



KING COUNTY

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

February 17, 2010

Motion 13147

Proposed No. 2009-0370.2

Sponsors Constantine and Phillips

1 A MOTION accepting a report by the wastewater treatment
2 division in the department of natural resources and parks on
3 the status of the work program related to reclaimed water,
4 as required in the 2009 Budget Ordinance, Ordinance
5 16312, Section 105, Proviso 1.

6 WHEREAS, King County's existing reclaimed water program is guided by
7 policies in the Regional Wastewater Services Plan, contained in K.C.C. 28.86.100, and

8 WHEREAS, these policies specify that King County shall actively pursue the use
9 of reclaimed water while protecting the public health and the environment, and

10 WHEREAS, King County seeks to maximize environmental and economic
11 benefits from reclaimed water while minimizing the cost of the program to ratepayers,
12 and

13 WHEREAS, King County is in the process of constructing the Brightwater
14 Treatment Plant, which has the potential to produce up to twenty-one million gallons per
15 day of Class A reclaimed water, and

16 WHEREAS, current policies contained in the Regional Wastewater Services Plan
17 may not provide sufficient direction for future reclaimed water rates and financing
18 policies, and

19 WHEREAS, King County is in the process of developing the Reclaimed Water
20 Comprehensive Plan, that will lead to the development of financial and other policies
21 relating to the future use of reclaimed water from King County facilities, and

22 WHEREAS, a proviso in the 2009 Budget Ordinance, Ordinance 16312, requires
23 approval by motion of a report addressing the status of the work program related to
24 reclaimed water, the division's efforts to market and establish contracts for the sale of
25 reclaimed water, and the analysis and development of preliminary rate structures and
26 policies for the sale of reclaimed water from King County facilities, and

27 WHEREAS, in discussions on this motion and attached report, the county is
28 seeking initial input on important policy issues for consideration in the Reclaimed Water
29 Comprehensive Plan;

30 NOW, THEREFORE, BE IT MOVED by the Council of King County:

31 The report describing the status of the wastewater treatment division's work
32

33 program related to reclaimed water, which is Attachment A to this motion, is hereby
34 accepted.

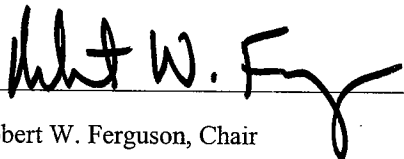
Motion 13147 was introduced on 6/15/2009 and passed by the Metropolitan King
County Council on 2/16/2010, by the following vote:

Yes: 6 - Ms. Drago, Mr. von Reichbauer, Mr. Gossett, Ms. Lambert,
Mr. Ferguson and Mr. Dunn

No: 0

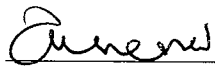
Excused: 3 - Mr. Phillips, Ms. Hague and Ms. Patterson

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON



Robert W. Ferguson, Chair

ATTEST:



Anne Noris, Clerk of the Council

Attachments: A. Report on the Status of the Reclaimed Water Work Program of the Wastewater
Treatment Division, King County Department of Natural Resources and Parks--June 1, 2009

Attachment A

**Report on the Status of the
Reclaimed Water Work Program
of the Wastewater Treatment Division,
King County Department of Natural Resources and Parks**

Report submitted by the
Wastewater Treatment Division of the Department of Natural Resources and Parks,
pursuant to Section 105 of King County Ordinance 16312

June 1, 2009



King County

Department of
Natural Resources and Parks
Wastewater Treatment Division

Table of Contents

Introduction	1
Section I. Status of the Work Program Related to Reclaimed Water	1
(1) Existing Reclaimed Water Program.....	1
(2) Studies and Planning Efforts Related to Reclaimed Water.....	12
(3) Reclaimed Water Research Efforts.....	13
(4) Reclaimed Water Permitting and Regulatory Compliance.....	15
Section II. Status Report on the Wastewater Treatment Division’s Efforts to Market and Establish Contracts for the Sale of Reclaimed Water	15
(1) Public Education and Outreach.....	15
(2) Marketing.....	16
Section III. Preliminary Rate Structures and Policies for the Sale of Reclaimed Water from King County Facilities	19
(1) The County’s Current Approach to Pricing.....	20
(2) General Approaches to Pricing Used Throughout the Country.....	21
(3) Financing and Policy Development in the Reclaimed Water Comprehensive Plan.....	23
Exhibit 1. Regional Wastewater Services Plan Water Reuse Policies (King County Code 28.86.100)	E-1

Figures

Figure 1. South Plant Sand Filter.....	2
Figure 2. Foster Golf Links and Fort Dent Park in Relation to South Plant.....	4
Figure 3. King Conservation District Wetland Nursery at South Plant.....	5
Figure 4. South Treatment Plant Reclaimed Water Use Areas.....	6
Figure 5. West Point Sand Filter.....	7
Figure 6. Carnation Treatment Plant.....	8
Figure 7. Chinook Bend Natural Area Wetland Enhancement.....	9
Figure 8. Brightwater Reclaimed Water System.....	11
Figure 9. Construction of Brightwater South Transmission Line.....	12
Figure 10. Greenhouse at South Plant with Demonstration Beds in the Distance.....	14

Tables

Table 1. Prevalence of General Rate Approaches.....	22
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Introduction

This document provides information from King County's Wastewater Treatment Division (WTD) in response to a proviso in WTD's 2009 operating budget (contained in Section 105 of Ordinance 16312), which reads as follows:

Of this appropriation, \$100,000 shall not be expended or encumbered until the wastewater treatment division of the department of natural resources and parks transmits to the Council for review and approval by motion a report on: 1) the status of the work program related to reclaimed water and progress on the reclaimed water backbone project; 2) a status report on the division's efforts to market and establish contracts for the sale of reclaimed water produced at King County wastewater treatment facilities; and 3) analysis and development of preliminary rate structures and policies for the sale of reclaimed water from King County facilities. The report should be submitted by June 1, 2009.

Separate sections of this report address each of the three elements of the proviso in the order requested:

- Section I describes WTD's reclaimed water work program and progress on construction of the Brightwater reclaimed water pipeline (backbone).
- Section II reports on the status of WTD's efforts to market and establish contracts for the sale of reclaimed water produced at King County's wastewater treatment facilities.
- Section III discusses preliminary rate structures and policies relating to the county's sale of reclaimed water from its wastewater facilities.

Exhibit 1 of this report lists the existing policies relating to reclaimed water contained in the Regional Wastewater Services Plan (RWSP) (King County Code 28.86.100). These policies provide current guidance for WTD's reclaimed water activities.

Section I. Status of the Work Program Related to Reclaimed Water

This section describes WTD's work program related to reclaimed water. The section is divided into four parts: (1) existing reclaimed water program; (2) planning efforts related to reclaimed water (including a status update on construction of transmission lines from the Brightwater Treatment Plant, commonly termed the Brightwater backbone); (3) reclaimed water research efforts; and (4) permitting and regulatory compliance.

(1) Existing Reclaimed Water Program

In its role as a regional wastewater management utility, King County has been producing and distributing reclaimed water for more than a decade. The existing reclaimed water program focuses on the permitting, construction, customer support, planning, and operation of reclaimed water facilities that exist today and a portion of facilities currently under construction, including the following:

- South Treatment Plant (producing reclaimed water for use at the plant and by the City of Tukwila)
- West Point Treatment Plant (producing reclaimed water for use at the plant)
- Carnation Treatment Plant (producing reclaimed water for wetlands enhancement purposes at the nearby Chinook Bend Natural Area)
- Brightwater Treatment Plant (the southern transmission line, commonly termed the south leg of the Brightwater backbone, to bring reclaimed water to the Sammamish Valley)

All reclaimed water produced at WTD’s existing facilities for off-site distribution—and those anticipated at future facilities—meets or will meet “Class A” reclaimed water standards, as defined by the Washington State Departments of Ecology and Health. Reclaimed water standards vary from Class A to Class D, based on water quality parameters and allowable uses. Class A reclaimed water is the highest quality water and is allowed for all permitted uses of reclaimed water, which include non-potable uses such as irrigation, groundwater recharge, wetland enhancement, streamflow augmentation, and street cleaning.

The future program could include expansion of WTD’s reclaimed water facilities, such as adding distribution pipelines from the west transmission line from the Brightwater Treatment Plant. However, future expansions are not part of the existing program described here. WTD is not marketing or otherwise seeking customers for water from prospective future facilities. Future uses will be addressed through the Reclaimed Water Comprehensive Plan, an extensive planning process discussed later in this report.

Details on the reclaimed water facilities in the county’s existing reclaimed water program follow.

South Treatment Plant Reclaimed Water Facility

The South Treatment Plant in Renton currently has the capacity to produce about 1 million gallons per day (mgd) of reclaimed water through the use of a sand filter (Figure 1) that further treats secondary effluent. Initially constructed in 1997 as a pilot project to produce water for on-site use, the reclaimed water facility has been producing approximately 90–100 million gallons of reclaimed water per year. Of this total, 80–95 million gallons (about 95 percent) are used annually at the plant for process water and irrigation, saving the county approximately \$80,000–\$90,000 per year in potable water costs.¹

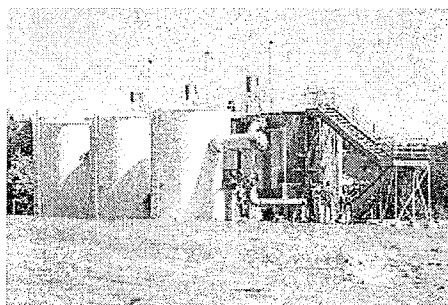


Figure 1. South Plant Sand Filter

¹ Net savings are avoided costs less reclaimed water system operating costs.

Approximately 5–6 million gallons per year of the reclaimed water from South plant are used off-site. It is sold to the City of Tukwila for irrigation of Fort Dent Park (including newly constructed soccer fields where the Seattle Sounders Football Club practices) and city public works uses such as street sweeping and sewer flushing. The City of Tukwila anticipates increasing its reclaimed water usage for additional irrigation at Foster Golf Links. A 500-foot reclaimed water pipe is being built from the Interurban reclaimed water transmission line to Foster Golf Links. Irrigation with reclaimed water is expected to start in 2009. Anticipated maximum usage from this line could reach 3–5 million gallons per year, which will supplement or replace Foster Golf Links' surface water withdrawals from Green River. Figure 2 shows the locations of Foster Golf Links and Fort Dent Park in relation to South plant.

Other off-site uses include a small truck and haul program for irrigating newly planted vegetation on King County–managed stream restoration sites and a wetland/native plant nursery adjacent to the treatment plant operated by the King Conservation District. The nursery has been operating for over 10 years, successfully producing native plants grown using reclaimed water (Figure 3). In the mid 1990s, WTD (formerly Metro) identified the need for a wetland plant nursery to propagate stock for Duwamish restoration projects. These planned projects were part of the outcome of a legal settlement with the National Oceanic and Atmospheric Administration (NOAA) that required Metro and the City of Seattle to compensate for alleged damage to marine resources caused by combined sewer overflows and storm drains. A King County Water Quality Block Grant funds operation of the nursery. In order to help promote the goals of the nursery and create a partnership with the King Conservation District, the King County Department of Natural Resources and Parks (DNRP) offered to provide space, reclaimed water, plastic lumber for the plant beds and, initially, GroCo compost (dewatered biosolids mixed with sawdust). The nursery continues to serve as a demonstration and youth education site.

An engineering assessment is under way to determine how to increase the operational reliability and efficiency of the sand filter facility at South plant. Figure 4 illustrates the use areas served by the reclaimed water produced at South plant.

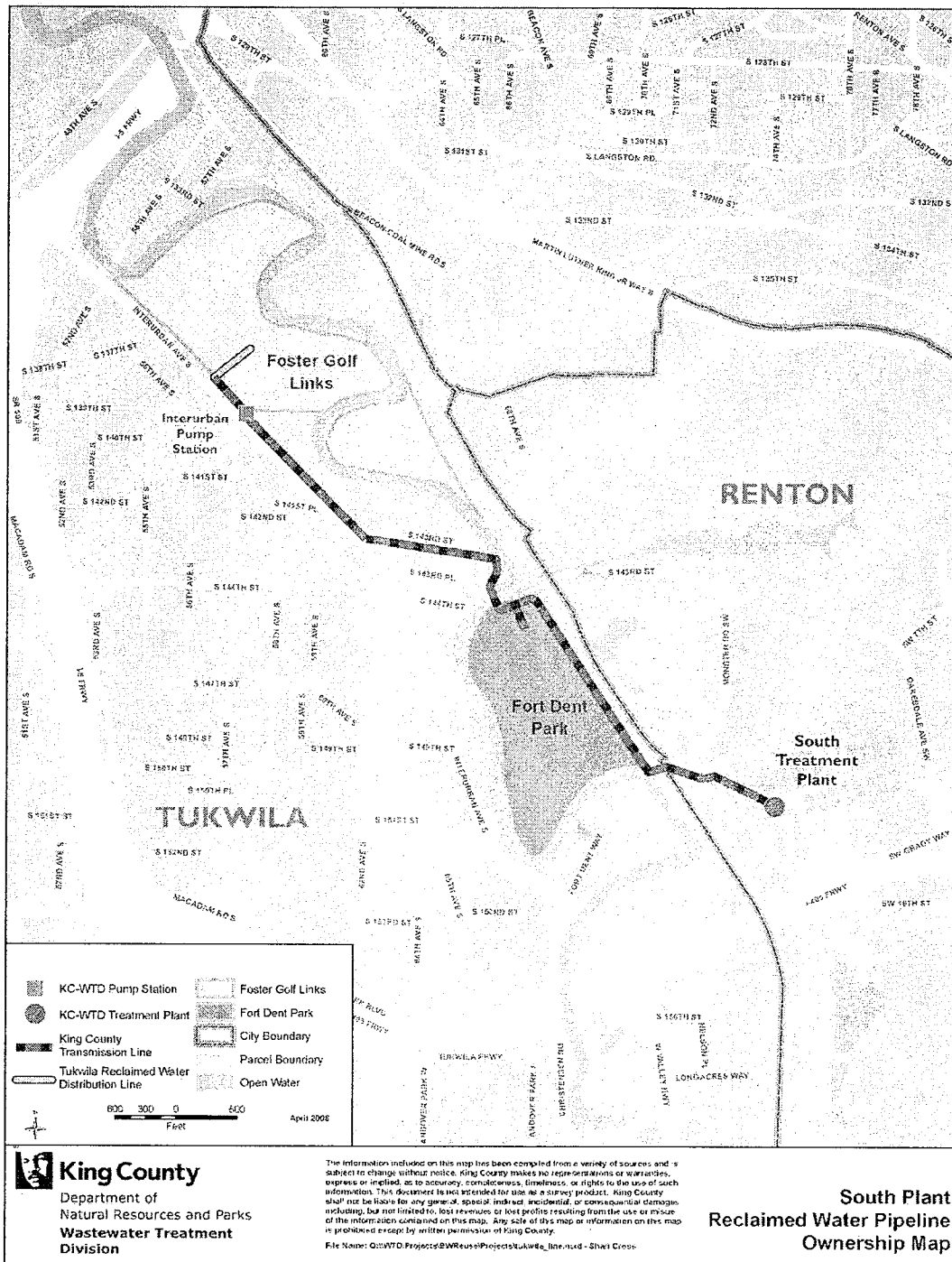


Figure 2. Foster Golf Links and Fort Dent Park in Relation to South Plant



Figure 3. King Conservation District Wetland Nursery at South Plant

