



Michael S. Kuenzi, P.E.
Director

MEMORANDUM

TO: Mike Kuenzi, Director
FROM: Ted Kyle, Capacity Program Manager
DATE: October 31, 2008
SUBJECT: Capacity Management Program Status Report

This report presents the status of the near-term capacity projects. For overall background on the program, please visit www.riverhealth.org.

Phase 1 Program Overview

Phase 1 of the Capacity Management Program (CMP) focuses almost exclusively on solving the near-term needs of Clackamas County Service District No. 1 (CCSD #1), which sends about 15 percent of its flow to the Tri-City Plant for treatment because its own Kellogg Creek Plant can't keep up with demand.

The Phase 1 improvements include those major capital replacement projects needed to keep Kellogg running for the next 8 to 10 years. The Board of County Commissioners authorized the sale of revenue obligations on July 7 to finance improvements such as:

- **Kellogg Plant:** These improvements will improve plant reliability and hydraulic capacity so treatment can be provided during severe storm events. The plant has in the past passed raw sewage to the Willamette River because it didn't have the capacity to carry high flow rates caused by rainstorms.
- **Tri-City Plant:** The expansion project allows the plant to handle an additional 20,000 EDUs (equivalent dwelling units). The increase will relieve Kellogg, replace the capacity currently being rented from the Tri-City Service District, and provide for growth through 2015.
- **Interconnecting pipelines:** Construct new wastewater transmission system pipes to transfer flow from the CCSD #1 sewer system to Tri-City.

Program Status

Construction continues on the Tri-City Plant Phase 1 Expansion and the Intertie No. 1 Pump Station at Camp Withycombe. Design continues on the Tri-City Plant Phase 1 Expansion and the Kellogg Plant improvements. Eleven corridors were identified for the second wastewater system intertie, with 5 being selected for detailed analysis.

Kellogg Plant

The plans for Kellogg Plant improvements have reached 90% complete. The improvements will replace worn out equipment and improve plant hydraulics so that the plant can handle wet weather flows. Since high-efficiency blower technology was selected for both the Kellogg Improvements and the Tri-City Expansion projects a joint supplier pre-qualification is being considered. A joint purchase for both plants would allow like equipment to be installed in both plants, resulting in lower maintenance costs and shared parts and tools inventories. The supplier qualification process will evaluate specific blower performance so that the efficiency goals can be met while maintaining competition on equipment prices.

Milwaukie staff determined that the Kellogg Improvements constitute a “major” modification that increases the intensity of the use. We do not agree with this determination and are working the issue with the City.

What's Next

Final drawings and specifications are expected in early December. Equipment and blower pre-qualifications will be publicly advertised in November. The land use process could result in delaying all or part of the Kellogg Improvement construction.

Call for Bids for the Kellogg upgrades may be delayed until the land use review issue is resolved.

Phase 1 Treatment Plant Expansion

Mass excavation for process buildings and the stormwater infiltration basin were completed in October. Auger-cast pile construction will start in late October. Slayden will receive competitive bids for major process equipment on October 24. These bids lock the cost and insulate the project from future inflation for these items. Slayden delivered their first detailed cost estimate, based on the 70% design which was above the budgeted amount. In response to higher than expected costs, the design team used value-engineering techniques to identify ways to reduce the cost without compromising the plant's function. The team found some items that could be deferred to later phases and other work that can be simplified to reduce cost. The two major items are: 1) defer the emergency power generator building in favor of buying a single package generator system. This means that participation in the PGE dispatchable power program will have to wait until the building and switching

systems are built in a later expansion. The blower building was also eliminated in favor of replacing existing aeration blowers in the existing building. This change reduced the cost while also reducing the plant's overall power consumption because all plant aeration blowers will be replaced with high efficiency blowers in the existing building.

Design work has reached the 90% level with the completion of over 1000 drawings and over 600 pages of specifications. Once the design on the plant process elements is complete, the design team will shift its focus to work on the design needed to implement the value engineering changes.

What's Next:

Equipment purchases will be finalized during November. The design on portions of the plant not affected by value engineering will be finalized in November. Construction will continue on foundations and auger cast piles and plant piping through the end of December.

Now that the scope of the plant project has been set, the contractor will be developing the Guaranteed Maximum Price. This will form the basis of the construction contract for the plant expansion. Once the Guaranteed Maximum Price has been negotiated, the construction agreement will be modified and presented to the Board of County Commissioners for approval, which is expected in early December.

Conveyance

Construction is underway on the first segment of the Transmission System projects, which include the Clackamas Interceptor Connection and the Clackamas River/High Rocks Bridge projects.

The bridge construction proceeds on schedule and is expected to be completed in November 2008. Bridge deck has been poured with concrete, with work continuing on piping supports and fencing for pedestrian safety. The bridge will be opened once all work is complete, which is expected before the end of November.

Construction of the Pump Station modifications was authorized to start in mid-August, with completion in January 2009. The pump equipment and materials are being procured. Field work has starting with mobilization and excavation of the pump station underground wet well. The project will upgrade the existing diversion to a constant flow rate of up to 2.5 Million Gallons per Day (MGD).

Eleven route corridors were identified in the Intertie No. 2 routing study. Six of the eleven corridors were dropped from further considerations as a result of a pair-wise comparison process. Similar corridors were paired up and compared with the most favorable being kept and the less favorable being dropped. This one-on-one

comparison was done using nine criteria, including community impacts, cost, constructability, impact in operations and maintenance, sustainability, and others.

What's next:

When the Pump Station upgrades are complete, the new system will be able to move up to 2.5 MGD from the CCSD No. 1 system to Tri-City on a continuous basis. This will help download the Kellogg Plant. Today the existing diversion is transferring about 0.5 MGD in high strength wastewater to the Tri-City Plant.

Information on the corridors for Intertie No. 2 being considered and the process for selection will be available for the public on a drop-in basis. No formal presentation is planned. People will be able to visit the displays and discuss the project one-on-one with technical experts. Comments are welcome and can be provided in person, or through the Riverhealth.org web site. Public open houses are scheduled for October 30 and November 5 at 7:00 PM. The October open house will be held at the Sunnybrook Service center, and the November open house will be at the Milwaukie Center. A virtual open house will be available on the riverhealth.org web site that has the same information being displayed at the two events listed above.

Cost Forecast

The following table lists each major project, the original estimate, an inflation-corrected budget used for funding, and the current cost forecast. The cost forecast takes into account the current state of design, bidding results, and any updated cost estimates. This cost forecast is intended to gauge the amount of scope drift or change that normally occurs during design.

The forecast for the plant project and Intertie No. 2 was updated based on cost estimates received in October. The costs of the near-term program are holding near the original budget.

Project	Original Estimate 2007 dollars	Budget	Current Forecast	Variance (Budget less Forecast)
Kellogg Critical Improvements	6.9	7.2	6.3	0.9
Clackamas Interceptor Connection	10.3	10.7	3.8	6.9
Intertie No. 2 Transmission Improvements	33.2	35.9	24.9	11.0
Treatment Plant Expansion	59.5	62.9	81.6	(18.7)

(CCSD Share)				
Total CCSD Share	109.9	116.7	116.6	0.1
Treatment Plant Upgrades (TCSD Share)	4.6	4.8	5.0	(0.2)
Landfill Remediation	4.9	5.1	4.5	0.6
Total TCSD	9.5	9.9	9.5	0.4
Total Program	119.4	126.6	126.1	0.5

The original estimate was made in July 2007 dollars when the Engineering New Record Construction Cost Index stood at 7959.

Schedule

The following table shows the major milestone dates scheduled in 2008.

Item	Milestone Date	Status
Call for Bids, Kellogg Critical Improvements	December 2008	Planned
Routing Study Recommendation to Board	December 2008	Planned
Guaranteed Maximum Price set CM/GC	November 2008	Planned



Tri-City WPCP Expansion