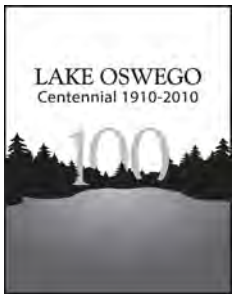


# AGENDA

## CITY COUNCIL SPECIAL MEETING

Monday, November 8, 2010
7:00 p.m.
Willamette Room, West End Building,
4010 Kruse Way

CITY OF LAKE OSWEGO

380 A Avenue
PO Box 369
Lake Oswego, OR 97034

503-675-3984
www.ci.oswego.or.us

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Contact: Robyn Christie, City Recorder
Email: rchristie@ci.oswego.or.us
Phone: 503-675-3984

Also published on the internet at:
www.ci.oswego.or.us

The meeting location is accessible to persons with disabilities. To request accommodations, please contact the City Recorder's Office at 503-635-0236, 48 hours before the meeting.

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*Page #*

1. CALL TO ORDER

2. ROLL CALL

3. STUDY SESSION

3.1 Mayors' Updates
- a. Urban Renewal in each City
- b. Transit in each City
- c. Tigard Bond Measure

3.2 Water
- a. History of the Project
- b. New Cost Estimates
- c. Comparison of LO & Tigard Water and SDC rates

3.3 Upcoming Legislative Issues

4. ADJOURNMENT

CITY OF LAKE OSWEGO

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# COUNCIL REPORT

**TO:** Mayors Jack D. Hoffman and Craig Dirksen
Members of the Lake Oswego and Tigard City Councils
City Managers Alex D. McIntyre and Craig Prosser

**FROM:** Joel B. Komarek, P.E., Project Director
Technical Committee

**SUBJECT:** Lake Oswego-Tigard Water Supply Partnership: Update

**DATE:** November 4, 2010

## ACTION

This study session provides the Technical Committee (TC) of the partner cities an opportunity to present to the Joint Councils including Councilors Elect:

1. A brief review of the history of the partnership;
2. The Supply Facilities Capital Improvement Plan (SFCIP) and related costs and allocation of costs to the partner cities; and
3. Proposed financial plans of the partner cities to fund the SFCIP.

In addition, this study session provides an opportunity for the Oversight Committee (OC) of the partner cities to engage their fellow Councilors in discussion of the SFCIP and the pending SFCIP adoption process each city is scheduled to conclude in December 2010.

## INTRODUCTION/BACKGROUND

For over three decades, the cities of Lake Oswego and Tigard have shared the use of water from the Clackamas River with Lake Oswego being the supplier of surplus water to Tigard and Tigard being the purchaser of that water. It has been a mutually beneficial relationship. Beginning in 2005, the two cities joined together to fund a comprehensive analysis of the opportunities and costs of jointly planning, funding, constructing and operating an expanded water supply system for the benefit of their citizens and wholesale customers. The analysis concluded that significant benefits would accrue to both cities under a partnership approach relative to an approach that would have each pursue separate paths to achieve their water supply goals.

On August 6, 2008, the Mayors of Tigard and Lake Oswego executed an Intergovernmental Agreement (IGA), committing the new partners to undertake, in good faith and with due diligence, upgrades and

expansions of their respective water supply systems and complete the Initial Expansion[1] by 2016.

**DISCUSSION**

*Project Definition and Cost Updates*

Since August 2008, Lake Oswego, as Managing Partner, and Tigard have jointly mobilized and expended significant resources to implement the IGA. Approximately $6M dollars have been expended to date between the two partners toward implementation of the IGA. Between February and September 2010, a comprehensive assessment of Lake Oswego's and Tigard's water supply facilities was completed. Through this effort, project definition of the partners' existing Supply Facilities was greatly improved. Armed with this new knowledge, the program team developed detailed cost estimates for the upgraded, upsized and new supply facilities. The updated estimates provided a basis for recalculation of how these costs would be allocated to the partner cities based on their respective shares of new capacity in each Supply Facility component. Understanding partner costs allowed each partner city to independently develop and update financial plans to fund the Initial Expansion. This independent financial analysis also confirmed earlier conclusions[2] that each city reaps significant capital and long-term operating cost savings through the partnership relative to all other options the partner cities considered. Further detail on costs, allocations and rates will be presented by the Program Team on November 8.

*Implementation Timing*

Article II, Paragraph 2.3 of the IGA establishes a good faith obligation relating to implementation timing of the Initial Expansion. The Managing Partner and its Program Team[3] have developed detailed schedules for each project within the larger program to guide all activities of the Program Team. The objective being to ensure the best possible chance that the Initial Expansion is completed no later than July 1, 2016. Such schedules anticipate lengthy permit acquisition timelines and the possibility of appeals. Each schedule has been developed to minimize expenditure of design dollars in advance of permit approval and in no case are construction dollars for any project at risk prior to permit approval. Schedules for procurement of design and construction services are developed to maximize competition for such services while acknowledging the influence economic conditions at any point in time can have on such competition for and pricing of those services.

The Program Team also acknowledges that the 6-year construction timeline of the program will span multiple Councils of the parties and fully accepts its obligation to facilitate and support the transfer of knowledge of the program and its benefits between Councils in order to maintain program schedule.

*Supply Facilities Capital Improvement Plan*

The TC has provided the OC a memorandum detailing the findings from the project definition phase including updated program costs and allocation information. That memorandum also presents the TC's recommendation of a preferred SFCIP as is required by the IGA.

[1] The IGA defines Initial Expansion as "The design, permitting and construction of new and expanded Supply Facilities…to provide 32 million gallons per day capacity by 2016 with the capability to further expand up to 38 million gallons per day…when it appears the water demands of the parties will exceed 32 mgd."

[2] See Table ES.3 and ES.4 on pg. ES-6 of "City of Lake Oswego and the Tigard Water Service Area, Joint Water Supply System Analysis", draft report July 2007.

[3] "Program Team is comprised of TC members, and project staff and consultants of the Managing Partner.

The OC considered the TC's SFCIP recommendation at their meeting of November 1, 2010. A majority of the OC voted to accept the recommended SFCIP and directed TC staff to forward the recommendation memo to the Joint Councils for discussion and consensus.

**RECOMMENDATION**

It is recommended that each Council direct the TC to finalize and present the recommended SFCIP to each Council for adoption in December together with corresponding amendments to the IGA exhibits.

**ATTACHMENTS**

1. 10/29/2010 Memorandum to Oversight Committee from Technical Committee.
2. PowerPoint presentation

**October 29, 2010**

Oversight Committee,

The attached memo from the Lake Oswego Tigard Water Partnership's Technical Committee provides detailed background information and data supporting our recommendation to the Oversight Committee of a Supply Facilities Capital Improvement Plan.

The memo outlines needed water system upgrades to meet the supply needs of the Partners. Recommendations are detailed for improvements to the Clackamas River Intake Pump Station, Raw Water Pipeline, Water Treatment Plant, Finished Water Pipeline, Waluga Reservoir, and Bonita Road Pump Station.

The recommended improvements will meet the needs of both communities. Lake Oswego's key water facilities must be replaced, upgraded and expanded. Tigard must have a secure, long-term water source. Ratepayers in both communities will save millions of dollars through the Partnership.

Program costs are now estimated at $230 million. Cost allocations between Lake Oswego and Tigard are 46.5% and 53.5%, respectively. Financing plans previously developed to pay for the upgraded system will only need slight adjustment when based on these new costs and allocations.

We request that Oversight Committee members carefully review the accompanying information prior to the Oversight Committee's November 1 meeting, and in preparation for the Joint Councils' consideration at their November 8, 2010, meeting and individual Council adoptions of the Supply Facilities Capital Improvement Plan in December.

We look forward to discussing our recommendations with you at next Monday's meeting.

Technical Committee

Joel B. Komarek
Dennis Koellermeier
Kari Duncan
Rob Murchison

# MEMORANDUM

## Lake Oswego/Tigard Water Supply Partnership

**TO:** **Oversight Committee**

**FROM:** **Technical Committee**

**DATE:** **October 29, 2010**

**SUBJECT:** **Supply Facilities Capital Improvement Plan**

*Purpose*

The Technical Committee (TC) submits this memorandum to provide background and support for its recommendation to the Oversight Committee (OVC) of a Supply Facilities Capital Improvement Plan (SFCIP). This memorandum articulates the value to each city in partnering for the expansion of Lake Oswego's water supply system and in sizing certain supply components to meet the Parties' long-term water supply needs. The Technical Committee requests that OVC members consider this recommendation memo and prepare to forward this recommendation memo to the Joint Councils at a meeting scheduled for November 8, 2010, in preparation for Councils' adoption of the SFCIP in December.

*Technical Team Recommendation*

Over the last ten months, OVC members have met six times, the Joint Councils have met three times and individual Councils have convened periodically to receive, discuss and consider new information as it was developed by the TC and program staff. Treatment technology, facilities capacity, program cost and cost allocations have been shared and considered.

Based on the information developed to date, the TC recommends the OVC consider and approve the following components of the Initial Expansion comprising the SFCIP:

- RIPS – Pumping and electrical capacity sized for 32 mgd with additional structure space and fish screens sized to accommodate expansion to 38 mgd;

- RWP – Sized for 38 mgd;
- WTP – Treatment capacity of 32 mgd with structure space and non-modular equipment and systems sized to accommodate expansion to 38 mgd;
- FWP – Sized for 38 mgd with Reach 11-12 allocated 100% to Tigard and sized for capacity up to 20 mgd;
- WR2 – Sized for 3.5 mg (2 mg for Lake Oswego, 1.5 mg for Tigard) with a height of 40 feet and located on Lake Oswego property purchased for this purpose;
- BPS – Sized for maximum anticipated pumping capacity of 14-16 mgd.

*Supply Facilities Capital Improvement Plan (SFCIP) – Approval Process*

The Intergovernmental Agreement (IGA) obligates the Councils of each Party to approve the SFCIP. The OVC should be prepared to consider and discuss the TC's recommendation memo at their next meeting of November 1, 2010, and approve forwarding the memo to the joint Councils for consideration at their November 8, 2010, meeting.

If approved by the individual Councils, the SFCIP then becomes Exhibit 5 to the IGA and the guiding document, unless modified by the Parties, for permitting, design and construction of the Initial Expansion. Exhibit 7 to the IGA must also be amended to reflect updated program costs and allocations by component and in total for the program. Staff and the OVC from each Party will be recommending approval of the SFCIP and amendment of Exhibit 7 at their respective individual Council meetings in December. The TC looks forward to discussing the above recommendations with you at next Monday's meeting.

*Background*

The IGA executed by Lake Oswego and Tigard (Parties) in 2008 establishes that the Initial Expansion[1] of Lake Oswego's existing water supply system be complete on or before July 1, 2016. The IGA designates Lake Oswego as the Managing Agency responsible for planning, scheduling and managing the project to ensure the delivery date is met. The IGA commits each city to exercise good faith and due diligence to complete the Initial Expansion.

Every action of the Managing Agency and the Parties since adoption of the IGA has progressed toward implementation of the Initial Expansion. In keeping with this commitment, the Managing Agency and the Parties have taken the following actions:

- Formed a Technical Committee[2] and Oversight Committee[3];

[1] The IGA defines Initial Expansion as "The design, permitting and construction of new and expanded Supply Facilities…to provide 32 million gallons per day capacity by 2016 with the capability to further expand up to 38 million gallons per day…when it appears the water demands of the parties will exceed 32 mgd."

[2] *Technical Committee* – Comprised of two technical representatives from each city; per the IGA, the TC, among other duties, "…makes recommendations to the Managing Agency or Oversight Committee as deemed appropriate or where required by this Agreement."

[3] *Oversight Committee* – Comprised of two elected officials from each city, members serve at the pleasure of the appointing Councils. The IGA says that, among other duties, the OVC "…shall review and the individual members of the committee shall present to their respective Councils proposed projects…and related matters and budgets or funding requests."

- Authorized the appraisal of real property owned by Lake Oswego for purchase of a share of interest in the property by Tigard;
- Approved annual budgets appropriating funding for the formation of a staff team dedicated to managing the project through its completion;
- Authorized a contract with Brown and Caldwell to provide Program Management, permitting and construction management services to support staff of the Managing Agency and assure the project completion date is met;
- Authorized use of office space in Lake Oswego's West End Building for the staff and Program Management (PM) teams;
- Developed financing plans to annually fund ongoing costs during the early phases of the program and to assure sufficient future revenues for debt repayment purposes; and
- Authorized other contracts and expenditures necessary to implement the IGA including:
    - Retaining municipal finance experts to develop funding strategies for the Initial Expansion;
    - Retaining outside legal counsel for matters relating to land use and acquisitions and environmental laws and regulations;
    - Retaining outside services to support Lake Oswego's land and right of way acquisitions efforts;
    - Providing professional and administrative services to support the OVC in the conduct of their duties pursuant to the IGA; and
    - Retaining legal services and experts in Oregon water law in support of the City's municipal water rights extension process.

<u>Project Definition – Scope</u>

At the direction of the TC, Brown and Caldwell ("BC") undertook a project definition effort beginning in February 2010. The scope of this effort included:

- Confirming that assumptions made by Carollo Engineers in the earlier joint system analysis [4] were still valid, or if not valid, documenting the basis for the change;
- Developing an overarching program schedule including a schedule for each project component of the overall program;
- Initiating efforts to secure all necessary environmental and land use permits;
- Updating program scope, schedule[5] and cost based on the findings of the project definition phase; and
- Developing a proposed SFCIP to be approved by the Parties.

[4] "City of Lake Oswego and the Tigard Water Service Area, Joint Water Supply System Analysis" draft report, July 2007, Carollo Engineers.
[5] See attached schedule.

Project Definition – Findings

A consultant team of architects, engineers (structural, mechanical, electrical), scientists and staff of the Managing Agency completed field investigations and a comprehensive assessment of Lake Oswego's water supply infrastructure. A much abbreviated summary of findings follows.

*River Intake Pump Station (RIPS)*

Numerous deficiencies were observed in this 42-year-old facility. The most serious include:

- Electrical service, motor control switchgear and circuit breakers are old, worn, undersized, unreliable and non-compliant with current electrical codes;
- Structure is seismically vulnerable;
- Concrete foundation is deteriorating and not repairable. Remediation options reduce pumping capacity or require structure replacement;
- Water pumping equipment and high voltage electrical equipment are located in the same space and present hazards to maintenance personnel; and
- Structure is not adequately sized to divert and pump water to meet the long-term needs of the Parties.

*Raw Water Pipeline (RWP)*

This 42-year-old, steel pipeline is about 14,000 feet long and connects the RIPS to the WTP. Approximately 2,500 feet of the pipeline is buried in the sediment of the Willamette River between Meldrum Bar Park and Mary S. Young Park. The pipeline is undersized and seismically vulnerable in the section that crosses the Willamette River. Failure of this pipeline for any reason would immediately disrupt Lake Oswego's entire supply of water from the Clackamas River. Repair would be difficult, costly and slow. If the disruption were to occur during a peak supply period, sources of emergency backup supply would be limited and if available at all, would not meet Lake Oswego's average winter demand of 4 million gallons per day let alone average summer demands of 12 mgd or peak day demands of 16 mgd.

*Water Treatment Plant (WTP)*

This 42-year-old facility was originally sized to treat 10.8 mgd. In 1980, the plant was expanded to its present day capacity of 16 mgd. In the last decade, peak day demands have approached or periodically exceeded current plant capacity of 16 mgd. Critical deficiencies identified at this facility include:

- Electrical service, motor control switchgear and circuit breakers are old, worn, undersized, unreliable and are non-compliant with current electrical codes;
- The surge control system that prevents over/under pressurizing the FWP was sized for the original plant capacity of 10.8 mgd. It is undersized at today's flows increasing risk of pipe damage or contamination if pipe flows are abruptly interrupted for any reason;
- Pump motor sizes are mismatched relative to each other. This creates electrical inefficiency (or wastes electricity) and excessive equipment wear and tear because

pump control valves must be throttled to balance plant influent and effluent flows;

- All four pumps cannot operate simultaneously. Summer demands are most efficiently met using the three smaller pumps. With one of these pumps out of service, supply is reduced by 25%; and
- The finished water clearwell is undersized to allow sufficient contact time with chlorine to meet regulatory finished water quality standards. Plant operators must therefore drink bottled water. Seasonal changes in flow rates and water temperature worsen this condition and require plant staff to modify treatment processes to comply with public health regulations.

*Finished Water Pipeline (FWP)*

The finished water pipeline is comprised of steel and ductile iron segments totaling about 35,000 feet in length. A 24-inch steel pipeline leaves the WTP and transitions to ductile iron at George Rogers Park. From there, the pipeline travels across Lakewood Bay to North Shore Road and to Iron Mountain Blvd. at Mulligan Lane. At that point, the 24-inch pipe splits into 24-inch and 18-inch ductile iron pipes that terminate at Lake Oswego's Waluga Reservoir. These pipelines were constructed between 1968 and 1985. The ductile iron pipes have been inspected and found to be in remarkably good condition, free of leaks and significant corrosion. The 24-inch steel pipe between the WTP and GR Park has a history of leaks due to corrosion, failed joints and is undersized to efficiently and reliably convey flows in excess of 10 mgd.

*Waluga Reservoir #2 (WR2)*

The existing 4-million gallon (mg) Waluga Reservoir was constructed in 1983 and provides storage for peak hour demands, fire suppression and emergencies. It is one of three reservoirs that provide storage to the Waluga/Southside/10th Street service level. This service level is the largest of all zones within Lake Oswego, serving properties at elevations ranging from 240-feet down to the Foothills waterfront[6]. Lake Oswego's 2001 Water Master Plan (WMP) identifies a storage deficiency in this zone of about 1.7 mg currently and 2 mg at buildout. The existing tank is not tall enough to provide minimum desired water service pressures to customers living in the immediate vicinity. In 1992, Lake Oswego purchased over 6 acres of property adjacent to the existing tank for the purpose of providing a site to construct additional storage.

*Bonita Pump Station (BPS)*

This pump station constructed in the 1970's is a steel "can" buried in the south embankment of Bonita Road just east of 72nd Avenue. Electrical and control systems are obsolete and do not meet current codes. Access for maintenance is difficult and the pump station is not sized to meet Tigard's long-term pumping needs.

*Water Treatment Process Selection*

With direction from the Joint Councils in February 2010, a Business Case Evaluation (BCE) of water treatment technologies was initiated. For the next three months, a panel of water treatment and public health experts and citizens from the partner cities conducted a comprehensive analysis of current treatment technologies that would be appropriate to

[6] See attached map of Waluga/Southside/10th Street service level

consider based upon the quality of Lake Oswego's source of supply (i.e., Clackamas River) and current and potential future drinking water treatment regulations. This effort concluded in July with a consensus recommendation from the experts and citizen panel to incorporate ozone into any planned expansion and upgrade of Lake Oswego's existing water treatment plant. This consensus recommendation was arrived at because ozone:

- Preemptively eliminates taste and odor causing compounds that periodically occur in the source water and cause customer complaints;
- Provides an additional barrier against pathogens, organics (e.g., pesticides, herbicides), and pharmaceuticals and personal care products (PPCP's);
- Reduces the quantities of chlorine currently used in the WTP while providing a higher quality of water leaving the WTP;
- Reduces chlorine use in the WTP while also reducing the potential for disinfection by-product (DBP) formation; DBP's are currently regulated by EPA due to their carcinogenic properties; and
- Provides a much higher quality of drinking water at little additional cost.[7]

*Initial Expansion – Facilities Capacity*

The IGA contemplates design and construction of water system components that will be sized to produce not less than 32 million gallons of drinking water per day by 2016. Of this total, Lake Oswego is allocated 18 mgd and Tigard 14 mgd. During IGA negotiations, the Parties agreed that the Initial Expansion must also provide the capability for further expansion up to 38 mgd ("Long term Expansion").

In particular the Parties agreed that certain system components (i.e., RIPS, RWP, and FWP) should be designed and constructed to their ultimate capacity for the following reasons:

- Economies of scale – the marginal cost to size these components now for 38 mgd in comparison to the costs of adding this capacity in the future is minimal. This is validated by a recent net present value analysis of life cycle costs over 25 years, which shows this approach saves rate payers anywhere from $77 million to $91 million;
- Minimizing environmental impacts – the construction of the RIPS, RWP, FWP and WR2 requires intrusion into sensitive environmental zones. The impact of these intrusions can be both temporary, and in the case of the RIPS and WR2, permanent. An objective of the program is to "avoid, minimize and mitigate" these impacts. While we cannot economically avoid constructing a new intake in the Clackamas or a new pipeline across the Willamette, we can avoid multiple impacts to environmentally sensitive areas by building these components to meet the long-term needs of the Parties;
- Sizing the RIPS, RWP and FWP for 38 mgd recognizes the value inherent in Lake Oswego's water rights and facilitates further beneficial use of those rights when the need arises. Beneficial use allows permits to become certified. Certification eliminates the need to request extensions of time to fully develop permits. The Parties are

[7] Including ozone in the Initial Expansion is estimated to increase the water bill of the average Lake Oswego and Tigard single family homeowners by $2.50 per month in 2011 and $4.22 per month, respectively, when construction is complete in 2016.

currently involved in a lengthy and expensive process to secure an extension of time to fully develop its existing permits;

- Sizing these components for 38 mgd minimizes risk that these components could not be upsized in the future due to changing regulatory conditions; and
- The IGA contemplates that these components would be sized to their ultimate capacity of 38 mgd to satisfy the "…capability for further expansion to 38 mgd…" test. This intent is reinforced by Exhibit 7 to the IGA which shows the estimated cost of each supply component, the applicable allocation ratio and the resulting product of the cost times the ratio.

*Initial Expansion – Cost Update and Allocations*

Based on the improved understanding of the condition of Lake Oswego's existing water supply assets, recommendations of drinking water experts and citizens, and the inclusion of cost allowances for construction contingency and mitigation, program costs are now estimated at $230 million.[8] Cost allocations between Lake Oswego and Tigard have also been adjusted, consistent with the relative capacity approach of the IGA, and are now 46.5% and 53.5%, respectively. The adjustment reflects the identified need for several new facilities at the WTP whose costs (because they are not added to existing facilities), are allocated in proportion to the capacity each Party acquires with their construction.

[8] This total aggregates individual component costs that have been escalated to their respective year of construction and includes ozone treatment.

Lake Oswego · Tigard Water Partnership

sharing water · connecting communities

# Joint City Councils
# Study Session
# November 8, 2010

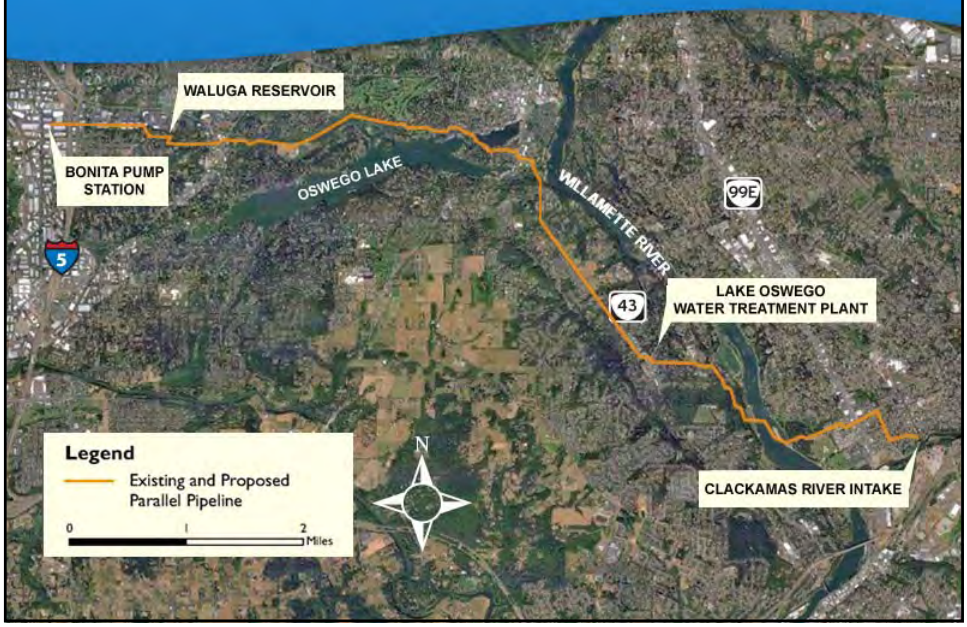
1

## Presentation Overview

- Partnership review
- Project Definition
  - Findings
  - Updated cost estimate and allocations
- Financing plans
- Supply Facilities Capital Improvement Plan (SFCIP)
- Council consensus for December approvals of SFCIP
- Public information update

2

## Partnership Review – *Supply Facilities*




## Partnership Review – *Lake Oswego Goals*

- Assure water supply future
- Preserve existing water rights
- Address capacity deficiencies
- Replace aging, unreliable facilities
- Improve emergency response through interties
- Spread fixed costs of capital/O&M over larger rate base

## Partnership Review – *Tigard Goals*

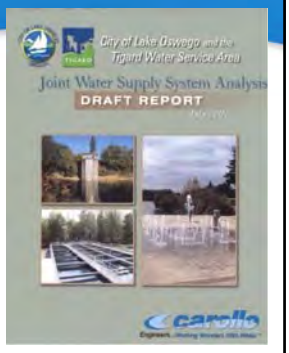
- Ownership position provides:
  - Certainty of future rates
  - Certainty of future supply
  - Additional funding from SDCs
- Secure new supply prior to expiration of Portland agreement in 2016

*Bonita Road Pump Station*

5

## Partnership Review – *Study Objectives*

- Evaluate joint water supply system options
- Long term supply for Lake Oswego & Tigard
- Identify:
  - Preferred supply scenario
  - Feasibility and costs
  - Facility improvements
  - Institutional arrangements

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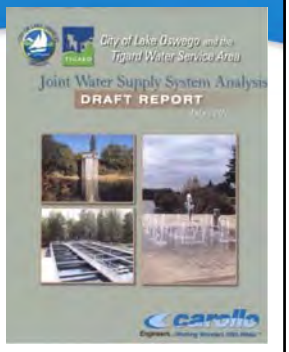
## Partnership Review – *Study Conclusions (2007)*




- Partnership best meets goals of each city:
  - New capacity and reliability
  - Ownership and control
  - Rate stability
  - Source reliability and certainty of supply
- Lowest cost option for both cities

**Lake Oswego Supply Options** (2006 dollars / 25 years)

| "Go it Alone" | Partner with Tigard | = | Savings |
|---|---|---|---|
| $118 million | $83 million | | **$35 million** |

**Tigard Supply Options** (2008 dollars / 50 years)

| Portland | Willamette Alone | Tualatin Basin | Partner with L.O. | = | Savings |
|---|---|---|---|---|---|
| $294 million | $269 million | $250 million | $208 million | | **$42-86 million** |

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## Partnership Review - *IGA*

Defines Initial Expansion as:
"The design, permitting and construction of new and expanded Supply Facilities…to provide 32 million gallons per day capacity by 2016 with the capability to further expand up to 38 million gallons per day…when it appears the water demands of the parties will exceed 32 mgd."

LAKE OSWEGO Centennial 1910-2010 100

TIGARD

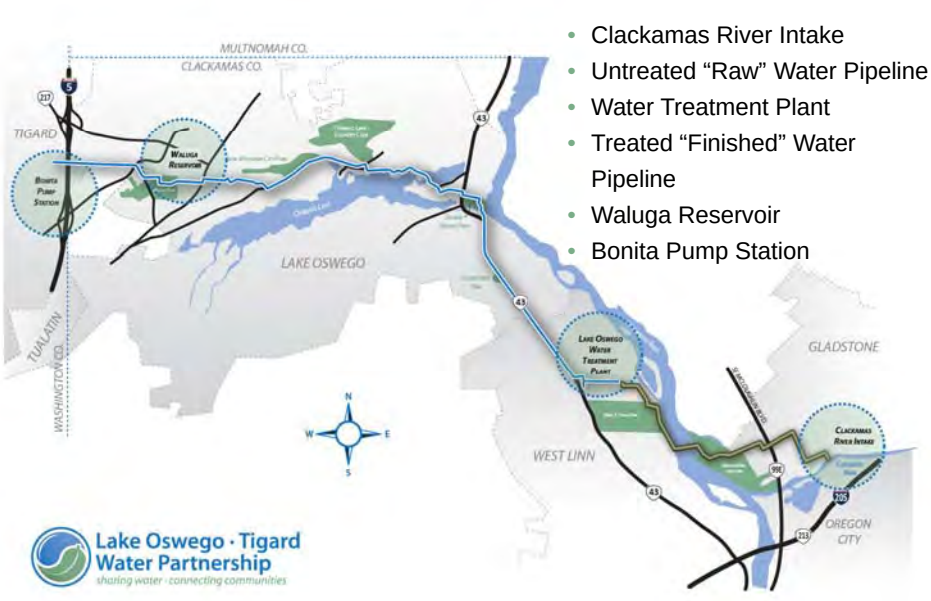
8

# Partnership Review - *IGA*

- Establishes committees:
  - Oversight Committee
  - Technical Committee
- LO is Managing Partner
- Proportional system ownership upon completion
- Council decisions needed for:
  - Budget, CIP, property matters, new partners, initial & long term expansion, water sales to others.

9

# Project Definition refines scope & cost




- Clackamas River Intake
- Untreated “Raw” Water Pipeline
- Water Treatment Plant
- Treated “Finished” Water Pipeline
- Waluga Reservoir
- Bonita Pump Station

## Project Definition – Findings (Water Treatment Plant)

- Many existing structures and components at WTP cannot simply be “added on to” for the Initial Expansion:
  - Pumping and electrical
  - Work place safety/chemical storage
  - Lot coverage constraints
  - Mechanical systems needed to reduce “footprint”
  - Finished water clearwell
- Current treatment process can’t reliably meet future requirements
- Constrained site & need to maintain operations during expansion require use of Mapleton parcels

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## Ozone recommended by expert panel and Citizen Sounding Board

- Provides an additional treatment barrier to protect public health
- Consistently produces pleasant tasting water
- Delivers a higher water quality than required by current regulations
- Reduces the amount of chlorine needed for disinfection

*Liquid oxygen is used to make ozone.*

*Ozone generator*

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## Ozone recommended by expert panel and Citizen Sounding Board

- Is capable of meeting emerging concerns for:
  - Pathogens
  - Algal toxins
  - Disinfection by-products
  - Pharmaceuticals and personal care products
- Proven technology, increasing applications
- For LO household, the cost of ozone is < 17 cents/day (less for Tigard)

*Liquid oxygen is used to make ozone.*

*Ozone generator*

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## Project Definition – Findings (Other Facilities)

- River Intake too small & seismically vulnerable
- Raw Water Pipe undersized & seismically vulnerable
- Finished Water Pipe to George Rogers Park undersized
- Finished Water Pipelines from lake to Waluga Reservoir are in good condition; capacity can meet LO demand
- New Finished Water Pipe needed to supply Tigard
- Waluga Reservoir #2 should address storage and pressure deficiencies
- Bonita Pump Station must be replaced

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## Project Definition: higher costs, adjusted allocations

- Total program capital cost
  - Conceptual budget = $200 M
  - Updated estimate = $230 M
- Allocation of costs
  - 2008 IGA = 42.54% to Lake Oswego, 57.46% to Tigard
  - Revised WTP allocation shifts cost toward Lake Oswego
  - 2010 allocation = 46.47% to Lake Oswego, 53.53% to Tigard
- Lake Oswego share of capital costs increases from prior $85 M to current $106 M (with ozone)
- Tigard share of capital costs increases from prior $118M to current $123M (with ozone)

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## Net Present Value compares long-range expenditures on equal footing

***Net Present Value***

- An evaluation method used to compare long-term costs between alternative projects.
- Net present value is <u>not</u> a project cost estimate

*Capital Costs + Long-Term O&M = Net Present Value (Current Dollars)*

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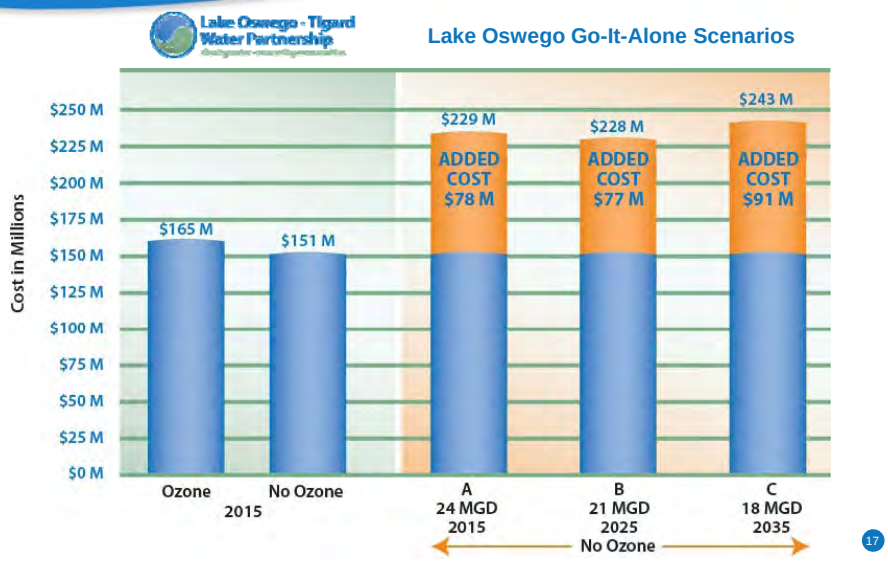
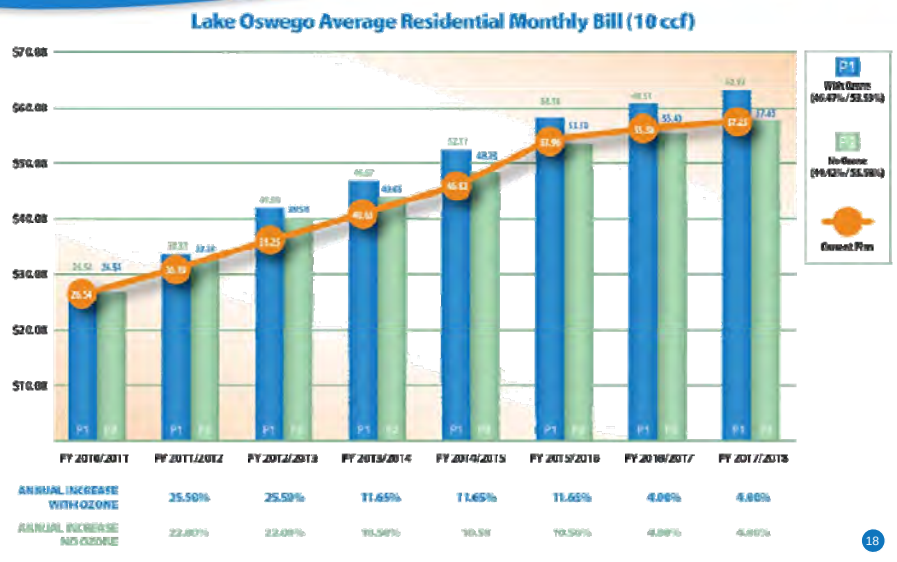
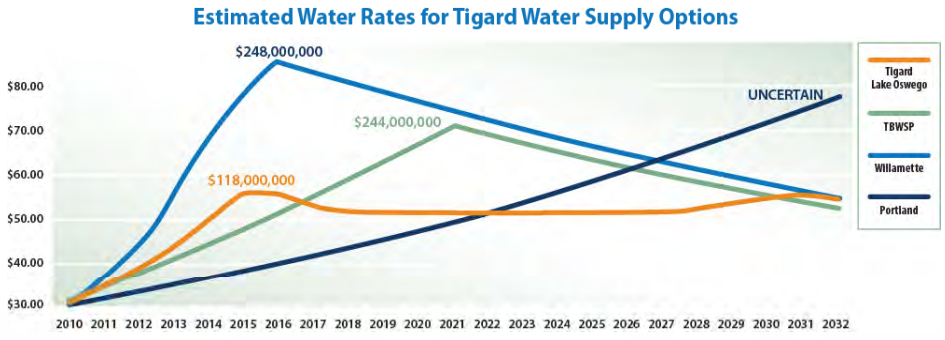
## Net Present Value over 25 years shows savings to Lake Oswego from Partnership




## Lake Oswego Rates: New costs and allocations require slight upward adjustment from current plan



# Tigard Rates

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# Tigard Rates (Lake Oswego Supply Option)

| Period | Example Monthly Bills* | Annual Rate Revenue Increases | Debt Financing Schedule |
|---|---|---|---|
| Current | $27.55 | | |
| FY2011 | $37.05 | 34.5% | $2,097,054 |
| FY2012 | $42.24 | 14.0% | $44,147,727 |
| FY2013 | $48.16 | 14.0% | $0 |
| FY2014 | $54.90 | 14.0% | $40,000,000 |
| FY2015 | $57.26 | 4.3% | $0 |
| FY2016 | $59.72 | 4.3% | $0 |
| FY2017 | $62.29 | 4.3% | $41,341,374 |
| FY2018 | $64.97 | 4.3% | $0 |
| FY2019 | $64.97 | 0.0% | $0 |
| FY2020 | $64.97 | 0.0% | $0 |
| | | **TOTAL** | $127,586,155 |

*Residential example monthly bill. Monthly use assumed at 9 CCF.

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# Supply Facilities Capital Improvement Plan

- Guides design, funding and construction for Initial Expansion
- Technical Committee recommendation:
  - River Intake Pump Station: 32 mgd pumping capacity, expandable to 38 mgd
  - Raw Water Pipeline: sized for 38 mgd
  - Water Treatment Plant: 32 mgd treatment capacity, expandable to 38 mgd, with ozone
  - Finished Water Pipeline: sized for 38 mgd
  - Waluga Reservior #2: sized for 3.5 million gallons, site on property owned by partners
  - Bonita Pump Station: sized for 14 mgd, expandable to 20 mgd
- Council consensus for December approvals of SFCIP

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# Public Information Update


Current activities

- CIP decision
- Media – local newspapers and newsletters
- Engaging stakeholders
  - Robinwood neighbors
  - Waluga reservoir neighbors
  - Maplegrove Plat homeowners
  - Gladstone, West Linn
  - Lake Oswego, Tigard

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