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On behalf of the LOTT Alliance Board of Directors, it is a privilege to introduce this year’s State of the Utility Report. This report summarizes the numerous actions, projects, and initiatives undertaken by the organization. The report fully documents the wastewater and water resource challenges facing our communities, and the solutions and technology used by the LOTT Alliance to address these challenges in an accountable and responsible manner.

The report highlights our significant efforts to build a new administration and education facility to better meet the needs and values of our changing communities. The new facility, with its new Water Quality Laboratory and administrative centralization, will be a model and enabler of organizational efficiency and sustainability. The new Education Center will create a community resource that reinforces the value of water conservation and the use of reclaimed water. In the long run, education is a better alternative to adding treatment capacity for the ratepayers and produces more sustainable communities.

The report also lists the awards, accomplishments, and achievements of the organization and the employees responsible for planning, operating, and building one of the most advanced wastewater facilities on Puget Sound and perhaps the western United States. The LOTT Alliance Board of Directors commends the high quality of work performed by each individual LOTT employee.

I hope that you will agree with me that LOTT continues its transformation into a technically progressive, accountable, and uniquely sustainable utility. I encourage you to explore LOTT’s progress – and visions for the future – through the pages that follow.

Sincerely,

Doug Mah
President, LOTT Board of Directors
March 2009

Welcome to the LOTT Alliance’s 2009 State of the Utility Report. This organization has experienced a tremendous transformation over the past several years. In 2008, we set the stage for more very public changes to come.

LOTT is making a huge change in persona. We’re transitioning from an agency that’s been operating relatively low-key during these formative years to one that’s building a high-profile public presence. Nowhere is this new era more visible than in the renderings for our new Administrative/Education Center. In 2009, we will see the rise of a new public face for the entire LOTT system, and a new central education resource for our communities, with construction of the Administrative/Education Center.

In the spirit of that change, 2008 was a bellwether year for LOTT as a positive community force. We’ve joined forces with other local governments and agencies to help with initial steps for restoring Budd Inlet and continuing cooperation toward energizing East Bay.

Collaboration and creative thinking have become synonymous with LOTT. A November 3, 2008, editorial in The Olympian noted that “the ratepayers have come to expect this kind of bold and innovative leadership from the LOTT Alliance.” We’ve worked hard to earn that distinction, and we intend to maintain that positive reputation.

This was also the year we exercised the flexibility of the Wastewater Resource Management Plan to respond to changing conditions. The decision to expand our existing reclaimed water plants, rather than build a second satellite plant now, is a positive response to changing economic conditions and service needs. It will also allow us to extend reclaimed water service further into our communities.

Our first Strategic Business Plan was a highlight of LOTT’s development as a utility. It brought new guidance and a new transparency to our operations. Along with continued building of our Asset Management Program, and a new combination of internal and external performance audits, our public accountability is stronger and more visible than ever.

I’d like to thank the Board of Directors, our staff, and our partner jurisdictions for a great deal of hard work over the past year. Those efforts are reflected in the chapters of this report.

Sincerely,

Michael D. Strub, P.E.
LOTT Executive Director
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2008 in Review

Activities during 2008 have helped LOTT reach new milestones in its organizational development and community services.

“New ways of doing business” and “responding to changing conditions” are two themes that summarize 2008 for the LOTT Alliance. This was a year for implementing new utility evaluation tools, expanding asset management activity, and readjusting reclaimed water facility strategies that affect the entire organization. Activities during 2008 have helped LOTT achieve new milestones in its organizational development and community services.

LOTT’s first Strategic Business Plan, published in February 2008, provides a new framework for continual and consistent review of organizational and operational performance. It identifies the organization’s Core Values, benchmark Levels of Service, and Measures of Success. Including a new combination of internal and external performance audits, public accountability will be stronger than ever. Using an annual report card format, the 2008 year-end review shows that LOTT is meeting, or on track to meet, the Levels of Service that define success of the utility. This new evaluation process will be conducted annually. Results will be reported in the annual State of the Utility Report, starting with this 2009 edition.

During 2008, the Board was asked to take the next step in organizational planning by participating in six subject-focused work sessions to help answer the question: What should LOTT facilities and programs look like for the remainder of this planning cycle (to 2012) and into the next cycle (2013-2018)? In addition to envisioning the overall picture, Board members established visions and guidance for six programs – Industrial Pretreatment; Biosolids; Public Art; Budd Inlet Restoration; Reclaimed Water Production, Conveyance, and Recharge; and Education.

Another new way of doing business for LOTT involves expanded implementation of the Asset Management Program. This program has been designed to guide the acquisition, operation, maintenance, repair, and ultimate replacement of all LOTT’s assets over time. It will help ensure that defined Levels of Service are met at the lowest cost to the ratepayer. In 2008, an asset criticality assessment was completed, documenting asset condition and tracking changes made to assets. Business Case Evaluations were completed for additional Capital Improvements Plan projects. Another major activity involved completion of text for an Asset Management Executive Summary document, to be published in early 2009. This publication will help ensure all Board and staff members are knowledgeable about the program, the benefits it provides, and the activities needed to support it.

Responding to changing conditions, LOTT’s Wastewater Resource Management Plan (also known as the Highly Managed Plan) has experienced its most major revision since the original plan was published. As a result of changing conditions and lessons learned through construction and initial operation of the first two reclaimed water facilities, LOTT re-evaluated the timing and locations for the next planned facilities. In order to most effectively and efficiently meet the needs of both LOTT and its partner jurisdictions, a modified strategy was developed. It focuses on expansion of the two existing reclaimed water plants, and development of conveyance corridors to priority areas where reclaimed water can be used, including recharge sites. In this manner, the modified approach remains consistent with the intent of
the Highly Managed Plan, focusing on small increments and just-in-time construction, while helping to extend the water further into the jurisdictions. Design work began on an initial project to get reclaimed water to Tumwater. With this new focus, the realigned Capital Improvements Plan delays future construction of a second satellite plant, and its high up-front capital costs, until sometime after 2025. Supporting this effort, new Facilities Guidelines were developed to help provide criteria for determining what facilities LOTT may want or need to own in the future.

Operationally, LOTT is dependent upon critical infrastructure and staff performance to achieve its mission. In 2008, all numerical permit requirements were successfully met. Performance indicators at the Budd Inlet Treatment Plant showed average daily flows of 10.19 million gallons per day (mgd), down more than 1 mgd from 2007 due primarily to a substantial decrease in annual rainfall. Biosolids production increased by nearly 18%, partially due to the main centrifuge being out of service for much of the year resulting in a wetter and heavier product leaving the plant, combined with a 62% increase in septage from private and municipal haulers.

Performance at the Martin Way Reclaimed Water Plant, for its second full year of operation, showed an average of 0.54 million gallons of reclaimed water was being produced daily. Volume remained low due to issues with fouling of the membranes, which were resolved later in the year with installation of a new secondary screening system.

Capital project activities at the Budd Inlet Treatment Plant included final design and construction bidding for the new Administrative/Education Center. After several years of planning, the construction contract was awarded in December. In 2009, we will see the rise of a new public face for the entire LOTT system, and a new central educational resource for our communities. Other 2008 projects at the treatment plant included completion of the Secondary Clarifier Improvements and Digester Roof Covers Projects, conducting of LOTT’s first Outfall Mixing Zone Study since the outfall was improved in 1992, and continued planning and design progress for the major Primary Sedimentation/Process Improvement Project.

During 2008, LOTT’s Water Conservation Program achieved an additional flow reduction of 39,285 gallons per day. In addition to offering rebates through the WaterSmart Technology and WashWise Programs, LOTT implemented its first new water conservation project in several years – direct installation of 166 high-efficiency toilets in commercial buildings. The new direct-install approach removed a barrier that has limited prior participation of commercial customers in the existing WaterSmart program.

The Inflow and Infiltration (I&I) Reduction Program also gained a new feature in 2008 – formal funding policies and a proposal package to help stimulate project proposals from the LOTT partner jurisdictions. The policies also authorize a maximum funding level of up to 75% for project costs directly related to I&I removal.
The stage was set in 2008 for expansion of the Industrial Pretreatment Program in response to Department of Ecology recommendations. Creation of a new staff position will enable the program to expand from its current focus on Significant Industrial Users to the broader scope of work with Minor Industrial Users.

The stage was also set for what could lead to significant regulatory changes. The Department of Ecology’s long-awaited draft Technical Report for the Deschutes River, Capitol Lake, and Budd Inlet Total Maximum Daily Load Study was released in October 2008. The draft report notes that the combined effects of current point and non-point sources exceed the loading capacity of both Budd Inlet and Capitol Lake for nutrients. A key conclusion is that load reductions are needed. Results of the load allocation process, which will be initiated in 2009, could have significant regulatory and financial implications for LOTT in the future.

Through other cooperative, interlocal programs in 2008, LOTT assumed expanded collaborative and leadership roles within the community. From energizing East Bay to restoring Budd Inlet, LOTT served as an active partner with other jurisdictions and organizations to plan for the greater community benefit.

A good public education program paves the way for everything a utility does, by attracting new employees, creating public confidence in reclaimed water, and building public trust for upcoming projects and on-going operations. It also earns measurable economic returns, by delaying the need for new treatment capacity through water conservation. In 2008, LOTT’s commitment to proactive communication was reinforced through further design of its future Education Center exhibits, refinement of the vision for an expanded Education Program, establishment of a Public Art Program, and continually enhanced public information and education programs and materials. Because of its progressive approach to reclaimed water and utility management, LOTT was also invited to share information with various regional, national, and even international audiences.

LOTT values its workforce as essential to the success of its mission and continues its efforts to make LOTT a great place to work. In 2008, staff members participated in a variety of committees focused on maintaining a strong working relationship between management and union-represented employees; developing new programs, including Mentoring and Workforce Diversity Programs; employee safety; and health and wellness promotion, which benefit both the individual and the organization. Professional development opportunities, such as the Career Development Program, apprenticeships, and training offerings, helped to sharpen skills and broaden the organization’s knowledge base. Overall, LOTT’s investment in staff paid dividends in the success of the organization, as illustrated through receipt of six national and local awards.

LOTT’s 2009 Operating Budget and 2009-2025 Capital Improvements Plan (CIP) were developed during 2008 and are included in this State of the Utility Report. The overall budget, including both the Operating Budget and Capital Budget, is 6.6% lower than in 2008. Operating expenses are projected to increase by approximately 12%, but this is more than balanced by a 12% decrease in projected expenses in the larger Capital Budget. In September 2008, the Board reaffirmed planned increases to both the Wastewater Service Charge and the Capacity Development Charge annually through 2012. The CIP identifies $298 million in projects anticipated through 2025. Of that amount, $28.9 million is programmed in the Capital Budget for spending during 2009. The primary focus of the CIP is to ensure that LOTT maintains the ability to meet the Levels of Service established by the Board as part of the Strategic Business Plan.
Effective Utility Management
Chapter 1

Effective Utility Management
Annual Report Card and Visioning for the Future

The 2008 annual review, based on the Strategic Business Plan framework, shows that LOTT is meeting, or on track to meet, Levels of Service that define the success of the organization.

Introduction

Publishing of LOTT’s Strategic Business Plan in early 2008 paved the way for consistent and comprehensive annual reviews of operational and organizational performance. The 2008 annual review, based on the Strategic Business Plan framework, shows that LOTT is meeting, or on track to meet, the Levels of Service that define the success of the organization. This chapter provides an overview of the utility’s performance related to each of the defined Measures of Success.

Implementing one of the next steps outlined in the Strategic Business Plan, the Board of Directors also looked beyond LOTT’s immediate success, toward the future, through a series of visioning sessions in 2008. This chapter also reviews the six vision topics on which the Board of Directors established future directions for the utility – Industrial Pretreatment; Biosolids; Public Art; Budd Inlet Restoration; Reclaimed Water Production, Conveyance, and Recharge; and Education.

Strategic Business Plan Annual Review

To document LOTT’s organizational philosophy and provide a framework for effective utility management, LOTT’s first Strategic Business Plan was developed for the 2008-2012 planning period. The plan was developed in 2007, through work sessions with the Board of Directors, and published in February 2008. It identifies the organization’s Core Values, benchmark Levels of Service, and Measures of Success.

Information pertaining to the Measures of Success was reported to the Board of Directors throughout the year as part of monthly Program Reports. A mid-year report was prepared and presented in August. Comprehensive annual reports of the organization’s performance will now be completed and presented as part of LOTT’s annual State of the Utility Report, starting with this edition.

The Levels of Service and Measures of Success will be reviewed and revised over time, to ensure that they provide meaningful information for assessing LOTT’s performance. For that reason, some of the information presented here may differ from the original Strategic Business Plan published in February 2008.
The overview of LOTT’s annual performance is presented on the following pages in a report card format. The report card is organized into four key management areas – Business Management; Environmental Resource Management and Stewardship; Education, Communication, and Partnerships; and Human Resources and Workplace Environment. Narrative detail follows this 2008 Report Card.

### Business Management

<table>
<thead>
<tr>
<th>Measure: Targets or Metrics</th>
<th>Annual Performance January to December</th>
<th>Measure Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Revenue: 100% or greater of projected revenue</td>
<td>WSC = 104.3% of projected revenue</td>
<td>Yes</td>
</tr>
<tr>
<td>New Connections Revenue: Annually review projected revenue versus long-term Capital Improvements Plan needs</td>
<td>Reviewed in Fall 2008; Adequate for CIP</td>
<td>Yes</td>
</tr>
<tr>
<td>Expenditures: Annually less than or equal to 85% of revenue</td>
<td>Expenditures = 71% of revenue</td>
<td>Yes</td>
</tr>
<tr>
<td>Cash Balance: Positive annually</td>
<td>Cash balance = $50,309,371; Includes $13,600,000 in reserves</td>
<td>Yes</td>
</tr>
<tr>
<td>Costs: Track budgeted versus actual total project costs</td>
<td>Six Projects One over budget, Five under budget Total budgeted costs = $9,498,764 Total actual costs = $8,752,159</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Rate History: Track rates versus inflation</td>
<td>WSC = 5.9%, CPI = 4.5% (Jan - June) CPI = 1.12% (Dec - Dec)</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>CDC = 6.2%, PPIs = 9.2%, 13.6% (Jan - June) PPIs = 2.19%, 1.38% (Dec - Dec)</td>
<td></td>
</tr>
<tr>
<td>State Audit: Free of findings</td>
<td>Completed June 2008; No findings</td>
<td>Yes</td>
</tr>
<tr>
<td>Peer Review: Comprehensive peer reviews completed within every 6-year planning period</td>
<td>QualServe review scheduled for 2009</td>
<td>On Track</td>
</tr>
<tr>
<td>Internal Audit: Conducted annually</td>
<td>Completed March 2008</td>
<td>Yes</td>
</tr>
<tr>
<td>Independent Financial Operations Review: Conducted every 2 years</td>
<td>Completed August 2008</td>
<td>Yes</td>
</tr>
<tr>
<td>Liability Risk Audit: Conducted annually</td>
<td>Completed May 2008; No findings</td>
<td>Yes</td>
</tr>
<tr>
<td>Validated Capital Improvements Plan: Business Case Evaluations for 100% of projects in the 6-year schedule</td>
<td>36 projects on 6-year schedule 11 projects with completed BCEs 8 in process; the remainder are being evaluated and scheduled</td>
<td>On Track</td>
</tr>
<tr>
<td>Cost Distribution: Meet Capacity Development Charge and Wastewater Service Charge allocation guidelines for all projects</td>
<td>Completed each month</td>
<td>Yes</td>
</tr>
<tr>
<td>Maintain optimum capacity at 25 mgd during shoulder seasons</td>
<td>Maintaining capacity at or above 25 mgd; Ongoing refinement of Master Plan</td>
<td>Yes</td>
</tr>
<tr>
<td>Maintenance capacity at or above 14.5 mgd DWF and 28 mgd WWF</td>
<td>Maintaining capacity at or above 14.5 mgd DWF and 28 mgd WWF</td>
<td>Yes</td>
</tr>
<tr>
<td>Reserve Capacity: Maintain at an annual average of 1.5 mgd</td>
<td>Maintained annual average of 1.5 mgd</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## 2008 Annual Strategic Business Plan Report Card

<table>
<thead>
<tr>
<th>Levels of Service</th>
<th>Measure: Targets or Metrics</th>
<th>Annual Performance January to December</th>
<th>Measure Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Resource Management and Stewardship</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete capital projects with minimal environmental impacts</td>
<td>Environmental Reviews: Proactively complete environmental reviews as required and/or deemed optimal for success</td>
<td>Kaiser Road Forcemain Admin/Education Center and Lab Primaries and Process Control</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Investment in Enhancement: Track capital project expenditures dedicated to enhancement and/or mitigation</td>
<td>Mitigation Wetland at Hawks Prairie site = $23,147</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Protect water resources through high quality wastewater treatment</td>
<td>Compliance: 100% compliance with numerical permit requirements</td>
<td>Compliance = 100%</td>
<td>Yes</td>
</tr>
<tr>
<td>Produce and reuse renewable resources including Class A Reclaimed Water, Class B Biosolids, and methane</td>
<td>Production of Class A Reclaimed Water: Trend production per facility (mgd)</td>
<td>Budd Inlet Plant = 0.4 mgd Martin Way Plant = 0.54 mgd</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Percentage of Class A Reclaimed Water: Trend percent of flow used to produce Class A Reclaimed Water</td>
<td>Reclaimed water = 9.24% flow</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Use of Class A Reclaimed Water: Trend use versus recharge/discharge</td>
<td>Use = 44.3% Recharge = 45.2%</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Class B Biosolids: 100% of LOTT’s biosolids beneficially used</td>
<td>Biosolids use = 100%</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Methane: Track percentage of methane captured and used</td>
<td>Methane use = 44%</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Maximize use of existing treatment capacity through cost-effective water conservation, inflow &amp; infiltration reduction, and flow diversion projects</td>
<td>Water Conservation: 500,000 gpd additional flow reduction by 2012</td>
<td>37,511 gpd in 2007 39,285 gpd in 2008</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Inflow &amp; infiltration (I&amp;I): Trend annual I&amp;I removal over time</td>
<td>0 projects completed</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Minimize odor complaints from LOTT activities</td>
<td>Odor Compliance: 100% compliance with ORCAA numerical requirements</td>
<td>Compliance = 100%</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Odor Complaints: 5 or fewer per year</td>
<td>3 complaints</td>
<td>Yes</td>
</tr>
<tr>
<td>Support joint water quality and habitat improvement projects</td>
<td>Investment: Track investments in water quality and habitat improvement and preservation projects</td>
<td>Ayer Creek Enhancement = $1,763 Budd Inlet Restoration = staff time</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Collaborate with partner jurisdictions and other entities to ensure emergency preparedness</td>
<td>Emergency Operations Plan (EOP): Update EOP at least annually</td>
<td>Completed throughout the year</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Joint Preparedness: Track participation in Joint Emergency Preparedness activities</td>
<td>15 joint planning meetings</td>
<td>Monitoring</td>
</tr>
</tbody>
</table>
## 2008 Annual Strategic Business Plan Report Card

<table>
<thead>
<tr>
<th>Levels of Service</th>
<th>Measure: Targets or Metrics</th>
<th>Annual Performance January to December</th>
<th>Measure Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education, Communication, and Partnerships</strong></td>
<td>Reporting: 100% reports up-to-date</td>
<td>8 of 8 annual reports completed 1 6-year report completed</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Access to Information: Track website visits over time</td>
<td>Average of 4,726 visits per month; includes staff visits</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Internal Communications: 100% scheduled internal communications completed</td>
<td>100% completed</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Respond quickly and openly to all public inquiries</strong></td>
<td>Number of Inquiries: Track number of public inquiries</td>
<td>464 public inquiries</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Response Time for Inquiries: 100% compliance with response time guidelines</td>
<td>Calls/Emails = within 1 day (98.5%) Public Records = within 5 days (11 requests) Other Inquiries = average 6.86 days (1.5%)</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Pursue recognition of excellence</strong></td>
<td>Peer-Reviewed Recognition: Track awards applied for and received</td>
<td>Applied for 8 awards; Received 6 awards</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Peer-Reviewed Presentations: At least one LOTT representative to present at peer-reviewed forum annually</td>
<td>4 peer-reviewed presentations</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Collaborate with partner jurisdictions and other entities to participate in community programs/events that foster public awareness and support for LOTT activities</strong></td>
<td>Statewide Policy Development: Staff hours dedicated to advancement of reclaimed water and other policies</td>
<td>139 hours</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>Joint Events: At least two collaborative events/programs annually</td>
<td>Earth Day Town Hall Tours Sand in the City Budd Inlet Community Forum</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Involve the public in planning and design processes</strong></td>
<td>Regulatory Compliance: Complete required public involvement for all SEPA regulated projects</td>
<td>Kaiser Road Forcemain Admin/Education Center and Lab</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Public Involvement: Completed workshops, meetings, and interviews for additional projects as deemed appropriate</td>
<td>No activity beyond SEPA</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Informed Public Consent: Achieve little or no opposition to proposed programs or facilities during final project stages</td>
<td>No opposition for Kaiser Road Forcemain or Admin/Education Center and Lab Projects</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Develop educational materials and programs that foster public awareness and support for LOTT activities</strong></td>
<td>Community Presentations: At least 4 annually</td>
<td>22 community presentations</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Plant/Facility Tours: At least 10 tours annually</td>
<td>Budd Inlet Plant = 49 tours Martin Way Plant = 21 tours</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Tour Participants: At least 300 participants annually</td>
<td>Budd Inlet Plant = 878 participants Martin Way Plant = 184 participants</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Education Center: Initially, at least 2500 visitors annually</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Written Materials: Reports, brochures, or fact sheets for each major project and facility; provide for tours, events, and on request</td>
<td>13 produced/updated</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## 2008 Annual Strategic Business Plan Report Card

### Levels of Service

**Human Resources and Workplace Environment**

<table>
<thead>
<tr>
<th>Measure: Targets or Metrics</th>
<th>Annual Performance January to December</th>
<th>Measure Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacancy Rate: Monthly average less than or equal to 10%</td>
<td>1.6% employee vacancy rate</td>
<td>Yes</td>
</tr>
<tr>
<td>Succession Planning: 100% of critical functions have a plan by 2009</td>
<td>Have identified critical functions; Training now for backup and redundancy</td>
<td>In Progress</td>
</tr>
<tr>
<td>Apprenticeships: 75% of apprentices become journey-level workers and fulfill service commitments</td>
<td>4 of 4 apprentices progressing</td>
<td>On Track</td>
</tr>
<tr>
<td>Career Development Program: Track and trend number of employees participating in the program</td>
<td>6 employees participated; 3 employees successfully completed plans</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Training: Track and trend average hours of training per employee per year</td>
<td>Average 77.5 hours per employee</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Employee Turnover: Report, trend, and analyze information</td>
<td>1 employee resigned</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Movement within the Organization: Track and report reassignments and reclassifications</td>
<td>1 reclassification; 2 promotions</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Retirement Eligibility: Track number of employees eligible to retire in 2-, 5-, and 10-year horizons</td>
<td>4 within 2 years, 6 in 2-5 years, 7 in 5-10 years, 28% LOTT staff eligible to retire by 2018</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Amount of Employee Experience: Track employee tenure and relevant experience</td>
<td>9.7 years of tenure; 19.6 years of relevant experience</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Reportable Safety Incidents: Track monthly rate</td>
<td>5 reportable; average 0.42 per month</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Time Loss: Track and report worker hours lost due to injury</td>
<td>Time loss = 0 hours</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Labor and Industries Experience Rating: At or below industry base rate of 1</td>
<td>Experience rating = 0.8697</td>
<td>Yes</td>
</tr>
<tr>
<td>Contractor Safety: 100% compliance with health and safety standards</td>
<td>Compliance = 100%</td>
<td>Yes</td>
</tr>
<tr>
<td>Safety Incentive Program: 100% staff participation</td>
<td>Participation = 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Build and maintain a culture of safety**

<table>
<thead>
<tr>
<th>Measure: Targets or Metrics</th>
<th>Annual Performance January to December</th>
<th>Measure Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Business Management

LOTT operates within accepted business and financial standards and completes a number of internal and external checks to make sure the utility is operating in the most prudent manner possible. Using the just-in-time principle for construction of new facilities, and embracing business strategies such as Asset Management, also contributes to sound management of LOTT’s financial resources. Each Level of Service below is followed by its Measure(s) of Success.

Manage the Utility within Financial Benchmarks

**Service Revenue** – Comparing the annual Wastewater Service Charge (WSC) revenue to projected revenue ensures that LOTT is not over-budgeting and that ratepayers are not over-paying for their service. Service revenue should be 100% or greater of projected revenue. In 2008, the WSC revenue was $16,705,325 or 104.3% of projected WSC revenue of $16,022,547.

**New Connection Revenue** – More susceptible to economic conditions than the WSC, Capacity Development Charge (CDC) revenue is more challenging to predict. In 2008, revenues were notably lower than had been originally projected. Annually reviewing the CDC revenue in concert with long-term projected CDC revenues provides a more complete picture of how well these connection fee revenues are tracking with funding needs for the overall Capital Improvements Plan (CIP). The 2009-2025 CIP was reviewed and approved by the Board in November 2008. Current projections indicate CDC revenue is adequate to meet the needs of the CIP, despite the lower-than-anticipated 2008 performance. This is possible because slowdowns in construction activity also delay the need for LOTT to build new treatment capacity. Although 2008 CDC payments fell below projections, the long-term collection of CDCs remains at or above the original Wastewater Management Plan projections.

**Expenditures** – LOTT strives to limit annual expenditures for operation, maintenance, and debt service to 85% or less of revenue. This allows a minimum of 15% cash revenue to be invested in capital improvement projects, increasing equity by reducing the planned debt load. In 2008, expenditures were equivalent to 71% of revenue.
**Cash Balance** – Keeping the cash balance above zero is simply a good business practice. By receiving projected revenues and keeping expenditures within 85% of revenues, the cash balance will remain positive. For 2008, the cash balance was $50,309,371, including $13,600,000 in reserves.

<table>
<thead>
<tr>
<th>Cash Reserves</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Operations</td>
<td>$4,500,000</td>
</tr>
<tr>
<td>Emergency Capital</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>New Capacity Allied Costs</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Debt Service</td>
<td>$4,600,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$13,600,000</strong></td>
</tr>
</tbody>
</table>

**Costs** – LOTT tracks budgeted versus actual project costs for major projects. Accurately budgeting project costs is essential to meeting other financial benchmarks. Significant differences in budgeted versus actual costs may indicate trends in construction or labor costs that need to be incorporated into future cost estimates. In 2008, six projects were completed, with five completed under budget. The sixth project exceeded projected costs due to high construction bids.

<table>
<thead>
<tr>
<th>Project</th>
<th>Month Completed</th>
<th>Estimated Cost</th>
<th>Actual Cost</th>
<th>Over/(Under) Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Clarifier Rehabilitation</td>
<td>March</td>
<td>$5,819,615</td>
<td>$5,991,159</td>
<td>($171,544)</td>
</tr>
<tr>
<td>Digester Roof Covers Repair</td>
<td>July</td>
<td>$330,000</td>
<td>$288,752</td>
<td>$41,248</td>
</tr>
<tr>
<td>Surveillance Cameras</td>
<td>October</td>
<td>$216,740</td>
<td>$145,221</td>
<td>$71,519</td>
</tr>
<tr>
<td>Kaiser Road Forcemain Replacement and Water Main Extension Project</td>
<td>December</td>
<td>$1,732,409</td>
<td>$1,538,396</td>
<td>$194,013</td>
</tr>
<tr>
<td>Downtown Concrete Repair</td>
<td>July</td>
<td>$200,000</td>
<td>$68,839</td>
<td>$131,161</td>
</tr>
<tr>
<td>Martin Way Plant Screening Project</td>
<td>September</td>
<td>$1,200,000</td>
<td>$719,792</td>
<td>$480,208</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$9,498,764</strong></td>
<td><strong>$8,752,159</strong></td>
<td><strong>$746,605</strong></td>
</tr>
</tbody>
</table>

**Note:** Totals may not add up due to rounding.

**Rate History** – Comparing rates to inflation helps determine project cost estimates and overall budget needs, and may indicate rate adjustments are needed to ensure future revenue needs are met. Rates are evaluated in relation to the Consumer Price Index (CPI) and the Producer Price Indexes (PPIs) for both heavy construction and non-residential buildings. In 2008, both the CPI and the PPIs spiked in mid-year and decreased dramatically at year’s end.
**Operate within Accepted Business and Financial Standards**

**State Audit** – A successful audit will be free of audit findings, which are the most serious issues reported by the Auditor’s Office. Ideally, issues are discovered and corrected before they are significant enough to be reported as an audit finding. In 2008, this audit was completed in June, with no findings.

**Peer Review** – Peer review audits or performance reviews, completed within each six-year planning period, are conducted by utility experts who may conduct interviews, tour facilities, review procedures, and then determine the utility’s strengths and opportunities for improvement. A prior peer review, focused on the Budd Inlet Treatment Plant, was completed in 2002. LOTT will complete a QualServe review for the entire utility in 2009. QualServe is sponsored jointly by the American Water Works Association and the Water Environment Federation specifically for water and wastewater utilities.

**Internal Audit** – Annual audits conducted by staff identify areas in the organization, or system of controls, which are lacking. An internal audit was completed in March 2008 in preparation for the State audit.

**Independent Financial Operations Review** – Due to the nature of these reviews, they are conducted once every two years by a CPA firm. This allows sufficient time to implement suggestions from the previous review, and to determine if procedures or functions are working properly. Moss Adams CPA firm completed this audit in August 2008.

**Liability Risk Audit** – These audits are conducted annually by LOTT’s risk pool and focus on a selected topic that has the potential to expose an organization to liability risk. In 2008, the topic was the management of public works projects. The audit was completed in May with no findings.

**Embrace Asset Management and Use of the Triple Bottom Line**

**Validated Capital Improvements Plan** – LOTT is striving toward a goal of completing Business Case Evaluations (BCEs) for 100% of the projects listed in the Capital Improvements Plan that are scheduled for the next six years. BCEs involve a process of determining the need for, and best configuration of, a capital project in terms of service levels, economics, and risk. Projects are evaluated and compared using the triple bottom line, considering environmental, social, and economic impacts. LOTT is currently transitioning to this process for the remainder of the projects that are scheduled for the next six years.
<table>
<thead>
<tr>
<th>Projects to Receive Business Case Evaluations</th>
<th>BCE Status</th>
<th>Year Scheduled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control System Upgrade</td>
<td>Completed</td>
<td>2006</td>
</tr>
<tr>
<td>Kaiser Road Pump Station Improvements</td>
<td>Completed</td>
<td>2006</td>
</tr>
<tr>
<td>Port of Olympia Land Purchase (East Bay Redevelopment)</td>
<td>Completed</td>
<td>2006</td>
</tr>
<tr>
<td>Air Handling/Solids and Maintenance Buildings</td>
<td>Completed</td>
<td>2007</td>
</tr>
<tr>
<td>Air Handling/Headworks Building</td>
<td>Completed</td>
<td>2007</td>
</tr>
<tr>
<td>Centrifuge Backdrives</td>
<td>Completed</td>
<td>2007</td>
</tr>
<tr>
<td>North Scrubber</td>
<td>Completed</td>
<td>2007</td>
</tr>
<tr>
<td>Digester Sludge Improvements</td>
<td>Completed</td>
<td>2008</td>
</tr>
<tr>
<td>LEED Co-Generation</td>
<td>Completed</td>
<td>2008</td>
</tr>
<tr>
<td>Primary Sedimentation Tanks</td>
<td>Completed</td>
<td>2008</td>
</tr>
<tr>
<td>Hawks Prairie 3rd mgd Equipment</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Henderson 3 mgd Recharge Basins</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Henderson Conveyance Pipeline</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Mottman Road Interceptor Replacement</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Process Control Improvements with Membranes</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Reclaimed Water Storage</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Southern Connection Line Abandonment</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Southern Land Acquisitions</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Storage Building Modifications</td>
<td>In Process</td>
<td>2009</td>
</tr>
<tr>
<td>Budd Inlet Treatment Plant Screenings Pumps Replacement</td>
<td>Future</td>
<td>2009</td>
</tr>
<tr>
<td>Hydraulic Gate Operators Replacement</td>
<td>Future</td>
<td>2009</td>
</tr>
<tr>
<td>Robicon Drive Replacement</td>
<td>Future</td>
<td>2009</td>
</tr>
<tr>
<td>Second Anoxic Mixers</td>
<td>Future</td>
<td>2009</td>
</tr>
<tr>
<td>Secondary Clarifier Blanket Tracking Probe</td>
<td>Future</td>
<td>2009</td>
</tr>
<tr>
<td>Budd Inlet Treatment Plant Roof Replacement</td>
<td>Future</td>
<td>2010</td>
</tr>
<tr>
<td>Hawks Prairie North/South Conveyance</td>
<td>Future</td>
<td>2010</td>
</tr>
<tr>
<td>Henderson/Indian Creek Improvements</td>
<td>Future</td>
<td>2010</td>
</tr>
<tr>
<td>Plant Electrical Substations Upgrades</td>
<td>Future</td>
<td>2010</td>
</tr>
<tr>
<td>UV System Control and Power Upgrades</td>
<td>Future</td>
<td>2010</td>
</tr>
<tr>
<td>East Corridor Upgrade (Marvin to Carpenter)</td>
<td>Future</td>
<td>2013</td>
</tr>
<tr>
<td>Percival Creek/Mottman Road Interceptor</td>
<td>Future</td>
<td>2013</td>
</tr>
<tr>
<td>UV System/7th Channel</td>
<td>Future</td>
<td>2013</td>
</tr>
<tr>
<td>Emergency Power Phase II</td>
<td>Future</td>
<td>2014</td>
</tr>
<tr>
<td>North Outfall Evaluation/Upgrade</td>
<td>Future</td>
<td>2014</td>
</tr>
<tr>
<td>Budd Inlet Habitat Improvement</td>
<td>As Needed</td>
<td></td>
</tr>
<tr>
<td>Flow Reduction Programs</td>
<td>As Needed</td>
<td></td>
</tr>
</tbody>
</table>
Ensure Equitable Distribution of Costs Between Ratepayers and New Development

Cost Distribution – LOTT strives to meet Capacity Development Charge (CDC) and Wastewater Service Charge (WSC) allocation guidelines for capital projects specified in the Interlocal Cooperation Act Agreement for Wastewater Management. Those guidelines state that new capacity projects will be funded based on formulas that average 88% from CDC revenue and 12% from WSC revenue, and upgrades to the existing system will be funded 91% from WSC revenues and 9% from CDCs. Costs are distributed by these percentages each month to ensure compliance with allocation guidelines.

Preserve the Design Capacity at the Budd Inlet Treatment Plant

Budd Inlet Treatment Plant Capacity – Optimum treatment capacity is considered to be at least 25 million gallons per day (mgd) at the Budd Inlet Treatment Plant during shoulder seasons. Treatment capacity is defined as the amount of wastewater that can be treated to meet permit limitations, with more stringent limitations in the shoulder seasons – spring and fall – between wet and dry weather conditions. At the Budd Inlet Treatment Plant, overall treatment capacity is tied to the capacity of each individual process element, and, in that way, is linked to the Budd Inlet Treatment Plant Master Plan and ongoing improvements to the treatment plant. For 2008, treatment capacity was maintained at or above 25 mgd.

Discharge Capacity to Budd Inlet – LOTT strives to maintain discharge capacity of 14.5 mgd dry weather flow and 28 mgd wet weather flow. Discharge capacity is determined by the Budd Inlet Treatment Plant National Pollutant Discharge Elimination System (NPDES) Permit, which limits discharge to a fixed load of biochemical oxygen demand (BOD) and total inorganic nitrogen (TIN). The more the treatment plant can reduce its effluent concentration of BOD and TIN through process improvements, the more flow it can discharge to Budd Inlet. In 2008, discharge capacity dipped below the 14.5 mgd threshold in October based on TIN performance, but the annual average was maintained at or above 14.5 mgd.

Build Capital Facilities Just-In-Time

Reserve Capacity – LOTT works to maintain an annual average of 1.5 mgd reserve of treatment/discharge capacity at the Budd Inlet Treatment Plant. This allows for additional operational flexibility during peak flow events, minimizing the likelihood of permit violation, and protects the system from unforeseeable rapid population growth and/or delays in the construction of new capacity. This measure was met in 2008.
Effective Utility Management

In 2008, a State Environmental Policy Act review was completed for the Kaiser Road Forcemain Project.

Environmental Resource Management and Stewardship

LOTT is dedicated to responsible environmental resource management and stewardship. Operation of LOTT facilities is governed by regulatory permit requirements designed to protect the environment. LOTT routinely goes beyond these regulatory requirements to protect and enhance the environment through programs to reduce wastewater flows; produce, distribute, and reuse renewable resources such as reclaimed water; and invest in water quality and habitat improvement projects. Each Level of Service below is followed by its Measure(s) of Success.

Complete Capital Projects with Minimal Environmental Impacts

Environmental Reviews – LOTT proactively completes environmental reviews as required for most capital projects under the State Environmental Policy Act (SEPA). LOTT routinely completes environmental reviews that exceed SEPA requirements for any projects that warrant special assessment of potential environmental impacts, including some that do not fall under SEPA requirements. In 2008, SEPA reviews were completed for the Kaiser Road Forcemain Project and the Administrative/Education Center and Laboratory Project. A State Environmental Review Process (SERP) and a Biological Assessment review were completed for the Primary Sedimentation Tanks and Process Control Project.

Investment in Enhancement – LOTT tracks capital project expenditures dedicated to enhancement and/or mitigation. This information measures the level to which LOTT goes above and beyond requirements and further demonstrates LOTT’s commitment to environmental stewardship. In 2008, a total of $23,147 was invested in the mitigation wetland at the Hawks Prairie Reclaimed Water Ponds site.

Protect Water Resources Through High Quality Wastewater Treatment

Compliance – LOTT strives for 100% compliance with numerical permit requirements for marine discharge and Class A Reclaimed Water, which were developed by regulatory agencies specifically to protect the quality of the environment and public health. LOTT staff work hard to not only meet those requirements, but to perform at better than permit standards wherever possible. LOTT achieved 100% compliance for permit limits in 2008.
Produce and Use Renewable Resources

Production of Class A Reclaimed Water – LOTT trends production of reclaimed water per facility. Specific target quantities of production for each facility have not been set since production depends on wastewater flows available for treatment, demand for reclaimed water, and production capacity for each facility. For the time being, trending production, with the assumption that quantities will increase over time, is a more appropriate measure than specific targets.

2008 Reclaimed Water Production

Use of Class A Reclaimed Water – LOTT also trends the percentage of Class A Reclaimed Water put to beneficial use by LOTT, the LOTT partner jurisdictions, and their water utility customers through groundwater recharge or use in irrigation, toilet flushing, industrial processes, or other non-potable purposes.

Percentage of Class A Reclaimed Water – LOTT trends the percent of total wastewater flow used to produce Class A Reclaimed Water each year. This shows progress toward increasing the percent of wastewater flows treated to Class A standards over time. In 2008, 9.24% of the overall wastewater system flow was used to produce reclaimed water.

Class B Biosolids – Beneficial use of LOTT’s Class B Biosolids should equal 100% each year. LOTT’s Biosolids Program produces a high quality resource, which is used as a soil amendment or composting material through contracts with commercial vendors. In 2008, LOTT distributed 100% of its biosolids for beneficial use.

Methane – LOTT tracks the percentage of methane captured and used annually. Methane represents another renewable resource produced by LOTT. In 2008, LOTT captured and used an average of 44% of the methane to generate heat for the solids digestion process.

2008 Recharge vs. Reclaimed Water Uses
Maximize Use of Existing Treatment Capacity

**Water Conservation** – A flow reduction goal of 500,000 gallons per day (gpd) by the year 2012 was established as part of the 2007-2012 Water Conservation Coordination Plan. Flow reduction achieved through the program is calculated as cumulative reduction achieved between 2007 and 2012 as a result of program activities. Cumulative flow reduction for 2007 and 2008 projects totals 76,796 gpd. The flow reduction achieved also represents equivalent water savings for the LOTT partner water utilities.

**Inflow and Infiltration** – Trending annual I&I removal over time is completed as part of the annual I&I Report, which provides gallons per day and 10-year peak day I&I quantities to assess progress toward reducing I&I in the system over time. Other variables, including rainfall, affect I&I in the system in any given year. This information is tracked in the annual Inflow and Infiltration and Flow Monitoring Report. Results of LOTT-funded I&I reduction projects are also tracked. No projects were funded during 2008.

Minimize Odor Complaints from LOTT Activities

**Odor Compliance** – Full compliance with the Olympic Region Clean Air Agency (ORCAA) requirements is important to LOTT, and provides a surrogate metric to measure odors from LOTT facilities. LOTT was in 100% compliance with ORCAA requirements in 2008.

**Odor Complaints** – LOTT strives to manage odors on-site and prevent their detection outside facility boundaries, with a goal of five or fewer odor complaints per year. This measure tracks odor events from LOTT facilities or activities that are noticed and reported by the public. There were three complaints in 2008. Only one of the complaints involved the Budd Inlet Treatment Plant and resulted from maintenance issues with the flaring of biogas. One complaint involved odors at Cooper Point Road and 14th Avenue, which was resolved with the installation of a carbon filter in that particular manhole and other nearby manholes. The last complaint resulted from construction work at the Kaiser Road Pump Station.

Support Joint Water Quality and Habitat Improvement Projects

**Investment** – LOTT tracks investments in water quality and habitat improvement and preservation projects, which represent LOTT’s commitment to enhancing and restoring the environment. In 2008, LOTT expended $1,763 working in concert with the Squaxin Island Tribe to assess the potential for a habitat enhancement project on Ayer Creek. LOTT staff also spent extensive staff time on the Budd Inlet Restoration effort, described in more detail in Chapter 4.

Trending annual I&I removal over time is completed as part of the annual Inflow and Infiltration Report.
Collaborate with Others to Ensure Emergency Preparedness

**Emergency Operations Plan** – Updates to the Emergency Operations Plan should be completed on an annual basis. Routine review and revisions to the plan ensure that LOTT is well-prepared for emergencies. Updates to the plan were made throughout 2008.

**Joint Preparedness** – LOTT tracks participation in regional joint training opportunities, planning meetings, practice exercises, and joint responses to actual emergencies. These activities benefit LOTT by better preparing employees to respond to emergency needs within the organization and in the context of a regional emergency situation. In 2008, LOTT staff participated in 15 joint activities.

**Education, Communication, and Partnerships**

LOTT has a strong tradition of open and active communication with the public, encompassing public education, outreach, and involvement for both internal and external audiences. LOTT has renewed this commitment with progress toward a new Education Center and an expanded Education Program. Each Level of Service below is followed by its Measure(s) of Success.

**Provide Open and Transparent Access to Information**

**Reporting** – To ensure that LOTT operates in an open, transparent manner and that the public has access to up-to-date information regarding LOTT’s activities and business practices, LOTT completes a series of reports available to the public. Some of these reports are required by permits, while others are part of LOTT’s public communications program. Eight of eight annual reports due, plus the first six-year Strategic Business Plan, were completed in 2008.

LOTT tracks investments in water quality and habitat improvement and preservation projects, which represent LOTT’s commitment to enhancing and restoring the environment.
### Public Reports

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Year Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Reuse Summary Plan, Budd Inlet Reclaimed Water Plant</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Biosolids Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Industrial Pretreatment Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>State of the Utility Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Flows and Loadings Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Inflow and Infiltration Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Capacity Assessment Report</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Budgets and Capital Improvements Plan</td>
<td>Annual</td>
<td>2008</td>
</tr>
<tr>
<td>Water Conservation Coordination Plan</td>
<td>Six-Year Cycle</td>
<td>2007</td>
</tr>
<tr>
<td>Strategic Business Plan</td>
<td>Six-Year Cycle</td>
<td>2008</td>
</tr>
<tr>
<td>Asset Management Program Executive Summary</td>
<td>Six-Year Cycle</td>
<td>In Process</td>
</tr>
</tbody>
</table>

**Access to Information** – LOTT maintains a comprehensive website as one of the primary means through which the public accesses information about the organization. Staff tracks use of the site represented by the number of visits each month. In 2008, the site logged over 56,000 visits, with a monthly average of 4,726 visits. (Note: LOTT’s service provider does not distinguish between internal LOTT staff uses of the system and external uses; thus, these numbers included a very high proportion of staff visits.)

**Internal Communications** – The need for LOTT to communicate openly and transparently and provide timely access to information is not limited only to the public; LOTT must also meet this Level of Service for internal customers – the LOTT employees. For that reason, LOTT established a schedule of internal communications activities to be completed each year. In 2008, LOTT completed 100% of the activities established to facilitate internal communication, including quarterly All-Staff meetings, regular department meetings, monthly newsletters, and emailed news flashes.
Respond Quickly and Openly to All Public Inquiries

**Number of Public Inquiries** – By tracking the number of inquiries and the average response time for inquiries, LOTT can better assess its ability to respond in a timely manner. In 2008, staff responded to over 464 public inquiries.

- **Response Time for Inquiries** – LOTT strives to meet response time guidelines for various types of inquiries.

- **Phone calls and emails** – Initial responses should be made within one business day.

- **Public records requests** – Initial contact within two business days is preferred, but must occur within five business days maximum. Filling the records request may take longer.

- **Other information requests** – Initial contact should occur within two business days, but requests requiring extensive research or preparation may take longer.

In 2008, response to phone calls and emails occurred within one day 98.5% of the time. Initial contact for the 11 public records requests occurred within 5 days. Other public inquiries requiring research or preparation were completed in an average of 6.86 days.

Pursue Recognition of Excellence

**Peer-Reviewed Recognition** – LOTT tracks awards that are applied for and those that the organization receives. Awards can benefit the organization by improving public image, supporting the concept of LOTT as a desirable workplace, and building morale by recognizing technical proficiencies. For these reasons, LOTT will occasionally apply for awards, carefully balancing the time commitment required to prepare an application with the value of the recognition. Some awards received do not require application. In 2008, LOTT applied for eight awards and received six, although not all awards received were those for which LOTT applied. For more detail about LOTT’s 2008 awards, see Chapter 6.

**Peer-Reviewed Presentations** – Similarly, presenting work at peer-reviewed forums provides an opportunity to build LOTT’s reputation as a professionally recognized and desirable workplace on the forefront of wastewater management and reclaimed water production. At least one presentation should be given by LOTT staff each year. In 2008, LOTT staff and representatives of LOTT presented four professional papers at peer-reviewed forums.

Collaborate with Others to Participate in Community Programs and Events

**Statewide Policy Development** – LOTT tracks staff hours dedicated to the advancement of reclaimed water and other policies. These statewide policies ultimately benefit the organization by clarifying regulatory issues, avoiding potential regulatory conflicts, building public support, and furthering LOTT’s reputation as a leader in the industry. LOTT staff dedicated 139 hours to development of statewide reclaimed water policies in 2008.
Joint Events – LOTT’s partner jurisdictions and other organizations involved in environmental stewardship often share public education messages. Collaborating on public events and programs amplifies these messages, prevents duplication of effort, and builds credibility by demonstrating that public agencies and others are working together. LOTT should participate in at least two collaborative events/programs annually. In 2008, LOTT partnered with the City of Olympia for Earth Day Town Hall Tours, the Hands On Children’s Museum for Sand in the City, and a broad coalition for the Budd Inlet Community Forum.

Involve the Public in Planning and Design Processes

Regulatory Compliance – Environmental reviews of all projects that fall under the State Environmental Policy Act (SEPA) must comply with all public information and involvement requirements. In 2008, LOTT completed public information and involvement activities for two projects: the Kaiser Road Forcemain Project and the Administrative/Education Center and Laboratory Project.

Public Involvement – Although formal public involvement programs are not necessarily required for all LOTT projects, LOTT provides opportunities for public input as a standard practice to facilitate public awareness, understanding, and support. In 2008, however, with the exception of the two SEPA projects, there were no additional projects of the scale that warranted formal public involvement efforts.

Informed Public Consent – LOTT completes comprehensive public information and involvement processes for major planning and capital projects to assure meaningful public participation in project planning, design, and operation. LOTT strives for achieving informed public consent, with minimal or no opposition to these projects, as a result of public involvement efforts. For both major projects – Kaiser Road Forcemain Project and the Administrative/Education Center and Laboratory Project – informed consent was achieved.

Develop Educational Materials and Programs

Community Presentations – LOTT has a goal of completing at least four community presentations annually. Community presentations may include service clubs, school groups, public forums, and non-profit organizations. LOTT staff completed 22 presentations in 2008.

Plant and Facility Tours – LOTT strives to provide at least ten tours annually. Tours often include K-12 students, college classes, citizens, service clubs, consultants, wastewater professionals, federal, state, or local government officials and staff, and others. LOTT staff provided 49 tours at the Budd Inlet Treatment Plant and 21 tours at the Martin Way Reclaimed Water Plant.

Tour Participants – Tour participants in 2008 well exceeded the minimum goal of 300 participants, with 878 visitors to the Budd Inlet Treatment Plant and 184 visitors to LOTT’s Hawks Prairie Reclaimed Water Satellite.
Education Center – Initially, LOTT expects at least 2500 visitors annually to the Education Center. This number of visitors is consistent with the Board of Directors’ goal for creating an Education Center that initially builds on current educational programming of both LOTT and LOTT’s partner governments, without new overt marketing efforts. Data related to this measure will be reported after the Education Center opens in spring 2010.

Written Materials – Written materials such as fact sheets provide basic information about LOTT’s major projects, facilities, and programs. They are distributed at events, group presentations, tours, and on request. In 2008, thirteen written pieces were updated or produced for the first time.

Human Resources and Workplace Environment

LOTT places significant emphasis on its workforce and the workplace environment, recognizing that employees are the lifeblood of the organization. By evaluating measures that reflect employee satisfaction, development, and safety, LOTT can adapt to changing conditions and ensure the organization has an effective workforce to guide its operation. Each Level of Service below is followed by its Measure(s) of Success.

Provide Employee Development and Support Programs

Vacancy Rate – LOTT works to maintain a monthly average vacancy rate less than or equal to 10%. With 63 employees, a 10% vacancy rate represents up to six vacancies across the organization. More than six vacancies are likely to impair a variety of critical functions. The monthly average for 2008 was only 1.6%, with a peak of 3.2%.

Succession Planning – It is LOTT’s goal to complete succession plans for 100% of critical staff functions by 2009. As a young and relatively small organization, LOTT has numerous critical functions served only by one employee. Throughout 2008, these critical functions were identified and training for backup and redundancy will begin in 2009.

Apprenticeships – At least 75% of LOTT’s apprentices should become journey-level workers and fulfill their service commitments. LOTT invests heavily in the development of journey-level workers through the Apprenticeship Program and would like to see a return on this investment. Successful apprentices are expected to serve LOTT in a journey-level capacity for a period of time equivalent to their apprenticeship, which includes 5000 hours for the Operator Apprenticeship and 6000 hours for the Control System Technician and Maintenance Technician Apprenticeships. In 2008, all four of LOTT’s apprentices made progress toward successful completion of their apprenticeships.

Career Development Program – LOTT tracks and trends the number of employees participating in the Career Development Program to gauge whether LOTT is providing opportunities for employee development and advancement. Trending may signal when additional employee outreach or education regarding the program is necessary. In 2008, participation increased to six employees from only two in 2007.

Training – LOTT tracks and trends the average hours of training received by each employee annually. Training is an investment in staff to ensure a safe, comfortable, legally-compliant, and productive working environment. Tracking training hours per employee provides a tool to analyze the level of investment in staff. Tracking also provides information regarding training required for maintaining certifications and licenses, and training provided as professional development opportunities. In 2008, an average of 77.5 hours of training was provided per employee.
Employee Turnover – LOTT reports, trends, and analyzes turnover data to identify potential workplace issues that contribute to employee dissatisfaction and gain insight to improve employee retention. In 2008, one employee resigned.

Movement within the Organization – LOTT tracks and reports reassignments and reclassifications. Information regarding employee movement from one position to another within the organization allows for comparison of “good churn vs. bad churn.” Promotions and reassignments are normally positive reasons for vacancies (good churn), while voluntary departures may signal cause for concern (bad churn). In 2008, one employee was reclassified and two were promoted – all representing “good” churn.

Retirement Eligibility – LOTT tracks the number of employees eligible to retire within 2-, 5-, and 10-year horizons. This information is used as a tool for succession planning and staffing strategies. By 2018, almost 30% of LOTT’s workforce will be eligible to retire.

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Number of Employees</th>
<th>Percent of Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>4</td>
<td>6.7%</td>
</tr>
<tr>
<td>2010 to 2013</td>
<td>6</td>
<td>10.0%</td>
</tr>
<tr>
<td>2013 to 2018</td>
<td>7</td>
<td>11.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>28.4%</strong></td>
</tr>
</tbody>
</table>

Amount of Employee Experience – Employee tenure and relevant experience are tracked each year. Tenure and relevant experience reflect the cumulative experience and institutional knowledge of LOTT staff. At the end of 2008, average tenure for LOTT employees was 9.7 years, with an average of 19.6 years relevant experience.

Build and Maintain a Culture of Safety

Reportable Safety Incidents – LOTT tracks the monthly rate of safety incidents. Low numbers of safety and health incidents reflect an awareness and dedication to maintaining a safe workplace. There were five reportable incidents in 2008.

Time Loss – Worker hours lost due to injury are also tracked. Reviewing monthly time loss data helps identify trends that can be used to improve procedures or engineer safer systems. “Accident repeaters” may also be identified and counseled regarding the expectation of applying safe work practices on the job. Time loss in 2008 was zero hours.

Labor and Industries Experience Rating – LOTT’s goal is to maintain an experience rating from the Department of Labor and Industries below the industry average of 1.0. The experience rating can be used as a benchmark to monitor costs associated with on-the-job injuries as compared to the baseline for organizations in the same risk classification. For 2008, LOTT’s rating was 0.8697, which is below the industry base rate.

Contractor Safety – LOTT expects 100% compliance with health and safety standards from its contractors to demonstrate the contractors’ commitment to maintaining a safe workplace for their employees. Contractors’ safety records are considered as part of LOTT’s review of “responsive and responsible” bidders for contract work.

Safety Incentive Program – Full participation by employees in voluntary safety and wellness activities demonstrates a culture of health and safety that reaches throughout the entire organization. LOTT achieved the goal of reaching 100% employee participation in 2008.
Visioning LOTT’s Future

Work sessions with active participation of the LOTT Board of Directors were instrumental in creating the Strategic Business Plan. During 2008, the Board was asked to take the next step in defining the “big picture” by participating in six subject-focused work sessions to help answer the question: What should LOTT facilities and programs look like for the remainder of this planning cycle (to 2012) and into the next cycle (2013-2018)? In addition to envisioning the overall picture, Board members established visions and guidance for key projects and programs. Brief summaries of the visioning activities are provided here, with the outcomes for each of these topics addressed more fully in the chapters indicated.

Industrial Pretreatment Program Expansion

This topic was addressed at Board work sessions in March and June 2008. Staff presented concepts and proposed an approach for addressing the Department of Ecology’s past Pretreatment Program Inspection report findings and the resulting LOTT program needs. Identified needs included updating of industrial user survey procedures, increasing oversight of minor industrial users, and training of a backup Pretreatment Program administrator. The second work session focused on revisions to the proposed program, incorporating previous Board feedback. The Board expressed preference for an educational outreach approach to Minor Industrial Users, rather than a regulatory permit and fee-based approach. To implement the new program responsibilities, creation of an Environmental Compliance Technician position was proposed and supported. See Chapter 3 for more information.

Biosolids Management Program

At the March visioning session, the Board reviewed LOTT’s Biosolids Management Program, its current status, upcoming options for responding to the expiration of LOTT’s long-term management contract, and future considerations for a LOTT biosolids composting facility. Board members were in general agreement with staff regarding biosolids management contractor recommendations, citing preferences to use local vendors and to work with more than one contractor to guarantee a constant, reliable outlet for biosolids. The Board indicated interest in Class A Biosolids options within Thurston County. More information is available in Chapter 3.

Public Art Program

The June 2008 visioning session began with context for considering a LOTT policy to set aside funds for public art associated with capital projects. The presentation and vision paper addressed the rationale for public art funding programs, summarized policies of local and regional jurisdictions related to funding for public art, and provided several examples of public art projects implemented by wastewater utilities. With general support being expressed by the Board, discussion focused on which capital projects would be subject to the policy, what processes would be used to select public art, and what formula would be used for funding public art projects. The Board expressed support for a policy that sets aside one percent of estimated construction costs for public art. The program would apply only to large-scale projects, routinely accessible by the public. A more detailed discussion can be found in Chapter 5.
Budd Inlet Restoration, Phase I

In early 2008, LOTT joined Thurston County, City of Olympia, City of Tumwater, and Port of Olympia, in an interlocal agreement to identify and explore opportunities for the parties to work together on Budd Inlet restoration. One of the first steps in this process was a series of interviews with staff and leadership in both the participating jurisdictions and other related jurisdictions and organizations. Conducted by project consultants, the purpose of the interviews was to gather information on each entity’s needs, interests, priorities, and goals for Budd Inlet restoration. A group interview with LOTT management staff was conducted by the consultants at the end of May. An interview work session with LOTT Board members, which served as a visioning session for this topic, was held in June. The results of these and other interviews were compiled as part of a Phase I Budd Inlet Restoration Partnership report, in an effort to help identify near-term opportunities, if any, for jurisdictions to work together on shared priorities and goals. See Chapter 4 for more information.

Reclaimed Water Production, Conveyance, and Uses

LOTT has implemented its Wastewater Resource Management Plan (also known as the Highly Managed Plan) over the past eight years, including construction and operation of the first two reclaimed water facilities. During that time, changing conditions have been identified, many lessons have been learned, and new questions were being asked. The July 2008 vision paper set the stage for taking a fresh look at the Highly Managed Plan to reconsider options for producing, conveying, and using reclaimed water to best meet the needs of both LOTT and its partner jurisdictions. In preparation for producing the 2009-2025 Capital Improvements Plan, decisions needed to be made about when, where, and how much new treatment capacity should be planned. The vision needed to consider short-term, mid-term, and long-term needs. To make these decisions, the Board needed to consider how much wastewater supply would be available in the system and from where it could be diverted. Priority uses for the end product – the reclaimed water – also needed to be considered, along with the best routing options for getting it there. Addressing these topics in 2008 was important because some of the choices would affect critical project development already underway at the Budd Inlet Treatment Plant and in the communities. Key goals were to retain and maximize flexibility and redundancy in the system. During the visioning session, a new strategy was proposed to focus and expand reclaimed water production at LOTT’s two existing reclaimed water sites – the Budd Inlet Treatment Plant and the Martin Way Reclaimed Water Plant – and delay construction of a second satellite plant. Distribution of reclaimed water would be expanded from those locations to partner jurisdictions and recharge sites. A distribution concept based on pipeline conveyance corridors was introduced. The Board concurred with the new direction for reclaimed water activities. The outcomes of this effort represent the most significant amendments to the Wastewater Resource Management Plan that have occurred since it was approved. See Chapter 7 to obtain more information.

Education Program Development and Implementation

Another July vision topic reviewed the value of education to LOTT, history of program development decisions, current level of educational effort, and potential components of an expanded Education Program. Benefits of a strong program include flow reduction through water conservation, public acceptance, and support for reclaimed water, public understanding, and interest in the health of Puget Sound, and overall public image of the utility. Expansion of the Education Program was proposed, including establishment of an Environmental Educator position. An expanded Education Program would foster enhanced public awareness and support for LOTT activities and mission in a more formal and comprehensive way than is currently possible. The new Education Center will be a significant step toward broadening LOTT’s educational reach. A dedicated staff position would ensure that the Education Center is used to its full potential, current educational activities are continued and expanded, new partnerships are established, and new programming is part of a coordinated, effective Education Program. More information can be found in Chapter 5.
Facilities Performance and Upgrades
Chapter 2
Facilities Performance and Upgrades
Operating, Maintaining, and Improving the System

Ensuring optimal performance of these essential public facilities requires efficient operations, effective and timely maintenance, and, as needed, improvements and upgrades.

Introduction

LOTT is dependent on critical infrastructure to achieve its mission, including the central Budd Inlet Treatment Plant, the Hawks Prairie Reclaimed Water Satellite, three pump stations, and miles of sewer interceptor pipelines. Ensuring optimal performance of these essential public facilities requires efficient operations, effective and timely maintenance, and, as needed, improvements and upgrades.

In 2008, all numerical permit requirements were successfully met. Staff had to address a few unexpected challenges, all of which were effectively resolved. Several improvement projects were also initiated, underway, or completed at LOTT facilities, which required coordination of Engineering Division staff with the Operations, Maintenance, and Process Control teams.

The work of LOTT staff ensured that facilities kept running smoothly. Operations staff members monitor and adjust the treatment processes at both the Budd Inlet Treatment Plant and the Martin Way Reclaimed Water Plant to ensure that permit requirements are continually met. Operations staff also complete projects necessary to optimize treatment processes. In addition to assisting with improvement projects and responding to unexpected challenges, LOTT’s in-house Maintenance staff plays a key role in preventing equipment and facility problems by completing numerous maintenance projects throughout the year. Process Control staff members run the Water Quality Laboratory, analyzing samples and recording data to ensure compliance with permit requirements. Other Process Control staff maintain the electrical components of the treatment processes. Engineering staff members are responsible for planning, design, and construction management for capital projects to improve, upgrade, or replace existing facilities.

Budd Inlet Treatment Plant

At the heart of the LOTT system is the Budd Inlet Treatment Plant, where the bulk of wastewater coming into the system is treated. Most of the treated effluent is discharged to Budd Inlet. A portion is diverted to a sand filter system at the Budd Inlet Reclaimed Water Plant for further treatment to Class A Reclaimed Water standards.

Performance Indicators

Various measures are used to regularly report treatment plant performance. The tables that follow show 2008 performance indicators for the Budd Inlet Treatment Plant in comparison with prior years. The volume of wastewater treated is measured in million gallons per day (mgd).
In 2008, average daily flow was 10.19 mgd. All flow measures were lower than values for 2007, due primarily to a significant decrease in total annual rainfall from 2007 to 2008.

**Volume of Wastewater Treated**

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily</td>
<td>11.00</td>
<td>10.43</td>
<td>10.60</td>
<td>12.10</td>
<td>11.07</td>
<td>10.19</td>
</tr>
<tr>
<td>Minimum Monthly Average</td>
<td>8.39</td>
<td>9.43</td>
<td>9.02</td>
<td>8.40</td>
<td>8.67</td>
<td>8.31</td>
</tr>
<tr>
<td>Maximum Monthly Average</td>
<td>13.82</td>
<td>13.20</td>
<td>13.07</td>
<td>19.30</td>
<td>15.31</td>
<td>13.88</td>
</tr>
<tr>
<td>Peak (Highest) Day</td>
<td>34.67</td>
<td>22.29</td>
<td>22.74</td>
<td>38.19</td>
<td>48.48</td>
<td>26.36</td>
</tr>
</tbody>
</table>

LOTT’s discharges to Budd Inlet are regulated based on loadings rather than flow volume. Removal for biochemical oxygen demand (BOD) and total suspended solids (TSS) must be at least 85% to meet permit requirements. Removal efficiencies at the Budd Inlet Plant are consistently higher than 85%.

**BOD and TSS Removal Efficiency**

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>97.60%</td>
<td>97.80%</td>
<td>98.50%</td>
<td>97.30%</td>
<td>98.00%</td>
<td>98.30%</td>
</tr>
<tr>
<td>TSS</td>
<td>97.10%</td>
<td>97.50%</td>
<td>98.40%</td>
<td>97.00%</td>
<td>98.10%</td>
<td>97.90%</td>
</tr>
</tbody>
</table>

**Definitions**

**BOD (Biochemical Oxygen Demand)** – BOD is biological or chemical material, which consumes (demands) dissolved oxygen when introduced into water bodies like lakes, rivers, or marine water (Budd Inlet). Maintaining adequate levels of dissolved oxygen in receiving water like Budd Inlet is aided by restricting the BOD discharged into the water body. The material is usually measured by concentration (milligrams per liter – mg/L) and weight (pounds per day – lbs/day). LOTT’s permitted BOD limits vary by season. During the summer, the most restrictive season, BOD is limited to a monthly average of 7 mg/L and 671 lbs/day.

**TSS (Total Suspended Solids)** – Total suspended solids are small particles of organic or inorganic materials that float on the surface of, or are suspended in, sewage or other liquids and cloud the water. This may include sand, mud, and clay particles as well as waste materials. LOTT’s NPDES Permit limits TSS to 30 mg/L and 5,265 lbs/day year-round.
In 2008, biosolids production, measured in wet tons, increased by nearly 18% from the previous year. About 10% of that increase was the result of problems with LOTT’s centrifuge, which removes moisture from the biosolids prior to transport off-site. The main centrifuge was out-of-operation for two months due to breakdown and delays in obtaining necessary parts for repair. The backup centrifuge is less effective at moisture removal; therefore, the biosolids leaving the plant were heavier than in previous years. The other factor contributing to the rise in biosolids production was an increase of 62% in septage received from private and municipal haulers. Local options for septage disposal have decreased in the last two years, leaving LOTT as one of the only local sites where haulers can dispose of their septage.

Reclaimed water production at the Budd Inlet Reclaimed Water Plant decreased by about 17% from 2007. Production is based on demand, since storage in the system is limited to a small, on-site storage tank owned by LOTT. The decrease in demand in part reflects a drop in irrigation needs for the 2008 summer season. Also, in previous years, LOTT had been pumping excess reclaimed water to the Capitol Lake Pump Station to maintain a specified chlorine residual in the conveyance line. That was no longer necessary in 2008, contributing to the decrease in production. LOTT received regulatory approval to reduce that requirement to maintaining a “detectible” level of chlorine.

### Unexpected Challenges

Two unexpected occurrences in 2008 required emergency responses at the Budd Inlet Treatment Plant. Each was resolved quickly with minimal impacts.

#### Budd Inlet Treatment Plant Overflow

On August 11, at 1:20 pm, approximately 3,500 gallons of wastewater overflowed from the LOTT Budd Inlet Treatment Plant onto Marine Drive and the adjacent Port of Olympia property. Most of the wastewater flowed to the road, where it flowed into storm drains that discharge to Budd Inlet’s East Bay. The overflow was discovered and contained within 15 minutes. LOTT contacted the City of Olympia for assistance and notified the State Department of Ecology and public health agencies. The City responded with a vactor truck that rinsed down the affected portion of Marine Drive and removed the standing wastewater on the Port property and within the treatment plant site. LOTT staff then completed cleanup efforts by applying lime to the affected land areas for disinfection.

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### Table: Volume of Biosolids Produced and Hauled

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Wet Tons Per Day</td>
<td>25.75</td>
<td>15.47</td>
<td>18.38</td>
<td>15.86</td>
<td>20.71</td>
<td>25.11</td>
</tr>
<tr>
<td>Total Wet Tons Produced</td>
<td>9,399</td>
<td>5,660</td>
<td>6,708</td>
<td>5,789</td>
<td>7,561</td>
<td>9,189</td>
</tr>
<tr>
<td>Average Truck Loads per Week</td>
<td>6.5</td>
<td>3.5</td>
<td>4.5</td>
<td>4.4</td>
<td>5.7</td>
<td>6.8</td>
</tr>
<tr>
<td>Total Truck Loads Hauled</td>
<td>340</td>
<td>183</td>
<td>235</td>
<td>227</td>
<td>295</td>
<td>351</td>
</tr>
</tbody>
</table>

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### Table: Reclaimed Water Production

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Total (million gallons)</th>
<th>Daily Average (million gallons/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>55.09</td>
<td>0.30</td>
</tr>
<tr>
<td>2005</td>
<td>146.27</td>
<td>0.40</td>
</tr>
<tr>
<td>2006</td>
<td>183.10</td>
<td>0.50</td>
</tr>
<tr>
<td>2007</td>
<td>168.62</td>
<td>0.46</td>
</tr>
<tr>
<td>2008</td>
<td>140.50</td>
<td>0.38</td>
</tr>
</tbody>
</table>
The spill involved mixed liquor, which is wastewater that has completed primary treatment and is in the final stages of secondary treatment, but has not yet been clarified or disinfected. The overflow was caused when a large hydraulic gate on the secondary basins failed to open. The plant had been shut down earlier in the day for routine annual electrical maintenance. When power was restored and the plant was restarted, the gate failed to open, causing the basins to overflow. In response to this event, the hydraulic gate may be replaced with motorized gate operators to prevent that type of incident in the future.

Franklin Street Waterline

On September 15, a non-potable water main for the Budd Inlet Treatment Plant failed. The main was located in Franklin Street NE, near the plant’s main gate. To initiate timely repair work, the Executive Director signed an emergency declaration. A construction contractor, Rognlin’s Inc., was hired to complete repair of the 8-inch pipeline.

Operations, Maintenance, and Process Control Projects

The Budd Inlet Treatment Plant is an invaluable asset in LOTT’s wastewater treatment system. Operating and maintaining the plant requires an enormous amount of work from staff in Operations, Maintenance, and Process Control sections. LOTT’s in-house Maintenance staff play a key role in preventing equipment and facility problems by completing numerous maintenance projects throughout the year. Operations staff monitor and adjust the treatment processes at the plant to optimize these processes and insure that permit requirements are continually met. Process Control staff members run the Water Quality Laboratory, analyzing samples and recording data to ensure compliance with permit requirements. Process Control also maintains the electrical components of the treatment processes. In addition to these regular duties, plant staff completed a number of major projects in 2008.

Operations Projects

In 2008, some of the projects addressed by Operations staff at the Budd Inlet Treatment Plant included:

- Performing a plant shutdown to allow an isolation valve to be installed on an air-vac assembly in the effluent discharge line
- Calibrating, cleaning, and replenishing the reagents for the in-stream analyzers for turbidity, nitrate, dissolved oxygen, and chlorine residual
- Setting up and calibrating the process samplers
- Stress testing of the secondary clarifiers
- Participating in the final workshops for scoping and designing the upcoming plant improvements
- Assisted with annual shutdown and maintenance of the Class A Reclaimed Water systems
- Cleaning all influent channels with the assistance of a contractor to prep for the high flow season
- Guiding 49 tours at the Budd Inlet Treatment Plant

Maintenance Projects

Major maintenance projects at the Budd Inlet Treatment Plant during 2008 included:

- Cleaning out the old administration building to prepare for remodeling construction
• Installing laboratory equipment in temporary portables to prepare for remodeling construction

• Taking the first anoxic trains off-line temporarily for valve repair

• Removing and reinstalling the centrifuge scroll to allow for balancing

• Replacing a hydraulic cylinder on the rag hopper in headworks

• Pulling return activated sludge pump 1 and completing an inspection

• Overhauling the Bird/Humboldt centrifuge

• Replacing and adjusting the wear rings on an influent pump

• Changing wear pads on primary sedimentation tanks 2 and 4

• Entering the confined space in pump station 1 to correct the cause of water filling the wet well

• Repairing the chain and flight in primary sedimentation tank 2 and fabricating new flights and connectors

• Repairing pressure switches for pressurization pumps

• Repairing the 40-ton HVAC unit that feeds cool air into the blower building to insure blowers do not overheat

• Completing a planned power outage to assist Siemens in performing preventative maintenance testing on substations G and H

• Fixing the low heat loop circulation pumps to insure they automatically turn on after a power outage

• Repairing a Class A Reclaimed Water pipe break located between clarifiers 3 and 4

• Building a sediment trap for the Class A Reclaimed Water instrument air system

• Building and installing a seal water manifold for the sludge recirculation pumps

• Installing a new heat exchanger on centrifuge 3

• Rebuilding and installing the Hoffman Booster Blower, which supplies methane gas to the boilers

• Installing an air-vac assembly on an effluent line located at the Port

Process Control Projects

Process Control staff completed a number of major projects at the Budd Inlet Treatment Plant in 2008, including:

• Turning the temporary trailer into a fully-functioning laboratory, for use while the existing building is being remodeled

• Creating a new Operations work station on the south side of the plant in a vacant room next to the parts and inventory office

• Maintaining electronic components of the process samplers

• Working on Phase II of the Metso Control System Upgrade, including changing out all of the input/output cards in the system and rerouting all of the wiring from the field equipment to the new input/output cards and racks in the termination panels

• Changing out all the batteries on the treatment plant’s uninterrupted power source

• Moving all the Metso work stations to the new operations control room in the blower building
Treatment Plant Improvement Capital Projects

The year marked significant progress in planning, design, and completion of improvement projects for the Budd Inlet Treatment Plant, existing and future satellite facilities, and conveyance routes in the overall wastewater system. The following projects received significant attention during 2008.

Administrative/Education Center and Laboratory Project

Planning for the new Administrative/Education Center and remodel of the Water Quality Laboratory began in 2006. The project is the first implementation project from the Budd Inlet Treatment Plant Master Plan, which was completed that year. The architectural design firm Miller-Hull Partnership worked closely with a team of LOTT staff and a Board member to design the project and ensure the new facilities meet the long-term needs of the organization.

In 2008, the project progressed from completion of the 100% construction documents to acquiring all necessary permits for construction and awarding the construction contract. LOTT worked with the Department of Ecology, under a Voluntary Cleanup Plan to continue testing on the site for possible contaminants and develop a remedial action plan for addressing any contamination. With permits and the remedial action plan in place, the LOTT Board of Directors authorized the Executive Director to advertise for bids for construction of the LOTT Alliance Administrative/Education Center and Water Quality Laboratory. Bids were opened in early December. LOTT benefitted from a very favorable bidding climate. All elev-

The co-generation system would save the facility nearly $150,000 per year in utility costs, provide all of the heating and cooling for the new Administrative/Education Center, serve the future Hands On Children’s Museum, eliminate the need to flare excess digester gas, and greatly reduce the emissions from the treatment plant site.
Education Center, provide capacity to support a “district” heat loop that would serve the future neighboring Hands On Children’s Museum, eliminate the need to flare excess digester gas, and greatly reduce the emissions from the treatment plant site.

To complete this complex project, the Board approved a performance contract, utilizing Washington State Department of General Administration (GA) staff for project management under the State’s Energy Performance Contract program. Given the project complexity, having GA’s level of experience with performance contracting would help assure a successful result.

TRANE was selected as the Energy Performance Contractor by LOTT staff after a competitive selection process conducted by GA. TRANE then completed an Energy Performance Audit, and presented the draft conclusions at the September Board meeting. In October, an Energy Performance Contract with TRANE was approved by the Board with a guaranteed maximum allowable contract price of $2,619,000, including all fees and a 5% contingency. In November, LOTT received word that the project was awarded a $1.7 million energy grant from Puget Sound Energy (PSE). This is the largest single grant awarded by PSE, and represents 70% of the total project cost.

Secondary Clarifier Improvements Project

This multi-year project at the Budd Inlet Treatment Plant replaced four secondary clarifier mechanisms, eight return activated sludge pumps, four waste activated sludge pumps, and eight clarifier influent gates, and installed a new secondary scum manhole and pumping system. The construction project began in May 2006 and was completed February 2008. The final contract amount was $3,844,626. The contractor on the project was Stellar J Corporation.

Digester Roof Covers

This construction project involved replacement of the polyurethane roofing system covering the digester floating dome covers at the Budd Inlet Treatment Plant. The original roofing system was installed in 1982 and had reached the end of its useful service life. The elastomeric coating had separated from the polyurethane on the covers causing a safety hazard and restricted access for staff. Construction on the replacement project began in July 2007, and was completed in August 2008. The work was completed by Pacific Tech Construction, Inc. for a final total cost of $289,644.
Outfall Mixing Zone Study

LOTT’s NPDES Permit, issued in September 2005, requires two studies of the marine outfall – a physical outfall inspection consisting of a dive and video documentation of conditions, and a mixing zone study consisting of physical dye testing followed by computer computational fluid dynamic modeling utilizing Department of Ecology approved modeling programs. No formal physical outfall mixing study had been previously required or completed since the outfall was improved in 1992. In July 2008, Cosmopolitan Engineering, Inc. of Tacoma, Washington, was awarded the contract for $113,894 to complete the marine Outfall Mixing Zone Study and outfall diffuser dive and inspection.

The outfall dive included a physical inspection and verification of the outfall diffuser condition. LOTT’s marine outfall diffuser section is approximately 1,000 feet long with 55 ten-inch diameter diffuser ports. The 48-inch pipeline itself is buried and “armored” with large rock “rip-rap” to protect it from boat anchors, but the diffuser ports are exposed and vulnerable to damage. Video documentation of the outfall condition was done in conjunction with the mixing zone dye tracer study.

The mixing zone study included calculation of the dilution factors at two designated boundaries using dye tracers – the “acute” mixing zone where initial dilution takes place (typically near the outfall), and the “chronic” mixing zone, which is the area from the acute zone out to where water quality criteria are met. During annual even tides (minimum highs and lows that occurred during September 13-18) dye was injected into the outfall according to Department of Ecology protocol. Also, sampling for conductivity, temperature, and depth profiles was completed and coordinated with Ecology to meet permit requirements as well as provide data to the Ecology team conducting the Total Maximum Daily Load Study in the Inlet. Results indicate that there is no reasonable potential to exceed water quality standards for the parameters evaluated.

Security Camera Upgrade

In July, a contract for $127,491 was awarded to Aronson Security Group of Seattle, Washington, to complete the first phase of a security camera upgrade. Contract work included establishing a Network Video Recording System comprised of software, nine cameras, two workstation computers, and a media server dedicated to record video. The project included placing cameras to record activity at the entrances of the Budd Inlet Treatment Plant, septage receiving station, and the construction site for the new Administrative/Education Center building. The security cameras have the ability to pan and rotate, record video for emailing to authorities, create still photos, provide real time video, and access 45 days of archived footage. Installation was completed in November. The remaining phases of the surveillance camera upgrade will take place at the satellite facilities, pump stations, and the new Administrative/Education Center.
Primary Sedimentation and Process Control Improvement Project

During 2008, planning continued on a project to expand and upgrade the primary sedimentation tanks, which was identified as necessary in the Budd Inlet Treatment Plant Master Plan. The tanks are some of the largest and oldest facilities on the site. Some parts of this facility were constructed in the late 1940s and early 1950s. The existing tanks create a bottleneck in the “flow through” capacity of the treatment plant, become less efficient during high flow events, and do not provide enough hydraulic or treatment capacity. Their motor control units, which are heavy electrical panels, do not meet current safety codes and can be flooded during high flow events, creating safety risks for staff members.

In May 2007, LOTT competitively selected and entered into a pre-design/engineering report contract with HDR, Inc. for the Primary Sedimentation and Process Control Improvement Project. Working closely with LOTT staff, HDR developed a recommendation to proceed with design of new primary sedimentation basins to provide for half the peak flow, a base flow of 37.5 million gallons per day. The remaining peak flows would be managed through an upgrade of the existing primary sedimentation basin facilities. A contract for Phase 1, engineering design for the Primary Sedimentation Basin Upgrade, was awarded to HDR in November 2008. The engineering design for Phase 2, a related process control improvement project, will be reviewed after the primary sedimentation design is significantly complete.

Bundled Project Design

In May, the Board approved an engineering contract with Gray and Osborne, of Olympia, in the amount of $132,711, to complete design on three bundled projects. The digester sludge recirculation pumping and heating system has been problematic for LOTT Operations and Maintenance staff for several years. Vapor binding and premature wear of the pumps has been a continual problem. The sludge heat exchangers have extensive internal oxidation and wear, and have reached the end of their useful lives. In order to optimize both staff resources and design costs, the digester improvements design was bundled with two other smaller Capital Improvements Plan projects, the effluent meter installation and the influent gates and controllers. LOTT does not use the existing effluent flow meter to measure discharge from the Budd Inlet Treatment Plant because the accuracy of the existing meter has been poor. The influent gates and controllers are in very poor condition due to age and degradation. Additionally, the concrete in the influent channel has significant degradation and must be lined to maintain its integrity.

Downtown Concrete Repair

In the spring of 2008, LOTT began a construction project to repair concrete along portions of Columbia and Olympia Avenues in downtown Olympia. The concrete, installed in 2006 as part of LOTT’s Southern Connection Pipeline Project, had cracked and failed in places and was in need of repair. KBH Construction Company of Olympia was awarded the bid for $63,303. The work included cleaning and sealing cracks and joints, patching eroded panels, and replacing several concrete panels. A final change order for $5,536 was issued to adjust for additional work identified during the course of the project, bringing the final contract total to $68,839. Heavy traffic in the work area made the project challenging and necessitated night work at times. LOTT worked closely with Intercity Transit, area businesses, and residents to minimize impacts. The project began in April and was substantially complete by June.

The downtown concrete repair included cleaning and sealing cracks and joints, patching eroded panels, and replacing several concrete panels.
Hawks Prairie Reclaimed Water Satellite

LOTT’s satellite system includes the Martin Way Reclaimed Water Plant, Hawks Prairie Reclaimed Water Ponds and Recharge Basins, and associated pipelines. Although much smaller than the Budd Inlet Treatment Plant, the Martin Way Reclaimed Water Plant is no less important to the system. It is also operated and maintained by the same Operations and Maintenance staff members that support the Budd Inlet Treatment Plant. This was the second full year of operation for this facility, which came on-line in mid-2006.

Performance Indicators

The tables that follow show 2008 performance indicators in comparison with 2007, and the partial year measures for 2006. The volume of wastewater treated is measured in million gallons per day (mgd).

<table>
<thead>
<tr>
<th>Volume of Reclaimed Water Produced</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater Treated (average daily)</td>
<td>0.67</td>
<td>0.67</td>
<td>0.57</td>
</tr>
<tr>
<td>Reclaimed Water Produced (average daily)</td>
<td>0.46</td>
<td>0.60</td>
<td>0.54</td>
</tr>
</tbody>
</table>

In 2008, reclaimed water production decreased slightly from previous years. Fouling of the membrane filters, an integral part of the treatment process, led to decreased production while a new fine screen system was installed to remedy the issue. With the new screen in place, production is expected to ramp up in 2009.

<table>
<thead>
<tr>
<th>BOD and TSS Removal Efficiency</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>TSS</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
</tbody>
</table>

State regulations for Class A Reclaimed Water include specific limits for BOD and TSS. At the Martin Way Plant, removal efficiencies consistently remain at 99% for both BOD and TSS.

Unexpected Challenge with the Hypochlorite System

On June 29, the ball valve on the drain line of the sodium hypochlorite tank at the Martin Way Reclaimed Water Plant burst. The tank emptied 2,500 gallons of hypochlorite into its containment area. The plant went into bypass mode due to the loss of chlorine residual, which automatically directs reclaimed water back into the sewer system. Overall, the safety systems built into the plant performed exactly as designed, protecting public health and safety by containing the hypochlorite, redirecting the un-chlorinated reclaimed water, and shutting off production. Piping and valves were replaced in response to this event. All ball valves were replaced with diaphragm valves to eliminate the conditions that led to the valve failure and prevent a similar incident in the future. Any future design and construction of hypochlorite systems will specify use of diaphragm valves only.
Operations, Maintenance, and Process Control Projects

In addition to guiding 21 tours of the Martin Way Reclaimed Water Plant during 2008, the Operations staff also addressed several projects including: starting up the new influent screen and providing training; screening all the mixed liquor with the new influent screen; changing operational trains, from train 2 to train 1, to put the newer membrane modules in service after the new screen was in place; and starting rehabilitation of membrane modules in train 2. Maintenance and Process Control staff assisted with a switch from train 2 to train 1 operation. Maintenance crews also installed a third booster pump to resolve past issues that plagued the plant’s water system, and repaired the odor scrubber for the membrane building by hand-sewing and installing the screen and refilling scrubber carbon media.

The secondary screenings project was necessary to install a second layer of screening at the plant to catch the fines that pass through the 3mm perforated-plate escalator screens at the Martin Way Pump Station.

System Improvement Capital Projects

A significant operational challenge that has limited operation of the Martin Way Reclaimed Water Plant was successfully resolved during 2008. Meanwhile, the first step was taken to start investigating the feasibility of expanding production beyond the planned maximum of 5 million gallons per day.

Secondary Screening

The Martin Way Reclaimed Water Plant utilizes Siemens-USFilter membrane modules, which have been experiencing repeated fouling problems with fine fibrous materials. A construction project was necessary to install a second layer of screening at the plant to catch the fines that pass through the 3mm perforated-plate escalator screens at the Martin Way Pump Station. LOTT contracted with HDR, Inc. to provide engineering evaluation and design for the screening equipment installation. A fine drum screen was determined to be the best equipment for catching fine, fibrous materials that were fouling the Siemens-USFilter membranes, severely limiting their capacity. Locating it inside the influent/grit removal building in a self-contained enclosure was determined to be the best approach for odor control. In 2008, the screening equipment was purchased from Huber, Inc. and the construction contract was awarded to Stouder General Construction LLC, of Ferndale, Washington. The project included installation of the fine screen, screening tank, local control panel, and screening control panel; furnishing and installing a submersible mixed liquor pump, a variable frequency drive and piping from the grit influent channel to and from the fine screen; and associated mechanical, electrical, and instrumentation work. The work was completed in July, and the new system is working well.

Hawks Prairie Recharge Basins Study

The Hawks Prairie Recharge Basins were built to handle 5 million gallons per day (mgd) of recharge, but may be capable of handling more. Current estimates, which have not been confirmed, are that approximately 8 mgd of capacity may exist at the site. In November 2008, the Board approved a contract with Brown and Caldwell in an amount not to exceed $71,866 to update groundwater modeling at the Hawks Prairie Recharge Basins, and conduct infiltration and time of travel simulations. The work that will be conducted under the contract will help confirm the marginal capacity available, as well as time of travel to nearby creeks. A report on the results is expected in early 2009.
Pipelines and Pump Stations

Maintenance Projects

Maintenance staff addressed two issues at the Capitol Lake Pump Station during the year – relocating level sensors to make them more accessible for maintenance, and completing upper and lower seal replacement on pump 3. They also replaced a cracked sewer lid on Deschutes Parkway and installed a new manhole lid and riser off of Sleater-Kinney Road.

Unexpected Challenge with the Kaiser Road Forcemain Valve

The air-vacuum release valve on the Kaiser Road Forcemain failed in mid-March, causing a sewage spill. Another air-vacuum valve failed at 14th Avenue NW, about midway between Cooper Point Road and Kaiser Road. LOTT declared it an emergency project on April 7, and had the engineering firm Parametrix evaluate the likely cause of the repeated failure. A repair was engineered and completed in April.

Pipeline and Pump Station Capital Projects

The LOTT Alliance owns over 28.6 miles of pipelines that carry wastewater to treatment facilities and convey reclaimed water to sites for recharge or reuse. These pipelines include gravity sewer lines, pressurized forcemains, and reclaimed water conveyance lines.

Kaiser Road Forcemain and Water Main Extension Project

LOTT and the City of Olympia worked together to complete the Kaiser Road Forcemain Replacement and Water Main Extension Project in 2008. LOTT needed to replace 7,165 feet of asbestos concrete forcemain pipeline originally installed in the late 1970’s. The forcemain replacement ran from the Kaiser Road Pump Station to the previously replaced line on 14th Avenue NW. The City of Olympia provides drinking water service to the area and needed to extend the waterline along Kaiser Road to improve overall system reliability. An interlocal agreement for the joint project was approved by the City Council and the LOTT Board in the spring. Alpha Development Corporation was awarded the contract for $1,524,311. Construction began in June and was completed by October.

Kaiser Road Pump Station

Construction began in 2008 to replace the undersized and outdated pump station located on Kaiser Road. The project would greatly improve reliability of this vital facility, and decrease the amount of maintenance that was previously required. Improvements also included safety features, an eyewash station, and wash down water. The previous pump station was located in the road right-of-way. The new station will be on LOTT property, set back from the roadway. The project includes construction of a submersible pump station with three pumps and related valve vaults; a building to house the emergency generator....
and miscellaneous electrical and mechanical equipment; a 15-inch gravity sewer to divert flows from the existing pump station to the new pump station; relocation of the emergency generator to the new building; and demolition of the existing pump station. The contract was awarded to Pivetta Brothers Construction Inc., of Sumner, Washington, for $1,789,591, plus a 10% contingency. Construction began in July and will continue into spring 2009.

**Lilly Road Joint Project**

In April, LOTT entered into an interlocal agreement with the City of Olympia to incorporate the rehabilitation of a key LOTT manhole at Lilly Road and Martin Way into the City’s Lilly Road Sewer Replacement Project, and for the City to receive reimbursement by LOTT for the City’s costs of construction and inspection services. By cooperating to complete LOTT’s manhole rehabilitation at the same time as the City project, costs were reduced and construction disruption was minimized. The manhole rehabilitation project was included in LOTT’s 2008-2025 CIP. The cost of the project was $15,132.

**Tumwater Reclaimed Water Pipeline**

As a result of the Board’s visioning work to reassess reclaimed water production, conveyance, and recharge areas, it became clear that reclaimed water would need to be conveyed from the Budd Inlet Reclaimed Water Plant to Tumwater. LOTT could get reclaimed water to the Tumwater Golf Course by converting one of two existing Southern Connection/Deschutes Parkway sewer interceptors into a reclaimed water pipeline. An engineering design project was initiated in 2008 to do this. It also included design work to extend a 12-inch pipeline from Tumwater Falls Park to the golf course, mid-point at where the City of Tumwater would construct booster pumps to provide pressure for irrigating the golf course. This project will not only make reclaimed water accessible for use in Tumwater, it will also extend a major reclaimed water pipeline toward LOTT’s recharge property on Henderson Boulevard.

An added project element included design of a pipeline in Lakeridge Drive to eventually make reclaimed water accessible to portions of both Tumwater and Olympia in the Mottman Road area. An engineering design contract for $238,473 was awarded to Parametrix in August. Design of the pipeline, from the Deschutes Parkway pipeline to Evergreen Park Drive, was urgently needed in order to coordinate with an already-scheduled City of Olympia water pipeline project to save costs and avoid construction disruption from another project at a later date. An interlocal agreement with the City of Olympia was approved by the Board in November to construct the reclaimed water pipeline in Lakeridge Drive as part of the City of Olympia Percival Creek Water Main and Pump Station Project. Engineering design for the remaining portions of the project will be completed in 2009.

**Mullen Road Reclaimed Water Mains**

LOTT participated in two joint projects with the City of Lacey to design and install reclaimed water pipelines along Mullen Road to serve the future Chambers Prairie Reclaimed Water Plant. The Mullen Road East project involved installation of a 10-inch reclaimed water pipeline along Mullen Road, east of Ruddell Road. The project was completed in conjunction with scheduled City of Lacey road improvements, with the City as the lead and Rognlins, Inc. as the contractor. Installation of the Mullen Road East reclaimed water line began in 2007, and was completed in November 2008.

The Mullen Road West project includes engineering design for several reclaimed water lines that will be installed along Mullen Road, west of Ruddell Road. The City of Lacey is the project lead, working with Perteet Engineering to complete design for both the road and the reclaimed water pipelines.
Property and Facility Purchases and Management

LOTT owns and manages a number of properties, and is actively investigating the purchase of others, on which to locate future LOTT facilities such as recharge basins. In 2008, a variety of activity occurred.

Deconstruction at the Henderson Boulevard Property

LOTT’s Henderson Boulevard property is located along Old Highway 99 in Tumwater. The property featured a small, derelict home that represented a safety liability. It was deconstructed in 2008. In April, Olympia Salvage removed windows, hardwood flooring, cabinets, bricks and some lumber for reuse. The remaining deconstruction work was completed in May. A detached garage was left in place to house equipment in the future.

Property Purchase on Rixie Road

Several potential groundwater recharge sites have been identified for possible acquisition by LOTT staff, with assistance from the engineering firm of Brown and Caldwell. One of those properties is a 32-acre undeveloped site located on Rixie Road S.E., in an unincorporated area of Thurston County that was owned by the Corporation of the Catholic Archbishop of Seattle. LOTT finalized purchase of this property in December 2008. Hydrogeologic analysis indicates the potential for 1 to 2 million gallons per day (mgd) of recharge capacity on this site. Purchase of this property allows LOTT to potentially recharge reclaimed water coming from either the Budd Inlet Treatment Plant or the future Chambers Prairie Reclaimed Water Satellite. Additional hydrogeologic testing will be occurring during 2009.

Potential Property Purchase on 58th Avenue

LOTT also entered into a purchase and sale agreement for property located on 58th Avenue in Thurston County. The 5-acre parcel is located within the current urban growth area and includes a 2,779 square foot home. Preliminary hydrogeologic analysis indicates the potential for about 3 mgd of recharge capacity on this site. Purchase of this property allows LOTT to potentially recharge reclaimed water coming from the future Chambers Prairie Reclaimed Water Satellite. Final purchase of the property is expected in early 2009. LOTT is also pursuing various other properties in the vicinity for additional recharge and beneficial design purposes.

Martin Way Reclaimed Water Plant Property Discussions

Additional recharge capacity at the Hawks Prairie site would support increased production of reclaimed water at the Martin Way Reclaimed Water Plant. In 2008, LOTT staff began discussions with the City of Lacey for the acquisition of additional property adjacent to the Martin Way site to support increased reclaimed water production. These efforts are part of the Board’s “responding to changing conditions” direction for reclaimed water production and conveyance that was introduced with a vision paper at the July 23 work session. Additional reclaimed water production at the Martin Way Reclaimed Water Plant and recharge at the Hawks Prairie Recharge Basins would enhance north/south reclaimed water distribution and allow LOTT to defer construction of the Chambers Prairie Reclaimed Water Plant and the costs associated with building such a facility.

Grass Lake and Cooper Point Interceptors

The City of Olympia and LOTT completed ownership transfer through an interlocal agreement in 2008. The City of Olympia transferred ownership of the Cooper Point Road Interceptor to LOTT, and LOTT transferred ownership of the Grass Lake Interceptor to the City of Olympia. The Grass Lake Interceptor was constructed in 1972 and was one of LOTT’s original facilities. Through several cooperative projects and agreements, it was replaced by the Cooper Point Road Interceptor. Only Olympia wastewater flows remain in the Grass Lake Interceptor. It has long been planned that the Grass Lake Interceptor would be owned, utilized, and maintained by the City, and that the new Cooper Point Road Interceptor would be owned and maintained by LOTT. This arrangement makes the most physical sense and was included in several City Sewer Comprehensive Plans.
East Bay Properties

LOTT is also in the process of purchasing two East Bay parcels from the Port of Olympia – one to support the future Budd Inlet Treatment Plant facilities and the other to serve as the future East Bay Public Plaza. See Chapter 4 for more information.

Facilities Ownership Guidelines

During 2008, a process was initiated to address a significant facilities planning challenge. LOTT had no existing guidelines to help determine what facilities may be appropriate for LOTT ownership. While ownership of some facilities is obvious, such as treatment plants, the responsibility for building facilities such as pipelines or pump stations can be more difficult to determine. A framework and criteria would help determine, for example, whether a new pipeline should be a LOTT line, a City line, or a joint project. Guidelines would give staff and the Board a rationale for making decisions concerning what LOTT may want or need to own in the future. The guidelines would also be useful to LOTT’s jurisdictional partners in determining potential joint capital projects. At its September meeting, the LOTT Board directed staff to move forward to develop Facilities Ownership Guidelines. Final guidelines were adopted in November.

The approved guidelines do not necessarily obligate LOTT to own any particular facility, only that LOTT would consider ownership where the guidelines were met. All acquisitions under the guidelines are subject to budgetary constraints, the conditions set forth in LOTT’s governing documents, LOTT staff recommendation, and Board approval.

Asset Management

The LOTT Alliance owns and operates hundreds of millions of dollars worth of assets, including wastewater treatment facilities, reclaimed water plants, pump stations, groundwater recharge basins, and collection and distribution pipelines. In addition, LOTT’s Capital Improvements Plan envisions investing $298 million through 2025 in new facilities, process improvements, and other system upgrades and replacements. These assets are critical to maintaining the established Levels of Service that are defined in the Strategic Business Plan. To ensure these Levels of Service are met at the lowest cost to the ratepayer, LOTT has been building a formal Asset Management Program to guide the acquisition, operation, maintenance, repair, and ultimate replacement of all its assets over time.

One of the stated Levels of Service defined in LOTT’s Strategic Business Plan is to “embrace asset management and use of the triple bottom line as the operational standard for all system improvements.” Asset Management activities have already had a fundamental impact on the way LOTT manages its assets, as implementation of the program continued in 2008. To guide implementation of the Asset Management Program, LOTT had created a position, now titled Capital Planning Manager, and established an Asset Management Team, which included representatives from LOTT Engineering, Operations, Maintenance, Finance, and Information Technology. The team completed an Asset Management Program evaluation in 2007.

The next step was to understand what the utility actually owns and what condition the assets are in. This challenging task was completed with active participation from staff. In 2008, staff members made further progress toward implementation by completing an asset criticality assessment documenting asset condition and tracking any changes made to assets.

Business Case Evaluations have been completed for eleven of the projects on the 2009-2025 Capital Improvements Plan. Eight others are in process and the remainder are being evaluated and scheduled.

One other task for the year was compilation of text for an Asset Management Executive Summary document. The text was completed at the end of the year. The document, which summarizes the Asset Management Program and contains a set of system profiles, is due to be published in February 2009. It precedes development of a much more extensive Asset Management Operations Manual.

Efforts to reach full implementation of the Asset Management Program will continue in 2009. Efforts to ensure that all Board and staff members are knowledgeable about the program, the benefits it provides, the Levels of Service it maintains, and the activities they can do to support this program will be a key focus in its continuous development.
Environmental Stewardship Programs
Chapter 3
Environmental Stewardship Programs
Preserving and Protecting Our Water Resources

LOTT proactively offers programs that evaluate potential impacts of its projects and produce environmental protection results.

Introduction

One of the core values expressed in LOTT’s Strategic Business Plan is that “LOTT values responsible environmental resource management and stewardship.” Accordingly, LOTT proactively offers programs that evaluate potential impacts of its projects and produce environmental protection results. This chapter reviews 2008 accomplishments of ongoing programs including Water Conservation, Inflow and Infiltration Reduction, Reclaimed Water Distribution and Use, Industrial Pretreatment, and Biosolids Management. It also introduces some project-specific environmental evaluations, studies, and issues addressed during the year.

Water Conservation Programs

Maximizing capacity at the Budd Inlet Treatment Plant remains a top priority for LOTT. LOTT’s Water Conservation Program has consistently and successfully reduced existing year-round flows, thus postponing the need to build costly new treatment capacity. Since its inception in 1997, the Water Conservation Program has reduced wastewater flows by an estimated 657,269 gallons per day (gpd). In today’s dollars, that represents nearly $13.7 million of new treatment capacity that has been postponed as a direct result of the conservation program.

Flow Reduction Summary

A new flow reduction of 39,285 gpd was achieved in 2008, from a mix of ongoing and new projects. Existing residential programs, such as WashWise washing machine rebates and distribution of Water Saving Kits continued. There also was marked improvement in WaterSmart Technology Program participation by industrial, commercial, and institutional customers, due to new program changes. For commercial customers, implementation of a pilot direct-install high-efficiency toilet program was also implemented.

<table>
<thead>
<tr>
<th>2008 Water Conservation Totals</th>
<th>gpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Projects</td>
<td>30,148</td>
</tr>
<tr>
<td>Commercial (ICI) Projects</td>
<td>9,137</td>
</tr>
<tr>
<td>Total</td>
<td>39,285</td>
</tr>
</tbody>
</table>

Free Water Saving Kits

Another Opportunity to Save Water and Reduce Wastewater Flows

Free Water Saving Kits

Another Opportunity to Save Water and Reduce Wastewater Flows
WaterSmart Technology Program

The WaterSmart Technology Program offers rebates to industrial, commercial, and institutional (ICI) customers who retrofit their equipment to reduce wastewater flows. In 2008, there was an increase in the financial incentive, with rebates up to 75% rather than the previous maximum of 50%. The cost-effectiveness of each project must fall below LOTT’s threshold of $20.82 per gallon of treatment capacity gained in order for projects to be eligible for funding. This figure is derived from the estimated cost of constructing one new gallon of treatment capacity.

Four WaterSmart projects were funded in 2008, resulting in approximately 1,833 gallons per day of wastewater flow reduction. These projects all involved replacement of equipment and fixtures with water-saving models. Each met the cost-effectiveness criteria, with an overall average cost-effectiveness of $9.30 per gallon – far below what it would cost LOTT to add a new gallon of treatment capacity.

In addition to these completed projects, two larger WaterSmart rebates were approved in 2008. The Department of General Administration and Providence St. Peter Hospital both worked with private consultants to identify water-saving opportunities in their facilities. Both projects are complex in nature, with several different project elements involved. The General Administration project would retrofit equipment and fixtures in twelve buildings on the State Capitol Campus, with a potential rebate of $270,750. The Providence St. Peter Hospital project involves replacement of toilets, bedpan toilets, and showerheads, with a potential rebate of $120,537. Funds for both of these rebates were approved and encumbered in 2008, although actual installation will not occur until 2009.

<table>
<thead>
<tr>
<th>WaterSmart Technology Projects</th>
<th>Equipment Installed</th>
<th>Flow Savings (gpd)</th>
<th>Rebate Award</th>
<th>Cost-Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Arts Office Building</td>
<td>Toilets</td>
<td>240</td>
<td>$3,085</td>
<td>$12.85</td>
</tr>
<tr>
<td>El Nopal Restaurant</td>
<td>Condenser</td>
<td>600</td>
<td>$3,577</td>
<td>$5.96</td>
</tr>
<tr>
<td>Olympia Seafood Company</td>
<td>Ice Machine</td>
<td>403</td>
<td>$4,463</td>
<td>$11.07</td>
</tr>
<tr>
<td>WSDOT Materials Lab</td>
<td>Sink Stations</td>
<td>590</td>
<td>$5,925</td>
<td>$10.04</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,833</strong></td>
<td><strong>$17,049</strong></td>
<td><strong>$9.30</strong></td>
</tr>
</tbody>
</table>

**Note:** Totals may not add up due to rounding.
Pilot Direct-Install Toilet Project

In 2008, LOTT implemented its first new water conservation project in several years – direct installation of high-efficiency toilets (HETs). The goal of the pilot project was to install up to 200 HETs in commercial buildings. The project would provide the opportunity for businesses large and small to participate in water-saving retrofits at no cost. As an added benefit, the direct-install program requires little if any time commitment from the customer. This approach removes a barrier that has limited prior participation in LOTT’s WaterSmart Program.

Once a plumbing contractor and toilet supplier were identified, the partner water utilities began promoting the project to eligible commercial customers. To be eligible, customers had to replace existing floor-mounted, tank-style toilets that used three or more gallons per flush. LOTT and City staff shared responsibility for visiting interested customers to measure flush volumes of the existing fixtures and confirm their eligibility. Customers had a choice between three different high-efficiency toilets. Technologies and performance characteristics of the HETs vary, but all use an average of 1.0 to 1.28 gallons per flush.

A total of 166 toilets were installed in commercial buildings during the pilot project. At an average water savings of 44 gpd per toilet, the water savings is approximately 7,304 gpd. An additional 21 toilets were installed in a multi-family apartment complex, for a savings of 651 gpd. Cost-effectiveness of this project is approximately $10.22 for the commercial properties and $14.52 for the multi-family properties. Since both meet LOTT’s cost-effectiveness criteria, the project will be continued in 2009.

WashWise Rebates

In 2008, a new record high was established, with 1,070 WashWise rebates distributed to LOTT customers. The program offers $100 rebates to residential customers who purchase and install water-efficient clothes washers. Product eligibility is determined by the Consortium for Energy Efficiency, which reviews energy and water efficiency. This program has been highly successful since it began in 1997. Flow reduction from the installation of these 2008 washing machines is estimated to be 23,564 gpd.

Water Saving Kits Distribution

Water Saving Kits are distributed to LOTT customers free of charge to encourage installation of simple, water-saving fixtures. The kits contain a water-efficient showerhead, faucet aerators for the kitchen and bath, toilet leak detection tablets, and Teflon plumber’s tape. They are distributed upon request by LOTT’s partner water utilities. The City water utilities advertise the availability of kits through direct mail, utility bill inserts, and notices in City newsletters. Flow reduction from this project is estimated at 5,933 gpd in 2008.

<table>
<thead>
<tr>
<th>Water Saving Kits</th>
<th>Lacey</th>
<th>Olympia</th>
<th>Tumwater</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating Households</td>
<td>104</td>
<td>194</td>
<td>32</td>
<td>330</td>
</tr>
<tr>
<td>Kits Distributed</td>
<td>177</td>
<td>318</td>
<td>56</td>
<td>551</td>
</tr>
</tbody>
</table>

Program Promotion

Work continued in 2008 to brand the water conservation program in an eye-catching, consistent way. The WashWise brochure, Water Saving Kit flyer, and the Water Saving Kit Instruction booklet were revised and printed. Future publications will follow the established brand and look.
Inflow and Infiltration Reduction Program

While water conservation is LOTT’s most visible flow reduction program, inflow and infiltration (I&I) reduction has the potential to remove even higher quantity flows. Steps were taken during 2008 to encourage additional I&I reduction projects and recognize accomplishments already achieved.

New Funding Policies and Proposal Package

Although LOTT has been prepared to offer financial incentives for removal of I&I since 1996, only three I&I removal projects have been funded – a sidesewer demonstration project in one west Olympia basin and two community infiltration removal projects at Vista Village in Lacey. Projects were considered on a case-by-case basis.

With the approval of Phase II of the Vista Village project in May 2006, the Board requested that LOTT develop a formal I&I Removal Program, including funding policies. Because I&I projects are often variable and complex in nature, they require very different policies, criteria, and implementation guidelines than the Water Conservation Program. Developing policies and guidelines that would work for all likely types of I&I projects proved challenging. During 2008, LOTT staff completed draft funding program policies and criteria, along with a Request for Proposals document and accompanying application form. The package received final Board approval in July 2008.

The intent of LOTT’s Inflow and Infiltration Reduction Program is to: 1) encourage the identification of I&I removal opportunities within the system; 2) promote ongoing coordination with the partner jurisdictions with regards to I&I monitoring, evaluation, and removal; 3) provide financial support for projects that otherwise would not be financially feasible for a LOTT partner; and 4) provide LOTT with a mechanism to evaluate and possibly fund I&I removal projects that are deemed cost-effective to LOTT. It is not the intent of the program to subsidize maintenance activities, which are inherently the responsibility of the jurisdictions.

The program will be implemented via an annual proposal submission process. Proposals can only be submitted by one of the four LOTT jurisdictional partners. Projects will be evaluated based on the established criteria. Those that are deemed cost-effective for LOTT would be eligible for funding consideration. The maximum funding level for approved projects will be up to 75% of the project costs related directly to I&I removal. Approved projects would be added to LOTT’s Capital Improvements Plan and Capital Budget. Although one potential project was discussed during 2008, no actual proposal was submitted.

“Inflow” is fresh water or stormwater runoff flowing into the system through storm drains connected to sewer lines. This also includes stormwater runoff from individual properties where roof, basement, foundation, or yard drains are illegally connected to the sewer system.

“Infiltration” is groundwater leaking into sewer line joints and cracks in old deteriorated sewers and side sewer lines. This happens when the ground is wet and water tables are high. This could include saltwater intrusion.
The Variable Nature of I&I

The new I&I program was designed to be flexible enough to accommodate the variable nature of I&I projects. In most cases, I&I flows vary seasonally based on rainfall intensity and groundwater levels. Reduction of such flows helps in managing peak flows at the Budd Inlet Treatment Plant during wet weather months (as opposed to year-round base wastewater flows). Because of their variable nature, I&I flow volumes tend to be more challenging to estimate and evaluate than year-round base flow sources. Since LOTT is permitted to discharge more flow to Budd Inlet during the winter months, excess wet weather I&I is more of an issue for conveyance system capacity rather than treatment capacity.

In addition to the variable forms of seasonal I&I, some forms of inflow are steady and contribute year-round to base flows. Examples include artesian wells that flow into the combined storm/sanitary sewers. In general, such flows are consistent and more easily measured. Removal of “base” flows provides benefits similar to water conservation projects by delaying the need for additional treatment capacity.

Recognizing Fulfillment of Olympia’s I&I Commitment

In June 2008, LOTT’s Board of Directors approved a Resolution recognizing fulfillment of a major milestone – the City of Olympia’s commitment to remove I&I from the sewer system as specified in the 1995 Intergovernmental Contract for Inflow and Infiltration Management and New Capacity Planning. This recognition followed several years of work and several major projects designed to reduce I&I coming to the Budd Inlet Treatment Plant.

Olympia’s commitment arose from the extensive inflow and infiltration study conducted for LOTT by the engineering firm Gibbs and Olson from 1992 to 1994. One of the resulting recommendations was that I&I removal work should be conducted in three basins on the west side of Olympia, which were determined to offer the most cost-effective removal opportunities. Olympia’s commitment was to remove 2,712,000 gallons or 8.28 percent of the current system-wide 10-year storm/24-hour peak inflow and infiltration from LOTT joint facilities or spend $8,791,000 in 1994 dollars (including the cost of design, administration, and construction) on reasonable and appropriate efforts to remove I&I.

Olympia’s work was phased over multiple years, from 1996 through 2007, with phases being evaluated by Brown and Caldwell under contract to LOTT. Reports were published for each phase evaluated. In 2007, Brown and Caldwell prepared a Technical Memorandum titled Inflow and Infiltration Comparison: 1994 to Present, which provided an overview of I&I removal progress throughout the system. One of the conclusions addresses the Olympia commitment.

“Based upon a review of the data, the City of Olympia has more than fulfilled its obligation to reduce I&I under the 1995 Intergovernmental Contract. Required to eliminate 2.712 mgd of 10-year peak day I&I, this study suggests that the City has in fact removed more than 8 mgd of 10-year peak day I&I.”

A table provided by the City documents expenditures for these projects totaling $7,298,061, which equates to $5,761,834 in 1994 dollars.

The LOTT Board felt it was appropriate to formally recognize the fulfillment of Olympia’s obligation. That action took place on June 11, 2008. Despite fulfillment of its formal commitment to the LOTT partners, Olympia is continuing to work on I&I removal and has more projects planned for the future.
Reclaimed Water Distribution and Use

In addition to reducing wastewater flows, another high priority for LOTT is cleaning wastewater to a high enough level that it can be put back to beneficial use within our communities. LOTT is operating two facilities that are reliably producing Class A Reclaimed Water and sending it out to locations in Olympia and LOTT’s ponds and recharge basins in Lacey. LOTT’s partner Cities are responsible for distribution and use of the water.

Olympia and LOTT Uses of Reclaimed Water

The City of Olympia serves as the purveyor of reclaimed water from LOTT’s Budd Inlet Reclaimed Water Plant. Uses in 2008 included the following:

• The State Department of General Administration continued using the water for irrigation at Marathon Park, Heritage Park, and Deschutes Parkway during the irrigation season, with a total of over 5.0 million gallons being applied at these sites. This was a decrease from 2007, when 6.8 million gallons were used due to major landscape refurbishing at Heritage Park.

• The Port of Olympia used 2.7 million gallons of reclaimed water for irrigation of ornamental shrubs, small trees, perennial plants, and turf grass. This is equal to their 2007 usage.

• The City’s Parks, Arts and Recreation Department used 593,000 gallons of reclaimed water at Percival Landing Park during the 2008 irrigation season, which is a slight decrease from the 598,000 gallons used in 2007.

Prior to startup of the system for the 2008 irrigation season, the City of Olympia requested a waiver of the 0.5 mg/L chlorine residual at use sites. The residual is a reclaimed water permit requirement. Given the enhanced disinfection the reclaimed water produced at the Budd Inlet Reclaimed Water Plant receives, staff felt confident the conveyance pipelines are adequately protected as long as a detectable amount of chlorine residual is maintained throughout the pipeline. The Departments of Health and Ecology both granted the waiver.

LOTT also continued using reclaimed water for its own purposes. The Budd Inlet Treatment Plant used an average of 368,130 gallons per day in 2008, including an average of 216 gallons per minute year-round for pump seals, cleaning, and process control, and 60 to 130 gallons per minute flushed through the pipeline into the Capitol Lake Pump Station wet well to maintain the required chlorine residual during the months of January through October. Reclaimed water was also used at the pump station for cleaning of the pump house and wet wells, odor and grease control systems make-up water, and on-site irrigation, ranging from several hundred to 5,000 gallons per day.
LOTT was the only 2008 user of reclaimed water from the Martin Way Reclaimed Water Plant in Lacey. Due to technical issues associated with fouling of the membranes, the plant could not be run at full capacity until a new secondary screening system was installed. The plant produced an average of 0.54 million gallons per day during 2008. Over 400,000 gallons of Class A Reclaimed Water was used at the plant site for pump seal water (mixed liquor pumps and grit pumps), heat pumps (electrical room and control room), carry water (12.5% sodium hypochlorite pumped into the carrier water and delivered to the use point), influent screen spray and wash water, wash down water used throughout the plant for cleaning tanks and equipment, and irrigation during the summer months. About 125,000 gallons of permeate water (water that has not been through disinfection) was used in 2008 for the clean-in-place and maintenance wash procedures for the membrane bioreactors.

At the Hawks Prairie Ponds, irrigation water pumped out of Pond 2 was used for irrigation of the grass along Hogum Bay Road, and temporarily used on-site while plant life is established. Reclaimed water not used for other purposes circulates to the groundwater recharge basins where it infiltrates to the aquifer. Approximately 176 million gallons were infiltrated during 2008.

Lacey Supply Agreement

In preparation for becoming the second of LOTT’s partner jurisdictions to use reclaimed water, the City of Lacey approved a Reclaimed Water Supply Agreement in December 2007, and forwarded it to LOTT for action; the LOTT Board approved it on January 9, 2008. The Reclaimed Water Supply Agreement serves as an operational agreement. A separate supply agreement is prepared for each partner jurisdiction distributing water from a LOTT reclaimed water facility. It reaffirms how much water will be made available from that facility, acknowledges that the jurisdiction has adopted an ordinance addressing reclaimed water distribution and use, and incorporates general operating and technical aspects consistent with State standards and LOTT’s NPDES and State Reclaimed Water Permit requirements. Lacey will begin distributing water from LOTT’s Martin Way Reclaimed Water Plant, possibly beginning in late 2009.

Both Lacey and LOTT also approved an interlocal agreement allowing Lacey to make emergency response repairs to LOTT reclaimed water lines and install reclaimed water service connections on LOTT’s behalf. Per the agreement, LOTT would reimburse the City for those costs.

State Reclaimed Water Rulemaking and Legislative Reports

LOTT continued to actively participate in State-level reclaimed water planning efforts throughout 2008. One LOTT manager has served as an active member of the State Reclaimed Water Use Rule Advisory Committee since that committee was appointed by the Department of Ecology in 2006. The target date for the completed rule is December 31, 2010. Work products reviewed during 2008 included draft recommendations on technical issues, removing barriers to reclaimed water use, and addressing water rights impairment issues; a framework for a baseline or default rule; and draft agency-request legislation for consideration in the 2009 Legislative Session specifying regulatory and permitting authorities needed to support rule development.

Also during 2008, a Technical Advisory Panel was appointed to help shape updated reclaimed water technical standards for consideration by the Rule Advisory Committee. LOTT also has a staff member on that panel. Topics addressed in 2008 include source control, pathogen removal, treatment technology and reliability, microconstituents, urban and agricultural uses, groundwater, wetlands and surface water protection, and best management practices for all types of use.
Industrial Pretreatment Program

The LOTT Environmental Compliance Supervisor administers a regional industrial pretreatment program. Through a set of regulations appended to the LOTT interlocal agreement, the four LOTT partner jurisdictions have adopted identical pretreatment ordinances. The LOTT Pretreatment Program’s focus is on Significant Industrial Users and high-strength dischargers. The program successfully meets federal requirements designed to prevent introduction of pollutants that could interfere with treatment plant processes, impact receiving water or biosolids quality, and/or threaten workers’ safety. The program is mandated by the Department of Ecology as part of LOTT’s NPDES Permit. The Industrial Pretreatment Program permits and monitors twelve industries on behalf of LOTT and the City sewer utility that serves each industry – ten are Significant Industrial Users and two are Minor Industrial Users. An annual Pretreatment Report is submitted to Ecology and presented to the LOTT Board.

Compliance

Compliance by the ten permitted Significant Industrial User industries remained high during 2008, with a total of only two violations among them. Five of those industries achieved zero-discharge status in 2008. In coordination with the flow reduction programs, LOTT also continues to assist permitted industries with reducing water consumption and wastewater volumes.

Ordinance Amendments

In February 2008, the LOTT Board of Directors approved revisions to the LOTT Discharge and Industrial Pretreatment Regulations that benefit both LOTT and its high-strength dischargers. The revision gives the Executive Director authority to grant industries an exemption to excess-strength surcharges when it is determined that all or part of their industrial waste or other discharge results in a net benefit to the operation of LOTT’s treatment plants. These revisions were developed after some in-depth discussions by LOTT and its consultants regarding the cost-effectiveness of alternate carbon sources. LOTT was adding about 1,000 pounds per day of soluble biochemical oxygen demand material (BOD) as a supplemental carbon source in the form of methanol. Additional carbon is needed to grow and maintain the nutrient-removal organisms utilized to meet stricter nitrogen discharge permit limits during the months of April through October. One alternative was to consider high BOD discharges from industrial sources already on LOTT’s system. Staff and consultants concluded that any amount of additional carbon discharged to LOTT from industrial sources could offset the use and cost of methanol. By granting soluble BOD allowances to all the permitted high-strength dischargers in order to replace the use of methanol during the nutrient removal months, the significant cost savings in purchasing methanol would more than offset any revenue losses from reduced excess-strength charges.

Following approval of the regulation changes, Pepsi Northwest Beverages, LLC, was granted an allowance to discharge 1,000 pounds of soluble BOD to LOTT at no charge in order to offset methanol usage at the Budd Inlet Treatment Plant. They began discharging the high-strength waste to LOTT in April 2008. Other dischargers were also granted allowances, but their overall contribution was negligible.

Small Quantity Generator Mercury and Silver Reduction Efforts

A campaign to remove mercury and silver from wastewater produced by medical and dental practices continued to show significant results in 2008. The campaign included hazardous waste disposal education provided by Thurston County Environmental Health, and disposal options for silver-bearing waste provided by the County and LOTT. The intent of the campaign, which began in 2004, was to reduce the amount of mercury and silver entering the environment via wastewater treatment plant discharges and other sources.

Thurston County’s small business hazardous waste collection facility (HazoHouse) and the LOTT Alliance purchased on-site silver recovery
systems in 2006, and began offering free waste disposal services to medical and dental practices. These systems remove silver from x-ray waste utilizing special filters, allowing for recovery and recycling of the silver by a local metal refining company. Since installing the recovery systems, Thurston County and LOTT have collected and treated nearly 2,900 gallons of silver-bearing wastewater, with a total of 850 gallons collected in 2008.

Since installing the recovery systems, Thurston County and LOTT have collected and treated nearly 2,900 gallons of silver-bearing wastewater, with a total of 850 gallons collected in 2008.

Like silver, mercury is also managed using on-site treatment systems. The Department of Ecology has required dental facilities to manage mercury waste by installing State-approved mercury amalgam separators since 2005.

Together, these two programs have produced notable results. In 2008, LOTT measured an average of about 2 ounces of silver and 0.32 ounces of mercury entering the Budd Inlet Treatment Plant in the raw wastewater. After treatment, an average of 0.12 ounces of silver and 0.007 ounces of mercury were measured in the final effluent discharged to Budd Inlet. These numbers equaled a 44% reduction in mercury loadings and a 70% reduction in silver loadings in the raw wastewater and final effluent since 2004. In addition, analysis of biosolids produced at the LOTT treatment plant in 2008 confirmed a 52% decrease in silver loadings and a 17% decrease in mercury loadings since 2004. Reductions for both silver and mercury levels coincided with the technical assistance campaigns. These reductions occurred during a time period when biosolids production increased by 46%. These results are consistent with those achieved through similar technical assistance efforts elsewhere in the State.

Pretreatment Program Expansion Proposal

LOTT’s Industrial Pretreatment Program has operated successfully for the last eight years with one full-time staff position. Despite that success, the inspection of LOTT’s Industrial Pretreatment Program performed by the Department of Ecology in July 2006 identified the following needs:

Updating of the Industrial User Survey Procedures – The federal pretreatment regulations and LOTT’s NPDES Permit require that LOTT develop and maintain an ongoing Industrial User Survey that identifies and locates all possible industrial users, which might be subject to LOTT’s program. LOTT fulfilled this requirement at a very limited and basic level over the years, and Ecology requested that LOTT expand its survey efforts to ensure they are thorough and defensible.

Higher Priority to the Oversight of Minor Industrial Users – Ecology stated in their report that pretreatment programs were finding resources applied to Minor Industrial User (MIUs) controls do a great deal to prevent problems at treatment plants and improve the quality of biosolids and final effluent. Since LOTT does not have a MIU program, Ecology acknowledged that increased staffing would be required to administer uniform controls on the large number of MIUs in the LOTT
service area. LOTT has identified nearly 1,300 medium-to high-priority MIUs in past survey efforts, including dry cleaners (14), printers (32), medical services (185), dental services (94), veterinary services (15), automotive maintenance and repair (156), photo processors (23), laundries (2), aviation services (11), food products manufacturing (39), marine repair services (14), car washes and detailers (24), and food service establishments (677).

**Backup Pretreatment Program Administrator**

Ecology felt strongly that at least one other staff member should be cross-trained to implement the Pretreatment Program in case of any unforeseen circumstances. Ecology stated the most important areas for redundant competency are identifying new users, writing permits, inspecting permittees, sampling, data management, report review, annual reporting, and enforcement procedures.

To address these recommendations, LOTT staff presented recommendations in March and June 2008 visioning work sessions with the Board of Directors. Staff proposed that an Environmental Specialist position be created, with preliminary duties that would include developing, implementing, and maintaining a comprehensive electronic database for industrial users. This effort would accomplish three main goals:

- Develop the databases necessary to efficiently begin implementing technical assistance programs for select classes of MIUs
- Begin the training of a back-up staff member for Pretreatment Program administration

Board members were supportive, but expressed a preference for an educational and technical assistance outreach approach to MIUs, rather than a regulatory permit-based solution. Ecology concurred, and the Board approved addition of the new position as part of the budgeting process for 2009. An internal selection process was conducted in late 2008 and resulted in transfer of the Lab Technician to the new position, effective January 2009. Implementation of this program expansion will bring the Pretreatment Program into its next stage of efficiency and effectiveness, and fulfill the requests made by Ecology.

Board members expressed a preference for an educational and technical assistance outreach approach to Minor Industrial Users, rather than a regulatory permit-based solution.
Biosolids Management Program

The LOTT Alliance produced 9,189 wet tons of Class B Biosolids in 2008, an increase of 18% compared to 2007. This was attributed to several factors, including lower centrifuge dewatering efficiencies, an increase in septage loads, higher secondary process sludge yields due to lower temperatures, and an increase in process solids removal efficiencies. LOTT operates its biosolids distribution and use program based on a Biosolids Management Plan, produced for LOTT in 1994 by CH2M Hill. Consistent with its plan, LOTT maintains both temporary and emergency biosolids management options by securing contracts with multiple beneficial use or composting facilities.

Biosolids can be beneficially used as a fertilizer or soil amendment, reducing the use of agricultural chemical fertilizers and increasing soil productivity by improving soil texture and water-holding capacity. Class B Biosolids can also receive further treatment through composting, and be a key ingredient in composted soil blends used for landscaping.

In 2007, one of LOTT’s contractors, a composting operation, had ceased business due to State and County regulatory violations. Several attempts were made during late 2007 and 2008 to identify a new composting contractor in Thurston or adjacent counties. Several landowners expressed interest, with one existing yard- and food-waste composting operation in Thurston County looking especially promising. This would have enabled LOTT to continue to have a Class A product produced, which is a long-range goal of the utility. This strategy was supported by the Board of Directors. Unfortunately, the owner of the Thurston County facility chose not to extend his operation to include biosolids, and the other landowners decided to develop their properties for other uses.

Throughout 2008, LOTT continued shipping biosolids to Fire Mountain Farms, Inc. in Lewis County for land-application to range, feed crop, and forest lands during the dry-weather months. During wet-weather months Fire Mountain Farms stores LOTT’s biosolids. The ten-year contract expired on December 31, 2008. A new, five-year contract, with a five-year optional extension, was negotiated and gained LOTT Board of Directors’ authorization on December 12, 2008. To assure reliability, alternative biosolids management options have also been arranged with two different land-application operations in eastern Washington on a standby basis.

The LOTT Alliance is permitted for biosolids distribution and use through the General Permit for Biosolids Management, issued by the Department of Ecology. The permit governs the quality of biosolids applied to land or transferred to other facilities. Approximately 350 facilities in Washington are covered by the permit, including LOTT and the beneficial use facilities contracted to land-apply LOTT’s biosolids. The permit requirements include, but are not limited to, addressing pollutant concentrations, pathogen reduction, vector attraction reduction, agronomic rates of application, methods and timing of application, buffers to wells and other sensitive areas, crop harvest restrictions, and site management and access. Local County Health Departments permit composting facilities in much the same manner.
Recycle Services, an affiliate of Harold LeMay Enterprises, Inc. based in Centralia, Washington, had a contract with LOTT through March 31, 2009, to haul biosolids year-round. In 2008, diesel fuel prices increased from $2.52 per gallon in December 2005 to a high of $4.85 per gallon. Recycle Services notified LOTT in August 2008 that they would like to renegotiate the contract to increase the hauling rate from $14.93 to $22.00 per ton, with a possible diesel fuel surcharge, to offset the higher fuel costs. However, their equipment limitations restricted the amount and frequency of biosolids hauling capabilities. LOTT staff determined that biosolids hauling services could be improved if a contractor with multiple trucks and trailers with higher hauling capacities could be found for the same or lower proposed rate. In November 2008, the hauling contract with Recycle Services was terminated. LOTT entered into a new hauling contract with Groat Brothers, Inc. of Woodland, Washington, which operates a fleet of truck and trailer combinations that have a hauling capacity of over 30 tons, at a negotiated hauling rate of $19.00 to $21.00 a ton.

Biosolids can be beneficially used as a fertilizer or soil amendment, reducing the use of agricultural chemical fertilizers and increasing soil productivity by improving soil texture and water-holding capacity.

<table>
<thead>
<tr>
<th>Biosolids Contractors</th>
<th>Wet Tons Managed</th>
<th>Rate Per Wet Ton</th>
<th>Total Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Mountain Farms, Inc. – Beneficial Use Facility</td>
<td>9,189</td>
<td>$27.27</td>
<td>$250,584</td>
</tr>
<tr>
<td>Recycle Services – Hauler</td>
<td>7,879</td>
<td>$14.93*</td>
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</tr>
<tr>
<td>Groat Bros. Inc. – Hauler</td>
<td>1,310</td>
<td>$19.00</td>
<td>$24,890</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$393,095</strong></td>
</tr>
</tbody>
</table>

* Average rate
Environmental Evaluations

LOTT's conducts thorough environmental evaluations to ensure its construction projects will have minimal environmental impacts. Two environmental evaluations were completed during 2008 under the State Environmental Policy Act, and a third received additional evaluation under the State Environmental Review Process.

Administrative/Education Center and Water Quality Laboratory

A Determination of Nonsignificance and Environmental Checklist for the Administrative/Education Center and Water Quality Laboratory Project were released for public review on January 2, 2008. Two comment letters were received—one from the Department of Ecology and one from a citizen expressing concerns about potential environmental contamination in adjacent properties.

Kaiser Road Forcemain

An Environmental Checklist and Determination of Nonsignificance for the Kaiser Road Forcemain Project were released on February 21, 2008, for public, tribe, and agency comment. One comment letter was received by the March 6 deadline. It was from the Department of Ecology, with reminders of erosion control measures and requirements to address any known or suspected site contamination.

Primary Sedimentation and Biological Treatment Facilities Improvements

In 2008, LOTT initiated an environmental review to assess impacts of proposed treatment process improvements at the Budd Inlet Treatment Plant. The proposed upgrades would provide increased levels of treatment and maintain LOTT's facilities at optimal operational efficiency in compliance with increased performance requirements and increasingly stringent discharge limits. The project involves a complete upgrade of the primary sedimentation basins, including construction of some new tanks adjacent to the old ones. The intent of the process control improvements will be to optimize nitrogen removal efficiency and capacity, and reduce energy use. Consultants and staff are analyzing the complete secondary treatment and biological nutrient removal process to identify the best improvements for both process control and increased capacity. The project will likely reconfigure the existing first anoxic, first aeration, second anoxic, and final aeration basins, as well as the excessive recycle pumping rates required in the current plant configuration.

The intent of the process control improvements at the Budd Inlet Treatment Plant will be to optimize nitrogen removal efficiency and capacity, and reduce energy use.
Because of the intent to apply for funding under the State Water Pollution Control Revolving Fund (SRF) to support design and construction of these upgrades, it was necessary for the environmental review to satisfy requirements of the State Environmental Review Process (SERP). This review process is required if state and federal funds are used for the planning, design, or construction of wastewater facilities. Meeting these requirements ensures that both National Environmental Policy Act and State Environmental Policy Act (SEPA) requirements are satisfied.

An environmental report for the primaries and process control improvements was completed on October 31, 2008, for submission to the Department of Ecology with a State Revolving Fund loan application for project design. This report is required as part of the SERP, which includes consultation with federal agencies as well as the tribes, and state and local agencies. Letters to applicable agencies and tribes were mailed October 15 inviting comments. The environmental report also documented previous evaluations conducted by LOTT under SEPA, including a checklist evaluating the Budd Inlet Treatment Plant Master Plan in July 2007.

A Biological Assessment and Essential Fish Habitat Assessment for the Budd Inlet Treatment Plant was also completed as part of this process, and was submitted to Ecology on December 11. The intent is to facilitate review of the project under the Endangered Species Act. The assessment was prepared for Ecology to submit to the U.S. Environmental Protection Agency, with a request to initiate consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service.
Watershed Projects

TMDL Technical Report

The long-awaited draft Technical Report for the Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load (TMDL) Study was released by the Department of Ecology in October 2008. Findings were reviewed with the Technical Advisory Group, including LOTT staff representatives, on October 23. LOTT staff submitted comments on the draft report in December.

Portions of the Deschutes River, Capitol Lake, Budd Inlet, and their tributaries are on the Clean Water Act Section 303(d) list of impaired waters for at least one of the following parameters: fecal coliform bacteria, temperature, dissolved oxygen, pH, or fine sediment. Of particular concern to LOTT is the Budd Inlet listing for dissolved oxygen. The draft report notes that marine dissolved oxygen levels in Budd Inlet are affected by point source discharges including LOTT’s Budd Inlet Treatment Plant, even though the plant operates with a nitrogen removal system during the sensitive months. The report further cites high stormwater flows entering the plant as decreasing treatment efficiency at the facility and having the potential to contribute to combined sewer overflows. Nonpoint source nutrient loads from the Deschutes River and other direct tributaries, due to a combination of human and animal sources, also contribute to Budd Inlet’s low dissolved oxygen levels. High seasonal organic matter levels from Capitol Lake, particularly during algae blooms in late summer, also contribute.

The draft report notes that the combined effects of current point and nonpoint sources exceed the loading capacity of both Budd Inlet and Capitol Lake for nutrients, either with the lake in place or under a potential future estuary alternative. A key conclusion is that load reductions are needed under either alternative. Results of this process could have significant implications for LOTT.

A new advisory committee will be convened in early 2009 to address wasteload and load allocations. An implementation strategy will be developed once allocations have been determined. A Water Quality Improvement Report will be prepared and submitted to the U.S. Environmental Protection Agency for approval.

Deschutes River Habitat Project

In cooperation with the Squaxin Island Tribe, LOTT has been evaluating a site off the main stem of the Deschutes River for a possible habitat protection project. As most recently envisioned, the stream was evaluated as a winter-time high-flow refuge for salmon. Although Brown and Caldwell completed a draft report in December 2007, further consideration of this project was on hold during 2008 while site development and stream flow issues were being addressed by the property owner, the tribe, and other parties.

Meanwhile, the draft TMDL technical report, which was issued by Ecology in October 2008, identified concerns related to elevated nitrogen limits in the stream being considered for this project. Issues with dissolved oxygen, pH, and bacteria were also identified. Thus, the TMDL report findings may reinforce the value of habitat work at this site and support other activity as well. Additional studies will be needed to confirm the feasibility of enhancing the high-flow refuge habitat at this site and identify potential water quality improvement steps. Further work is expected to occur in 2009.
Pharmaceuticals and Personal Care Products

The presence of trace levels of pharmaceuticals detected in the environment has raised media and public questions about the potential human and environmental health effects of these constituents. Among the compounds of interest to health and environmental professionals, and the public, are pharmaceuticals and personal care products (PPCPs). Products containing these compounds are commonly used by people and agriculture virtually everywhere. One pathway for these compounds to enter the environment is via treated water from wastewater treatment plants. Some of these constituents can be removed in the wastewater treatment process to a high degree, others are removed less efficiently, and some pass through to receiving waters. Although the U.S. Environmental Protection Agency requires water and wastewater utilities to test for long lists of contaminants, most pharmaceuticals are not on those lists. As more stories have appeared about studies being done nationally and internationally, LOTT has received questions about the potential presence of the compounds. As LOTT was seeking meaningful ways to address this issue, two opportunities arose during 2008.

EPA/Ecology PPCP Removal Study

In February 2008, LOTT received a request from the U.S. Environmental Protection Agency (EPA) Region 10 office to participate in a study comparing PPCP removal levels at various treatment plants. The study is intended to compare the relative effectiveness of wastewater treatment technologies at plants discharging to Puget Sound. Some scientific studies have shown that wastewater treatment plants with biological nutrient removal systems do a better job of removing pharmaceuticals and personal care products from wastewater than conventional secondary treatment. Since LOTT’s Budd Inlet Treatment Plant is the only plant discharging to Puget Sound that uses advanced biological nutrient removal capabilities, it was important that LOTT participate in the study. The state Department of Ecology joined EPA in conducting the study.

To compare results from LOTT’s system, the study also included two other regional treatment plants – Pierce County’s Chambers Creek Wastewater Treatment Plant and the City of Puyallup’s Wastewater Treatment Plant. These are secondary treatment facilities that do not provide enhanced biological nutrient removal. A representative sample of biosolids was also collected from each treatment plant to measure PPCPs captured in the solids as a result of the treatment. Sampling was also conducted at the City of Hayden, Idaho, Wastewater Treatment Plant to determine PPCP removal effectiveness by chemical addition and filtration treatment used for phosphorus removal. Samples were analyzed through two different laboratories, including a private lab in Vancouver, B.C. and Ecology’s Manchester Environmental Laboratory.

Samples were collected on one day only, August 19, 2008. At the Budd Inlet Treatment Plant, those samples included influent, effluent, biosolids, and reclaimed water. In order to compare the efficiencies of membrane bioreactor treatment technology to remove PPCPs, LOTT staff determined that gathering data from the Martin Way Reclaimed Water Plant would also be beneficial. The EPA study budget didn’t allow for any extra sample analyses, so LOTT paid the added costs to analyze those samples. Analysis and report development will take several months and will not be available until sometime in 2009. Although very limited in scope, this study should provide information about the amount of PPCPs in municipal wastewater and relative effectiveness of nutrient removal and other technologies to remove these constituents.
Protect Teens from Toxins Grant

The Environmental Health Division of Thurston County Public Health and Social Services received a Coordinated Prevention Grant from Ecology in 2007 to begin the Protect Teens from Toxins education campaign. The campaign provides an in-class presentation to middle and high school students regarding personal care products and the potential that certain compounds in these products may not be good for human health or the environment. Marshall Middle School expanded their participation to include a tour of the Budd Inlet Treatment Plant to show the students where compounds travel after they flow down the drain. The program has been so popular with local schools that Thurston County approached LOTT to formalize cooperation and apply for additional funding from Ecology to continue the program.

Under an amendment to the original grant, Thurston County received $20,000 from Ecology to continue classroom presentations through December 2008. LOTT contributed a match of $5,000 to incorporate LOTT messages in the presentations and to bring several classes to the Budd Inlet Treatment Plant for tours.

An interlocal agreement, approved by LOTT’s Board in September 2008, allows LOTT and Thurston County to work together to educate teens to be thoughtful about the products they choose to use, and how they dispose of them. This program reaches teens at a time when they are beginning to make individual decisions about product purchases. The goal is to decrease the use of toxic products, protecting teen health and minimizing the disposal of products to the wastewater system.

The EPA/Ecology study should help provide information about the amount of PPCPs in municipal wastewater and relative effectiveness of nutrient removal and other technologies to remove these constituents.
East Bay and Budd Inlet
Chapter 4
East Bay and Budd Inlet
Cooperative Actions to Maximize Public Benefits

As a partnership organization itself, LOTT Board and staff members clearly recognize the importance and value that come from working together to meet public needs.

Introduction

Cooperation and coordination with other agencies and organizations is critical to LOTT’s mission and operations. As a partnership organization itself, LOTT Board and staff members clearly recognize the importance and value that come from working together to meet public needs. Working with other agencies and organizations can help all the partners share critical information, leverage assets, achieve broader community goals, strengthen working relationships, and convey important public messages to broader audiences. In 2008, LOTT worked jointly with several other public entities on two major collaborative efforts – continuing work toward Energizing East Bay and Phase I of an effort for restoring Budd Inlet. Both projects offer significant environmental and other benefits for our communities.

Energizing East Bay

In the ongoing efforts to revitalize the East Bay area, LOTT, the Hands On Children’s Museum, City of Olympia, and Port of Olympia have continued working together to develop a series of exciting projects. Major milestones were reached during 2008 including completion of design and award of a construction contract for LOTT’s Administrative/Education Center, additional property purchase and sale agreements, interlocal agreements for purchase and cost-sharing for the Public Plaza parcel, deconstruction of the Port warehouse, achievement of a major fundraising goal for the Hands On Children’s Museum, and continued environmental cleanup investigations and planning. New renderings of the LOTT, Museum, and City Hall projects combine to further display the vision for this special area. Coordination of efforts is assured through regular meetings of the executives and project staff, project managers, and communications staff members.
Property Purchase Progress

In 2007, the Port and LOTT entered into an agreement for LOTT to purchase a 1.9-acre parcel of land from the Port adjacent to LOTT’s Budd Inlet Treatment Plant. The property would be used for future treatment process expansion and potential future extension of the Education Center. The purchase price was to be $1,035,000, less a $235,000 environmental cleanup credit. In June 2008, the agreement was amended. As the result of a survey, the parcel size was adjusted to 1.74 acres, thus the price was reduced to $949,225 less the $235,000 environmental credit. The outside closing date was also extended to October 31, 2009. If suitable conditions exist, the closing date can be adjusted to an earlier date. Closing is contingent upon completion of the infrastructure improvements, since the property cannot be subdivided until infrastructure requirements are met. This also affects closing on the Hands On Children’s Museum and Public Plaza parcels, as well as any potential transactions on the remaining East Bay sites.

LOTT’s Administrative/Education Center and Water Quality Laboratory

LOTT’s new Administrative/Education Center will be the first of the East Bay area projects to begin construction. Following completion of design, a construction contract was awarded to John Korsmo Construction in December. Designed by the Miller-Hull Partnership, the building has been designed to meet LEED Platinum certification standards.

This project was identified in the Budd Inlet Treatment Plant Master Plan. It will bring together all LOTT staff on the treatment plant site, eliminate the need for leased office space, bring the laboratory up to current standards, and provide the base to expand LOTT’s Education Program. The project includes a new building with 24,000 square feet of space for business offices, an Education Center, and new Board Room, plus remodeling of an existing 9,000 square foot building to house an expanded Water Quality Laboratory, training room, and staff break room. A reclaimed water fountain will spill into a pond-like water feature that will extend across the front of the new building.

Some of the special environmental features of the new building will include a green roof, maximized use of natural light, a co-generation system using methane gas for generating heat and electricity, demonstration alternative low-flow fixtures in the Education Center restrooms, and use of reclaimed water for toilet flushing and irrigation. In addition, re-milled wood from the deconstructed Port warehouse will be used for ceilings and paneling in the Education Center and Board Room.

This project will bring together all LOTT staff on the treatment plant site, eliminate the need for leased office space, bring the laboratory up to current standards, and provide the base to expand LOTT’s Education Program.
To avoid any potential construction delays from property transfer issues, LOTT designed its new Administrative/Education Center building to fit completely on the south end of the existing Budd Inlet Treatment Plant property. The adjoining 1.74-acre parcel that LOTT is purchasing from the Port will provide space for future extension of the reclaimed water pond feature across that property and over to the planned Public Plaza, and future expansion of the Education Center, but construction of the current building is not dependent on that property being available.

For more information about the building design and construction, see Chapter 2. For information about development of the Education Center exhibits and program, see Chapter 5.

**LEED stands for Leadership in Energy and Environmental Design.** It’s a national green design and construction program to provide rating systems that are voluntary, consensus-based, and market-driven, based on accepted energy and environmental principles, and that strike a balance between established practices and emerging concepts. There are several categories in which LEED points can be earned, the total of which determines the LEED certification level of a building. Certification levels can be (from lowest to highest) Certified, Silver, Gold, or Platinum.

**Hands On Children’s Museum**

Design of the new regional Hands On Children’s Museum is being done by the same architect as LOTT’s building. In August 2008, the Olympia City Council authorized contracting with Miller-Hull to move from conceptual design to detailed schematic design of the new Museum, which will feature 27,000 square feet of indoor space and more than an acre of outdoor exhibits and on-site parking. The new Museum will be a LEED certified Silver facility, to be built across the street from LOTT’s Education Center on a 1.86-acre parcel of East Bay property that the City of Olympia is purchasing from the Port. The City will own both the property and the eventual building, which it will lease to the Museum. A purchase and sale agreement was approved with the Port in April 2008. Schematic design was completed in December 2008, and new interior and exterior architectural renderings were produced.

The new facility will enable the Museum to expand its early learning center, increase access to the arts, and feature exciting new exhibits focused on water, woods, and the East Bay waterfront neighborhood. A multi-level climbing structure will lead visiting children to an eagle’s nest, and a two-story slide will return them to the ground floor. The outdoor learning center will be unique in Washington State and is designed to inspire a love of nature with a children’s garden, hands-on water feature, a wetland,
nature trail, mud pie pit, driftwood fort, numerous outdoor exhibits, and an outdoor art studio. Surrounded by gardens, water features, and even a fire ring, the facility is also designed to host after-hour events including family birthdays, reunions, and other celebrations.

The $18 million project represents an innovative public/private partnership. Funding will include about $9 million in private donations and grants, and $9 million in public contributions from tourism and economic development funds. The Museum had a goal of raising $12 million of that total by the end of 2008, which was successfully achieved.

**Public Plaza**

Planning for the Public Plaza took a new turn in 2008. The original plan called for the Port to develop the Plaza, splitting the costs among all of the lots in the East Bay Re-development. Following ongoing discussions, the revised approach was to transfer ownership of the Plaza to LOTT for use as a public area. With a focus on reclaimed water and water resource management and education, LOTT and the City would jointly develop and maintain the East Bay Plaza.

In April 2008, the LOTT Board authorized an interlocal agreement with the Port and City of Olympia concerning the Plaza property. It described responsibilities for purchase, design, environmental cleanup, development, and maintenance of the planned East Bay Plaza. Under the agreement, the purchase price is one dollar, design will be consistent with LOTT’s corporate mission, and development will be phased. The closing date is intended to be no later than October 31, 2009, consistent with transfer of the other properties.

In a July meeting, the Board approved a cost-sharing interlocal agreement with Olympia concerning Plaza construction, environmental remediation, and maintenance. Under the agreement, LOTT will assume design and construction costs of the reclaimed water feature, and the remaining Phase I costs will be shared equally between LOTT and the City. The two entities will also share the cost of environmental cleanup of the property, up to $366,850, as well as 7% of the total East Bay Redevelopment infrastructure costs necessary to accomplish the East Bay Short Plat. The Port has estimated total East Bay infrastructure costs to be in the range of $5 million to $7 million.

This new strategy, while deeding a valuable piece of Port property to LOTT, also increases the investment LOTT will need to make in the Plaza. Although this change requires a greater investment, it also provides greater benefits to LOTT’s commitment to the development of reclaimed water use, water conservation, and water resource education. This approach is consistent with the development of LOTT’s new Education Center and continues what has been very successful at the Hawks Prairie Ponds and Recharge facility. LOTT invested significant dollars in developing the Hawks Prairie site into a public park including trails, ponds, and educational kiosks. That facility has become an icon both locally and statewide, displaying LOTT’s commitment to water reuse and technology. The Hawks Prairie facility has been the site of numerous
tours since its development, and has been instrumental in enhancing the perception of LOTT and reclaimed water in the community. When developed, the East Bay Plaza will provide the same opportunity to enhance LOTT as an organization, continue water conservation and water reuse emphasis in the region, and provide a gateway to the new LOTT Education Center, the Hands On Children’s Museum, and the new East Bay redevelopment area.

The current estimate of LOTT’s share of the initial development of the Plaza will be approximately $750,000 more than the amount of $375,000 previously committed. This figure includes environmental cleanup and infrastructure costs. The original $375,000 was committed as part of the purchase and sale agreement LOTT executed for the 1.74-acre parcel of land being purchased from the Port, and budgeted in the 2008 Capital Budget.

**East Bay Redevelopment Site Preparation, Infrastructure, and Marketing**

For the remaining 13.3 acres along East Bay, the Port of Olympia is planning to develop a pedestrian-friendly, mixed use district. The plans to revitalize this area reflect priorities expressed by constituents and stakeholders during the Port’s 2003-2004 East Bay Master Plan public process. Uses could include retail, office, lodging, dining, and housing. Port goals for the property include stimulating economic opportunity, with emphasis on mixed use development; creating an 18-hour activity hub through a mix of attractions; pursuing best-practice urban design to create pedestrian-friendly, accessible spaces, and fostering connectivity between the Port peninsula, the new Olympia City Hall and greater downtown.

Focus during 2008 was on deconstruction of the old warehouse on the site and completing design and permitting for infrastructure, including road, water, sewer, and other physical improvements to the site. This also included coordination with the Department of Ecology to determine environmental cleanup requirements to support an interim action plan for installing the infrastructure. Completion of the infrastructure is required before final subdivision of the property can take place. Final subdivision is needed to close the property purchases for the LOTT, Hands On Children’s Museum, and Public Plaza parcels. Infrastructure construction is expected to be completed during 2009, prior to the October 31 closing date.

In November, the Port issued a Request for Qualifications for qualified developers. Six submittals were received by the end of the year, successfully reflecting the kinds of development the Port was looking for. Short-listing and a Request for Proposals process were scheduled for early through mid-2009.

**Phased Environmental Cleanup**

By working together to develop these projects, the partners will ensure the comprehensive environmental cleanup of the East Bay area. The intent of all the parties is to safely restore these sites for beneficial public uses. When cleanups are completed, the East Bay sites will be able to sustain all planned uses while substantially reducing risks to the public and environmental health. Cleanup will be completed in phases, as each individual project gets underway. The completed projects will provide a rare cluster of environmentally sustainable buildings, serving as models of environmental responsibility.
Low levels of contamination have been found in portions of the properties and in underlying groundwater. Historical uses involved lumber mills and businesses associated with fabrication of wood products from the late 1800s through the mid-1900s. In those days, it was common practice to burn industrial refuse on-site in a burn pile. These businesses also would have used petroleum-based compounds to operate and maintain equipment. Initial East Bay testing was done by the Port in 2007. LOTT also conducted initial testing in 2007 on its Administrative/Education Center site and the adjoining parcel LOTT planned to purchase.

The individual organizations will conduct cleanup related to their project areas. LOTT will conduct the cleanup on the adjoining property it is purchasing from the Port and on its existing treatment plant site, through the Voluntary Cleanup Program under the Washington State Model Toxics Control Act (173.340 WAC). The other cleanup actions will be conducted under Agreed Orders with the Department of Ecology. The City will work with Ecology on cleanup of the Hands On Children’s Museum site. LOTT and the City will work with Ecology for cleanup of the Public Plaza site. The Port will be responsible for cleanup of the other East Bay properties, working with Ecology, and for ongoing groundwater monitoring under all the sites. The City has also been working with Ecology on cleanup of the selected City Hall site.

The Washington State Department of Ecology and the Port of Olympia have entered into an Agreed Order to begin cleanup of contamination at the overall East Bay Redevelopment site. The Agreed Order is a legal document under the Model Toxics Control Act, in which the Port agrees to perform remedial actions at the site in accordance with the provisions of the order. This requires the Port to develop a draft Remedial Investigation (RI) Work Plan outlining how the nature and extent of contamination will be determined, conduct a Remedial Investigation, and prepare a feasibility study to develop and evaluate cleanup action alternatives to enable selection of the most appropriate cleanup action. The cleanup action can be executed in phases through interim actions (partial cleanup) to remove contaminated material and expedite public and environmental health protection. Ecology conducted a public comment period on this order from early September through early October 2008. The Port is currently seeking approval of an Interim Action Plan (IAP) to enable cleanup of the site along the proposed roadway and infrastructure alignments. This will enable the parcels to be transferred and individual site cleanups to commence. Public comment period for this IAP is planned for March-April 2009. The Port also submitted the RI Work Plan for the entire East Bay site in late 2008 and is awaiting Ecology approval to commence fieldwork. This information will accompany the work completed in 2007 by the Port under the Voluntary Cleanup Program.

Prior to the development of the LOTT Budd Inlet Treatment Plant property where the Administrative/Education Center will be constructed, several permit approvals were required. One of the major environmental approvals needed was a positive opinion letter from the Department of Ecology regarding LOTT’s workplan for the site under the Voluntary Cleanup Program. LOTT went through several iterations of the workplan and received a positive opinion letter, dated July 25, 2008, as part of the initial phase of Environmental Site Assessment work on the project site. The workplan indicates where and how many soil and groundwater samples will be taken to provide the most accurate information regarding potential soil contamination. Results will be submitted to Ecology. A contract with Brown and Caldwell to conduct the additional Phase II Environmental Site Assessments was approved by the LOTT Board of Directors in September 2008. This new assessment phase includes borings to collect soil and water samples. Some of the borings will be done prior to commencement of construction, and some will be taken during construction.
Restoring Budd Inlet

In 2008 the City of Olympia, City of Tumwater, Thurston County, Port of Olympia, LOTT Alliance, and Washington State University Thurston County Extension officially kicked-off a process to explore how their shared interests in Budd Inlet protection and restoration might support joint efforts to improve the health and vitality of the Inlet. A Phase I process included several information-gathering and information-sharing activities during the year, in an effort to develop an action plan.

The Threats to Budd Inlet and Puget Sound

During the next 15 years, the population growth in the Puget Sound Basin will increase from 3.8 million to 5.2 million people. With this additional 1.4 million people comes a variety of potential threats to the water quality of Puget Sound and Budd Inlet. In 2007, Governor Christine Gregoire created the Puget Sound Partnership with the goal of creating a healthy Puget Sound by the year 2020. The greatest threats to Budd Inlet and the greater Puget Sound are from population growth and its impacts, including stormwater runoff, untreated discharges, transportation related pollutants, and the loss of natural areas that previously treated waters entering lower Budd Inlet.

Creating a Consortium

This cooperative effort was initiated in June 2007, when the Olympia City Council and Port Commission held a joint meeting with Jay Manning, the Director of the Department of Ecology, about plans for cleaning up Puget Sound. Mr. Manning indicated that the State was looking for coalitions of governments that could come together to provide leadership examples for how the restoration and cleanup of Puget Sound could begin. City Council members and Port Commissioners committed to exploring the possibility of creating an effective partnership to look at the cleanup and restoration of lower Budd Inlet as a local part of the Puget Sound Partnership efforts. During 2007 and early 2008, representatives from Olympia, Thurston County, the Port, LOTT, and the WSU Extension met to craft a process to make that happen.

Discussions led to an interlocal agreement that set out an initial action strategy for lower Budd Inlet. It called for participation in a cooperative effort to develop an action plan for Budd Inlet cleanup and restoration activity. The agreement was approved by the LOTT Board of Directors, Olympia City Council, Thurston County Board of Commissioners, and the Port Commission in April 2008. The WSU Extension signed it in May. Through an amendment approved by all parties in June, the City of Tumwater also became a participant.

To provide leadership in the restoration and cleanup of Puget Sound, representatives from Olympia, Thurston County, the Port, LOTT, and the WSU Extension met to craft a process to make that happen.
Recognizing that consultant support would be needed, the group retained the services of Linda Hoffman and Elizabeth McManus (Ross and Associates) to assist with this endeavor. The Washington State Department of Ecology funded the effort with a $56,541 grant based, in part, on the potential for inter-jurisdictional efforts to support the many decisions about environmental cleanup needed on or in the lower Inlet. The WSU Thurston County Extension convened the effort and acted as the consortium’s fiscal agent. Each of the jurisdictions and agencies devoted staff and elected official time during the year to build a foundation for future action.

Phase I Activities

Phase I involved five major activities in which LOTT was an active participant:

1. **Review of major ongoing studies and assessments, cleanup projects, development/redevelopment activities and other special efforts related to Budd Inlet restoration** – The results of this review included a high-level, integrated timeline showing products and key milestones for efforts related to Budd Inlet restoration, and a list of programs and projects related to Budd Inlet organized by jurisdiction/organization.

2. **Interviews with key staff and leadership in the initial sponsoring jurisdictions and with potential partners** – More than 20 interviews were carried out with staff and leadership from the jurisdictions. Interviews were also held with State agencies that might participate in Budd Inlet restoration activities with funding or other support, including the Departments of Ecology, Health, Fish and Wildlife, Natural Resources, General Administration, and the Puget Sound Partnership.

3. **A community forum to gather public input on Budd Inlet restoration** – The evening forum was held on June 26. Displays were set up in the foyer, including a LOTT display. More than 75 people attended and answered the following questions through facilitated table discussions:

   - What do you appreciate or value about Budd Inlet now, how do you use the Inlet, and what activities and uses would you like it to support in the future?
   - What do you see as the main challenges facing Budd Inlet now and in the future?
   - What are the most important things for the local governments to work together on to successfully restore Budd Inlet?

4. **Support for meetings of the jurisdictions’ management group, staff groups, and groups of communications and outreach specialists** – Meetings of staff and communications groups were focused on assessment of ongoing activities, identification of potential partnership projects for consideration by the managers group, planning the community forum, and scoping potential Phase II activities. Meetings of the managers group were focused on synthesizing the results of the information gathering efforts and making decisions about the potential for the jurisdictions to work productively together on Budd Inlet restoration.

5. **Preparation of a Phase I report** – The Budd Inlet Restoration Partnership: Phase I Report was published in December 2008, including detailed summaries of interview and community forum input.
Interviews Characterize LOTT’s Role in the Inlet

The group interviews conducted with LOTT staff and Board members provided a unique opportunity to focus on LOTT’s role in the Inlet. A group interview with LOTT staff was conducted in late May, and a special work session interview with the Board was conducted by the consultants in June. Board responses to the discussion questions paralleled staff input. They addressed seven questions:

1. What is your organization’s interest/stake in Budd Inlet? – Board members and staff noted that LOTT operates a wastewater treatment plant that discharges to Budd Inlet. As a point source, LOTT is a crucial player in the Inlet. Multiple upgrades have taken place since the plant started operation in 1952. It’s important to LOTT to maintain its permit to discharge to the Inlet. Efforts to make the Deschutes River as clean as possible may produce greater results in the Inlet than attempting to further upgrade LOTT’s discharge.

2. What are your organization’s main responsibilities related to Budd Inlet management? Cleanup? Restoration? – LOTT’s prime responsibility is managing what it discharges to the Inlet. As an obvious focal point, LOTT has natural leadership and stewardship roles.

3. What problems related to Budd Inlet is your organization most concerned about? How complete do you think the information is on Budd Inlet threats and problems? What is missing? – Since LOTT needs to rely on Budd Inlet to do its job, the utility has a natural concern about water quality in the Inlet. Decreasing water quality, due to any sources, would cause further discharge restrictions. Because of the greater water quality concerns, LOTT’s ability to discharge treated water is directly impacted by people and actions that LOTT has no control over. As a point source, LOTT is likely to be the first place targeted for restrictions. Sea level rise concerns could also lead to major infrastructure changes. Currently there’s a lot of data, almost too much information, but not in a form that it can be easily put together. As a result, it’s difficult to engage people in something this complex.

LOTT Relies on Budd Inlet

LOTT discharges advanced secondary treated water into Budd Inlet from its Budd Inlet Treatment Plant. Over the years, major investments in upgrading the treatment plant have continually improved the quality of effluent being discharged. With the addition of nitrogen removal in the early 1990s, the Budd Inlet Treatment Plant became the only municipal treatment plant on Puget Sound treating to this high a level. Adding reclaimed water production to the treatment plant was another step in improving water quality. Although future new treatment capacity is being added through satellite reclaimed water plants and reclaimed water distribution and use, it will take decades to realize the full potential. It is critically important for LOTT to be able to preserve the existing discharge capacity to help manage wastewater from our partner communities. The approach offered through this cooperative program will help assure that the parties work together, directing resources to rehabilitation efforts that will provide the greatest environmental benefit, as cost-efficiently as possible.
4. What are your organization’s long-term goals and vision for Budd Inlet? How will it be used? What will it look like? What activities will it support? How near or how far do you think we are from achieving those goals? – Recognition of shared responsibility and accountability for the health of Budd Inlet is an important goal. It would be desirable to see clean, pristine water, with kids playing out there without warning signs, and with the ability to support recreational activities like swimming, fishing, and shellfishing. An improved Budd Inlet would enhance quality of life and livability. LOTT could participate in working on projects and cleaning water to the point that LOTT’s permit would no longer be threatened.

5. What is working well in Budd Inlet management and restoration, and why? – There’s greater awareness of the issues and the importance of cooperation. LOTT is part of this collaboration with the jurisdictions and the Port, and wants to also work with the Squaxin Island Tribe, Capitol Land Trust, and others with shared goals. LOTT’s upgrades to the Budd Inlet Treatment Plant over time have significantly improved the quality of the discharge, and the move to reclaimed water will continue that commitment. Through the Budd Inlet Scientific Study in 1997-1998, LOTT has contributed a lot to elevate the level of knowledge about Budd Inlet.

6. What are the key challenges, and how might those challenges be overcome? – The task is overwhelming; almost everything everyone does impacts the environment. Many factors are beyond LOTT’s control. The citizenry needs to buy into it, and getting individuals to take ownership is a huge task. Restoration will take a lot of money. Efforts may be distributed too thin; it may be necessary to refocus efforts and resources on two or three key solutions.

7. What do you see as the main opportunities for the jurisdictions to work together on Budd Inlet restoration? Do you have ideas about how you would like to work together, or what form a jurisdictional partnership might take? – Suggestions included taking an inventory of what people/organizations are doing, taking advantage of knowledge and experiences from other projects, conducting an updated Water Quality Summit, and trying to work with school districts. Although each of the consortium partners has made a commitment to be part of this, the level of knowledge is uneven among elected officials. It was noted that LOTT is unique as a central place where the four local jurisdictions regularly talk about water quality issues.

LOTT’s upgrades to the Budd Inlet Treatment Plant over time have significantly improved the quality of the discharge to Budd Inlet, and the move to reclaimed water will continue that commitment.
Summary of LOTT Projects Related to Budd Inlet

This table includes actions and projects identified by LOTT staff as part of the report summarizing past and ongoing projects related to Budd Inlet.

<table>
<thead>
<tr>
<th>Water Quality Projects</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budd Inlet Treatment Plant Upgrades</strong></td>
<td>Nitrogen removal system added in 1994 to provide advanced secondary treatment of wastewater. Production and distribution of Class A Reclaimed Water was fully implemented in 2006.</td>
</tr>
<tr>
<td><strong>Budd Inlet Treatment Plant Improvements</strong></td>
<td>About $97 million in improvements are planned for the Budd Inlet Treatment Plant to sustain the life of the treatment plant and further improve the treatment process, based on the Budd Inlet Treatment Plant Master Plan completed in 2006.</td>
</tr>
<tr>
<td><strong>Budd Inlet Scientific Study</strong></td>
<td>The LOTT partners invested over $3 million in an 18-month long scientific study of Budd Inlet (1996-1998) to examine to what extent the Inlet could be relied upon for continued and/or expanded discharge of the communities’ treated wastewater flows in the future. The final report was published August 1998.</td>
</tr>
<tr>
<td><strong>LOTT Education Center</strong></td>
<td>A new 2,400 square foot Education Center will be included in LOTT’s new administrative building on the grounds of the Budd Inlet Treatment Plant. The Education Center will include interactive exhibits for all ages that encourage stewardship and concern for water and to teach visitors about LOTT’s critical functions of wastewater treatment and reclaimed water production. A stream-like reclaimed water feature with accompanying interpretive elements will extend across the front of the Administrative/Education Center and across to a planned Public Plaza. Exhibits will encourage visitors to appreciate water as an essential resource. Education Center to open spring 2010, with an educational program to be developed over time. First phase of the Plaza development to be completed by late 2010.</td>
</tr>
<tr>
<td><strong>Habitat Enhancement and Preservation Projects</strong></td>
<td>LOTT joins with other organizations and entities to identify and complete preservation and restoration projects that improve conditions in the Budd Inlet watershed.</td>
</tr>
<tr>
<td><strong>Industrial Pretreatment Program</strong></td>
<td>LOTT administers a regional industrial pretreatment program required by the Department of Ecology as part of the NPDES Permit. Through a set of regulations appended to the LOTT interlocal agreement, the four LOTT partner jurisdictions have adopted identical pretreatment ordinances. The focus is on Significant Industrial Users and high-strength dischargers to prevent introduction of pollutants that could interfere with treatment processes, impact receiving waters (Budd Inlet) or biosolids quality, and/or threaten workers’ safety. The program is on-going. An annual report is submitted to Ecology by March 1 each year.</td>
</tr>
<tr>
<td><strong>Water Quality Monitoring</strong></td>
<td>LOTT gathers water quality information on Budd Inlet and LOTT’s discharge to the Inlet on a routine basis. LOTT has been monitoring these parameters since the early 1980s and has retained much of that data, which documents the continued improvement of water quality in Budd Inlet. LOTT will continue to monitor for these parameters as long as the treatment plant discharges to Budd Inlet, and as long as LOTT is required to do so under conditions of the NPDES Permit issued by Ecology.</td>
</tr>
<tr>
<td><strong>Water Quality Summit</strong></td>
<td>In May 2004, the LOTT Board of Directors hosted an interagency Water Quality Summit focusing on Budd Inlet.</td>
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</table>
Phase I Findings

The initial Phase I Budd Inlet Restoration work resulted in several findings. One finding noted that many other activities and studies related to the protection, cleanup, and restoration of Budd Inlet have been underway and will soon begin to yield results. The completion of these studies and the decisions and actions they will prompt, along with significant efforts towards development and redevelopment in the lower Inlet such as the East Bay Redevelopment, Percival Landing Redevelopment, the West Bay Park, the new Olympia City Hall, and the many environmental cleanup sites in the lower Inlet, create a unique opportunity to make significant progress on Budd Inlet restoration. The continuing studies include:

**Deschutes River/Capitol Lake/Budd Inlet Study** – The Deschutes River, Capitol Lake, and Budd Inlet Water Quality Study (Total Maximum Daily Load, or TMDL), will require a related water cleanup plan. LOTT has two staff members serving on the Technical Advisory Committee for the study, and will continue participation on a new group in 2009 to begin developing load allocations and the water cleanup plan.

**South Puget Sound Dissolved Oxygen Study** – LOTT has a staff member participating on the Technical Advisory Group for this study.

**Capitol Lake Adaptive Management Plan (CLAMP)** – The Capitol Lake Adaptive Management Plan will frame a decision about whether to maintain Capitol Lake as a lake or return it to an estuary. Although LOTT has not been a direct participant in this process, staff have made presentations to the CLAMP Steering Committee, and continue to monitor agendas, reports, and activities.

**The Budd Inlet Sediment Study** – Although this study does not involve LOTT, the area being studied is near the north outfall. LOTT staff have been monitoring progress and results.

An important finding of the Phase I work is that there is significant ambition and interest in Budd Inlet restoration among elected officials, jurisdiction staff, and the public. Residents care deeply about Budd Inlet and have strong views and aspirations for how to use and restore it. These aspirations range from fishing and shellfishing to maintaining working waterfronts, to tourism, recreation, and access. Some of these aspirations may seem in conflict with one another, or will frame important choices about how to undertake development and redevelopment projects and where these investments should be made. As local governments, the partnering jurisdictions are well positioned to sponsor and engage in a community-wide dialogue about the watershed and Inlet.

Residents care deeply about Budd Inlet and have strong views and aspirations for how to use and restore it; these aspirations range from fishing and shellfishing to maintaining working waterfronts, to tourism, recreation, and access.
Another key finding is that there is continuing interest and rationale for the jurisdictions to work together on Budd Inlet protection and restoration; however, more information is needed to ensure the right actions and projects are undertaken, and that they are carried out in a manner that will result in real progress towards restoration goals. In discussions with partnering jurisdictions, State agencies and the public, people consistently returned to the idea that the jurisdictions working together have the potential to be more creative and more effective than working individually.

Next Steps

A scope of services for Phase II activities was included in the Phase I report. After briefings to all of the consortium partners, it is anticipated that an amendment to the interlocal agreement will be initiated and Phase II will be implemented during 2009.

Phase II will be an initial implementation phase. It will include defining a shared vision and set of values for Inlet restoration and supplement the integrated timeline of restoration activities with an integrated map. A major task will include convening a one-day Budd Inlet Restoration Summit to analyze the list of potential projects and identify the highest priorities for a joint effort. From there, specific action plans for high priority projects would be created, including identifying lead and participating entities, workload assessments, and funding opportunities. Creation of a durable organizational structure and a final report are also goals for Phase II.

More information is needed to ensure the right actions and projects are undertaken, and that they are carried out in a manner that will result in real progress towards restoration goals.
Education and Communications
Chapter 5
Education and Communications
Designing New Public Programs

Education is integral to the success of LOTT’s mission. A good public education program paves the way for everything a utility does, by attracting new employees, creating public confidence in reclaimed water, and building public trust for upcoming projects and ongoing operations.

Introduction
From the beginning of its long-range planning efforts in the mid-1990s, LOTT has demonstrated a strong commitment to open and proactive public communications, including comprehensive public information and public involvement programs, and supportive public education efforts. Education is integral to the success of LOTT’s mission. A good public education program paves the way for everything a utility does, by attracting new employees, creating public confidence in reclaimed water, and building public trust for upcoming projects and ongoing operations. It also earns measurable economic returns, by delaying the need for new treatment capacity through water conservation.

Building a Cohesive Education Program
Public education takes on many forms at LOTT. During 2008 it became an even more major focal point than in the past, as alternatives for expansion of LOTT’s Education Program were considered in concert with detailed design of the new Education Center exhibits and implementation of LOTT’s first public art process. Ongoing activities, including tours, group presentations, and participation in public events continued to be core parts of LOTT’s existing public education efforts and will be integral components of the expanding Education Program. Because of the progressive approach to utility management and reclaimed water, LOTT was also invited to share information with various regional, national, and even international audiences.

Education Center Exhibit Planning
It was an important year in the development of LOTT’s new Education Center as Aldrich Pears Associates continued work on design of the exhibits in association with Miller-Hull Partnership, the building architects. Planning moved from 50% schematic design to completion of 100% design development. Throughout the process, both Aldrich Pears and LOTT staff worked to refine their interpretation of LOTT processes and how best to convey LOTT’s messages to the public.

In January, LOTT staff members visited Aldrich Pears Associates’ offices in Vancouver, British Columbia, for a work session on Aldrich Pears’ submittal for 90% schematic design. The visit also provided the opportunity to meet staff working on the project and to visit area museums to view other work by Aldrich Pears and gather ideas for LOTT’s Education Center.
Work sessions were held with the LOTT Board in February and March to review the 100% schematic designs for the exhibits, discuss budget considerations, and consider three different options for levels of funding. The Board agreed to a fabrication budget of approximately $1,445,438 to provide for more interactive elements and a greater emphasis on career activities.

The initial contract with Miller-Hull originally only included exhibit design through the schematic phase. During contract negotiations for the remaining design development and construction document phases, it became apparent that establishing a separate contract with Aldrich Pears would provide substantial cost savings. The LOTT Board awarded a design contract for the final phases to Aldrich Pears Associates in the amount of $336,148 at their May Business meeting.

Translating technical treatment processes into user-friendly displays and activities is a challenging task, therefore, input from LOTT staff was an integral part of developing and refining the exhibit designs. Aldrich Pears submitted 50% design development documents in August. LOTT staff held “open houses” to gather staff comments on the draft designs before consolidating comments, and delivering them to the design team. In September, 100% design development documents were submitted to LOTT, and another round of open house events for LOTT staff were held shortly thereafter. Comments were sent back to Aldrich Pears in October. Aldrich Pears and LOTT staff worked closely to fill-in information gaps and further refine the exhibit designs. Aldrich Pears returned to the December 10 Business meeting to present 100% design development to the Board.

In 2009, Aldrich Pears will complete the construction document phase of the design. They will assist LOTT in selection of fabricators for the exhibits. It is likely that several separate contracts will be needed, since the nature of the exhibits range from static graphic panels to manual interactive activities to electronic stations with computer animated activities. The goal is to have all the exhibits fabricated and installed in time for the grand opening of the Education Center in spring 2010.

Education Program Expansion

LOTT has been involved in public education for many years, through activities such as presentations for community groups, tours of the Budd Inlet Treatment Plant, displays at public events, and written materials including fact sheets and newsletters. In recent years, LOTT’s level of activity has gradually increased, in part because of new facilities such as the Hawks Prairie Reclaimed Water Satellite, new services including reclaimed water distribution and use, new and evolving issues affecting wastewater utilities, and growing interest from the community. However, LOTT’s activities have been somewhat sporadic, responding to community requests and individual project communication needs rather than implementing a comprehensive Education Program. While planning for the Education Center over the last several years, the Board expressed an interest in expanding the Education Program into a more comprehensive, proactive effort serving diverse audiences and ages.

In July, the LOTT Board of Directors participated in a visioning work session to consider options for expanding LOTT’s Education Program. The Board recognized that with the new Education Center, interest in, and the need for local partnerships and educational programming would increase. Opportunities to develop a better-integrated, strategic Education Program will focus on working

LOTT is constructing a new Education Center with an emphasis on water conservation and expanding educational outreach to reach a broader audience with conservation messages.
closely with local K-12 schools, universities, and colleges to develop programming that meets their educational needs and fosters an interest in science and science-related careers in their students. At the same time, the exhibits and programs need to meet the needs of adult visitors and families who will be visiting the Education Center. Partnerships with the Hands On Children’s Museum, LOTT’s partner jurisdictions, other learning centers, and other non-profit groups and agencies involved in environmental education will also be crucial to developing a meaningful and cost-efficient program. A dedicated staff position will ensure that the Education Center is used to its full potential, current educational activities are continued and expanded, new partnerships are established, and new programming is part of a coordinated, effective Education Program. The Board endorsed creation of an Environmental Educator position, which was formally approved as part of the budgeting process for 2009. Overall, the expanded Education Program will foster enhanced public awareness, understanding, and support for LOTT activities and LOTT’s mission in a more formal and comprehensive way than is currently possible.

### Public Art to Enhance Education

Public art provides benefits specific to wastewater utilities, such as helping wastewater facilities to blend into their surroundings, disguising large or obtrusive features such as tall towers or prominent equipment, adding visual interest to otherwise plain or unattractive features, and providing an educational bridge between a facility and its purpose helping citizens to recognize the value and necessity of that facility to the community. Since LOTT is a public utility with a Capital Improvements Plan that includes numerous large-scale, and increasingly visible and/or publicly accessible construction projects, 2008 was an appropriate time to consider establishing a public art program. The LOTT Board recognized the benefits and considered a public art policy during a visioning session held in June. A formal policy was approved at the Board’s July Business meeting.

<table>
<thead>
<tr>
<th>Publicly Accessible Projects</th>
<th>1% of Estimated Construction Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative/Education Center and Water Quality Laboratory</td>
<td>$164,579</td>
</tr>
<tr>
<td>East Bay Public Plaza</td>
<td>$10,000</td>
</tr>
<tr>
<td>Hawks Prairie Ponds/Recharge Basins</td>
<td>$68,450</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 243,029</strong></td>
</tr>
</tbody>
</table>

The new policy follows the “Percent for the Arts” formula in which one percent of construction costs are set aside for public art. The policy limits LOTT’s program to large-scale projects that cost more than $500,000 and that are publicly accessible. The policy currently applies to three current and planned LOTT projects, though additional projects may be identified in the future.

The adopted policy specifies that the public art selection process should be consistent with the process in place in the jurisdiction in which the art will be installed. Since public art processes have not been formally established for all the partner jurisdictions, the City of Olympia’s process serves as the current model. City of Olympia staff shared a wealth of information about the public art selection process and invited LOTT staff to meet with their Public Art Citizen Advisory Committee for guidance and advice. Staff also attended the City’s juried artist selection meeting in October to learn more about the artist selection process for the City Hall project.
Artist Selection Process

A process for artist selection was established consistent with the City’s process. A Call for Artists would be released to artists residing in the State of Washington who had completed artwork of similar scale. Artists would provide a submittal packet with letters of interest, resumes, and electronic portfolios of their previous work. A jury of art professionals would serve to review the submittals, choosing three finalists. The finalists would receive a small stipend to develop concept designs. The jury would then reconvene to review the three concept designs and select one artist. That selection would be forwarded to the LOTT Board of Directors for final approval.

Based on suggestions from Olympia’s Citizen Advisory Committee, a jury of three art professionals was established for the Administrative/Education Center public art project. The jury consisted of Bev Watt, a retired employee of the Washington State Public Art Program; Robert Droll, a landscape architect and artist; and Robert Leverich, an art professor at The Evergreen State College and a sculptor. A Call for Artists was released in November 2008. Twenty-four artists responded with submittal packets. The first jury event was held on December 5. After reviewing the submissions, the jury chose three finalists: Pam Beyette of Seattle, Dan Corson of Seattle, and Brian Goldbloom of Amboy.

The three finalists have a deadline of March 20, 2009, to develop their concept designs. The jury will then reconvene to choose the final candidate. It is anticipated that the Board will act on the final selection at their April 2009 Business meeting. The overall expectation is that the artwork will be designed, fabricated, and installed in or on the grounds of the Administrative/Education Center in time for the grand opening in spring 2010.

Community, National, and International Education Activities

In an effort to share information with diverse audiences, LOTT offers a broad spectrum of information, involvement, and educational activities. Locally, during 2008, these included extension of a pilot education program, facility tours, group presentations, participation in public events, and production of new and updated publications. Activities that served both local and broader audiences included media coverage, website expansion, presentations at regional and national conferences, and responding to individual information and public records inquiries. One unique opportunity in 2008 involved an international audience, including information presentations and tours for a group of officials from the Cowichan Valley in British Columbia.

Komachin Middle School Education Program

Over the course of 2007, LOTT implemented a pilot education program in partnership with the science teachers at Komachin Middle School. The program went well, resulting in 450 students touring the Budd Inlet Treatment Plant. However, because the enrichment program grant ran out, Komachin did not continue the LOTT program in the 2007-2008 school year. An opportunity arose to reinstate the program for the 2008-2009 school year, and LOTT staff provided classroom presentations for over 60 students in October 2008. The classroom sessions featured a slide presentation about the role of reclaimed water in managing the water and wastewater needs of our growing community. In the classroom, students also had the opportunity to view microorganisms involved in the treatment process. These sessions helped to prepare the students for a field trip to tour the Budd Inlet Treatment Plant on the following day. Classroom sessions and tours will continue in 2009 for additional classes.
Budd Inlet Treatment Plant Tours

A total of 49 groups (878 people) toured the Budd Inlet Treatment Plant in 2008. School age groups consisted of elementary, middle, and high school classes and several home school groups. Adult visitors included college classes, government agency and utility staff, private consultants, community groups, and interested citizens.

Other Groups:
Public Works Trust Fund Board (January)
CH2M Hill (February)
City of Lacey Staff (April)
City of Olympia Earth Day Tours (April)
City of Olympia Staff (May, June)
King County Wastewater Staff (May)
People for Puget Sound (July)
Siemens (July)
Individual Citizens (July, August, November)
MWH Global (August)
Utah Visitors with W.H. Reilly (August)
Cowichan Valley Visitors, B.C. (October)
Department of Ecology Staff (December)
Prospective Employees (December)
Aldrich Pears Consultants (December)

School Groups:
The Evergreen State College (January, October, November)
Marshall Middle School (January, May)
Clover Park Technical College (February, November)
Tumwater High School (February)
St. Martin’s University (March)
Community Christian Academy (March)
Home School Groups (April, December)
Olympia High School (April)
Seven Oaks Elementary School (June)
LP Brown Elementary School (June)
Avanti High School (September)
McLane Elementary School (October)
Komachin Middle School (October)
Centennial Elementary School (October)
Evergreen Academy (November)

Hawks Prairie Reclaimed Water Satellite Tours

A total of 184 people toured the Martin Way Reclaimed Water Plant, with a portion of the visitors also touring the Hawks Prairie Reclaimed Water Ponds. Visitors were primarily adults from local colleges, private consultants, government agency staff and committee members, elected officials, and community groups.

Classroom sessions featured a slide presentation about the role of reclaimed water in managing the water and wastewater needs of our growing community, and an opportunity to view microorganisms involved in the treatment process.
Visitors from the Cowichan Valley, B.C.

LOTT hosted a special meeting and tour, in October 2008, for a group of local government and tribal members from the Cowichan Valley on Vancouver Island, British Columbia. The group of twelve included three mayors and one tribal chief, as well as staff representing the City of Duncan, District of North Cowichan, Cowichan Regional District, and the Cowichan Nation. These governments share a collective lagoon, which discharges to a heritage river. They have been mandated to shift their current level of treatment to tertiary with a short timeframe. They learned of LOTT’s reclaimed water program in the May 2008 issue of BioCycle Magazine and were interested in touring the Martin Way Reclaimed Water Plant to learn more about the membrane bioreactor technology. The group also visited the Hawks Prairie Reclaimed Water Ponds. Because LOTT functions as a partnership of several governments, similar to their circumstance, they also had interest in learning how the LOTT partnership works, how LOTT approaches long-term planning, and how LOTT’s facilities work together to serve that long-term vision. A meeting with the Board President Doug Mah, Board member Cathy Wolfe, and LOTT staff was held prior to the tours to provide the Cowichan visitors with an overview of the LOTT partnership and long-range planning efforts. The Cowichan group had explored a number of different technologies to achieve tertiary-level treatment, and shared information with LOTT staff during the meeting, providing a valuable exchange of ideas.

School Groups:
The Evergreen State College (January)

Other Groups:
Greater Vancouver Regional District, B.C. (January)
Pendleton Oregon Water/Wastewater Division (January)
Department of Ecology Staff (February, August)
King County Reclaimed Water Staff (February)
CH2M Hill (March)
City of Olympia Staff (April, June)
City of Olympia Earth Day Tours (April)
City of Lacey Staff (April)
Leadership Thurston County (May)
Kennedy/Jenks Consultants (May)
Individual Citizen (June)
Group of Consultants (June)
The Presidio Consultants (June)
Department of Ecology Group (August)
Group of Attorneys (September)
Ecology Reclaimed Water Sub-TaskForce (September)
Cowichan Valley Visitors, B.C. (October)
Kitsap County Water Reuse (October)
US Army Center for Health Promotion and Preventive Medicine West (November)
Community Group Presentations

LOTT provided presentations for community groups, elected officials, and others throughout the year. Presentations focused on LOTT’s role in the community and the environment, with special emphasis on the reclaimed water program. Group presentations included:

Starbuck’s “Make your Mark” Day – Starbucks employees completed community service projects in the morning and learned about the health of Puget Sound during afternoon presentations by the Puget Soundkeepers Alliance and LOTT.

Rotary Club of Olympia – LOTT staff provided an overview of LOTT’s new Administrative/Education Center as part of an Energizing East Bay presentation.

Jubilee Community Association Current Events Club – LOTT staff provided an overview of LOTT and the reclaimed water program to an inquisitive group of residents.

Home Depot Greenbates Press Event – LOTT’s WashWise rebate program was introduced as part of Congressman Brian Baird’s press conference encouraging citizens to spend their federal tax incentive checks on energy-efficient equipment and material. Board members Doug Mah, Graeme Sackrison, and alternate Ralph Osgood also offered comments representing their respective jurisdictions.

State of the Utility Report Presentations – Staff provided a summary of the 2008 State of the Utility Report for partner government elected officials at their regularly scheduled council and commission meetings for the Olympia City Council, Lacey City Council, Tumwater City Council, and the Thurston County Board of Commissioners during the month of April; LOTT staff also provided a summary of the State of the Utility Report for the Thurston County Roundtable.

P.E.O. Sisterhood – Staff gave a presentation on LOTT activities, with special focus on the reclaimed water program.

Professional Presentations

Because of its progressive reclaimed water program, advanced technologies, organizational development efforts, and public communications programs, LOTT staff members are frequently invited to share information and experiences in other communities and at regional and national conferences. These experiences also allow staff to learn from other wastewater and reclaimed water system representatives as they exchange information. Presentations during 2008 included:

Pacific Northwest Clean Water Association – Presentations on selecting appropriate communication tools and creating effective public involvement programs were given at the Pacific Northwest Clean Water Association (PNCWA) Workshop titled the Survival Guide: Public Communications for Water Professionals; and at the PNCWA Conference in Kennewick, staff co-presented a paper titled Sustainable Nitrogen Removal for Puget Sound: LOTT Upgrades the Budd Inlet Treatment Plant, and co-presented a session titled Control of Foaming in BNR Activated Sludge Systems.

LOTT’s WashWise program was introduced as part of a press conference encouraging citizens to spend their federal tax incentive checks on energy-efficient equipment.
Washington Water/Wastewater Operations Workshop in Yakima – Presentations were given about LOTT’s reclaimed water program as part of a presentation panel on Reclaimed Water: Possibilities, Innovation, and Challenges.

Washington Water Law Conference – A presentation about Reclaimed Water Issues from the Utility Perspective was given as part of a presentation panel about current reclaimed water issues.

Medicine Take-Back Workshop – Staff participated on a presentation panel to offer comments about the value of this kind of program for wastewater utilities.

Labor Relations Institute – A presentation was given regarding effective negotiation approaches.

Idaho Wastewater Reuse Conference in Boise – A presentation was given on LOTT’s reclaimed water program, which was titled Cleaning and Restoring Water for Our Community.

Partnership for Water Conservation Workshop – Participation of LOTT staff on a presentation panel focused on Water Conservation Partnerships.

King County Council’s Regional Water Quality Committee – A presentation was given about LOTT’s reclaimed water facilities, regulatory and planning issues, distribution and uses, interlocal agreements, and future planning.

American Public Works Association Conference in New Orleans – Staff co-authored a presentation by the project architect featuring LOTT’s Education Center and partnership with the Hands On Children’s Museum.

WEFTEC Conference in Chicago – A variety of communications, including a presentation, professional papers, and a display were presented at the WEFTEC conference in 2008.

• Display and paper about LOTT’s utilization of Asset Management and Strategic Business Planning to deal with challenging capital improvements development.

• Co-presentation of a paper titled Dynamic Updating Program for Just-in-Time Design of Water Reclamation Facilities to explain LOTT’s use of sophisticated modeling to develop capacity planning for growth.

• Presented a paper on full-scale evaluation of on-line Ultraviolet Nitrate and Nitrite Monitoring Systems.

Public Events

Partnerships with LOTT’s partner governments, non-profit groups, and government agencies are effective and efficient ways to meet LOTT’s educational goals, share limited resources, and amplify common educational messages. LOTT staff participated in bi-monthly meetings of the Environmental Education Technical Advisory Committee (EETAC), a local group of primarily Thurston County environmental educators, to coordinate educational activities. Partnering activities in 2008 included LOTT’s participation in the one-day GREEN Congress, hosted by South Sound GREEN, a watershed education organization, to teach 350 local students about water quality issues. LOTT also partnered with People for Puget Sound to provide a tour of the Budd Inlet Treatment Plant in July, as part of their Clean Sound Walk & Talk public education series.
LOTT staff continued work on a sub-committee of EETAC, titled Thurston-Mason Education, Environment, Economy (TME3). During 2008, the sub-committee finalized an Environmental Education Plan for the area, based on stakeholder input from a one-day summit held in 2007. The local TME3 plan is one of eighteen regional plans being developed across Washington State. The local plans are being used to develop a statewide Environmental Education Plan, requested by Governor Gregoire. Now that the TME3 plan is complete, work of the sub-committee will likely revert to the larger EETAC group, which will focus on plan implementation beginning in 2009.

On Earth Day, April 22, the Olympia City Council sponsored a Town Hall Meeting on Wheels to educate citizens about how Olympia is putting sustainability into action. Participants had a choice between visiting the LOTT Martin Way Reclaimed Water Plant and Olympia’s McAlister Springs; the Silver Springs Organics Commercial Composting Facility; or LOTT’s Budd Inlet Treatment Plant. Sixty-seven individuals chose to tour LOTT facilities. Following the tours, participants were invited to return to the Olympia City Hall for a discussion about sustainability.

In August, LOTT hosted a booth at the Hands On Children’s Museum’s annual Sand in the City event. The information and activity booth featured take-home materials about LOTT’s reclaimed water program, with jugs of tap water and reclaimed water for visitors to compare. The booth also offered hands-on activities for kids to make beaded reclaimed water wristbands and experiment with a sand filter to learn how LOTT creates reclaimed water. An estimated 500 visitors enjoyed the booth.
Proactive Public Communications

In addition to building an expanded Education Program, LOTT’s commitment to proactive public communication was reinforced during 2008 with continuing enhancement of its existing public information services and materials, plus creation of some new ones. New communication tools included publication of LOTT’s first Strategic Business Plan and monthly Program Reports, plus creation of a new Careers website.

Responses to Information Inquiries and Public Records Requests

LOTT staff routinely responds to requests for information from ratepayers, citizens, consultants, partner government staff, utility and agency staff, students, media, and others. Inquiries come by email, phone, letters, and in-person visits. Inquiries include requests for LOTT publications, statistics about LOTT operations, information about LOTT programs, and questions about service rates. In 2008, LOTT staff responded to 464 public inquiries. Nearly all of these inquiries (98.5%) were resolved within one business day. For the remaining 1.5%, average response time was less than seven days. Staff also responded to eleven public records requests. Initial response and contact was made within five days for each of those requests, as mandated by State regulation.

Media Coverage

Media coverage of events and activities is one of LOTT’s most effective channels of communications with the broader public. In 2008, news and editorial coverage in The Olympian newspaper and other media outlets focused on the following topics:

- The LOTT Board’s commitment to cooperation and innovative projects
- Plans for LOTT’s new Administrative/Education Center, including an architectural rendering of the building
- LOTT’s co-generation project to produce energy and heat from waste biogas from the treatment process and funding support for the project from Puget Sound Energy
- The partnership between the Port of Olympia, LOTT, Hands On Children’s Museum, and City of Olympia to revitalize the East Bay area through construction of LOTT’s Administrative/Education Center, the East Bay Public Plaza, and the new Hands On Children’s Museum, and planning for associated environmental cleanup
- A new interlocal agreement between LOTT, City of Olympia, Port of Olympia, and Thurston County to begin work on a joint effort to improve the health of Budd Inlet and a Community Forum held to jump-start the effort
- Signing of a Legislative Bill authorizing funding for the Public Works Trust Fund, which included funds for LOTT’s Kaiser Road Pump Station and Force-main Project
• The LOTT Board’s action to reaffirm the planned rate and connection fee increases for 2009, and increases to utility bills for customers in Lacey, Olympia, and Tumwater

• The benefits of reclaimed water and the need for funding to support a reclaimed water infiltration pond at Woodland Creek Community Park in Lacey

• The impacts of runoff to the health of Puget Sound and LOTT’s discharge to Budd Inlet

• The presence of trace amounts of pharmaceuticals in water sources and the environment

• Congratulations for the 2008 Leadership Thurston County graduates, including two LOTT staff members

• An overflow from the Budd Inlet Treatment Plant onto Marine Drive that was quickly contained

• A mixing zone study and dye testing of LOTT’s discharge to Budd Inlet

• LOTT’s 2009 Budgets and Capital Improvements Plan

In addition to coverage in local media, LOTT facilities and activities are sometimes the focus of industry publications as well. In 2008, the Hawks Prairie Reclaimed Water Satellite was the subject of a feature article, Putting Recycled Water to Use in Washington State, in the May issue of Biocycle Magazine.
In the latter half of 2008, LOTT launched its new Careers website, http://careers.lottonline.org, also accessible via the www.lottonline.org homepage. The site features valuable information regarding benefits, employment policies, employee programs, and job descriptions, as well as photos of staff engaged in a variety of interesting work activities. The Careers site was designed to provide visitors with a vision of LOTT as a great place to work, with a strong environmental mission, dynamic workplace, great job opportunities, and many benefits, as well as an introduction to our staff and the work that they proudly perform on behalf of the utility.

LOTT’s website continues to be an integral part of public communications efforts. It is continually updated to provide accurate and up-to-date information. In 2008, the website Library was expanded and an Awards page was added. An RSS Feed was also added in 2008 that facilitates distribution of time-sensitive information. The RSS Feed lists subject titles with short descriptions and provides links to the web pages where the information originated. It allows the viewer to access information directly from their desktop without opening and loading the entire site.

LOTT’s Career site features valuable information regarding benefits, employment policies, employee programs, and job descriptions, as well as photos of staff engaged in a variety of interesting work activities.
Publications

Written materials are an important part of LOTT’s overall communications efforts. Fact sheets, reports, and promotional brochures are routinely updated and new materials are produced as new plans and projects arise. In addition to print format, all of these publications are available electronically on LOTT’s website. In 2008, updates were completed for the Current Sewer Charges fact sheet, Budd Inlet Treatment Plant brochure, and the Energizing East Bay brochure. New first-time publications and annual editions of other major publications included:

**Strategic Business Plan 2008-2012** – Published in February 2008, this plan documents the overall organizational philosophy, defines what is important to LOTT’s success, and provides benchmark goals for the organization. Board and staff members actively participated in the development of the LOTT Strategic Business Plan throughout most of 2007. Core values, key performance categories, customers, Levels of Service, and Measures of Success were defined over a series of Board work sessions. By identifying concrete measures that reflect long-term organizational health, the resulting “balanced scorecard” provides a framework or dashboard for continual and consistent review of organizational and operational performance. The plan is a tool for current and future staff and Board members to understand the organization’s priorities and what needs to be done to ensure success.

**State of the Utility Report 2008** – Published in March 2008, this annual report includes information about LOTT programs and projects completed in 2007. It was distributed to elected officials, administrators, and public works officials from all four of the LOTT partner jurisdictions.

**Annual Capacity Report 2008** – This set of three related reports was published in October and, for the first time, was compiled under a single cover page, including Flows and Loadings, Inflow and Infiltration, and Flow Monitoring, and Capacity Assessment.

**Water Conservation Program Brochures** – Efforts to create a consistent brand for LOTT’s Water Conservation Program continued in 2008 with revisions and updates to several existing promotional materials. Updates were completed and the new brand was applied to an instruction booklet and promotional brochure for Water Saving Kits, as well as the WashWise brochure.

**Strategic Business Plan Mid-Year Report 2008** – This eight-page document provides a summary of LOTT’s progress toward meeting the Measures of Success outlined in the Strategic Business Plan. The document includes information reported for January through June of 2008. A year-end report is featured in Chapter 1 of this State of the Utility Report.
Ongoing Board and Staff Communications

Organizational Communications

In an effort to ensure timely and effective communication between the Board of Directors, LOTT managers, and staff, varied communication tools are used to distribute, share, and process information. These tools include Board, committee, and staff meetings. Written communications between the Board and staff also play an important role in keeping everyone connected and informed.

Board Communications

Effective communication tools are critical to productive, efficient Board meetings. Board Agenda packets are prepared by staff, and distributed to Board members the Friday prior to Board meetings. Business meetings are held the second Wednesday of each month. Work sessions are generally held the fourth Wednesday of each month, if needed.

In May 2008, Board members approved several changes to the Board packets in an effort to streamline packet preparation and reduce paper usage. Changes approved by the Board included removing copies of the check summaries, omitting Staff Reports for standard agenda items, standardizing language for Staff Report action statements, and shifting from the use of hard copy packets to an electronic format.

Printed monthly Program Reports were provided to Board members at their monthly Business meetings for the first time in February 2008. These written reports summarize the previous month’s activities for each division, including noteworthy activities and accomplishments. The reports provide information for Measures of Success tracked on a monthly timeframe. Program Reports consolidate information, and reduce the amount of time needed for verbal reports by the Executive Director and Division Directors.

Effective communication tools are critical to productive, efficient Board meetings; in 2008, Board packet preparation was streamlined to reduce paper usage and consolidate information.
Technical Sub-Committee Meetings

The Technical Sub-Committee (TSC) is an advisory group consisting of the three City Public Works Directors and the County’s Director of Water and Waste Management, along with LOTT’s Executive Director, Engineering Director, and Facilities Director. The group meets once a quarter to discuss issues and policy questions and develop recommendations for Board approval. The TSC serves as the steering committee for the ongoing Reclaimed Water Conveyance and Recharge Options Study, joint Water Conservation Program projects, and the Reclaimed Water Policies Task Force. They also review WaterSmart rebate requests over $15,000, and other issues as they arise. The TSC makes recommendations to the Board on policy-level technical issues. The TSC met four times in 2008, focusing on the following topics:

- Inflow and Infiltration (I&I) policies, criteria, and funding levels (February)
- Pretreatment Program Expansion proposal and I&I policies and funding criteria (May)
- WaterSmart rebate requests for the Washington State Department of General Administration and Washington State Department of Transportation; change in the threshold for TSC review of WaterSmart rebates; options for verifying Capacity Development Charges; potential changes to LOTT’s Capital Improvements Plan due to recent changes in the nature and timing of future treatment capacity and conveyance pipeline projects (August)
- Guidelines for flow reduction incentives for new construction projects; draft framework for determining ownership of various facilities; and the need for a regional effort to update the Biosolids Management Plan (October)

Through email correspondence, the TSC members also reviewed and approved a WaterSmart rebate application for Providence St. Peter Hospital.

Staff Communications

All-Staff meetings were held once a quarter in 2008 – in March, June, September, and December. The September meeting coincided with the annual Employee Recognition Event and the December meeting provided an opportunity to celebrate the holiday season as an organization. In the All-Staff meetings, the Executive Director updated staff on “big picture” topics and Division Directors provided brief summaries of their Division’s work in the past quarter. Division Directors and Supervisors hold separate meetings with their staff on a more frequent basis, ranging from weekly to monthly.

Written communications also help to disseminate information to employees. A 12-page employee newsletter is distributed with the first paycheck of each month. Email communications to all staff, in the form of News Flashes, are sent out when time-sensitive information is involved. In 2008, a new form of electronic communication – a SharePoint internal networking site – was introduced to employees. Throughout the course of the year, Divisions developed content for their respective SharePoint pages, which now includes pages for Administrative, Finance, Human Resources, Engineering, Safety, and more. The site is used to share information, manage documents, and facilitate development and editing of documents.

The annual Employee Recognition Event celebrated the hard work performed by staff and their commitment to the community.
Employee Programs and Recognitions
Chapter 6
Employee Programs and Recognitions
Strengthening the Work Environment

LOTT continues efforts to strengthen connections between employees and divisions, with the goal of creating an organization where all members are involved and valued.

Introduction

LOTT values its workforce as essential to the success of its mission and continues its efforts to make LOTT a great place to work. In 2008, staff members participated in a variety of committees focused on maintaining a strong working relationship between management and union-represented employees; developing new programs, including Mentoring and Workforce Diversity Programs; employee safety; and health and wellness promotion, which benefits both the individual and the organization. Professional development opportunities, such as the Career Development Program, apprenticeships, and training offerings, helped to sharpen skills and broaden the organization’s knowledge base. Overall, LOTT’s investment in staff paid dividends in the success of the organization, as illustrated through receipt of several national and local awards.

Staff Committees

LOTT continues efforts to strengthen connections between employees and divisions, with the goal of creating an organization where all members are involved and valued. To accomplish these goals, LOTT relied heavily on the work of six staff-led committees that focus on different issues relating to employees and the work environment.

Labor-Management Committee

The Labor-Management Committee is a team of LOTT management staff and AFSCME Local 618-LOTT represented employees who are committed to enhancing the work environment under the current bargaining agree-

On Make a Difference Day, coordinated by Labor-Management Committee members in October, a group of LOTT employees used their Community Service Day benefit to perform yard work, clean gutters, and generally help residents of a local senior mobile home park get their homes ready for winter.
ment. Committee members carry ideas and concerns from other LOTT staff to the committee for consideration. The committee meets monthly, barring scheduling conflicts. In 2008, this committee provided the core members for the Diversity Committee and Mentoring Program team.

The committee sponsored two Job Shadow days in 2008. Job shadowing provides employees with the opportunity to experience a day’s work in the shoes of a coworker. This gives employees a broader perspective of activities involved in making the organization run smoothly, and appreciation for the roles and contributions of their coworkers. In March, three employees shadowed coworkers and in October, five employees participated.

Community Service Day, a benefit initially negotiated for the 2007-2009 Collective Bargaining Agreement, and subsequently offered to all employees, was used by 19 staff members in 2008. Three employees helped set-up Sand in the City, a community event sponsored by the Hands On Children’s Museum. Labor-Management Committee members coordinated Make a Difference Day in October. Fifteen employees participated in this activity and used their Community Service Day benefit to perform yard work, clean gutters, and generally winterize homes in a local senior mobile home park. Appreciative residents referred to the group as “Our LOTT Angels” and provided homemade cookies and sodas to thank them for their efforts. One employee used the community service benefit for the Labor Union’s Helping Hands Program that provides Christmas for Union members facing difficult times.

Safety Committee

To help maximize safety practices at LOTT’s facilities, the Safety Committee completed several major projects, developed procedures and policies, and sponsored numerous training opportunities for employees. Projects included evaluating chlorine levels in the satellite plant membrane building, installing a plant-wide security camera network, completing a Safety Program Audit, installing vehicle radio equipment in support of emergency communications/disaster preparedness, modifying influent channel gratings to improve area drainage and decrease slip hazards at the Martin Way Reclaimed Water Plant, improving lighting outside the Capitol Lake Pump Station, providing staff with hands-free cell phone devices in support of safe driving practices, and improving the hypo-chlorite piping and valve system at the satellite plant.

The committee revised existing procedures and drafted new ones to improve safety and better prepare for emergencies. The group drafted accident review procedures, revised confined space entry procedures, and reviewed and revised evacuation routes for the plant and muster points in response to evacuation of the administration building. The committee also conducted job hazard analyses and accident investigations, and managed the Safety Incentive Program to encourage staff participation in committee-sponsored events. The Safety Committee sponsored a number of training opportunities during 2008, including:

- Confined Space Rescue
- Fire Drills
- Workplace Violence
- Fire Extinguisher
- Lock Out/Tag Out
- Foam Fire Suppression
- Security Camera
- FCC Compliant Radio Communications
- Annual First Aid and CPR
- Gas Detector
- Fueling Safety
- Germ Control
- Forklift Operation
Wellness Committee

As part of their ongoing program to encourage healthy eating habits among employees, the Wellness Committee held the Third Annual Healthy Heart Event in February. Employees prepared dishes for the potluck and competed for top honors in low sodium, heart healthy, and low-fat categories. At the June All-Staff meeting, the committee sponsored a taste testing event of Health Nut vending products to introduce healthier snack options to LOTT staff. On-site health screenings were also held in June, provided by the Association of Washington Cities and coordinated by Wellness Committee members. The Healthy Chili Round-Up and Pony Express Relay Race were held in July. Staff prepared homemade cornbread and chili, and voted for their favorite dishes; afterward staff participated in a fun and very entertaining, western-themed relay race. In the fall, the committee promoted the President’s Challenge Fall Fitness Campaign; 19 employees successfully completed the campaign by participating in at least 30 minutes of physical activity, five days per week for six weeks, during the two month program.

Recognition Committee

The Recognition Committee meets several times each year to administer programs and plan events that recognize staff dedication and performance. The committee presents Thanks A LOTT certificates to employees nominated by coworkers for outstanding or “beyond the call of duty” efforts. These certificates are presented at quarterly All-Staff meetings. The committee also plans the annual Employee Appreciation Event. In 2008, the event was held on September 25, off-site in the Heritage Room, a banquet hall near Capitol Lake. Employees enjoyed lunch while annual awards were presented for Blooper of the Year, Thanks A LOTT Merit award, Innovation, Leadership, Commitment to Excellence, and the John DeYoung Inspirational award. The annual event is an excellent opportunity for the Board of Directors, management, and staff to show their appreciation for the contributions of employees toward the success of the organization.

Mentoring Program Team

This team of nine staff members from across the organization met in early 2008 to develop LOTT’s new Mentoring Program. The program is designed for multiple employee support purposes: to assist in the new employee orientation process by providing an additional resource to answer organizational questions; to help employees refresh their technical skills, or build interpersonal or leadership skills; or as a component of an ongoing Career Development Plan.

Diversity Committee

This committee of nine volunteers from throughout the organization was established in 2008 to develop a Workforce Diversity Program, as required by LOTT’s Administrative Guidelines. The team began meeting in August, and completed a draft Workforce Diversity Program in October. After anticipated approval by LOTT’s Board of Directors in 2009, this document will detail the utility’s values, vision, objectives, and strategy to create a diverse, productive workforce and an inclusive work environment.
Staff Changes, Recognitions, and Training

LOTT’s employees were involved in a wide range of professional development activities during 2008. Some positions experienced classification or organizational changes, and two new employees joined the team. Career development, certifications, and community involvement were highlights during the year.

New Employees and Job Duty Changes

In 2008, LOTT hired two new employees. Farah Derosier was hired in January to fill the Legal Assistant position, which was created to improve the organization’s in-house capacity to support the General Counsel, and Dan Beckley was hired in March as an Operator I, filling a long-standing vacancy within Operations to accommodate an increasing work load from the satellite plant and reclaimed water production.

Several current staff members took on new job duties to improve efficiencies and allocation of tasks. Julie Dufresne was promoted from Laboratory Technician, following an in-house selection process, to Environmental Specialist to assist with expansion of the Industrial Pretreatment Program, and Ed Sheridan was reclassified from Maintenance Worker II to Irrigation and Grounds Specialist.

Apprenticeship Program

In an effort to recruit and retain highly skilled and knowledgeable employees, LOTT has developed an Apprenticeship Program for three occupations: Process Control Technician, Maintenance Technician, and Wastewater Treatment Plant Operator. Four apprentices are successfully progressing toward completion of their multi-year on-the-job training programs. One of LOTT’s apprentices gained special attention in 2008 from the National Office of Apprenticeship, who selected Alex Desmonie, Maintenance Technician Apprentice, to be featured as an apprenticeship success story.

Representatives from McNeely, Pigott, and Fox, a marketing contractor for the National Office of Apprenticeship, visited from Tennessee to interview Alex. The photos and interview will be used in marketing materials to encourage apprenticeships throughout the country.

Career Development Program

LOTT’s Career Development Program provides an opportunity for staff members to create customized professional development plans to reach their career goals. Interest in the program grew in 2008, with four employees developing new plans, and three employees continuing work on plans established the prior year.

- Ray Rodarte entered a Career Development Plan with the goal of promoting to the newly created Maintenance Coordinator position. This position was designed as a contingency to cover the duties of the current Maintenance Planner/Scheduler while on active military duty.
- Rick Hughes, Chief Administrative Officer and General Counsel, completed one plan then developed a second plan. He used the Career Development Program benefits to attend and complete the prestigious Executive Management Program at the Evans School of Public Affairs, held over a two week period at the University of Washington. His second Career Development Plan, currently underway, is designed to broaden his understanding of the wastewater industry by accessing the online program at Green River Community College.

- Mike Rickert and Colin Risser, both Maintenance Worker IIs, completed a Skill Enhancement Plan to increase knowledge and skills by cross-training with Maintenance Technicians, completing technical coursework, and obtaining welding certification from the Washington Association of Building Officials (WABO).

- Paula Williamson was promoted to Human Resources Manager after completion of her Career Development Plan.

- Rob Tinsley, Maintenance Worker II, continues to complete milestones in his Career Development Plan to become a journey level Maintenance Technician. In 2008, he obtained a number of certifications and completed numerous technical courses specified in his plan.

Certifications Earned During 2008

Dale Ackley, Maintenance Technician – Boom Truck and Crane Certification

Bill Boyd, Maintenance Worker II – Universal 608 Certification

Mike Rickert, Maintenance Worker II – Flagger Certification, Gas Metal Arc Welding WABO Certification, HVAC Universal License, and Universal 608 Certification

Colin Risser, Maintenance Worker II – Tungsten, Inert, Gas Process WABO Certification, HVAC Technician Certification, and AC 410A Certification

Raymond Rodarte, Maintenance Assistant and Custodian – Flagger Certification

Rob Tinsley, Maintenance Technician (OJT) – Shielded Metal Arc Welding WABO Certification

Paula Williamson, Human Resources Analyst – Professional in Human Resources Certification

Organizational Structure Review Process

As LOTT has matured as a utility, redefinition and realignment of various positions has been required to meet changing needs. The senior management team began ongoing work with consultant Rebecca Perry from Rebecca Perry Leadership, to design LOTT’s future organizational structure. The team initially focused on changes to be implemented January 1, 2009, which were intended to foster improved communication and alignment of functions, services, and expertise. These changes included assignment of the Environmental Compliance team to the Facilities Division, placement of the Capital Planning function within the Engineering Division, and creation of a Chief Administrative Officer position. Longer range plans for potential movement within the organization, additional staffing, and knowledge, skills, and abilities that are needed to meet the utility’s future challenges were also identified during this process.

Leadership Thurston County

Leadership (LEAD) Thurston County is a leadership training and networking program housed in the Thurston Chamber of Commerce. The program provides class members with 13 days of intensive training on leadership and issues facing our local communities. It requires a substantial commitment from students to attend the training days and complete homework assignments and special projects. LOTT traditionally participates by sending one or two staff members through the program each year, volunteering LOTT LEAD graduates to help plan curriculum, and provide presentations and tours for LEAD field trips associated with Environment Day. LOTT Board members also serve as presenters, demonstrating further organizational and jurisdictional support for this program. In 2008, two LOTT staff members graduated from the LEAD program in June, and one staff member joined the new class in September.
Conferences, Workshops, and Staff Training

Local, statewide and national conferences and workshops, sponsored by professional industry groups, provide excellent, economical training opportunities for staff. In addition to formal professional development plans, LOTT staff participate in a variety of training opportunities, including courses, conferences, and workshops to enhance their skills and knowledge.

Conferences and Workshops

Introduction to Aquatic Toxicology, Northwest Environmental Training Center, Lacey

South Sound Science Symposium, Squaxin Island Tribe and Department of Ecology, Tacoma

Employee Health Academy, Association of Washington Cities, Richland

Climate Change Workshop, Environmental Protection Agency, Seattle

Potable Reuse for Water Supply Sustainability Conference, Water ReUse Association, Long Beach

Focus on the Future Conference, Pacific Northwest Clean Water Association, Kennewick

Annual Conference and Technical Exhibition, Water Environment Federation, Chicago

Governor’s Safety and Health Conference, Spokane

Training

Disaster Preparedness Training Session for Water and Wastewater Utilities, Environmental Protection Agency, San Francisco

Short-Term Work Zone Safety Training and Flagger Training, Olympia

Boom Truck and Cranes, and Rigging Training, Seattle

Confined Space Rescue Team Training, Alpine Experience, Olympia

Fall Management Forum, Enhancing Presentation and Facilitation Skills, Olympia

National Incident Management System (NIMS) and Incident Command System (ICS) Disaster Preparedness, online training

LearnKey is a dynamic Internet-based e-learning experience that combines the benefits of traditional classroom learning and the dynamics of computer-based training.

LearnKey, online software training

SharePoint, in-house document management training

Harassment Prevention, in-house training

Communication Skills, City of Olympia Staff, in-house training

Positive Approach to Change, Ethics, and Customer Service, in-house training
LOTT’s commitment to continually improving organizational efficiency, creating a productive and supportive workplace, communicating proactively with the public, and excelling in wastewater management and environmental stewardship earned the utility several formal recognitions in 2008.

Excellence in Management Award

This National Association of Clean Water Agencies (NACWA) Award was announced in 2007 and presented in February 2008. The award recognized LOTT’s efforts to implement several new programs that prepare the utility to face future challenges. The award presentation highlighted the Strategic Business Plan, recruitment and retention initiative, asset management efforts, reclaimed water production, LOTT’s Career Development Program, and new apprenticeships.

Silver Level Peak Performance Award

The NACWA Peak Performance Award recognized treatment plant staff for their excellent National Pollutant Discharge Elimination System Permit compliance in 2007. The award was presented in July 2008.

National Environmental Achievement Award for Public Information and Education

This 2008 E-Media Award, also from NACWA, recognized the in-house development of LOTT’s website, which provides the public with around-the-clock access to a wealth of information regarding the utility, our programs, policies, and agency history.

Certificate of Achievement for Excellence in Financial Reporting

This award, from the Government Finance Officers Association of the United States and Canada, was granted for LOTT’s Comprehensive Annual Financial Report for the Fiscal Year ending December 31, 2007, recognizing LOTT’s achievement of the highest standards in governmental accounting and financial reporting.

Gold Level WorkWell Award

The Thurston County Chamber of Commerce WorkWell Award recognized the utility’s efforts to make changes in the work environment that support employee health by promoting healthy eating and providing opportunities for increased physical activity at work.

Thurston Green Business Award

This award, also from the Thurston County Chamber of Commerce, recognized the organization’s outstanding efforts to adopt environmentally green practices, including the Administrative Building design, planned educational program, waste reduction and recycling, water conservation and reuse, energy efficiency and renewable energy purchase, hybrid vehicles and commute trip reduction, and purchase of green and recycled products.
2009 Capital Budget and CIP
Chapter 7

2009 Capital Budget and CIP
Continuous Planning in a Changing Environment

The LOTT Capital Budget and Capital Improvements Plan (CIP) outline major system improvement projects, new capacity projects, repair and replacement projects, and anticipated capital expenditures throughout the current planning horizon (2009-2025).

Introduction

The 2009-2025 CIP identifies $298 million in projects anticipated through 2025. Of that amount, $28.9 million is programmed in the Capital Budget for spending during 2009. The primary focus of the CIP is to ensure that LOTT maintains the ability to meet the established Levels of Service developed by the Board as part of LOTT’s Strategic Business Plan. Continuous planning is integral to this process and enables LOTT to monitor system capacities, forecast future demands, deal with changing regulatory requirements, and identify and prioritize capital projects to meet these demands.

While this CIP identifies anticipated projects for 2009-2025, this is a dynamically changing list. The wastewater business faces an ever-changing regulatory environment, which could result in unforeseen projects during the planning period. The health of Budd Inlet, LOTT’s receiving water for marine discharge, continues to be a source of concern for the State and the community. The biggest unknown exists with the anticipated completion of the State’s Total Maximum Daily Load Study for the Deschutes River, Capitol Lake, and Budd Inlet. The resultant waste load requirements could cause LOTT to institute currently unplanned capital projects necessary to meet future limitations.

Continuous Planning

In accordance with the Wastewater Resource Management Plan, also known as the Highly Managed Plan, LOTT is continuously planning for the development of new operational capacity, just-in-time, to ensure that future demands are met. For this purpose, LOTT considers three types of capacity when describing its overall operational capacity – treatment capacity, discharge/use capacity, and conveyance capacity.

Treatment Capacity is defined as the amount of wastewater that can be treated. It includes capacity at the Budd Inlet Treatment Plant, Martin Way Reclaimed Water Plant, and future satellites.
Discharge/Use Capacity is a combination of the amount of treated wastewater that can be discharged into the environment within permit limitations (i.e. Budd Inlet outfall), the amount of Class A Reclaimed Water that can be infiltrated into the ground (i.e. Hawks Prairie Recharge Basins), and the amount of Class A Reclaimed Water that can be utilized for other beneficial uses (i.e. reclaimed water customers).

Conveyance Capacity represents the hydraulic capacity of: 1) sewer lines to convey wastewater from the point of collection to the point of treatment; 2) reclaimed water lines to convey Class A Reclaimed Water from the point of treatment to the point of discharge/use; and 3) pump stations and related facilities necessary to support those conveyance lines.

To evaluate these types of capacity and predict future operational capacity requirements, planning data is gathered annually and fed into the Capacity Assurance Planning Environment (CAPE) modeling software. This new data includes recently added sewer pipelines, anticipated service conversions to the sewer system, flow monitoring results, planned developments, and population forecasts from the Thurston Regional Planning Council. The CAPE model then forecasts population growth geographically throughout the system, and the resulting flows and loadings. This information is then used to develop three annual reports, which are used to help identify and prioritize capital projects for inclusion in the annual Capital Improvements Plan.

Flows and Loadings Report – Analyzes residential and employment population projections within the Urban Growth Boundary, and estimates the impact on wastewater flows and loadings within the LOTT wastewater system.

Inflow & Infiltration and Flow Monitoring Report – Uses dry and wet weather sewer flow monitoring results to quantify the amount of unwanted surface (inflow) and subsurface (infiltration) water entering the sewer system, and to prioritize sewer line rehabilitation projects.

Capacity Assessment Report – Using flows and loadings and inflow and infiltration data, analyzes system components (i.e. conveyance, treatment, and discharge/use) to determine when limitations will occur and provides a timeline for new system components and upgrades.

To further maximize the effectiveness and efficiency of capital projects, LOTT consistently works with the partner jurisdictions to stay abreast of their planned capital projects. This has led to collaboration on several projects, reducing overall costs and traffic disruptions to the community.

LOTT is continuously planning for the development of new operational capacity, just-in-time, to ensure that future demands are met.
Responding to Changing Conditions

Although the need for wastewater treatment capacity is the primary reason for adding new increments of reclaimed water production to the system, the Wastewater Resource Management Plan (WRMP) also acknowledges that there may be other valid reasons for expanding that capacity.

Key factors to consider when planning new wastewater treatment capacity include the locations where reclaimed water will be produced and used, the amount of capacity to be added, and when that capacity will be needed. Decisions about adding reclaimed water plants will directly affect conveyance and recharge choices, as well as potential uses by the LOTT partner jurisdictions and their customers. Thus, addressing capacity needs is a complex task.

The 2009 CIP reflects multiple adjustments in the strategy for producing and conveying reclaimed water as LOTT responds to new information and changing conditions. The Highly Managed Plan originally envisioned new treatment capacity to be built in small increments, in the form of small satellite treatment plants. The 20-year plan envisioned the construction of three satellites located throughout the Lacey-Olympia-Tumwater urban area. Each satellite would initially be built to treat one million gallons per day (mgd) and be expandable up to 5 mgd. Each new increment of treatment capacity is to be built just-in-time to meet new capacity needs as identified through the continuous planning process.

“With small increments of new capacity, there will likely be several opportunities during a 20-year period to seize the moment and provide highly treated water to enhance flow in a particular stream, to irrigate a park, or provide industrial water supply. The decisions about new capacity, while still being driven primarily by the need to provide wastewater treatment, can also be environmentally opportunistic and allow multiple benefits from each new wastewater management investment.”

– 1998 WRMP, Section 6.4

Since the Highly Managed Plan was approved, LOTT has designed and built two reclaimed water facilities. The first was the Budd Inlet Reclaimed Water Plant, which is a sand filter system that started operation in 2005. The second facility was the Hawks Prairie Reclaimed Water Satellite, including the Martin Way Reclaimed Water Plant and the Hawks Prairie Ponds and Recharge Basins. Construction was completed in 2006.

As a result of changing conditions and lessons learned through the construction and initial operation of these two facilities, LOTT re-evaluated the timing and locations for the next planned facilities. In order to most effectively and efficiently meet the needs of both LOTT and its partner jurisdictions, a modified strategy was developed. It focuses on expansion of the two existing reclaimed water plants, and development of conveyance corridors to priority areas where reclaimed water can be used, including recharge sites. The modified approach remains consistent with the intent of the Highly Managed Plan. Production capacity will still be built based on just-in-time needs, and conveyance routes will still be designed to support use needs as well as connecting LOTT facilities.
As a result of this modification, the 2009-2025 CIP postpones the construction of the Chambers Prairie Reclaimed Water Plant, which was previously scheduled to be online in 2015. This decision was based on many factors including an updated review of anticipated reclaimed water demand and uses, more limited availability of source wastewater than originally estimated, and escalating capital construction costs. To meet additional treatment and reclaimed water production demands on the east side of the service area, LOTT will move-up the previously planned expansion of the existing Martin Way Reclaimed Water Plant.

At the Budd Inlet Treatment Plant, process improvement projects are planned to increase the efficiency and reliability of the treatment process and to meet potentially more stringent treatment restrictions anticipated as a result of the upcoming Total Maximum Daily Load (TMDL) study being performed by the Washington State Department of Ecology. Opportunities for the use of reclaimed water in Tumwater have prompted LOTT to consider including the planned membrane filtration project, originally scheduled for 2021, as part of the upcoming process improvements project. This would not only increase reclaimed water production capacity at the treatment plant, but also increase solids removal capacity, thereby delaying the need for additional secondary clarification.

Coinciding with this additional reclaimed water production capacity, LOTT has planned a two-phased project to route reclaimed water from the Budd Inlet Reclaimed Water Plant to the previously purchased Henderson Boulevard groundwater recharge site in Tumwater. Phase one will consist of establishing a conveyance pipeline from the reclaimed water plant to the Tumwater Golf Course, where purple pipe has already been installed, enabling the golf course to use reclaimed water for its irrigation needs (scheduled for completion in 2009). The second phase, to be completed in conjunction with the Budd Inlet Treatment Plant membrane system, will continue the reclaimed water line from the golf course, to the Henderson site, establishing 3 mgd of treatment, conveyance, and groundwater infiltration capacity (scheduled for completion in 2017).

The modified strategy provides several benefits. It allows LOTT to minimize the next phase of investments in treatment plant costs by expanding the two existing facilities, thus opening up opportunities for investments in conveyance and distribution systems. This approach will help extend the reach of LOTT’s reclaimed water supplies into the communities sooner than would otherwise occur, providing greater predictability for the partner jurisdictions. It could also help the jurisdictions avoid stranded or lost investment costs in localized conveyance systems by partnering with LOTT on larger and more efficient systems.

LOTT has planned a two-phased project to route reclaimed water from the Budd Inlet Reclaimed Water Plant to the previously purchased Henderson Boulevard groundwater recharge site in Tumwater.
Building the Capital Improvements Plan

LOTT currently envisions spending $298 million in capital projects over the 2009-2025 planning period. Managing this investment program is one of the most difficult challenges facing any utility.

To validate projects for inclusion in the CIP, they must go through a comprehensive Business Case Evaluation (BCE). This process consists of evaluating the perceived need and determining how best to address the need considering financial, environmental, and social impacts, known as the triple bottom line.

The investment program is divided into the three primary parts: system upgrade projects, new capacity projects, and facility repair and replacement projects.

**System Upgrades**

System upgrade projects include improvements or capital modifications of existing facilities. Upgrades may be necessary to improve efficiency or meet higher water quality standards for water treated and discharged, or distributed for use. One of the public values guiding LOTT’s operations is to maximize capacity at existing facilities before building new ones.

![Projected Treatment Capacity Requirements](image)

**New Capacity**

New capacity projects are those that provide new facilities to serve additional wastewater flows.Operational capacity is divided into treatment, discharge and use, and conveyance capacity.

**Treatment Capacity**

Treatment capacity is considered in terms of flows and loadings. “Flows” refers to the volume of water that needs to be handled, while “loadings” refers to the strength of the constituents in the water.

The following graphic illustrates projected treatment capacity requirements and the timing of planned capacity projects to meet these requirements. The dotted line represents a peak flow that would normally occur once in any 10-year period.
Discharge and Use Capacity

Based on the existing National Pollutant Discharge Elimination System discharge permit for the Budd Inlet Treatment Plant, marine discharge to Budd Inlet is essentially capped. This means that the development of new operational discharge/use capacity must come in the form of reclaimed water treatment facilities, and the conveyance to various uses, including discharge to groundwater infiltration basins.

The following graphic illustrates projected discharge/use capacity requirements and the timing of planned discharge/use locations to meet these requirements. The dotted line represents a peak flow that would normally occur once in any 10-year period.

For the past three years, LOTT has been conducting an ongoing study to identify and evaluate potential groundwater recharge sites and the conveyance pipeline routes that would be necessary to reach them.

To date, LOTT has purchased recharge properties in two locations, has pending purchase and sale agreements for two other properties, and is evaluating an additional site. The Hawks Prairie Ponds and Recharge site was developed with an estimated infiltration capacity of 5 million gallons per day (mgd), and recent data indicates the site could support an additional 3 mgd. The Henderson Boulevard Recharge Basin site in Tumwater represents an additional 3 mgd of future infiltration capacity for a total of 11 mgd. To meet long-term buildout conditions, LOTT anticipates that a total of 22 mgd of groundwater recharge capacity will be required. The current sites under investigation would provide an estimated additional 11 mgd. The search for other suitable sites continues.

Conveyance Capacity

LOTT relies on two types of conveyance systems – one for bringing wastewater supply to the treatment plants (interceptors) and the other for conveying reclaimed water back out to the ultimate recharge/use sites. These systems also include associated pump stations and other facilities needed to help move the water. As additional recharge sites are identified through the Reclaimed Water Conveyance and Recharge Study, pipeline routing alternatives for conveying reclaimed water from production facilities to the recharge sites will be developed.

To monitor conveyance system capacities, a sewer network model is updated annually to model various flow scenarios based on updated flow projections. The model identifies potential capacity limitations in the future for which capital projects are planned. LOTT also operates an Interceptors and Manholes Inspection Program, to systematically inspect a portion of the collection system each year and plan manhole and pipe rehabilitation projects.
Repair and Replacement Projects

As part of LOTT’s rate structure, a certain portion of the monthly wastewater service charge (WSC) is set aside in the LOTT Equipment Replacement Fund (LERF). It is dedicated to the replacement of existing equipment and associated minor facilities that are reaching the end of their useful lives. These funds are managed by LOTT’s Asset Management Program, which guides the acquisition, use, and disposal of assets to optimize service delivery and minimize costs over the asset’s entire life.

The Asset Management Program includes a complete inventory, condition assessment, and consequence of failure of all assets – major and minor. The gathered data is used to develop a level of risk that is carried by each asset with respect to maintaining the established Levels of Service. Through this process, LOTT is able to identify, plan, and prioritize repair and replacement projects, ensuring continued service reliability in the system. Program components include the following:

**Cost-Effectiveness Comparison** – The program will compare cost-effectiveness of continuing maintenance versus replacement of any given asset or group of assets, by developing: 1) asset-by-asset plans to replace, rehabilitate, or continue to maintain an asset; and 2) a comprehensive listing of condition, current value, and replacement value of assets.

**Life-Cycle Consideration** – The annual CIP will eventually include complete replacement or improvement of LOTT’s facilities over one entire life-cycle, ensuring the full cost of asset ownership and operation is known, and rates and fees can be adjusted as needed to meet that cost.

**Criticality Assessment** – A criticality assessment program (defining the consequences if the asset fails) will minimize the risk of being surprised with unexpected high cost emergency repairs.

For the Board, implementing the Asset Management Program means:

- Providing long-term sustainable wastewater treatment infrastructure for the growth management area
- Maximizing the investment and reinvestment of ratepayer dollars
- Achieving the lowest overall life-cycle costs of LOTT physical assets
- Ensuring permit compliance and minimizing disruptions in service

During the full implementation of the Asset Management Program, the current CIP repair and replacement projects will be reviewed for consistency with the “triple bottom line” of financial, environmental, and public policy goals. As a result, the planning period will be adjusted to include a full cycle of facility replacement, and the entire plan will reflect a much more accurate and complete picture of the investment necessary to sustain LOTT’s facilities well into the future.
Funding sources for each CIP project generally involve some combination of new connection fees (CDC) and monthly rates (WSC), and may include LERF funds. The allocation between CDC and the WSC depends on the type of project involved, as specified by Exhibit F of the Interlocal Cooperation Act Agreement for Wastewater Management by the LOTT Wastewater Alliance, dated November 5, 1999, and approved by the LOTT Partners as of January 2000:

**System Upgrade Projects** – Funded 91% from the WSC and 9% from CDCs.

**New Capacity Facilities** – Funded as a general average 88% from CDCs and 12% from the WSC. The detailed split is based on the specific facility involved: 90%-10% for satellite treatment plants; 80%-20% for reclaimed water ponds, recharge basins, and associated pipelines; and 100% for new sewer interceptors, piping, and pipe modifications to convey wastewater to the satellite plants.

These allocations are applied as budgets for each project. Consistent with the specified allocation, LOTT has only split capital project costs on either a 9% CDC and 91% WSC basis for system projects, or 88% CDC and 12% WSC for new capacity projects.

The table lists the current estimated balance between the cost of new capacity and the Capacity Development Charge (CDC). This year’s comparison is derived utilizing total estimated costs to buildout, currently estimated to be 2053.

This analysis was chosen to ensure a more complete picture of total costs of new capacity, which includes the currently planned CIP to 2025, plus the estimated cost of 8 million additional new gallons of capacity from 2025 thru buildout at 2053. The current cost-effectiveness threshold of $20.82 per gallon of new capacity was used to estimate the costs of future capacity. It must be recognized that the accuracy of these numbers is subject to the vagaries of attempting to project costs and revenues out over four decades. The level of reliability of these projections is most likely in the range of plus or minus 20%. The following figure illustrates CDC rate versus the projected cost to meet buildout conditions.

To the reader these numbers may seem excessively high compared to the current CDC charge of $3,876.90 (2009), but it must be remembered that these numbers reflect inflated costs out to 2053, and are averaged over 53 years, from 2000 to 2053. The important fact is that the estimated costs and revenues appear to be relatively well balanced over the life of the plan to buildout. The current costs assigned to the CDC reflect construction, interest on debt and costs assigned to new capacity for staff, and related ancillary costs utilized to support new development. Because LOTT develops new capacity as needed, the utility invests significant staff and other resources in ongoing development activities, such as planning, engineering, land acquisition, environmental evaluation, public communications, permit acquisition, and other related activities.
CIP Summary and Capital Budget

The LOTT Capital Improvements Plan (CIP) is a listing of all major capital projects in the foreseeable future. It includes a combination of system improvement projects and new capacity projects. The CIP is updated annually in response to changing conditions and new information. The new CIP identifies $298 million in projects anticipated through 2025. The 2009 Capital Budget reflects estimated expenditures of $28.9 million for projects on that list.

<table>
<thead>
<tr>
<th>Capital Improvements Plan and Capital Budget Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Projected Cost 2009-2025</strong></td>
</tr>
<tr>
<td><strong>System Upgrades</strong></td>
</tr>
<tr>
<td>Budd Inlet Treatment Plant</td>
</tr>
<tr>
<td>Conveyance</td>
</tr>
<tr>
<td>Martin Way Reclaimed Water Plant</td>
</tr>
<tr>
<td><strong>Total System Upgrades</strong></td>
</tr>
<tr>
<td><strong>Miscellaneous</strong>*</td>
</tr>
<tr>
<td><strong>Total Miscellaneous</strong></td>
</tr>
<tr>
<td><strong>New Capacity Projects</strong></td>
</tr>
<tr>
<td>Budd Inlet Reclaimed Water</td>
</tr>
<tr>
<td>Hawks Prairie Satellite</td>
</tr>
<tr>
<td>Chambers Prairie Satellite</td>
</tr>
<tr>
<td><strong>Total New Capacity</strong></td>
</tr>
<tr>
<td><strong>Asset Management (LERF)</strong></td>
</tr>
<tr>
<td><strong>Total Asset Management (LERF)</strong></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
</tr>
</tbody>
</table>

* The Miscellaneous category represents items that may be allocated to both new capacity and existing system costs such as: internal engineering and staff costs, flow monitoring, flow reduction projects, and water quality projects.
CIP Project List and Capital Budget

The following table provides the complete project-by-project listing for the 2009-2025 CIP and 2009 Capital Budget. The list of projects is grouped in categories with total dollars for each category at the top of that category for easy reference. Narrative descriptions for each of the projects follow the table. The last column displays the Capital Budget expenditures anticipated for projects in 2009.

A major challenge in developing the CIP continues to be the rapid rise in construction costs. Many of these projects are place holders for known future needs. Detailed cost estimates have yet to be developed; however, staff and consultants have reviewed all costs projected in the CIP, and adjusted those costs based on the best current available information.

<table>
<thead>
<tr>
<th>2009-2025 Capital Improvements Plan and 2009 Capital Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year Start</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>System Upgrade</strong></td>
</tr>
<tr>
<td><strong>Budd Inlet Treatment Plant (BITP)</strong></td>
</tr>
<tr>
<td>1 SOPs/Electronic O&amp;M Manuals</td>
</tr>
<tr>
<td>2 Administrative/Education Center and Lab</td>
</tr>
<tr>
<td>3 North Scrubber</td>
</tr>
<tr>
<td>4 Digester Sludge Improvements</td>
</tr>
<tr>
<td>5 Reclaimed Water Feature</td>
</tr>
<tr>
<td>6 LEED Co-Generation</td>
</tr>
<tr>
<td>7 Port of Olympia Land Purchase</td>
</tr>
<tr>
<td>8 Thickening System Equipment Replacement</td>
</tr>
<tr>
<td>9 Primary Sedimentation Tanks</td>
</tr>
<tr>
<td>10 Process Control Improvements with Membranes</td>
</tr>
<tr>
<td>11 Emergency Power Phase II</td>
</tr>
<tr>
<td>12 North Outfall Evaluation/Upgrade</td>
</tr>
<tr>
<td>13 Class A Solids Project</td>
</tr>
<tr>
<td>14 Storage Building Modifications</td>
</tr>
<tr>
<td><strong>Martin Way Reclaimed Water Plant</strong></td>
</tr>
<tr>
<td>15 Membrane Replacement</td>
</tr>
<tr>
<td><strong>Conveyance Projects</strong></td>
</tr>
<tr>
<td>16 Kaiser Road Pump Station Improvements</td>
</tr>
<tr>
<td>17 Southern Connection Line Abandonment</td>
</tr>
<tr>
<td>18 Percival Creek/Mottman Road Interceptor</td>
</tr>
<tr>
<td>19 Henderson/Indian Creek Improvements</td>
</tr>
<tr>
<td>20 Interceptors/Manholes Inspection and Rehabilitation</td>
</tr>
<tr>
<td>21 East Corridor Upgrade (Marvin to Carpenter)</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
</tr>
<tr>
<td>23 Internal Engineering Support</td>
</tr>
<tr>
<td>24 Allied Staff Costs</td>
</tr>
<tr>
<td>25 Flow Monitoring Program</td>
</tr>
<tr>
<td>26 Flow Reduction Programs</td>
</tr>
<tr>
<td>27 Budd Inlet Habitat Improvement</td>
</tr>
<tr>
<td>28 Miscellaneous Small Projects</td>
</tr>
</tbody>
</table>
### 2009-2025 Capital Improvements Plan and 2009 Capital Budget (continued)

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Year Start</th>
<th>Year Online</th>
<th>Total Project Cost as of 2008</th>
<th>2009-2025 CIP</th>
<th>2009 Capital Budget</th>
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<tr>
<td>New Capacity</td>
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<td>$74,006,715</td>
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<td>38 4th mgd</td>
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<td>39 5th mgd</td>
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<td>44 Recharge/Conveyance</td>
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<td>2053</td>
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<td>47 Lacey Boulevard Diversion</td>
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<td>4 Fire Alarm System Upgrade</td>
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<td>6 UV System/7th Channel</td>
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<td>2015</td>
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<td>2012</td>
<td>$337,432</td>
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<td>8 Secondary Clarifier Blanket Tracking Probe</td>
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<td>2009</td>
<td>$28,000</td>
<td>$28,000</td>
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<td>9 Plant Electrical Substations Upgrades</td>
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<td>2015</td>
<td>$806,850</td>
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<td>10 Hydraulic Gate Operators Replacement</td>
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<td>2010</td>
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<td>11 BITP Screenings Pumps Replacement</td>
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<td>$110,000</td>
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<td>12 Robicon Drive Replacement</td>
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<td>13 BITP Roof Replacements</td>
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<td>14 Future Projects</td>
<td>2012</td>
<td>2025</td>
<td>$14,500,000</td>
<td>$14,500,000</td>
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</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td></td>
<td>$298,183,193</td>
<td>$28,919,009</td>
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</tr>
</tbody>
</table>
Capital Project Descriptions

Summary descriptions for each project on the CIP list are provided below. The projects are numbered to match their position on the table.

System Upgrade Projects

1. SOPs/Electronic O&M Manuals – The Budd Inlet Treatment Plant has several Operations and Maintenance Manuals (O&M Manuals) in both written and electronic format. However, there is no comprehensive set of Standard Operating Procedures (SOPs). SOPs will also be needed for all new LOTT satellite facilities and pump stations. An engineering consultant was hired in the fall of 2005 to begin developing SOPs. The large task includes quantifying SOP needs, providing a hierarchy of the SOPs, creating a production and review process, and producing the SOPs. Completing all of the needed SOPs will require multiple years of effort and will be managed by the LOTT Operations Division.

2. Administrative/Education Center and Water Quality Laboratory – To bring all LOTT staff onto the Budd Inlet Treatment Plant site and provide space for a new Education Center with interpretive exhibits, a new Administrative/Education Center building is being constructed. The Miller-Hull Partnership was selected as the architect for this project. Design began in 2006 with the final design completed in the fall of 2008. The building is confined to LOTT’s current property, but the design recognizes future expansion could occur on the adjoining piece of property LOTT is purchasing from the Port of Olympia (CIP Project #7). As part of this project, the existing lab, located in the current Administration Building, will be remodeled and expanded within the existing building. LOTT is pursuing Platinum LEED certification. This project is being coordinated with three other public projects planned in the same general area – a Public Plaza, a new Hands On Children’s Museum, and the Port’s overall East Bay Redevelopment.

3. North Scrubber – The North Odor Scrubber equipment was originally installed as part of the treatment plant construction for the secondary upgrade in the early 1980s. LOTT plans to replace this old scrubber with new, state-of-the-art technology that will be more effective in eliminating odiferous constituents and more efficient in balancing air flows. The project is coordinated with other work relative to the South Odor Scrubber.

4. Digester Sludge Improvements – The digester heating and circulation/mixing pumping systems for the four digesters at the Budd Inlet Treatment Plant have reached the end of their useful lives and need to be replaced. The current system is not fully reliable, involves a high level of manual operation, and can negatively affect treatment plant performance levels required to meet NPDES permit limits. This project will evaluate existing systems, offer alternate equipment and configuration options, and provide for design and construction of the selected alternative. The Business Case Evaluation (BCE) engineering study determined that the most cost-effective long-term solution included replacing the spiral heat exchangers, pumping, and piping. The original project only included the replacement of the recirculation pumps, hence the large increase in the project’s capital cost estimate. The engineering design for this project began in 2007. This project will also include the installation of an effluent meter and replacement of the influent gates.
5. Reclaimed Water Feature – A reclaimed water feature is planned as part of the new Administrative/Education Center and Water Quality Laboratory, including a fountain and shallow pond.

6. LEED Co-Generation – A project to utilize digester gas to generate electricity and heat (co-generation) has been the subject of two BCEs conducted by Brown and Caldwell and PAE Engineering. The recommended option for providing the best overall utilization of the available digester gas is a combined, high-efficiency co-generation system, including installation of a new gas treatment system, a new 335 kW reciprocating engine with a heat recovery unit, and two small 1.5 MMBtu natural gas boilers. The new system will save the facility nearly $150,000 per year in utility costs, allow the boiler plant to provide all of the heating required at the site as a “district heating” plant, eliminate the need to flare excess digester gas, and greatly reduce emissions of the site. The plant will have a useful life of 25 to 30 years with a 20-year life-cycle cost benefit estimated to be in excess of $6 million. The simple payback period, after accounting for anticipated utility incentives, is estimated to be 5-7 years. The project is being coordinated with the electrical utility, Puget Sound Energy. The project will be compatible with electrical and heat needs for the new Administrative/Education Center building and will therefore be eligible for LEED certification. LOTT has contracted with General Administration for this project, and TRANE has been selected as the Energy Performance Contractor.

7. Port of Olympia Land Purchase (East Bay Redevelopment) – In September 2007, a purchase and sale agreement was signed with the Port of Olympia for a parcel of land adjacent to the Budd Inlet Treatment Plant. This land purchase is critical for needed upgrades to the plant to include the primary sedimentation basins, process improvements and biosolids handling, as well as potential future Education Center expansion.

8. Thickening System Equipment Replacement – A Business Case Evaluation was completed in 2007, to include the replacement of the existing thickening system with a new technology. The evaluation determined that refurbishment of the existing dissolved air flotation thickeners (DAFTs) equipment was sufficient. The LOTT Maintenance Division will complete this work in-house.

9. Primary Sedimentation Tanks – This much-needed project involves a complete upgrade of the primary sedimentation treatment facilities at the Budd Inlet Treatment Plant. The existing primary sedimentation tanks continue to function, but are more than 50 years old and have exceeded their useful life. The project is estimated to take several years to accomplish. New tanks may be built adjacent to the old ones, while the old ones remain in service after necessary seismic, structural, and hydraulic upgrades. A bypass pipeline and a chemical-enhanced flocculation/coagulation system are also being considered so that high flow events can be adequately treated without negatively affecting the primary sedimentation process and other treatment processes.

10. Process Control Improvements with Membranes – This project will optimize nitrogen removal efficiency and capacity of the Biological Nutrient Removal (BNR) facilities of the Budd Inlet Treatment Plant. The complete secondary treatment and BNR process is being analyzed to identify the best improvements for both process control and increased capacity. The project will likely reconfigure the existing first anoxic, first aeration, second anoxic, and final aeration basins, as well as the excessive recycle pumping rates required to accomplish biological nutrient removal with the current plant configuration. This project will allow Operations staff to optimize power usage consumed by oversized blowers, pumps, and mixers. It will also optimize methanol addition to the secondary process.

11. Emergency Power Phase II – The LOTT Budd Inlet Treatment Plant has dual power feed directly from Puget Sound Energy’s main electrical sub-station and has limited emergency power generation from three 400 kW generators. This provides power to move wastewater from the influent pumps through the primary sedimentation tanks and UV disinfection system, and out through LOTT’s outfall pipeline using two of five final effluent pumps. This project provides one additional 750 kW engine generator at the final effluent building to power more effluent pumps and provide more UV disinfection. A BCE is planned to compare costs to risks.
12. **North Outfall Evaluation/Upgrade** – The current outfall was in-situ-form lined in 1992 at the location of the Cascade Pole waste site. The pipe lining is in the old 1952 30-inch diameter outfall pipeline and is 1,250 feet long. It results in a bottleneck through which the final effluent flows from the LOTT treatment plant to Budd Inlet. The bottleneck does not yet impede treatment capacity, but requires high power usage and high water flow velocities. LOTT will replace the bottlenecked segment with a new 48-inch outfall pipeline. The liner will be 25 years old and capacity needs (high flow events) will require replacement at that time. Plus, LOTT will coordinate with Port of Olympia facilities now being planned (cargo yard, railroad track extensions, and possible warehouses). An engineering report and BCE to determine the best alternative to improve effluent discharge capacity will be the first step. Replacing the outfall bottleneck section requires removal of approximately 5,000 to 10,000 tons of contaminated dirt at a potential disposal cost of $200 per ton and installation of new 1,250 lineal feet of 48-inch pipe. Other options, such as uni-directional drilling, are also being considered and will be evaluated.

13. **Class A Solids Project** – This line item on the Capital Improvements Plan list is a placeholder for a potential project to upgrade the biosolids treatment system to produce Class A Biosolids. The first step would be an engineering study to update the 1995 LOTT Biosolids Management Plan.

14. **Storage Building Modifications** – The existing storage building will be modified to support multipurpose activities. It will provide storage for polymer, which requires a controlled climate. A portion of the building will be converted into the LOTT fitness center.

15. **Martin Way Reclaimed Water Plant Membrane Replacement** – This project provides for replacement of the 1,760 membrane filter cartridges (which provide 2.0 mgd capacity) at the Martin Way Reclaimed Water Plant. It is anticipated that replacement is necessary every five years. The Martin Way Secondary Screening Project may extend that requirement to ten years.

16. **Kaiser Road Pump Station Improvements** – Reliable operation of critical equipment is necessary to ensure that wastewater overflows do not occur at the Kaiser Road Pump Station, which was built in 1971. Several years ago, the backup generator was replaced and the telemetry and PLC control systems were upgraded. A detailed engineering study was completed in 2006 to make improvements to the pumps, surge tank, electrical equipment, and odor control equipment. Additional property was acquired in 2006 in coordination with the Capitol Land Trust to protect the adjacent ten acres of wetlands. As of December 2008, the pump station was 70% completed. This project was financed by a Public Works Trust Fund Loan in the amount of $4,710,362.

17. **Southern Connection Line Abandonment** – This project abandons the old Tumwater sewer interceptor, which was replaced by the new Southern Connection pipeline, and will be coordinated with the City of Tumwater. The line will not be abandoned until the LOTT Reclaimed Water Recharge and Conveyance Study is complete as this may be a viable route for a future LOTT reclaimed water conveyance pipeline.

18. **Percival Creek/Mottman Road Interceptor** – This project replaces, or adds, several sections of the Percival Creek interceptor pipeline to add capacity and correct poor conditions. The first section was replaced in 2007 in conjunction with the City of Olympia Mottman Road/R.W. Johnson Boulevard road construction project. As part of the overall road construction, LOTT coordinated with Olympia to replace 1,500 linear feet of 35-year-old, 24-inch sewer line with a new 30-inch line. This is a very cost-effective means of sewer utility construction. The other sections include the lower section near the Capitol Lake Pump Station and the section in Cooper Point Road crossing Black Lake Boulevard. Both sections are capacity limited.

19. **Henderson/Indian Creek Improvements** – This project will improve sewer flow hydraulics at a key point where the east interceptors in Lacey join the south interceptors in Olympia, and branch into the downtown Olympia interceptors. The project may include improvements to key downtown interceptors (Plum, Cherry, and Chestnut Street interceptors).
20. Interceptors/Manholes Inspection and Rehabilitation – This project addresses federal Capacity, Management, Operations, and Maintenance (CMOM) requirements as well as LOTT’s Asset Management Program requirements to assess LOTT sewer lines and manholes. The activities include video inspection, evaluation and rating, and the repair and replacement of manholes and interceptors. The annual budget is $300,000, and will be a programmatic maintenance practice.

21. East Corridor Upgrade (Marvin to Carpenter) – This 1.5 mile expansion of the Martin Way interceptor sewer pipeline, between Marvin Road and Carpenter Road, involves the installation of a 12-inch interceptor pipeline parallel to the existing 12-inch interceptor to increase capacity from growth and septic conversions in Lacey.

22. Annual Miscellaneous Professional Service – This line item on the CIP provides funding for various unexpected small projects that are identified during the year, and for projects needed to respond to emergency situations.

23. Internal Engineering Support – Engineering programs to support current and future projects include: facility planning, permitting, engineering design, construction management, and documentation. In-house staff has been expanded over the last three years. The new staff positions replace the need for more costly consultant services to provide construction management and inspection services, effectively reducing direct project costs.

24. Allied Staff Costs – General staff provides support of the CIP in a number of areas including flow reduction program management, general planning support, and other administrative support. These costs are assigned to the CIP to ensure true cost accounting and accuracy in separating treatment costs from capital development costs.

25. Flow Monitoring Program – This project provides funding for the collection and analysis of flow monitoring data to include support in the development of the annual Flows and Loadings, Infiltration & Inflow and Flow Monitoring, and Capacity Assessment Reports. Annual costs include the monthly data collection fees, annual calibration, relocation, and maintenance of flow meters by SFE Global, and support from Brown and Caldwell.

26. Flow Reduction Programs – To help maximize capacity at the Budd Inlet Treatment Plant, LOTT has a three-pronged approach to flow reduction. LOTT provides cost-sharing to partner jurisdictions that complete projects to reduce inflow and infiltration (I&I) to the wastewater system. LOTT also works with the three City water utilities on a regional water conservation program to complete residential and commercial projects that cost-effectively reduce water use and wastewater flows. Current projects include rebates of up to 75% to industrial, commercial, and institutional customers who install water-saving technologies, free replacement pre-rinse sprayheads, direct installation of high-efficiency toilets for commercial customers, residential washing machine rebates, free residential water saving kits, and composting toilet rebates. LOTT recognizes the importance of public education to achieve behavior changes that result in water conservation. LOTT is constructing a new Education Center with an emphasis on water conservation and expanding educational outreach to reach a broader audience with conservation messages. This project includes the design, fabrication, and annual updating of the exhibits in the Education Center.

27. Budd Inlet Habitat Improvement – LOTT is working with the Squaxin Island Tribe to identify one or more water quality or habitat improvement projects that would be beneficial to fish and/or shellfish and overall community water quality.

28. Miscellaneous Small Projects – Various conveyance system improvement projects, and the need for diversion lines, will be identified, evaluated, and constructed. This line item also includes funding for projects authorized through LOTT’s new Public Art Policy, approved by the Board of Directors on July 9, 2008. The new program will incorporate public art in large-scale, publicly accessible capital projects. The policy currently applies to three projects: Hawks Prairie Reclaimed Water Ponds, Administrative/Education Center, and the East Bay Public Plaza. The process for designing public art for the Administrative/Education Center began in 2008; art installation is expected in concert with completion of the new building in early 2010.
New Capacity Projects

29. Southern Land Acquisitions – This project provides funding for the identification, evaluation, and ultimate acquisition of additional groundwater recharge sites in the south Deschutes area.

30. Reclaimed Water Storage – Reclaimed water storage capacity may be needed to optimize the existing production capacity at the Budd Inlet Reclaimed Water Plant. This project will be a collaborative effort with the Cities of Olympia and Tumwater to identify and implement the optimum solution for the construction of operational storage capacity.

31. Henderson 3 mgd Recharge Basins – This project will include site development of the Henderson Boulevard groundwater infiltration site.

32. Henderson Conveyance Pipeline – A 15-inch reclaimed water pipeline will be designed and built from the Tumwater Golf Course pump house through Pioneer Park to Henderson Boulevard Recharge location (approximately 2 miles). It will provide reclaimed water to the City of Tumwater’s Pioneer Park, a future Fish and Wildlife fish hatchery site, and various other users along Henderson. It will ultimately convey 3 mgd of reclaimed water to the Henderson Groundwater Recharge Basins.

33. Deschutes Parkway Reclaimed Water Line Extension – This project will extend the existing reclaimed water line from the Budd Inlet Reclaimed Water Plant through downtown Olympia to the Capitol Lake Pump Station and on to the Tumwater Golf Course. This includes the following: 1) increasing the capacity of the 4-inch pipeline across the foot bridge to the pump station by adding a 12-inch pipe to that existing 1,300 foot-long section; 2) converting the existing 9,000 foot-long 20-inch Southern Connection interceptor forcemain along Deschutes Parkway to a reclaimed water line; and 3) constructing a forcemain from the Tumwater diversion structure to the golf course pump house. Expediting this project enabled LOTT to collaborate with the City of Olympia on a planned project to install a reclaimed water line up Lakeridge Drive. The project is the first phase in connecting to the Henderson Groundwater Recharge Basins site.

34. Marathon Park Booster Pump Station – This project is to design and construct a reclaimed water booster pump system across from Marathon Park within the City of Olympia’s planned potable water booster pump station. This project would need to take place after the reclaimed water pipeline is extended from the Tumwater Golf Course to Henderson Boulevard (CIP Project #32), or when the Lakeridge Drive Reclaimed Water Line is extended.

35. Future Treatment, Conveyance, and Recharge – LOTT will continue its feasibility investigation, research, and hydrogeologic studies of multiple potential recharge sites.

36. Hawks Prairie North/South Conveyance – This project will provide wastewater and/or reclaimed water conveyance capacity north and south in the eastern side of the service area.

37. Hawks Prairie 3rd mgd Equipment – LOTT has already constructed the concrete structure necessary for the 3rd mgd of treatment capacity at the Martin Way Reclaimed Water Plant, but no equipment was installed for that increment. The equipment necessary for the 3rd mgd of capacity will be installed as part of this future project.

38. Hawks Prairie 4th mgd – This project will add the 4th mgd of treatment capacity.

39. Hawks Prairie 5th mgd – This project adds the 5th increment of treatment capacity.

40. Hawks Prairie 6th/7th mgd – This project adds the potential 6th and 7th increments of treatment capacity at the Martin Way Reclaimed Water Plant.

41. Hawks Prairie Recharge Expansion to 8 mgd – This item is a placeholder for future potential recharge capacity. It would increase the recharge capacity of the existing Hawks Prairie Groundwater Recharge Basins to a maximum of 8 mgd. An analysis of other alternatives is also being conducted.
42. **Chambers Prairie Land Acquisition** – This project is to identify, evaluate, and acquire potential groundwater recharge sites for the Chambers Prairie Reclaimed Water Plant.

43. **Chambers Prairie 1 mgd Plant** – Engineering of LOTT’s second satellite reclaimed water plant on the new Mullen Road Extension just south of Komachin Middle School is now pushed back until 2030. It is much more cost-effective to delay this plant’s construction and focus on reclaimed water distribution piping and expansion of the existing plant on Martin Way. Like the Martin Way Plant, the Mullen Road (Chambers Prairie) Reclaimed Water Plant will be designed to initially produce 1 mgd of Class A Reclaimed Water, suitable for irrigation, use in decorative ponds and fountains, industrial processes, groundwater recharge, stream augmentation, and many other non-potable beneficial uses.

44. **Chambers Prairie Recharge and Conveyance** – This project provides construction of recharge facilities, wastewater and reclaimed water distribution, and conveyance to support the Chambers Prairie Reclaimed Water Plant.

45. **Mullen Road Improvements** – This project provides for pipelines necessary to manage both influent and effluent flow within the Mullen Road right-of-way adjacent to the Chambers Prairie Plant site. It also includes a 4,000 foot-long 12-inch reclaimed water pipeline installation in Mullen Road to the east of Ruddell Road, which was installed in 2007-2008. Phase II of the project will include a pipeline to the west to route flows eventually from Lacey Boulevard to the planned Mullen Road (Chambers Prairie) Reclaimed Water Plant.

46. **SE Olympia Diversion** – This is one of three projects to construct pipelines necessary to divert sewer flows to the future Mullen Road (Chambers Prairie) Reclaimed Water Plant.

47. **Lacey Boulevard Diversion** – This is the primary project required to provide wastewater flows to the future Mullen Road (Chambers Prairie) Reclaimed Water Plant. It includes piping, pumping, and a diversion structure to control flow to either the Mullen Road or Martin Way plants. It is estimated that the base sanitary flow will be 2 to 3 mgd by 2012.

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The Deschutes Parkway Reclaimed Water pipeline will extend the existing reclaimed water line from the Budd Inlet Reclaimed Water Plant to the Tumwater Golf Course.
Asset Management (LERF) Projects

1. Asset Management Program Development – Consultant services to support the Asset Management Program are being provided in phases. Phase 1: Develop a strategic asset management plan focusing on managing assets that yields superior optimization and return on investment. Phase 2: Provide ongoing asset management support services on an on-call basis to implement the LOTT Strategic Asset Management Plan.

2. Air Handling/Headworks – This project will address headworks air handling capacity and allow the use of the equalization basins on a regular basis. The design was completed in the winter of 2007.

3. Air Handling/Solids and Maintenance Buildings – Air ducting from solids building to the North Odor Scrubber will be installed. This will include the removal of the energy wheel and additional ducting from the Dissolved Air Flotation Thickener (DAFT) tanks.

4. Fire Alarm System Upgrade – The existing fire alarm system is aging and prone to problems. Many of the detectors are difficult to reach and in harsh environments. The system is not up to current National Electric Code standards. It is becoming increasingly difficult to maintain as parts are scarce for this 28-year-old system. This project would update the aging system.

5. Second Anoxic Mixers – This project is to replace mixers that were originally installed in 1994. They are made of fiberglass and the bottom blades have broken off.

6. UV System/7th Channel – This project will add a 7th train of UV disinfection.

7. UV System Control and Power Upgrades – This project will replace control boards and power supplies for the UV disinfection trains and make accommodations to the new Metso Automated Control System upgrade project. The Asset Management Program will dictate needs.

UV System Control and Power Upgrades Project will replace control boards and power supplies for the UV disinfection trains and make accommodations to the new Metso upgrade project.
8. **Secondary Clarifier Blanket Tracking Probe** – Currently there is no continuous monitoring of the secondary blanket levels. Operations must manually gather up to five blanket elevations per day. This could be done continuously with the proper probes. During storm events the hydraulic push from the flow increases the solids loading to the secondary clarifiers, which in turn has a negative impact on the clarifier capacity. By having on-line continuous real time tracking of the blankets, maximum capacities of the clarifiers will be known sooner. This will enable operations to push through what the clarifiers can handle and plan alternatives avoiding needless discharge permit violations. This will also allow remote alarm generation to alert the on-call operator if there is a potential of losing solids from the clarifiers when the plant is unstaffed (graveyard hours 0200-0600).

9. **Plant Electrical Substations Upgrades** – This project is established to provide for upgrades to the four major substations on the Budd Inlet Treatment Plant site. Upgrades include arc flash compliance features, new breakers, switches, and other components.

10. **Hydraulic Gate Operators Replacement** – The hydraulic gate operating system was originally intended to be used in cases of extreme emergency including complete power failure. Recently, failure of the uninterrupted power supply unit, which provides control power to the hydraulic system, caused the large gate at the northwest corner of the second anoxic/final aeration basins to close, consequently causing an overflow of mixed liquor onto the adjacent Port of Olympia property and into the street. Replacement of the hydraulic gate operating system with electrically powered gate operators will allow staff greater and more reliable control of these critical gates even in the event of a power outage.

11. **Budd Inlet Treatment Plant Screenings Pumps Replacement** – The Vaughn Chopper pumps in the headworks building, which move screenings from the chopper hopper to the washer/compactor, have a cutting apparatus that must be replaced on a regular basis. A Business Case Evaluation concluded that the replacement of these pumps with new pumps, which require far less maintenance, would be more cost-effective.

12. **Robicon Drive Replacement** – The Robicon drives, which operate much of the large pumping systems within the Budd Inlet Treatment Plant, are reaching the end of their useful life, and are no longer supported by the now defunct manufacturer. The risk of failure is high and the consequence could be catastrophic. The BCE evaluation determined that the drives should be systematically replaced over the next two to three years, which will provide reliable service to the plant’s critical pumping systems. The removed drives can be used to supply spare parts to the drives that remain in service until all drives have been replaced.

13. **Budd Inlet Treatment Plant Roof Replacements** – This project establishes a line item for funding the replacement of LOTT facilities’ roofs as they reach the end of their useful lives. A maintenance and monitoring program has been established to maximize the life of the existing roofs and ultimately plan for their replacement.

14. **Future Projects** – This line item is a placeholder for currently unidentified future projects.
2009 Operating Budget
Chapter 8

2009 Operating Budget
Balancing Revenues and Expenses

LOTT’s overall budget for the fiscal year January 1, 2009, through December 31, 2009, including both the Operating Budget and Capital Budget, is 6.6% lower than in 2008.

Introduction

The 2009 Operating Budget was developed during 2008 and was the subject of multiple work sessions with the Board of Directors. Following a public hearing in October, the final Budget was adopted on November 12, 2008. Operating expenses are projected to increase by approximately 12%, but this is more than balanced by a 12% decrease in projected expenses in the larger Capital Budget.

The LOTT Board remains committed to ensuring costs are equitably distributed between the operation of the existing system and development of new capacity to accommodate growth. This has been accomplished in part by redistributing the allocation of staff time between the Operating Budget and the Capital Budget. In 2008, staff time associated with new capacity development was shifted to the Capital Budget. For 2009, staff time for system upgrade projects has also been shifted to the Capital Budget. To accommodate this redistribution, the LOTT Board has sought to ensure that growth continues to pay for growth through the proper adjustment and allocation of the Capacity Development Charge.

In September 2008, the Board of Directors reaffirmed planned increases to both the Wastewater Service Charge (WSC) and the Capacity Development Charge (CDC) through 2012. This increase was part of the 5-year rate adjustment plan approved in June 2007. With this rate plan and service area growth, service revenue is expected to meet inflationary adjustments as well as provide for equity investment in capital projects.

In 2009, staff time for system upgrade projects has also been shifted to the Capital Budget.
Budget Summary

The following table provides a summary overview of the 2009 combined Operating and Capital Budgets, compared with prior years.

<table>
<thead>
<tr>
<th>Revenue and Expense Budget Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
</tr>
<tr>
<td>Wastewater Service Charge (WSC)</td>
</tr>
<tr>
<td>LOTT Equipment Replacement Fund (LERF)</td>
</tr>
<tr>
<td>Capacity Development Charge (CDC)</td>
</tr>
<tr>
<td>Miscellaneous Revenue</td>
</tr>
<tr>
<td><strong>Net Revenue from Rates and Charges</strong></td>
</tr>
<tr>
<td>Estimated Transfers from Loans</td>
</tr>
<tr>
<td><strong>Total Revenue and Loans</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
</tr>
<tr>
<td>Capital Fund Transfer</td>
</tr>
<tr>
<td>Net Operating Expense</td>
</tr>
<tr>
<td>Debt Service</td>
</tr>
<tr>
<td><strong>Total Operations and Debt Service</strong></td>
</tr>
<tr>
<td>Capital Fund Expense</td>
</tr>
<tr>
<td><strong>Total Expense</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Expense Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Expense Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
</tr>
</tbody>
</table>

**Note:** The “2008 Projected” column is shown to assist the comparison of the current year’s performance to current and future budgets. It is an estimate of the year-end balance, and assumes revenue and expense trends will remain the same as the first eight months of the year.
Revenues

LOTT’s monthly rates are used to pay all operations costs, most of the cost for repairs or upgrades to the existing system, and loan payments for system-related capital costs. Also known as the Wastewater Service Charge (WSC), the 2009 monthly rate of $28.50 per equivalent residential unit (ERU), will take effect January 1, 2009. Of that monthly rate, $1.25 goes to the LOTT Equipment Replacement Fund (LERF). Monthly rate increases of $1.50 per year are planned through 2012 to accommodate inflationary adjustments.

A connection fee, called the Capacity Development Charge (CDC), is used to build projects that add new treatment capacity, such as satellite reclaimed water plants, larger sewer lines, and other projects that increase LOTT’s ability to serve new customers. LOTT’s 2009 connection fee will be $3,876.90. This charge increases by $64.10 annually through 2019. This incremental adjustment was put in place in 2002 to cover the estimated costs of planned projects through 2020. It was not an inflationary adjustment. In 2007, the Board implemented an inflationary adjustment of $150.00 per year through 2012. The need for this increase was driven primarily by construction inflation.

LOTT also earns interest on cash deposits and receives revenues from miscellaneous other sources such as disposal fees from waste haulers. Rates for disposal of septage, vactor, and similar non-septage wastes are automatically adjusted in conjunction with the WSC. For 2009, the adjusted rate for septage disposal will be $11.76 per 100 gallons, and the rate for vactor and similar non-septage disposal will be $3.05 per 100 gallons.

### Schedule of Rates and Fees

<table>
<thead>
<tr>
<th>Year</th>
<th>Monthly Rate</th>
<th>Connection Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>$28.50</td>
<td>$3,876.90</td>
</tr>
<tr>
<td>2010</td>
<td>$30.00</td>
<td>$4,091.00</td>
</tr>
<tr>
<td>2011</td>
<td>$31.50</td>
<td>$4,305.10</td>
</tr>
<tr>
<td>2012</td>
<td>$33.00</td>
<td>$4,519.20</td>
</tr>
</tbody>
</table>

The 2009 rates were formally adopted by the LOTT Board on September 10, 2008.
Forecasting Growth

LOTT’s capacity planning model uses regional growth information, parcel data, and flow modeling. Flow is measured in terms of Equivalent Residential Units (ERUs). LOTT defines an ERU as 900 cubic feet of wastewater volume per month. This is the amount presumed to be discharged by an average single-family household. For multi-family housing with more than two units, such as apartment complexes, each living unit counts as 7/10 of an ERU. Commercial and industrial dischargers are charged according to water consumption converted to ERUs.

<table>
<thead>
<tr>
<th>Projected ERUs</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacey</td>
<td>18,641</td>
<td>19,785</td>
<td>21,059</td>
<td>22,378</td>
<td>23,751</td>
<td>25,167</td>
</tr>
<tr>
<td>Olympia</td>
<td>24,900</td>
<td>25,513</td>
<td>26,207</td>
<td>26,932</td>
<td>27,683</td>
<td>28,466</td>
</tr>
<tr>
<td>Tumwater</td>
<td>9,102</td>
<td>9,859</td>
<td>10,530</td>
<td>11,225</td>
<td>11,936</td>
<td>12,667</td>
</tr>
<tr>
<td><strong>Total Projected ERUs</strong></td>
<td>52,643</td>
<td>55,157</td>
<td>57,796</td>
<td>60,535</td>
<td>63,370</td>
<td>66,300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projected Annual Change in ERUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacey</td>
</tr>
<tr>
<td>1,112</td>
</tr>
<tr>
<td>1,145</td>
</tr>
<tr>
<td>1,273</td>
</tr>
<tr>
<td>1,320</td>
</tr>
<tr>
<td>1,373</td>
</tr>
<tr>
<td>1,416</td>
</tr>
<tr>
<td>Olympia</td>
</tr>
<tr>
<td>568</td>
</tr>
<tr>
<td>613</td>
</tr>
<tr>
<td>694</td>
</tr>
<tr>
<td>725</td>
</tr>
<tr>
<td>751</td>
</tr>
<tr>
<td>783</td>
</tr>
<tr>
<td>Tumwater</td>
</tr>
<tr>
<td>734</td>
</tr>
<tr>
<td>756</td>
</tr>
<tr>
<td>672</td>
</tr>
<tr>
<td>695</td>
</tr>
<tr>
<td>711</td>
</tr>
<tr>
<td>732</td>
</tr>
</tbody>
</table>

| **Total ERU Change** | 2,414 | 2,514 | 2,639 | 2,740 | 2,835 | 2,931 |

Revenue Projections

Projected service revenues (WSC/LERF) are derived from the total annual ERUs. Projected Capacity Development Charge (CDC) revenues are derived from a conservative estimate of new connections each year. Revenue projections are represented for the 2009 budget year in the preceding Budget Summary and in the Six-Year Forecast shown on page 126.

As part of ensuring revenues are sufficient to operate the utility in the future, LOTT tracks several measures of inflation. This line graph shows one of those measures, the Seattle CPI-W, indexed against LOTT’s current rate structure. Future CPI projections are calculated using the average historical monthly increase.
Expenses

The following table provides a summary of anticipated 2009 expenditures compared with 2008 budget amounts.

<table>
<thead>
<tr>
<th>Category</th>
<th>FY 2008 Budget</th>
<th>FY 2009 Budget Requests</th>
<th>% Difference</th>
<th>$ Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>$4,332,357</td>
<td>$4,779,951</td>
<td>10.3%</td>
<td>$447,593</td>
</tr>
<tr>
<td>Benefits</td>
<td>$1,312,705</td>
<td>$1,675,862</td>
<td>27.7%</td>
<td>$363,157</td>
</tr>
<tr>
<td>Operating Supplies</td>
<td>$731,350</td>
<td>$909,222</td>
<td>24.3%</td>
<td>$177,872</td>
</tr>
<tr>
<td>Fuel Consumed</td>
<td>$18,500</td>
<td>$20,300</td>
<td>9.7%</td>
<td>$1,800</td>
</tr>
<tr>
<td>Small Tools and Minor Equipment</td>
<td>$63,500</td>
<td>$79,000</td>
<td>24.4%</td>
<td>$15,500</td>
</tr>
<tr>
<td>Professional Services</td>
<td>$496,675</td>
<td>$405,500</td>
<td>(18.4%)</td>
<td>($91,175)</td>
</tr>
<tr>
<td>Communication</td>
<td>$84,360</td>
<td>$94,360</td>
<td>11.9%</td>
<td>$10,000</td>
</tr>
<tr>
<td>Travel</td>
<td>$68,010</td>
<td>$69,860</td>
<td>2.7%</td>
<td>$1,850</td>
</tr>
<tr>
<td>Advertising</td>
<td>$30,430</td>
<td>$29,230</td>
<td>(3.9%)</td>
<td>($1,200)</td>
</tr>
<tr>
<td>Operating Rentals and Leases</td>
<td>$265,803</td>
<td>$277,780</td>
<td>4.5%</td>
<td>$11,977</td>
</tr>
<tr>
<td>Insurance</td>
<td>$334,535</td>
<td>$341,567</td>
<td>2.1%</td>
<td>$7,032</td>
</tr>
<tr>
<td>Utility Services</td>
<td>$1,531,900</td>
<td>$1,618,195</td>
<td>5.6%</td>
<td>$86,295</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td>$171,350</td>
<td>$151,600</td>
<td>(11.5%)</td>
<td>($19,750)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$519,500</td>
<td>$693,255</td>
<td>33.4%</td>
<td>$173,755</td>
</tr>
<tr>
<td>Intergovernmental Professional Services</td>
<td>$156,925</td>
<td>$151,575</td>
<td>(3.4%)</td>
<td>($5,350)</td>
</tr>
<tr>
<td>External Taxes and Operating Assessments</td>
<td>$14,000</td>
<td>$17,000</td>
<td>21.4%</td>
<td>$3,000</td>
</tr>
<tr>
<td>Capital Outlays</td>
<td>$6,000</td>
<td>$13,000</td>
<td>116.7%</td>
<td>$7,000</td>
</tr>
<tr>
<td><strong>Total Operations Expense</strong></td>
<td><strong>$10,137,900</strong></td>
<td><strong>$11,327,257</strong></td>
<td><strong>11.7%</strong></td>
<td><strong>$1,189,356</strong></td>
</tr>
<tr>
<td>Capital Fund Transfers</td>
<td>($1,460,424)</td>
<td>($2,169,714)</td>
<td>48.6%</td>
<td>($709,290)</td>
</tr>
<tr>
<td>Net Operating Budget</td>
<td>$8,677,476</td>
<td>$9,157,543</td>
<td>5.5%</td>
<td>$480,066</td>
</tr>
</tbody>
</table>
Expense Analysis

The 2009 LOTT Operating Budget has increased by approximately 12%. Rising costs associated with staff support, as well as supplies and services, led to this increase.

Salaries – LOTT’s total salary expense has increased approximately 10% from the previous year’s budget. Approximately half the increase is a result of a cost of living adjustment of 5.57%. The budget includes two new positions, one for environmental education and one for environmental compliance. Additionally, a previously un-budgeted vacant position will be filled in 2009. These staffing additions account for approximately one-third of the increase. The remainder of the increase is from scheduled step increases for staff.

LOTT is currently in year two of a three-year collective bargaining agreement with the American Federation of State, County, and Municipal Employees.

Benefits – There are two main components of the increase in benefits costs – health insurance and retirement contributions. LOTT’s health insurance program is administered through the Association of Washington Cities (AWC), and LOTT’s increase was due to continued escalations in costs in the health care industry. LOTT is anticipating health care premiums to rise approximately 8%. Retirement rates also increased significantly. LOTT utilizes the Washington State Department of Retirement Systems (DRS) to provide retirement plans for employees. In June 2008, DRS informed LOTT that the employer share of the contribution rate would rise more than 2% from the amounts budgeted in 2008. This resulted in an approximately $120,000 increase in LOTT’s share of the retirement contribution, prior to the staffing additions noted previously.

Operating Supplies – The majority of the increase in this category is due to higher costs of chemicals used during the treatment process. Many of these chemicals are closely tied to escalating costs in the petroleum industry. Additionally, there has been growth in the number of waste haulers using the septage disposal at the Budd Inlet Treatment Plant, which utilizes more chemicals to treat increased demand. As a result, a 24% increase in operating supplies is anticipated.

Miscellaneous – Costs for biosolids beneficial use and hauling fees account for the major increase in the miscellaneous category. This category also includes materials and supplies to support the new Education Program.
The Executive Director reports to the Board of Directors, which consists of four elected officials, one from each of the partner jurisdictions. Staff members are organized under four Division Directors who report to the Executive Director.

The organization chart below shows LOTT’s planned staffing for 2009. The total full-time equivalent (FTE) number increased by two, as positions were added for environmental education and environmental compliance. This brings the total number of full-time equivalent positions to 65.5. The .5 FTE is a 6-month transitional FTE position, established by the Board to support succession planning for employees nearing retirement who fill unique and critical positions. This position is filled only as needed.
Six-Year Revenue and Expense Forecast

In addition to the annual budgets, LOTT also projects a Six-Year Revenue and Expense Forecast. Six years is the typical planning window for utilities and public works projects, and is considered an appropriate short-term time period for predictability.

### Six-Year Forecast

<table>
<thead>
<tr>
<th></th>
<th>2009 Budget</th>
<th>2010 Budget</th>
<th>2011 Budget</th>
<th>2012 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater Service Charge (WSC)</td>
<td>$17,087,768</td>
<td>$18,388,947</td>
<td>$19,735,337</td>
<td>$21,128,228</td>
</tr>
<tr>
<td>LOTT Equipment Replacement Fund (LERF)</td>
<td>$783,843</td>
<td>$799,519</td>
<td>$815,510</td>
<td>$831,820</td>
</tr>
<tr>
<td>Capacity Development Charge (CDC)</td>
<td>$3,876,900</td>
<td>$4,091,000</td>
<td>$6,457,650</td>
<td>$6,778,800</td>
</tr>
<tr>
<td>Miscellaneous Revenue</td>
<td>$1,336,000</td>
<td>$809,482</td>
<td>$809,507</td>
<td>$825,860</td>
</tr>
<tr>
<td><strong>Net Revenue from Rates and Charges</strong></td>
<td><strong>$23,084,510</strong></td>
<td><strong>$24,088,948</strong></td>
<td><strong>$27,818,004</strong></td>
<td><strong>$29,564,708</strong></td>
</tr>
<tr>
<td>Estimated Transfers from Loans</td>
<td>$0</td>
<td>$15,000,000</td>
<td>$15,000,000</td>
<td>$30,000,000</td>
</tr>
<tr>
<td><strong>Total Revenue and Loans</strong></td>
<td><strong>$23,084,510</strong></td>
<td><strong>$39,088,948</strong></td>
<td><strong>$42,818,004</strong></td>
<td><strong>$59,564,708</strong></td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOTT Operations</td>
<td>$11,327,257</td>
<td>$11,958,177</td>
<td>$12,624,518</td>
<td>$13,328,281</td>
</tr>
<tr>
<td>Capital Fund Transfer</td>
<td>($2,169,714)</td>
<td>($2,290,595)</td>
<td>($2,418,211)</td>
<td>($2,552,937)</td>
</tr>
<tr>
<td>Net Operating Expense</td>
<td>$9,157,543</td>
<td>$9,667,582</td>
<td>$10,206,307</td>
<td>$10,775,344</td>
</tr>
<tr>
<td>Debt Service</td>
<td>$6,337,460</td>
<td>$6,337,460</td>
<td>$7,441,186</td>
<td>$8,544,913</td>
</tr>
<tr>
<td>Total Operations and Debt Service</td>
<td>$15,495,003</td>
<td>$16,005,042</td>
<td>$17,647,493</td>
<td>$19,320,257</td>
</tr>
<tr>
<td>Capital Fund Expense</td>
<td>$28,919,009</td>
<td>$23,357,085</td>
<td>$24,796,058</td>
<td>$26,599,050</td>
</tr>
<tr>
<td><strong>Total Expense</strong></td>
<td><strong>$44,414,011</strong></td>
<td><strong>$39,362,127</strong></td>
<td><strong>$42,443,551</strong></td>
<td><strong>$45,919,307</strong></td>
</tr>
</tbody>
</table>

**Note:** The recent decline in the housing market has led LOTT to substantially reduce revenue forecasts for the Capacity Development Charge (CDC) below previous estimates, through 2012. The increase in the CDC from the 2012 to the 2013 forecast is a result of returning to the original estimates for the number of new connections in the system. The LOTT Board carefully monitors these numbers, and will make adjustments as necessary.
The line graph shows the relationship between system operations expense and revenue as a percentage. System expenses are defined as expenses for operating the existing system (prior to the Capital Fund transfer) plus debt service for loans borrowed for related capital costs.

System revenue is defined as revenue from the service charges (WSC/ LERF) and miscellaneous revenue. The current observed benchmark for this measure has been defined as not allowing projected system costs to exceed 85% of projected system revenue. If revenue consistently met or exceeded projections, the remaining “unspent” funds would increase the equity (lowering the need for borrowed money) in capital projects.
In 2008, the LOTT Board of Directors established a set of emergency reserves. Prior to this, the Board carried only reserves required by loan agreements and a cash balance of not less than $5,000,000 in any year, which could be used for emergency purposes.

The Environmental Protection Agency and other advisors are now encouraging dedicated reserves for emergency operating funds and emergency capital funds. As a result, the LOTT Board maintains emergency reserves to meet financial obligations and service requirements in the event of a natural or man-made catastrophe. These reserves are in addition to those already required by debt service covenants and any other reserves that may be required by law.

<table>
<thead>
<tr>
<th>Reserve</th>
<th>Purpose</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Emergency Capital</td>
<td>Funding capital projects necessary to continue in a catastrophic situation</td>
<td>$3.5 million</td>
</tr>
<tr>
<td>System Emergency Operations</td>
<td>Continuing operations in a catastrophic situation</td>
<td>$4.5 million</td>
</tr>
<tr>
<td>New Capacity Allied Cost</td>
<td>Replacing funding for new capacity projects derived from both the Capacity Development Change and the Wastewater Service Charge</td>
<td>$1.0 million</td>
</tr>
</tbody>
</table>

Audited Financial Statements

The LOTT Alliance was established as an entity in April 2000 and became financially independent in July 2001. Since that time, LOTT’s financial records have been audited annually by the Washington State Auditor’s Office.

2007 Audit

An audit of 2007 records was conducted in 2008, with the final report issued in June. For the seventh year in a row, the Auditor’s Office reported no “findings” for the LOTT Alliance.

The results of the audit are included in two separate reports. Each of these is available on the Auditor’s website (www.sao.wa.gov) and on the Library page of LOTT’s website (www.lottonline.org).

- Accountability Audit Report, March 28, 2008
- Financial Statements Audit Report, June 9, 2008

The Accountability Audit Report notes: “The Alliance complied with state laws and regulations and its own policies and procedures in the areas we examined. Internal controls were adequate to safeguard public assets.”

The Financial Statement Report notes: “In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the LOTT Alliance, as of December 31, 2007, and the changes in financial position and cash flows, where applicable, thereof, for the year then ended, in conformity with accounting principles generally accepted in the United States of America.”

2008 Audit

The audit of the 2008 records had not yet been conducted at the time this State of the Utility Report was published. When those reports are issued, probably in June 2009, they will be posted on the LOTT Alliance and State Auditor’s websites.