and meeting summaries are included in the appendix to this report

Early Task Force meetings included presentations by BES staff and consultants to orient the members to CSO program elements and basic information regarding the five candidate sites Information regarding the sites included the basic physical requirements for the facility, technical data (i e , size, soil and seismic conditions, land value), as well as capital and operating cost estimates provided by consultants, CH2M Hill and Anne Symonds & Associates

In May, a subcommittee of five Task Force members toured the Oceanside Treatment Facility in San Francisco, California The subcommittee provided a report of their observations In June, the entire Task Force toured the five candidate sites and the new Vancouver, Washington treatment facility

In addition to orientation presentations, Task Force members were kept informed of input from community outreach efforts conducted by BES staff and consultants These outreach efforts included public workshops, informational mailings, surveys, and presentations to community groups related to the site areas More detail on the outreach program is provided below

Through consultants Zimmer Gunsul Frasca Partnership (ZGF), the Task Force was also apprised of potential partners for developing community based benefits at the candidate sites The consultants and BES staff worked to identify willing partners for each site, meeting with individuals and groups of interested parties, including property developers, neighborhood associations, adjacent property owners and other public agencies The Task Force was informed of these discussions and received presentations and letters from stakeholders expressing interests in continuing partnership development for the sites in their respective areas Analysis of this step in the process is provided in Section VII

Early Decisions

The Task Force deliberated among its members to identify selection criteria, discuss the pro's and con's of each site, and make decisions as reflected in this report At the July meeting, the Task Force, by a vote of 7-2, preliminarily acted to remove the PGE site from further consideration Reasoning for this action is described in Appendix C of this report In August, the Task Force took similar action on the Columbia Boulevard site by a vote of 12-1 See Appendix C of this report for the basis of this action A public comment period was also on the agenda for every Task Force meeting

The primary criteria which led the Task Force to remove the PGE site from consideration were public acceptance, existing development plans, potential for partnerships, community-based benefits, and negative impacts on the community Discussion and correspondence with adjacent property owners indicated a high opposition to siting the facility at the PGE property The Task Force felt the OTF could negatively impact current plans for developments on or adjacent to the site In addition, OMSI's concern regarding loss of parking and revenues during construction was a concern of the Task Force

The primary criteria for removal of the Columbia Boulevard site from consideration were public acceptance, the potential for partnerships, community-based benefits, and impacts on the surrounding areas Discussion and correspondence with North Portland community groups indicate a strong resistance to siting the facility at Columbia Boulevard The facility is not seen as an amenity in this area and community leaders cite that the perception of environmental inequity may be exacerbated if that site is chosen Therefore the likelihood of developing partnerships to facilitate community-based benefits is considered low Also the community-based benefits identified would probably be accomplished in any case as part of the recently approved Facilities Plan for the existing Columbia Boulevard Wastewater Treatment Plant, the Task Force concluded

Public Outreach

In addition to the Task Force activities, BES staff and consultants conducted an extensive public outreach effort to inform and involve key stakeholders and the general public The outreach effort was designed to reach key stakeholders and publics in the candidate site areas and provide timely input into the Task Force decision-making process Outreach activities included public workshops, informational mailings, a survey, newspaper advertisements of Task Force meetings and workshops, a regular newsletter, and presentations to community groups

Public Workshops In May 1995, public workshops were held in each of the initial five candidate site communities to inform and involve area residents and businesses Four of the workshops were co-sponsored by neighborhood groups Notification of the workshops was conducted through mailings to over 4,000 residents and businesses, ads in the *Oregonian* and several neighborhood newspapers, calendar notices to the *Oregonian* and neighborhood newspapers, signs at key gathering points along the Willamette River, and announcements at community group meetings Nevertheless, attendance was very light

Newsletter Beginning in May through September, a monthly newsletter of the Task Force progress was mailed to the 4,000 citizens on the notification list

Survey: In July 1995, a community survey was mailed to approximately 35,000 residents and businesses in the remaining site areas (the PGE site had already been removed) to ascertain community interest in locating the OTF in their area and identify potential community based benefits Some 1,700 (or 5%) were returned (See Appendix D for details on the returns)

Community Presentations Over 30 presentations, as part of the CSO program Speakers Bureau, were made to community and other interest groups These groups include North Portland Odor Abatement Committee, St Johns Business Boosters, Lombard North Business Association, North Macadam Business Association, Overlook Neighborhood Association, Hosford-Abernathy Neighborhood Development, University Park Neighborhood Association, Southwest Neighborhood Information Board, Kenton Neighborhood Association, Woodlawn Neighborhood Association, Columbia Slough Watershed Council, Columbia Boulevard Wastewater Treatment Plant Facilities Plan Citizens Advisory Committee, North Macadam Development Council, Pearl District Neighborhood Association, and the Corbett-Terwilliger-Lair Hill Neighborhood Association

TECHNICAL SUMMARY

Basic Requirements

The following site requirements were presented to the Task Force by BES staff and consultants as basic to the support of an Overflow Treatment Facility (or facilities) which can treat 340 million gallons per day

1) For a single facility, the site must be no less than 10 acres If two sites are chosen, the combined size of the properties must be no less than 13 acres -- and any one site must be no smaller than 5 acres

2) The site must be located near a conduit or pipeline section of the City's sewer system

3) The site must be "buildable " There must not be physical or policy impediments

4) No inhibiting soil or seismic concerns

Land Acquisition and Design Consideration

The AGI Technologies (AGI) project team evaluated technical criteria relating to land acquisition and facility design at the Overflow Treatment Facility (OTF) study sites Information was compiled for the following criteria

Land Acquisition Considerations	Design Considerations
Environmental Issues • Hazardous Materials • Wetlands and Ecology • Cultural and Recreational Resources Appraisal • Land Site Costs • Acquisition Difficulty • Cost of Acquisition Services • Neighborhood Impact Site Survey • Time Length of Ownership • Encroachments • Ambiguous Deeds • Open Area	Subsurface Conditions • Soils • Groundwater Seismic Factors • Liquefaction • Lateral Ground Displacement • Peak Ground Acceleration

AGI prepared a Technical Summary presenting the information that was collected for each OTF study site (refer to Appendix E)

Data Collection

Land Acquisition

Environmental Issues AGI collected data to develop site history and identify and assess potential contamination sources that could impact each OTF study site Data was obtained from current Oregon Department of Environmental Quality (DEQ) and U S Environmental Protection Agency (EPA) records, aerial photographs, Sanborn Maps, and interviews with individuals knowledgeable about a site An AGI engineer performed a reconnaissance at each site checking for physical evidence of potentially hazardous substances or petroleum products Information relative to the Swan Island site was provided by a December 16, 1994 CH2M Hill report

Wetlands, ecological, cultural, and recreational resources were evaluated by SRI/Shapiro, Inc by performing a reconnaissance at each site, searching the Oregon Natural Heritage Database for rare, threatened, and endangered species, and consulting with the State Historic Preservation Office for known cultural resources

Appraisal Right-of-Way Associates, Inc (ROW) used Metroscan (a database with County assessors information), Multiple Listing Service Systems information, and surveyed databases of other appraisers to collect sales information for areas surrounding the OTF study sites ROW reviewed Multnomah County records for deed information and interviewed other brokers to understand market forces and the projected future of each area Neighborhood impacts were evaluated by surveying neighboring properties

Site Survey Kampe Associates Inc evaluated site survey issues for each OTF study site by checking site surveys at the Multnomah Surveyors Office and conducting site visits

Design

Subsurface Conditions AGI developed preliminary soil and groundwater conditions at each OTF study site by reviewing subsurface data from geotechnical investigation reports for existing nearby construction and environmental site assessment reports for nearby properties We visited each site, looking for geologic hazards and features that could impact design and construction of the OTF

Seismic Factors AGI estimated liquefaction potential, lateral ground displacement, and peak ground acceleration by considering the anticipated soil and groundwater conditions and referencing the earthquake hazard maps for the Portland quadrangle prepared by the Oregon Department of Geology and Mineral Industries

Land Use

To the extent the sites are within the Willamette River Greenway special permits will be needed There is a question as to whether the sites are water dependent and, if not, what permitting requirements are needed Both the Swan Island and River District sites will have to be evaluated for consistency with underlying zoning It is possible that some form of opposition will develop even though efforts to show community benefits have lessened the potential opposition

North Macadam Study Site Change

The proposed OTF location for the North Macadam study site was relocated subsequent to data collection by the AGI project team The former site was comprised of Schnitzer and Zidell properties located south of the Marquam Bridge and between the Willamette River and Moody Avenue (referred to in this report as the former North Macadam site) The new site is comprised of Zidell and ODOT properties located between I-5 and the railroad tracks that parallel Moody Avenue and that extend to the north and south of the Ross Island Bridge The hazardous materials, subsurface conditions, and seismic technical criteria were updated for the new North Macadam site (as reflected in this report)

Relative Ratings for Technical Criteria

AGI developed a relative rating system to facilitate comparing the data for each site and is described in "Relative Rating System for Technical Criteria" (refer to Appendix E)

Using the information compiled for each site, the AGI project team assigned numerical ratings (from 1 to 3) to the technical criteria for each site The ratings are tabulated in "Relative Ratings for Technical Criteria" (refer to Appendix E)

Conclusions - Land Acquisition Considerations

Environmental Issues

Hazardous Materials Historic use at the **PGE** study site resulted in soil primarily impacted by PCBs Large quantities of soil have been excavated and disposed off-site, and site remediation is nearly complete

The Hoyt Street Train Yard, where soil and/or groundwater have been impacted primarily by petroleum products and metals, is in the area of the **River District** study site The nature and extent of contaminant migration have not been fully characterized The groundwater flow direction is variable due to underground utilities OTF land acquisition and construction at the River District site could be affected if contaminants are found on-site The responsible party has been identified, but delays and construction stipulations could result from regulatory requirements and the remedial action selected

DEQ records indicate that four underground storage tanks (formerly containing petroleum products) have been decommissioned at Centennial Mills, located just south of the **River District** OTF study site The records indicate that cleanup was completed in July 1991

Current information indicates that contaminants have not been found in the groundwater at the new **North Macadam** study site The soil has not been investigated An owner's representative reported that 1) the site has been historically used for storage and parking, 2) operations involving hazardous or regulated materials have not occurred on-site, and 3) further environmental assessment is ongoing

No documentation was found indicating that soil or groundwater has been impacted by hazardous or other regulated materials at the **Columbia Boulevard Wastewater Treatment Plant (WWTP)** or **Swan Island** study sites

Wetlands And Ecology The **PGE**, **River District**, **Columbia Boulevard WWTP**, and **Swan Island** sites are developed or highly disturbed No on-site wetlands appear to exist, no sensitive/rare/threatened/endangered species are anticipated, and wildlife habitat is minimal or nonexistent at these sites

The wooded area east of the **Columbia Boulevard WWTP** represents the potential for wildlife habitat and wetlands, if the OTF is located in this area

Wetlands and ecology issues are not expected to affect the OTF project at the **North Macadam** study site

Cultural and Recreational Resources Cultural resources at or nearby the OTF study sites are limited to potentially historic structures These include 1) the Ross Island Bridge and Willamette Shores railroad tracks (formerly the Jefferson Branch Line) adjacent to the **North Macadam** site, 2) the Centennial Mill and railroad tracks in the area of the **River District** site, 3) the railroad tracks, MLK/Grand Avenue overpass, and Inman Poulson Lumber buildings near the **PGE** site, and 4) the railroad tracks at the **Columbia Boulevard WWTP**

Recreational resources that could affect the OTF construction include 1) the designated greenway and future recreation trail along the Willamette River front (**River District** and **PGE** sites), 2) the future 40-mile loop trail and Peninsula Trail from the south could potentially occur at the **Columbia Boulevard WWTP** site, and 3) the public boat ramp located adjacent to the **Swan Island** site

Appraisal

Land Site Costs Higher land site costs are presently anticipated at the **River District** and **PGE** sites ($15 to $25 per square foot) Lower land site costs are presently anticipated at the **North Macadam** and **Columbia Boulevard WWTP** sites ($3 to $9 per square foot) Land site costs at the **North Macadam** site could increase as development plans evolve

Appraisal And Acquisition Negotiations Appraisal procedures (lack of comparatives) and/or purchase negotiations (multiple owners) are expected to be difficult at the **North Macadam**, **PGE**, and **River District** sites These factors do not apply to the **Swan Island** and **Columbia Boulevard WWTP** sites, currently or soon to be owned by the City of Portland

Neighborhood Impact Construction could impact neighborhood traffic and/or businesses at the **River District**, **Swan Island**, and **PGE** sites A residential neighborhood is located south of **Columbia Boulevard WWTP** site Less impact is expected at the **North Macadam** site, where traffic volumes are low and there are few neighboring businesses

Site Survey

Site survey could be more complex due to obstructions (buildings, traffic) and ambiguous deeds at the **River District** site Survey obstacles are not anticipated at the other four OTF study sites

Conclusions - Design Considerations

Subsurface Conditions

Fill material (ranging from 20 to 40 feet thick) is anticipated below portions of the **River District** and **PGE** sites Materials unsuitable for structural support are possible within the fill Highly compressible organic silt deposits (ranging from 9 to 20 feet thick) are expected below the fill These soil conditions could preclude the use of less expensive, conventional spread footing foundations depending on building configuration and foundation loads, depth, and size Driven piles are expected for moderate to heavy foundation loads Special treatment may be required (preloading and/or surcharging to achieve settlements prior to building construction) for light loads or large area loads

Preferable soil conditions, suitable for conventional spread footing foundations supporting light to moderate loads, are expected to occur at the **North Macadam** and **Columbia Boulevard WWTP** sites Subgrade soil improvement or driven piles may be required for heavy foundation loads Foundation design and construction at the **North Macadam** site will be impacted by the large foundations supporting the Ross Island Bridge and an existing water line below SW Grover Street In addition, the adjacent Interstate 5 alignment will require the design and construction of a significant retaining wall

Twenty to thirty feet of dredge fill material lies below the **Swan Island** site Conventional spread footings or slab-on-grade construction will likely be suitable for light foundation loads Heavy or large area loads may require pile support if further investigation indicates significant compressible silt zones in the fill and alluvium (that could result in excessive settlements)

Seismic Factors

Similar seismic risks occur at all five study sites because they are located adjacent to or near the banks of the Willamette River or Columbia Slough The I-5 embankment and the Ross Island Bridge (circa 1926) represent additional seismic hazards at the **North Macadam** site The following comments reflect the possibility of a Cascadia subduction zone earthquake

Liquefaction Liquefaction occurs when earthquake-induced ground shaking causes a soil mass to temporarily behave like a liquid The resulting differential settlements can incur varying degrees of structural damage and ground loss We estimate that liquefiable soil zones greater than 30 feet thick occur at the **River District**, **PGE**, and **Swan Island** sites The estimated liquefiable soil zone ranges from 10 to 30 feet thick at the **Columbia Boulevard WWTP** site, depending on the distance from the Columbia Slough Less than 10 feet of liquefiable soil is estimated below the **North Macadam** site Pile foundations can be used to mitigate local liquefaction

Lateral Ground Displacement Earthquake-induced ground shaking can cause landslides and horizontal ground movement The existing slopes along the Willamette River and Columbia Slough banks are susceptible to such phenomena Pile foundations will not fully mitigate lateral ground displacement The highest estimated magnitude of lateral ground displacement is expected at the **River District** and **Swan Island** study sites Lower, yet still significant, magnitude lateral ground displacement is predicted for the **PGE** and **Columbia Boulevard WWTP** site

The risk of lateral ground displacement at the **North Macadam** site is increased by the I-5 embankment slope The risk could be reduced by a retaining wall, depending on its seismic design Damage to the Ross Island Bridge may result from lateral ground displacements impacting the bridge structure (particularly at the abutments) Such damage could impact the OTF at this site

Peak Ground Acceleration Peak ground acceleration is a measure of the strength and frequency of ground shaking during an earthquake The shaking can vary from site to site (ground motions can be amplified) depending on site soil and rock conditions and their physical properties Based on available subsurface information, the ground motion is not predicted to be amplified at the **River District** site and could be amplified by a factor ranging from 1 4 to 2 2 at the other four sites

Water Quality Standards

Representatives of the City, State and consultants have provided information to the Task Force on issues related to obtaining a State permit for operation of an overflow treatment facility, including discharge of treated wastewater, or effluent The information has included data regarding water quality standards for such a plant on the Columbia River An outline of a City plan to meet requirements for discharge into the Willamette River was also provided

The City's Director of the Bureau of Environmental Services has also shared his perspective that obtaining a permit for effluent discharge into the Willamette may be a difficult task, given current regulations He indicates that the City is continuing to gain new information and understanding on what will be required, and as more data is gathered, it's possible the Bureau may have to conclude that it cannot cost-effectively discharge all of its effluent from the new facility or facilities into the Willamette This does not, however, necessarily preclude the City from building cost-effective facilities at Willamette River sites, in the view of the City's CSO manager, John Lang

Meeting water quality standards may require that the City send a portion of the facility effluent to be discharged into the Columbia River Because this would require a smaller pipe than if all CSO flow was sent to the Columbia Boulevard area for treatment, siting the OTF at a Willamette River site could still be a cost-effective option Another configuration option that has been presented to the Task Force would be to build storage upstream of the facility to spread the flows out over a period of time and thereby meet dilution requirements for water quality By the time that the OTF is built, other treatment technologies may be sufficiently improved such that they can be used to more easily meet water quality standards

COST DATA

Initially seven Overflow Treatment Facility options were considered, five single site options and two multiple site options Their estimated construction costs range from $390 1 million to $467 1 million

There is a 10% annual operational cost increase associated with a multiple site option above a single site option As technology and automation of manual overflow treatment facility activities occurs over the next 10 years, the operational cost differences may be reduced

Construction costs for each siting option were developed by CH2M Hill They considered piping and plant construction costs with the following assumptions

- Developed costs do not include environmental cleanup
- Basic mitigation costs included are
  - Odor containment and treatment,
  - Noise abatement,
  - Basic perimeter landscaping, and typical commercial office park architecture
  - Typical seismic design conditions were assumed for each site

(See Preliminary Cost Comparison Matrix in the appendix of this document)

After discussions with partners, the River District and North Macadam sites were not viable as proposed because they interfered with proposed development plans They were moved and as a consequence, both River District and North Macadam facility base costs were increased to account for additional piping and special construction considerations PGE and Columbia Boulevard sites were removed from consideration by the Siting Task Force Thus a single site Swan Island facility, a multiple site River District and Swan Island Site, and a River District and North Macadam options were continued for further study Base construction costs for the three remaining Overflow Treatment Facilities range from $390 1 million to $434 million (in 1994 dollars) A budget summary of capital costs associated with these three site options is included on the next page

With further design activity at all of the siting options currently being considered, cost sharing opportunities, enhanced mitigation costs, and community based benefits can be developed to minimize excess costs to rate payers

Updated Budget Summary

		Site	Plant (1)	Pipe & Pump (1)		BUDGET SUBTOTAL	Site Specific Engineering	BUGET TOTAL	Associated Facility Operational Costs
Single Site	**Swan Island**								
	Construction Costs								
	Total Budget ($)	2 250 000	162 950 000	224 900 000		390 100 000	0	390 100 000	
	Operations ($/Year)								6 400 000
Multiple Sites	**North Macadam and River District** *(2)*								
	Construction Costs								
	Total Budget ($)	2 800 000	186 400 000	235 000 000		424 200 000	9 400 000	433 600 000	
	Operations ($/Year)								7 100 000
	Swan Island and River District								
	Construction Costs								
	Total Budget ($)	3 850 000	215 550 000	196 400 000		415 800 000	1 500 000	417 300 000	
	Operations ($/Year)								7 000 000

Sources CH2M Hill Capital and Operational Cost Estimates All estimates in July 1994 dollars

9/4/95

Assumptions

Assumes an industrial area architecture and landscape quality

Assumes odor containment and noise abatement

Cost sharing opportunities have not been fully developed or assumed

Enhanced facility mitigation has not been fully developed or assumed

Community based benefits have not been fully developed or assumed

Notes

(1) Includes 45% contingency for soft costs associated with construction

(2) Includes site specific engineering costs above estimates cited in CH2M Hills Preliminary Cost Comparison Matrix for North Macadam and River District

Combined Sewer Overflow Program

Overflow Treatment Facility

COMMUNITY-BASED BENEFITS

The program to promote community-based benefits in conjunction with an overflow treatment facility (OTF) is not an effort simply to mitigate negative impacts, nor is it compensation for an undesirable presence Rather, it is a program to explore the potential of the planned facility to benefit its neighbors and derive additional community value from the investment of public sewer dollars Task Force criterion of siting an OTF is the acceptance of its neighbors

The idea behind the Task Force's work on community benefits is that the large initial public investment in the OTF should serve as a catalyst for other public and private investment The OTF itself should cost the minimum necessary to provide the desired capture and treatment of stormwater runoff Other funds should be available, however, given the City's initial investment

To date, neighborhood acceptance of an OTF has been measured by the facility's ability to be integral and complementary to other projects viewed as important and desirable to the neighborhood Projects judged to be key may vary between interests, but a certain consistency of broad goals has emerged at each of the three candidate sites

At the same time, the community planning context for each site is quite different, thereby complicating an evaluation of the potential of each Two sites were removed from consideration due, in large part, to lack of community acceptance -- PGE and Columbia Boulevard Therefore, only three sites received extensive evaluations regarding their potential for community based benefits

At Swan Island, neither past nor current plans for its development provide a clear context for development of a sewage treatment facility at that site However, the last decade of discussions and negotiating between the Port, businesses on Swan Island, city and state agencies, and the overlooking neighborhoods and institutions have provided a helpful forum for community planning and relationship building

In the River District, the recently adopted development plans and policies provide strong direction for an OTF alternative located in the District On the other hand, the vision for North Macadam and its neighbors is still evolving, even though an interrelated series of potential public and private projects are developing at this time

The critical question has two parts one, can an OTF project function as a catalyst for complementary projects that are desired and justified, and two, what is the advantage to the City if the OTF projects do assume the role of catalyst?

Recent discussions and workshops between vested interests on the North Macadam, River District, and Swan Island sites suggest that OTF projects can and may already be assuming a catalytic role Strategic relationships and conceptual options have emerged that have not surfaced during other joint efforts involving these site areas

The following summarizes the opportunity for community-based benefits associated with overflow treatment facility projects at Swan Island, River District, and North Macadam, as developed in the discussions and workshops

Swan Island

Over the past thirty years, Swan Island has developed in response to changing public policies and markets The emphasis has been on industrial development Today, the 580-acre Swan Island Industrial Park is a major center for corporate headquarters, warehousing and distribution Some 125 businesses employ approximately 11,500 The last few acres of undeveloped land in the park were recently sold for future industrial development The creation of a public and commercial environment in the 1960's (represented by the former Ports of Call and other facilities) never matured Subsequent goals to preserve industrial lands and build the location of the greenway at the top of the bluff reflected a shift in thinking Recent discussions regarding the location of an OTF on Swan Island have reopened consideration of new developments which have attracted the interests of both the neighborhoods on the bluff and of Swan Island occupants

The most recent workshop for the Swan Island site indicated a simple joint development approach could preserve and improve land available for future industrial development, provide passive and active recreational areas that would serve both Swan Island workers and nearby residents, and improve access to the Island for both commuters and visitors with transportation improvements

The single facility on Swan Island occupies more land and may not be as responsive to the joint development opportunities than a smaller facility developed in conjunction with one at the River District

The potential of OTF-related improvements on Swan Island is that they could enhance the industrial value of the island and expand the use of the island by area residents Although discussions are still in their formative stage, the promise revealed is encouraging

River District

The River District is a new vision and a recent amalgam of related development projects The Bureau of Environmental Services is identified by property developers as potentially a major participant It already has played an important role in the design of a concept and program to execute the vision Although the OTF is not yet an approved component of the River District Capital Improvement Program for which public and private funding is currently being secured, its inclusion has been discussed and formally invited by the River District Steering Committee (the committee that represents all public and private interests participating in the development of the District)

The redevelopment of the River District is a critical component of the City's strategy to concentrate a substantial share of the region's growth in the central city As a result, it is perceived as one of the best locations in the city for complementary co-investment If an OTF is located in the River District, many of the projects that may complement it have already been approved in a Council-adopted development plan This should benefit the development of any OTF within the District

North Macadam

The City has been awaiting the redevelopment of the North Macadam District for almost three decades In the interim, many plans, guidelines and studies have been developed few are relevant today On the other hand, a series of public projects and some planning for the redevelopment of private properties are underway If these initiatives can be linked, they provide a very strong context for the development of a related OTF

Consideration of an OTF within North Macadam has spawned collaborative and pragmatic thinking about the integration of related projects In the aggregate, these projects may be able to generate a larger pool of capital improvements than complementary projects at the other two sites The resulting opportunity is potentially rewarding, but is also problematic due to the complexities and timing issues involved

Like the River District, the dense, integrated development of an urban settlement within the North Macadam area, linked to Corbett/Terwilliger/Lair Hill neighborhoods, is critical to the City's approach for managing growth in the region Area businesses and residents have expressed confidence that the design of an OTF in the area could support this agenda

Conclusion

Identified OTF sites at Swan Island, River District and North Macadam are distinguished by their promise rather than by their shortcomings In all cases, the promise is difficult to secure within a short time frame More work will be necessary with stakeholders and potential partners Continuing refinement of OTF concepts integrated with other projects will improve the opportunity to package joint developments that may provide substantial community benefits, and provide answers to the question of an OTF's value as a redevelopment catalyst

Community Based Benefit Goals

Overflow Treatment Facility

September 7, 1995

Site	Goal	Goal-Related Projects
Swan Island	1 Strengthen physical and functional relationships between North Portland neighborhoods and Swan Island 2 Facilitate access to Swan Island activities 3 Complement the development of a Swan Island industrial sanctuary	• Rooftop support • Access Road • Waterfront Park or a Basin Park • Boat Ramp • Wetland Development • Pedestrian System • Trolley/Streetcar • Shared Street • Soccer and Basketball Courts
River District	1 Build a dense center city community of 15,000 residents and 1 5 million square feet of office space and 5 million square feet of retail	• Park • Tanner Creek Basin • Community Center • Neighborhood Facilities • Infrastructure Improvements • Stormwater Treatment Plan
North Macadam	1 Build a dense center city community of 6,000 residents and 3 million square feet of commercial and industrial development 2 Reconnect and unify the North Macadam, Corbett Terwilliger Lair Hill, and OHSU neighborhoods and communities to themselves and to the water edge	• Front Av Reconfiguration & • Ross Island Bridge access • Access across I-5 • I-5 Frontage Road • Schnitzer-Zidell Vision Plan • Streetcar Alignment • Structured Parking • Light Rail Alignment Options • Stormwater Treatment Plan

35457

Potential Funding Sources For Each Siting Option

Funding Sources Identified	Swan Island	North Macadam and River District	Swan Island and River District
Public			
BES/CSO	✓	✓	✓
BES/SWR		✓	✓
EPA	✓	✓	✓
DEQ storm water demonstration		✓	✓
Low Volume Hydro		✓	✓
FTA Innovation Grant	✓	✓	✓
FTA/ISTEA	✓	✓	✓
ODOT Highway Transfer		✓	✓
Metro Transportation	✓	✓	✓
PDOT	?	✓	✓
State Marine Board	✓	✓	✓
Metro Greenspaces	✓	✓	✓
Parks bond measures	✓	✓	✓
Police		✓	✓
FEMA		✓	✓
Schools bond measure		✓	✓
SDC abatement		✓	✓
Fish & Wildlife			
Metro restoration grants	✓		✓
North Portland Enhancement	✓		✓
OMSI	✓	✓	✓
40 Loop Land Trust	✓	?	✓
Trust for public lands	✓	?	✓
Tri-Met/ S/N (all funding agencies)	✓	✓	✓
HUD/Streetcar	?		✓
CMAQ Funding	✓	✓	✓
Private			
Land donation		✓	?
LID	✓	✓	✓
PSI		✓	
Station area joint development		✓	
Tax-free revenue bonds for parking	✓	✓	✓
TIF		✓	✓

KEY CRITERIA FOR RECOMMENDING A SITE

The Task Force developed a set of key criteria to help guide their site selection process These criteria, outlined below, are intended to be consistent with the Task Force charge

1. Technical considerations

The proposed site

- meets basic size requirements for a plant, i e , ten acres for a single plant facility, or six acres for one of the multiple sites
- is located in proximity to an existing sewer system conduit, minimizing the length of transport pipeline required,
- is a buildable site, without significant physical or policy impediments,
- presents minimal prohibitive soil or seismic concerns

2 Potential for partnerships

The proposed site has potential for attracting public and/or private partners to join in the development of the facility and its surrounding area

3 Public acceptance

The surrounding residential and business community to the site area is generally supportive of siting an overflow treatment facility at the proposed site

4. Development plans

Development of an overflow treatment facility on the site is consistent or compatible with any existing or pending plans for development of the site

5 Area economic interests

Development of the site will produce a positive economic impact in the area in the view of adjacent property owners and other neighbors

6 Community-based benefits

Development of the site will bring added value to the general community, acting as a catalyst for creation of new community facilities or activities

7 Impacts on surrounding areas

The development of the site will not produce net negative impacts on adjacent property owners and other neighbors Potential negative impacts can be effectively mitigated

8 Cost

Cost to Portland sewer ratepayers of the facility development, including required pipelines leading to and from the site, will be kept within the range of budget estimates as identified in the Bureau of Environmental Services Combined Sewer Overflow Management Plan The sewer fund should not be used to fund more than what the cheapest feasible alternative (i e , one facility at Swan Island) would cost The additional capital and operational costs, as well as the cost of amenities and other enhancements to the facility that may be necessary to capture community benefits will be funded outside the rate base through partnerships with other public agencies or private sector sources

FINDINGS

The OTF Task Force, based on information presented during its decision-making process, established the findings that outline the environment under which the OTF site was selected

1. Availability.

The Swan Island Lagoon site is owned by the City under an arrangement with the Port of Portland, making it available for future development of an overflow treatment facility (OTF) on that site

In the River District, the potential site for OTF development under review is tied into to the Centennial Mills property, now in negotiation for possible purchase by the City River District property owners represent an interested party for possible partnership in the development of an OTF in the River District area

In the North Macadam area, the potential site is owned by Zidell Resources and Schnitzer Investments, which are interested parties for possible partnership in the development of an OTF on the property

2 Size of site

The Swan Island site, at 10 acres, is large enough for an OTF with the proposed treatment capacity

Property to be made available by developers on the River District and North Macadam sites would not be large enough for a single site, but would accommodate a plant providing part of the proposed capacity, if multiple sites are recommended

3 Proximity to a sewer system conduit

Each of the proposed sites are or will be within reasonable proximity of a connection to the standard sewer system

4. Buildability

Each of the proposed sites appear to be buildable sites, without apparent physical impediments and presenting no prohibitive soil or seismic conditions

5 Land use

Further review of the sites to determine zoning requirements will be needed The Task Force understands that developing an OTF on any of the sites may require added steps, such as gaining greenway permits, a conditional use permit or a comprehensive plan change, to meet City zoning requirements

6 Transportation

Once constructed, the facility will generate a limited volume of employee and service traffic to and from it It appears to present no significant impact on transportation or traffic considerations for the surrounding area

Development of an OTF on the sites could be a catalyst to improved transit service and auto traffic circulation, especially in the vicinity of the North Macadam site which could contribute to a plan to move the complicated ramp system leading to the Ross Island Bridge near North Macadam, potentially freeing up 30 acres for housing

7. Environmental standards

The Task Force assumes that information provided by the City and its consultants on effluent discharge requirements for the proposed plant into the Willamette River is as accurate and complete as possible to present at this time

The Task Force recognizes that it is not possible to predict what the exact standards will be for a facility on the Willamette River when it is built a decade from now The Task Force understands that if the facility is located at a Willamette River site, the City will pursue the most cost-effective option, discharging as much effluent to the Willamette as would be allowed by State water quality standards

The Task Force understands that the Amended Stipulation and Final Order calls for the City to be constantly looking for ways to further reduce combined sewer overflows and improve water quality The City should continue to seek effective ways to control pollution at its source, before contaminants enter the sewer system

The Task Force emphasizes that the quality of the Willamette River is not an issue for Portland only While improvements in the water entering Portland may make it easier for the City to get OTF discharges to meet water quality standards, the City should continue to strive for treatment that achieves maximum water quality The quality of the Willamette River is a regional and statewide issue, improvements made in Portland can be a catalyst for improvements by other municipalities along all reaches of the River

The Task Force finds the City's planned approach to meeting State water quality standards to be reasonable and adequate to support continued pursuit of an overflow treatment plant on the Willamette River At the same time, the City should be prepared to make adjustments in the design and nature of the facility that may be necessary to build and operate on a Willamette River site

In addition, the Task Force expressed concern that the discharge of dechlorinated water from the OTF would still leave chlorine compounds in Willamette River discharge areas that migrating salmonids would avoid The City has committed itself to find the most sound ecological decisions possible for this problem

8 Odor control

It is essential that the City construct an OTF designed with covered sedimentation tanks and employing current technology to ensure that odor and noise from the facility does not extend outside of the facility or engender legitimate complaints from the public

9 View corridors

The Overflow Treatment Facility, at each of the currently considered sites, will not have any impact on view corridors adopted by the Bureau of Planning

10 Development and operation impacts

Impact on surrounding areas from construction, operation and maintenance of the facility should be minimized and mitigated wherever possible to assure no net negative effects on the neighborhood surrounding the facility

Chemical treatment of wastewater at the facility should be minimized and not pose a concern for residents and businesses which are neighbors to the facility

11 Community benefits, partnerships

The Task Force considers the pursuit of community benefits as an integral part of the facility development It is the Task Force's expectation that BES and the City of Portland will make every reasonable effort to follow through on the identified opportunities

It may be too early to understand what the design of the OTF will ultimately be, or what acceptable mitigation for the facility in each community should be, or what contribution can be made toward developing community based benefits through a public private partnership Continued discussions and in-depth design through time would flush out key issues and contingencies relative to determining the most desirable Overflow Treatment Facility siting option

All three sites have good potential for bringing value added to the community through the development of the OTF in the area The range of benefits extends from recreational and open space opportunities, to new connections to the Willamette River for neighborhoods, to serving as a catalyst for residential, commercial and other major private and public development

All three sites have strong potential for attracting public and/or private partners in the development of the OTF which could help produce added community benefits and possibly reduce the cost of the facility

Opportunities for added value to the community through the facility's development and potential partners have been identified by consultants for each site These and other interested parties should be pursued following the City's approval of a site or sites for the OTF

12 Community acceptance

There is strong interest and willingness expressed by stakeholders associated with three sites to accept siting of the plant in their areas and pursue added community benefits from the site development Several neighborhood associations in the vicinity of Swan Island have declared support for development at the proposed Lagoon site In addition, some 66% of area residents who completed and returned the public opinion survey on the OTF said they found siting of the plant on Swan Island acceptable

The Pearl District Neighborhood Association is on record in support of a River District site, as are 61% of those area residents participating in the survey

A representative of owners of the North Macadam site told the Task Force of interest by his clients in discussing an OTF in his area 55% of the North Macadam residents and businesses which returned surveys were also in favor, as is the Lair Hill-Corbett-Terwilliger Neighborhood Association

These and other stakeholders representing the three sites have met with Zimmer Gunsul Frasca staff at several meetings during this process to participate in discussions and workshops and identify community opportunities and benefits that might arise from an OTF development in their area

Further discussions with stakeholders has revealed an initial description of how an Overflow Treatment Facility might develop community based benefits at each site It has been observed that the partners at each site would accept the facility based on the condition of achieving a specific set of community based benefits

Opposition by adjacent property owners and/or representatives of surrounding neighborhoods was expressed strongly about two sites -- the PGE property adjacent to OMSI, and the North Columbia Blvd property on the City's Columbia Blvd Treatment Plant site

13. Cost

The cost figures for development of an overflow treatment facility and supporting system made available to the Task Force by consultants are considered rough estimates prepared primarily to provide the Task Force with the relative costs among the site options A base cost was established for the facility and its support system in the CSO Facilities Plan at approximately $390-million in 1994 dollars

Recognizing that the Task Force is looking at broad estimates, and that there will be a continuing need to research and refine them over the next 5-10 years as the facility is designed and built, the Task Force recommends that public expenditure of Portland sewer ratepayer dollars for the facility system not exceed the cost of a single site facility

Other public funding outside the Portland sewer rate base, or from private sector sources, should be sought to pay the cost of any amenities or other facility or site enhancements that may be desired to capture additional community benefits

14 Cost savings

The new overflow treatment facility to treat Willamette basin flows and the infrastructure (pipelines) to serve it are the single largest component of the City's CSO program The cost of this facility and its supporting pipeline system should be managed closely and developed in the most cost-effective manner possible Every opportunity for cost savings on this project should be explored vigorously and constantly throughout the life of the project

RECOMMENDATION

River District and Swan Island

The Siting Task Force unanimously recommends the City Council authorize the following action as the City proceeds with plans to build a new combined sewage overflow treatment facility in the next decade to treat sewage and stormwater collected from Willamette River basins within Portland

Build the needed treatment capacity at two sites -- on Swan Island at the south end of the lagoon, and in the River District property along Front Ave The River District plant would provide primary treatment for combined sewage flows on the west side of the Willamette River, the Swan Island plant would provide primary treatment for flows from basins on the east side of the river However, two facilities should only be built under the following conditions

1 The City should proceed with the joint Swan Island - River District solution only if additional public or private funding outside the City sewer funds can be found by January 1999 These additional funds must cover the apparent difference between the estimated base cost of a single plant on Swan Island and the higher base cost plus the higher operations and maintenance cost of the joint solution (current estimates are $390-million and $415-million, respectively in 1994 dollars)

2 At a minimum, the sedimentation tanks should be buried and the associated burial costs funded within the project's capital budget

3 The development of the following amenities, or community based benefits, is assured at each of the two site areas Identification of amenities has been a key to community acceptance of the proposed facilities

a Swan Island

(1) Develop pedestrian paths between Basin and Lagoon Avenues
(2) Develop passive recreational facilities along the Swan Island Lagoon water edge
(3) Protect and enhance significant wetland in the area
(4) Develop a park environment around the Overflow Treatment Facility
(5) With the Port of Portland and/or other appropriate partners, develop pedestrian connections from the top of Mocks Crest bluff to the Swan Island industrial area and the overflow treatment facility's park setting
(6) Develop a pedestrian connection from the facility site to the Willamette River
(7) Establish a second access road to Swan Island along the river bank from River Street to Basin Street
(8) Reserve City-owned acreage not used on the site for the facility's development for possible future expansion of the capacity and treatment capability of the facility, allowing for interim uses
(9) Improve the boat ramp at the lagoon

b River District

(1) Develop park improvement on top of the sedimentation tanks that provide active recreational opportunities along the waterfront
(2) Develop simultaneously with the facility, the proposed river basin at or near the site, achieving construction economies
(3) Rebuild Front Avenue to provide vehicle access to the facility and the proposed park
(4) Develop public school facilities adjacent to the park
(5) Coordinate the planned "daylighting", or surfacing, of Tanner Creek in the River District, with construction of the basin
(6) Enhance public access to the Willamette River in the vicinity of the site

4 The City sewer fund should not be used to fund the costs of amenities However, the City should facilitate the creation of community partnerships of public and private sector entities to assure the development of recommended amenities If the cost differential between the two sites and the amenities for the River District site cannot be met by January 1999, then a single facility at Swan Island should be developed

5 If a single facility at Swan Island is chosen, then the amenities listed in 3a above should still be built In addition, the sedimentation tanks shall also be buried and paid for within the capital budget

Potential Partners, PDOT, Hoyt Street Properties, Federal Government, PDC, Bureau of Parks, BES, River District Plan participants, other area property owners, Portland Schools, Port of Portland, Metro Urban Greenways, Union Pacific Rail Road, North Portland neighborhood associations, Overlook, Arbor Lodge, and University Park

Site Analysis

The Task Force analyzed each site based on the criteria established during its decision-making process The analysis of each site is delineated below

River District as a multiple site facility

1 **Technical** The River District site is located on the Willamette River, east of Front Ave , south of the Fremont Bridge by Centennial Mill Available land at the River District site for an OTF is approximately 4-6 acres and is zoned Industrial with an open space comprehensive plan designation Soil and/or groundwater have been impacted by petroleum products and metals at the Hoyt Street Train Yard, located at the southwest site boundary Thus, contaminant migration may be a factor There are no known ecological (wetlands, etc) or cultural resources which would be an obstacle to siting the OTF at that site No recreational uses exist on site but a greenway is designated along the riverfront 20-40 feet of fill may be present on portions of the site which may require pile supports for moderate to heavy foundation loads or to mitigate local liquefaction Overall, the site is considered buildable from a physical and policy viewpoint (with the assumption of some level of seismic risk)

2. **Potential for Partnerships** Opportunities exist for partnerships with area business interests, particularly the River District Plan participants, as well as other City agencies, neighborhood association, and the Portland School District Products from these partnerships could result in a new basin, park areas, and school facilities

3 **Public Acceptance** Area businesses, residents, and other City agencies have expressed serious interest in siting the OTF in the River District Formal advocacy from the River District Steering Committee and the Pearl District Neighborhood Association demonstrate broad interest in placing the OTF in the River District The public opinion survey indicates a positive level of acceptance for siting the facility in the area among those responding

4 **Development Plans** The River District Plan is seen as an existing opportunity for combining development efforts toward a common goal for the area Coordination with the River District Steering Committee efforts is essential to the success of siting the OTF in the River District Timing and consolidation of resources will be critical elements of successfully siting the OTF at this site

5 **Area Economic Interests** Assuming close coordination with the River District Plan, no negative economic impacts are anticipated The OTF has the potential to be a positive force in the area's economy

6 **Community-Based Benefits** Potential community-based benefits identified for the River District include development of a planned mixed-use neighborhood with 5,500 dwelling units, a river basin by the planned OTF, a new park, and new school facilities A decision to develop the OTF in the district is seen as a catalyst for other future development Partial burial of the plant has potential for forming the foundation for recreation or open space facilities The plant is also considered having potential as partial foundation for the planned Tanner Basin in the district

7 **Impacts on Surrounding Area** No negative impacts are anticipated for adjacent property owners or nearby residents

8 **Cost** The cost figures for development of an overflow treatment facility and supporting system made available to the Task Force are considered rough estimates prepared primarily to provide the Task Force with the relative costs among the site options The actual cost of development of the facility system, to occur in the next decade, is likely to run above or below these estimates

The base cost of the facility and its supporting system as estimated in the City's Combined Sewer Overflow Facilities Plan is about $390-million, based on a potential Swan Island site Cost information on each single site possibility and the most logical multiple site configurations was developed for the Task Force by consultants, CH2M Hill these capital system costs, displayed elsewhere in this report, range from $390-million for a single facility at the Swan Island site to between $415-million and $424-million for the multiple site proposals that were reviewed

Recognizing these broad estimates and the continued need to research and refine them over the next 5-10 years as the facility is designed, the Task Force recommends that public expenditure of Portland sewer ratepayer dollars for the facility capital and operating costs be contained to the Facilities Plan budget, plus the cost impact of inflation between 1995 and the year construction contracts are awarded

Swan Island as a multiple facility

1 **Technical** A site of approximately 10 acres at the southeast end of the Swan Island Lagoon, between Lagoon and Basin Avenues, is owned by the City of Portland under an agreement with the Port of Portland It is zoned IG2i (General Industrial) There are no known environmental or cultural resources which are a significant obstacle to siting the OTF there Anticipated soil is dredge fill over silts and sands which may require pile support for heavy or large area foundation loads or to mitigate local liquefaction Overall, the site is considered buildable from a physical and policy viewpoint (with the assumption of some level of seismic risk)

2 **Potential for Partnerships** Opportunities exist for partnership with other public agencies of the City, area neighborhood associations, and the State to develop transportation, recreation and open space improvements on and in the vicinity of the site

3 **Public Acceptance** Area residents and businesses are generally supportive of the siting the OTF at Swan Island, and some have formally advocated for its placement

4 **Development Plans** No existing development plans conflict with the siting of the OTF at Swan Island Area businesses and residents see this site as consistent with current development plans

5 **Area Economic Interests** No negative economic impact is anticipated from the OTF Area businesses see the OTF as a positive economic influence for the area

6 **Community-Based Benefits** Several potential community-based opportunities are seen connected to the OTF including pedestrian connections to nearby neighborhoods and the Swan Island industrial basin, an expanded recreational trail system and connections to the 40 Mile Loop, enhanced wetland areas, improved interpretive facilities, and a new emergency access road between Basin and River Streets

7 **Impacts on Surrounding Areas** No negative impacts are anticipated on adjacent property owners or nearby residents

8. **Cost** The cost figures for development of an overflow treatment facility and supporting system made available to the Task Force are considered rough estimates prepared primarily to provide the Task Force with the relative costs among the site options The actual cost of development of the facility system, to occur in the next decade, is likely to run above or below these estimates

The base cost of the facility and its supporting system as estimated in the City's Combined Sewer Overflow Facilities Plan is about $390-million, based on a potential Swan Island site Cost information on each single site possibility and the most logical multiple site configurations was developed for the Task Force by consultants, CH2M Hill these capital system costs, displayed elsewhere in this report, range from $390-million for a single facility at the Swan Island site to between $415-million and $424-million for the multiple site proposals that were reviewed

Recognizing these broad estimates and the continued need to research and refine them over the next 5-10 years as the facility is designed, the Task Force recommends that public expenditure of Portland sewer ratepayer dollars for the facility capital and operating costs be contained to the Facilities Plan budget, plus the cost impact of inflation between 1995 and the year construction contracts are awarded

The Overflow Treatment Facility Siting Task Force would like to thank the following members of the Portland community and local governments who gave their time and energy to participate in the process leading to this recommendation

Robert Ames
Jim Bennett
Marty Brantley
Rick Browning
Darrel Buttice
David Calver
David Carboneau
Angelo Carella
Larry Cartwright
Jeanne Caswell
Troy Clark
Kerry Chipman
Carrie Ann Connu
Cathy Crawford
Vicky Diede
John DiLorenzo
Steve Dotterer
Lawrence Dully
Richard Ellmeyer
Gerald Fox
Steve Gerber
John Gray
Bruce Hansen
Sandi Hansen
Michael Harrison
Nina Hedberg
Mary Hopkins
Mel Huie
Connie Hunt
Neyle Hunter
Stephen Iwata
Ken Johnsen
Charles Jordan
David Kasch
Betty Kay
Charley Kellermann
Sharon Kelly
Leora Mahoney
Michael McLafferty
Roger Millar
Jim Morgan
Roger Neu
John Perry
Daniel Petrusich
Lee Poe
Claris Poppert
Pat Prendergrast
Jennifer Ryan
Richard Santner
Clark Schenkenberger
Steven Shain
Dale Sherbourne
Roger Shiels
Victoria Shirvani and the students at Clarendon Elementary
Leon Skiles
David Soloos
John Southgate
Milan Synak
Peter Teneau
George Ward
Ted White
Barbee Williams
David Yamashita

RESOLUTION No. 35457

ACCEPT the Recommendation Report to City Council submitted by the Overflow Treatment Facility Siting Task Force and provide direction for implementation of its recommendations to the Bureau of Environmental Services (Resolution)

WHEREAS, combined sewer overflows (CSOs) are a major contributor to the continuing pollution in the Willamette River and Columbia Slough, and

WHEREAS, the terms of a Stipulation and Final Order, signed on August 5, 1991 and amended on August 11, 1994, by the City of Portland, the Oregon Department of Environmental Quality and the Oregon Environmental Quality Commission, set performance and schedule standards to control CSOs, and

WHEREAS, the City and its team of consultants have prepared a CSO Facilities Plan which identifies appropriate CSO control technologies and develops recommendations for implementation, and

WHEREAS, an overflow treatment facility located on or near the Willamette River to control Willamette River overflows is recommended by the CSO Facilities Plan, and

WHEREAS, the Commissioner of Public Utilities appointed a citizen task force, known as the Overflow Treatment Facility Siting Task Force (OTF Task Force), charged with developing recommendations regarding a site or sites for locating an overflow treatment facility, and

WHEREAS, the OTF Task Force established siting criteria and conducted an intensive analysis of siting options including cost, technical feasibility, benefits to the environment and the community and overall community support, and

WHEREAS, the OTF Task Force also conducted a broad public outreach program to elicit public opinion which resulted in strong public support for three different sites, and

WHEREAS, the OTF Task Force developed a series of recommendations regarding two site options at Swan Island and River District and submitted a Recommendation Report to the City Council,

WHEREAS, the OTF Task Force developed other recommendations included suggestions about amenities, community benefits, necessary mitigation efforts, environmental, discharge and permitting issues for the two site options,

NOW THEREFORE, BE IT RESOLVED that the City Council accepts the Recommendation Report to City Council submitted by the OTF Task Force and extends its gratitude and appreciation to the OTF Task Force Members for the thoughtful and well reasoned recommendations contained within the Recommendation Report, and

35457

BE IT FURTHER RESOLVED, the City Council directs the Bureau of Environmental Services (BES) to implement, with the following elements, the two recommended site options and associated amenities at Swan Island and River District

1 Costs charged to the Portland sewer fund not exceed the capital and operating costs of a single facility at Swan Island except as they may be modified by the Guidelines For Development of Community Benefit Opportunities adopted by City Council in a contemporaneous resolution,

2 BES work in partnership with Swan Island and River District business and community groups to find additional funds necessary to accomplish development of both plants and the recommended amenities not funded by sewer revenues, and

3 BES implement the other recommendations which include burying or covering appropriate portions of the plants to facilitate the development of open space, developing and operating the two plants so that odor and noise from the facilities does not extend outside the facilities,

4 BES work with the Oregon Department of Environmental Quality to establish appropriate discharge requirements and solutions for the two sites and be prepared to pursue alternative treatment options or processes for a higher level of pollution prevention and to explore the use of disinfection methods other than chlorination/dechlorination,

5 Continued public involvement efforts be made to ensure understanding as the project is implemented and to elicit citizen interest and participation in the development of the facilities and associated community development opportunities, and

BE IT FURTHER RESOLVED, that in the event the necessary funding for amenities and other added development costs, particularly as it relates to the River District site, cannot be secured by January 1999, BES will develop a single plant at the Swan Island site for the Willamette Basin Overflow Treatment Facility

ADOPTED by the Council, NOV 0 1 1995

Commissioner Mike Lindberg
Randal J Miller
October 25, 1995

BARBARA CLARK
Auditor of the City of Portland
By Britta Olson Deputy

1740

Agenda No

RESOLUTION NO 35457

Title

ACCEPT the Recommendation Report to City Council submitted by the Overflow Treatment Facility Siting Task Force and provide direction for implementation of its recommendations to the Bureau of Environmental Services (Resolution)

INTRODUCED BY	Filed OCT 2 7 1995
Commissioner Mike Lindberg	Barbara Clark Auditor of the City of Portland
NOTED BY COMMISSIONER	
Affairs	By Cay Kershner Deputy
Finance and Administration	
Safety	For Meeting of
Utilities MDL (AA for LO)	ACTION TAKEN
Works	
BUREAU APPROVAL	
Bureau Bureau of Environmental Services	
Prepared by Date Randy Miller November 1, 1995	
Budget Impact Review Completed X Not Required	
Bureau Head Dean C Marriott Director	

AGENDA		FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS		
				YEAS	NAYS
Consent	Regular X	Blumenauer	Blumenauer	✓	
NOTED BY		Hales	Hales	✓	
City Attorney		Kafoury	Kafoury	✓	
City Auditor		Lindberg	Lindberg	✓	
City Engineer		Katz	Katz	✓	