



# KING COUNTY AUDITOR'S OFFICE

SEPTEMBER 23, 2022

## Solid Waste Division Permanent Support Facilities: Unaddressed Risks Could Delay Project Delivery and Increase Costs

TO:

Metropolitan  
King County  
Councilmembers

FROM:

KyMBER Waltmunson,  
County Auditor

**Increased risk, cost, and potential for service disruptions are likely with King County Solid Waste Division's (SWD) permanent support facilities project at the Cedar Hills Regional Landfill.** First, we found that SWD is unlikely to deliver the permanent support facilities on the current schedule, and delays may increase project costs and could cause disruptions to waste disposal. Second, SWD is not factoring in the uncertainty surrounding new Future of Work initiatives, such as the Re+ plan and landfill life, which will impact facility needs—SWD may be oversizing the permanent support facilities and making decisions that decrease future space flexibility. And finally, we identified areas where SWD could improve project cost transparency. In this letter, we focus on the permanent support facilities project because it is the first project scheduled for construction. We make eight recommendations to SWD to address unresolved challenges and improve transparency of the project schedule and costs.

**SWD is undertaking several major capital projects at the Cedar Hills Regional Landfill to expand landfill capacity and prolong the useful life of this essential public facility.** These projects include construction of a new landfill cell in Area 9 and new permanent support facilities to house operations staff as well as vehicle and equipment maintenance functions. Without expansion, SWD estimates the landfill will permanently close in mid-2028. Timely completion of these projects is necessary to avoid disruptions to SWD operations and waste disposal in unincorporated King County, as well as 37 of 39 cities in the County.

**SWD's schedule is overly optimistic and includes insufficient time to complete permitting and design, making late project delivery likely.** Multiple factors constrain capital projects at Cedar Hills Regional Landfill including conditions from a 1960 special permit.<sup>1</sup> The special permit requires a 1,000-foot vegetated buffer around the perimeter of the landfill where no sanitary operations are allowed. SWD plans to pursue a special use permit to decrease the required buffer along the southern portion to 500 feet. This change would allow construction of permanent support facilities within this area. Obtaining a special use permit is a lengthy process and requires review by the King County Department of Local Services (DLS) Permitting Division, multiple opportunities for public comment, a recommendation from the Hearing Examiner, and approval by the County Council.

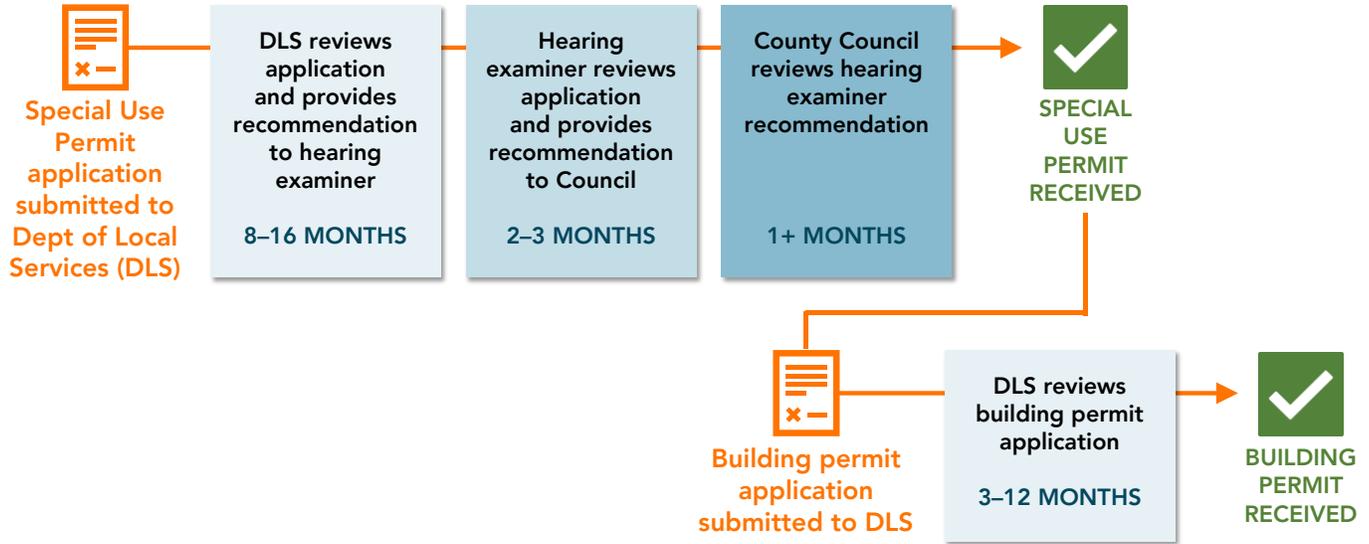


**King County**

<sup>1</sup> Special permits are no longer issued by King County.

County staff expect the special use permitting process alone to take 11 to 20 months or more. Then, after obtaining the special use permit, SWD must apply for and receive a building permit, which DLS staff estimate to be a 3-to-12-month process. The current schedule for the permanent support facilities project does not account for the expected minimum time needed to obtain these required permits and go through the procurement process. Therefore, SWD is unlikely to deliver the project on its current schedule.

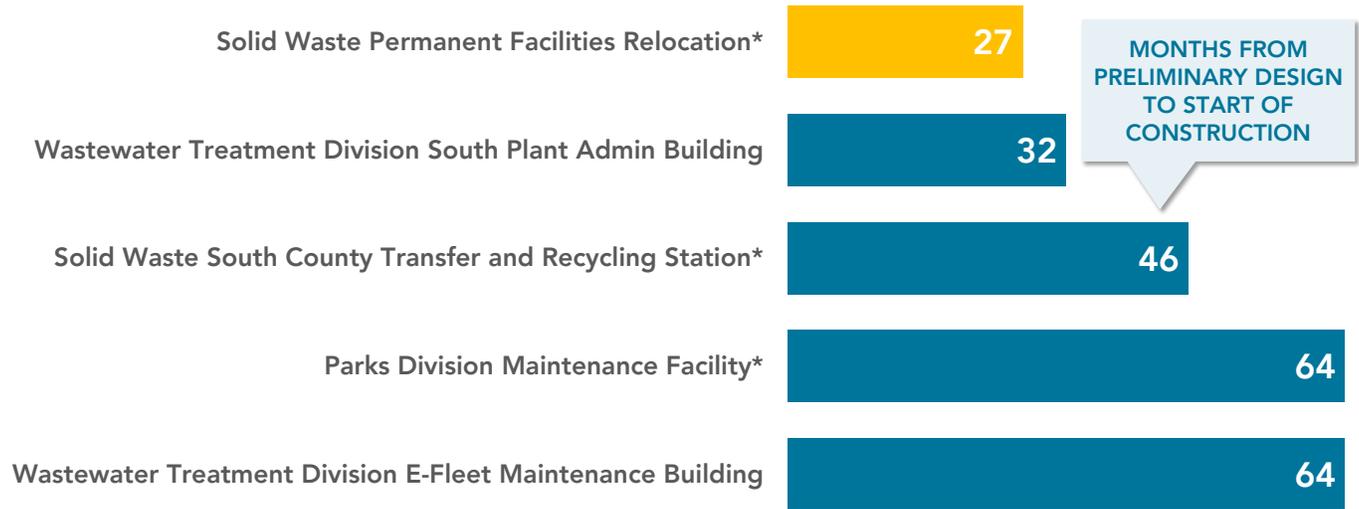
FIGURE A: Obtaining both permits for Cedar Hills Regional Landfill is expected to take a minimum of 14 months and could take longer than 32 months.



Source: King County Auditor's office analysis of information provided by the Solid Waste Division, Office of the Hearing Examiner, and Department of Local Services

Furthermore, based on our comparison of the permanent facilities schedule to other county facility projects underway or completed, we found that SWD may not be allocating enough time for project tasks. For example, SWD's assumed duration of taking the project from preliminary design to construction is much shorter than other county facilities projects. SWD is using a high-level milestone-based schedule, and it has not defined individual project tasks or schedule estimates for each task after baseline. Therefore, we are unable to determine why SWD expects design of the permanent support facilities to be shorter than other county facilities projects. Even a delay of only four months means SWD would miss the 2024 summer construction window and be unlikely to finish project construction on time.

FIGURE B: Solid Waste Division's current schedule duration estimate from preliminary design to start of construction is less than experience of other county facilities projects.



Note: Projects which have not yet begun construction are marked with an asterisk.

Source: King County Auditor's Office analysis of data provided by the Department of Natural Resources and Parks

### Recommendation 1

**Solid Waste Division should ensure the Permanent Facilities Relocation project schedule includes all identified activities and estimated durations from project initiation through closeout and should refine the schedule as the project progresses.**

**SWD does not have documented plans for how it will continue maintenance and shop operations if it were unable to build the permanent facilities on time, potentially leading to disruptions in waste disposal.** The existing support facilities are located within the footprint of the planned Area 9 landfill. Since SWD cannot construct new support facilities before planned construction begins on Area 9, it plans to move staff to five interim locations throughout King County. SWD owns four of these locations and leases the fifth, FarWest in Renton, where it plans to house maintenance and stores functions. SWD signed a five-year lease for FarWest, the longest lease term it could sign without County Council approval. SWD stated it must complete the new permanent maintenance facilities by the end of 2025 to have enough time to relocate staff before the FarWest lease ends on March 31, 2026. However, SWD must first complete project design and obtain both special use and building permits, and design of the permanent support facilities is already behind schedule. Additionally, the special use permit could be contentious due to the high level of interest from residents near the site and interested parties could appeal the special use permit approval to Superior Court. SWD leadership indicated it is willing to bring an extension of the FarWest lease for Council consideration. However, leadership lacks a documented plan that outlines the conditions under which an extension would be proposed, and delays in lease extension consideration could constrain future options for ensuring continual operations. If Council decides not to extend the FarWest lease or if the site is not available for lease extension, SWD will be challenged to locate another suitable interim location and to make it move-in ready within the project timeline. For example, SWD estimates it will take 20 months to make the FarWest site move-in ready due to permitting and tenant improvement needs. Disruptions in transfer truck and landfill operating equipment maintenance could impact solid waste management at the County.

## Recommendation 2

**Solid Waste Division should develop and document contingency plans specific to the FarWest site lease, detailing conditions and timing for bringing forth a lease extension proposal for County Council consideration and identify alternative work sites should a lease extension be unavailable.**

**SWD is not following project management best practices and lacks a complete project management plan for both Area 9 and permanent support facilities projects, increasing the risk of project delivery being over budget and behind schedule.** A complete project management plan lays out how a project will be executed, monitored, and controlled. Project management plans (PMPs) can help ensure project success by clearly memorializing: project objectives; scope, schedule, and budget; team member responsibilities; decision-making structure; risks; and an approval process for project changes. We previously found that project management plans are also useful tools for ensuring communication with leadership.<sup>2</sup> SWD is using a consultant's PMP as their project PMP, however the consultant's PMP only covers the project through preliminary design and lacks information such as County employee responsibilities, total project budget, and complete schedule. This lack of a complete project management plan developed in accordance with best practices hinders project transparency. For example, project staff were unable to explain why expected project costs have grown from the alternatives analysis estimate of \$65 million<sup>3</sup> to the current estimate of \$94 million. SWD staff will have difficulty controlling scope and budget for the permanent facilities without adequate documentation.

Additionally, SWD is not adequately addressing project risks. While SWD has a risk register, it does not include all identified risks, and the register is not updated in accordance with the 2021 Solid Waste Project Management Manual. For risks included in the risk register, SWD has only developed strategies for mitigation and not contingent actions, should risks occur. Proactive identification of contingency plans can decrease the time and cost associated with risk response.

## Recommendation 3

**Solid Waste Division should follow best practices and develop and document a project management plan for the permanent facilities relocation project that covers project initiation through closeout.**

## Recommendation 4

**Solid Waste Division should update the permanent support facilities project risk register, including contingent actions, and update the risk register at least at the beginning of each new phase and when project risks are realized, as required in the 2021 Solid Waste Project Management Manual.**

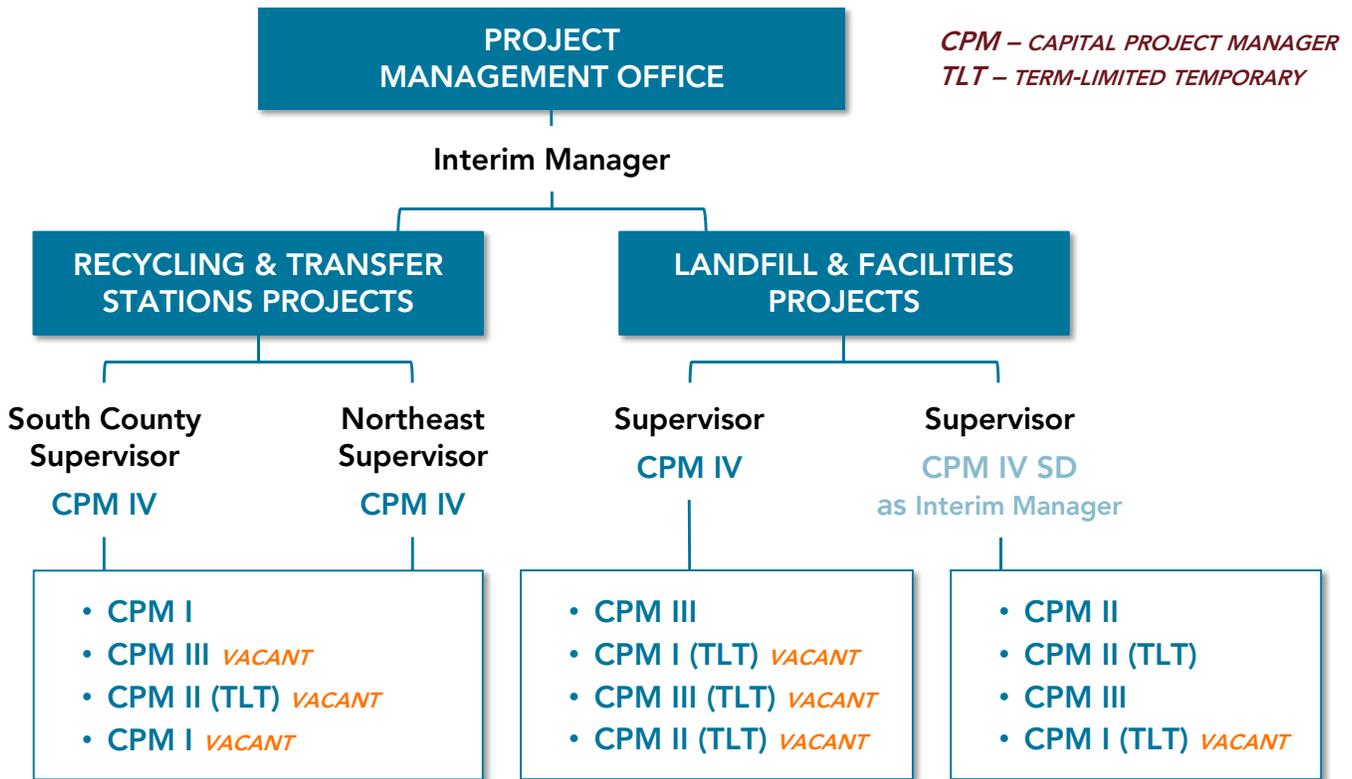
**Staffing challenges at SWD place projects at risk of cost and schedule overruns.** SWD has multiple large capital projects currently underway (in addition to the permanent facilities relocation project),

<sup>2</sup> *Performance Audit of Facilities Management Division Capital Programming and Planning*, King County Auditor's Office, 2008

<sup>3</sup> 2022 dollars accuracy, -30% to +50%

including the South Recycling and Transfer Station, Northeast Recycling and Transfer Station, Area 8 closure, and Area 9 development, with an estimated total cost of over \$600 million.<sup>4</sup> However, despite this workload, as of July 2022, nearly half of the positions within SWD's Project Management Office (the office responsible for managing capital projects) are vacant. As a result, project managers are assigned to multiple large capital projects. Staff indicated that workload is the primary barrier to following project management best practices. These staffing challenges place all SWD projects at risk of being delivered late or at increased cost because staff workload may not allow sufficient time to adhere to project management best practices.

FIGURE C: As of July 2022, 47% of positions in the SWD Project Management Office are vacant.



Source: King County Auditor's Office analysis of data provided by Solid Waste Division

### Recommendation 5

**Solid Waste Division should develop a plan that shows how it will prioritize and deliver capital projects within current staffing levels.**

**SWD has not incorporated anticipated effects of recent initiatives, such as the Re+ plan, into facility design, potentially oversizing permanent support facilities and increasing project costs.** SWD's recently completed facility programming effort shows continued staff growth at the landfill to support waste disposal. However, recent projections provided by SWD show tonnage peaking in 2023 and

<sup>4</sup> Un-escalated value

declining thereafter due to implementation of its RE+ plan.<sup>5</sup> Additionally, the new South and Northeast Recycling and Transfer Stations will include compactors that will reduce the number of transfer truck trips needed from each of these stations by up to 30 percent. Despite this decrease in tonnage and volume, SWD is currently planning to add three additional maintenance bays as part of its permanent facilities relocation project. The need for these additional bays is based on outdated long-term tonnage projections that do not incorporate RE+. Inclusion of these maintenance bays increases space needs by about 12,750 square feet and could increase capital project costs by over \$6 million, based on the engineer's estimate for another similar project. SWD has indicated that the permanent facilities will be built before significant impacts of initiatives are achieved, and so the facility will have to accommodate shorter-term peaks. For example, based on the current schedule, the permanent facilities will open in 2026 but will not see tonnage drops from RE+ exceeding 100,000 tons until 2028. However, SWD has not evaluated other options to bridge these shorter-term space needs, such as continued use of interim facilities, in lieu of costly capital commitments.

### Recommendation 6

**Solid Waste Division should incorporate recent county initiatives into its operations and space needs over the lifespan of the building, including options to accommodate near-term tonnage peaks in the most cost-effective manner possible.**

**SWD leadership has not established sufficient office space standards, potentially increasing project costs and decreasing future space flexibility.** While the rest of the County is moving toward using King County office space more efficiently through standardization, SWD is instead relying on employees to designate their own workspace requirements (e.g., offices versus cubicles). SWD's current support facilities program shows the majority (57 percent) of workstations are designated as offices.<sup>6</sup> Moreover, while SWD has guidance for the size of workstations, there is a lack of adherence to these standards. For example, SWD guidance indicates that offices are not to exceed 110 square feet unless assigned to a department director. However, 45 percent of offices are planned to be 150 square feet, including offices for employees who are currently working remotely and are candidates for continued part-time remote work after COVID restrictions end. Additionally, despite the projected decrease in disposed tonnage, SWD plans to provide space to accommodate a 43 percent increase in staff stationed at the landfill.<sup>7</sup> SWD states this space plan reflects the plan to eliminate overtime in Solid Waste operations group through hiring of new FTEs. However, a significant proportion of current overtime is attributed to positions not located at the landfill, and the hiring of new FTEs to reduce overtime does not fully explain the proposed increase in staff. The new support facilities have an expected building lifespan of around 50 years, even with expansion into Area 9, the landfill could close as soon as 2034. After the landfill closes, SWD expects staffing needs to change significantly. By not developing standardized guidance for office space and evaluating future staffing needs, SWD may be increasing initial construction and future reconfiguration costs at the support facilities.

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<sup>5</sup> The RE+ plan is SWD's current initiative to minimize the amount of garbage and to keep economically valuable resources from entering the landfill. RE+ was formerly known as Zero Waste of Resources Plan.

<sup>6</sup> 51 workstations

<sup>7</sup> Compared to 2018 staffing levels.

## Recommendation 7

**Solid Waste Division should develop standardized guidelines for workstation allocations and follow their established space standards.**

**SWD is not accurately accounting for project costs, preventing transparency of the costs associated with development of the permanent facilities.** Per King County Code, “real property shall not be leased to the County for more than one year unless it is included in a capital budget appropriation ordinance.”<sup>8</sup> In the 2021–2022 biennial budget, SWD requested additional appropriations of \$5.59 million to cover interim facility costs, including lease costs. Despite this, SWD continues to fund some costs associated with the permanent support facilities project out of operating funds. SWD is currently paying moving expenses and the FarWest lease out of operating funds, which will cost \$4.8 million<sup>9</sup> over its five-year term. Paying these costs out of its operating budget, after already requesting capital appropriations, prevents proper reporting and transparency of capital project cost growth.

## Recommendation 8

**Solid Waste Division should follow King County Code and account for long-term lease costs within capital projects.**

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If you have questions about this report, please contact Ben Thompson at 206-477-1035 or Zainab Nejati at 206-263-1692.

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<sup>8</sup> King County Code 4a.100.070.D.3

<sup>9</sup> Solid Waste is required by their lease to pay for property taxes and other operating costs. These costs are variable and not included in the \$4.8 million base lease cost.

## Executive Response

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September 14, 2022

**SENT VIA EMAIL ONLY**

Kymber Waltmunson  
King County Auditor  
Room 1033  
COURTHOUSE

RE: Transmittal of Response to Recommendations  
Solid Waste Division Permanent Support Facilities: Unaddressed Risks Could Delay Project  
Delivery and Increase Costs

Dear Ms. Waltmunson:

Thank you for the opportunity to review and comment on the letter pertaining to *Proposed Final Solid Waste Division Permanent Support Facilities: Unaddressed Risks Could Delay Project Delivery and Increase Costs*. We appreciate the depth and breadth of the Auditor's scope, which has provided us with several opportunities to improve the subject CIP project and others in our portfolio. We are committed to continuous process improvement and recognize the value provided by outside audits.

In general, we concur with Auditor's recommendations and have provided additional details in the attached Responses to Recommendations table.

We also acknowledge the professionalism of the team assigned by your office. Zainab Nejati and Ben Thompson were responsive to our questions and transparent about the audit process and timeframes, which enabled SWD to provide the requested responses and supporting documentation on schedule.

If you have questions or need additional information, please contact Project Manager Kinyan Lui at 206-263-3685 or [klui@kingcounty.gov](mailto:klui@kingcounty.gov).

Kind Regards,



Dwight Dively  
Chief Operating Officer

cc: Christie True, DNRP Director  
Mo McBroom, DNRP, Deputy Director  
Glynda Steiner, SWD Deputy Director  
Kinyan Lui, Interim PMO Manager

**Recommendation 1**

Solid Waste Division should ensure the Permanent Facilities Relocation project schedule includes all identified activities and estimated durations from project initiation through closeout and should refine the schedule as the project progresses.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	December 30, 2022
Responsible agency	SWD
Comment	The project team plans to enhance the existing overall schedule in PRISM to include more detail in later stages of the project. Currently, detailed schedules are developed up to preliminary design as part of a rolling-wave approach to project planning. However, we understand the benefits of identifying the activities beyond preliminary design through closeout with estimated durations to enable a real-time tracking of delays in the overall project completion. SWD will implement this recommendation on the Permanent Support Facilities project and all other CIP projects.

**Recommendation 2**

Solid Waste Division should develop and document contingency plans specific to the FarWest site lease, detailing conditions and timing for bringing forth a lease extension proposal for County Council consideration and identify alternative work sites should a lease extension be unavailable.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	June 30, 2023
Responsible agency	SWD
Comment	SWD has a contingency plan related to the FarWest lease, however the Auditor correctly identified this plan was not documented with the specific actions and a schedule.

SWD will work with FarWest to develop an amendment to the lease agreement to add an option for a year-to-year lease extension. SWD will seek Council approval to execute the amended lease if needed to complete the Permanent Support Facilities.

**Recommendation 3**

Solid Waste Division should follow best practices and develop and document a project management plan for the permanent facilities relocation project that covers project initiation through closeout.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	March 31, 2023
Responsible agency	SWD
Comment	A Project Management Plan (PMP) has been developed for the Permanent Facilities Relocation project. It is currently focused on the preliminary design stage. An update to the PMP will expand to include final design through closeout.

**Recommendation 4**

Solid Waste Division should update the permanent support facilities project risk register, including contingent actions, and update the risk register at least at the beginning of each new phase and when project risks are realized, as required in the 2021 Solid Waste Project Management Manual.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	Complete
Responsible agency	SWD
Comment	The project team is updating the risk register as a standard discussion topic at our bi-weekly PM meetings and/or as new information becomes available.

**Recommendation 5**

Solid Waste Division should develop a plan that shows how it will prioritize and deliver capital projects within current staffing levels.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	Complete
Responsible agency	SWD
Comment	<p>SWD has a plan for prioritizing CIP projects. The highest priority CIP projects are elevated to the status of "Priority Actions." Only 3 of the 17 active CIP projects have been designated as Priority Actions because these are critical to our ability to continue providing regional solid waste services. The Permanent Support Facilities project is one of these Priority Actions, which by definition receive the highest priority for SWD's resources and are managed by the most senior PMs. These projects receive a regular and high level of monitoring in the monthly Capital Projects Review Board (CPRB) meetings, and in SWD Management Team and Leadership Team meetings.</p> <p>SWD concurs that the PMO should not rely so heavily on TLTs to perform its CIP work. We will evaluate the number of FTEs needed to adequately staff the PMO to ensure delivery of our capital projects. These positions will be considered by the Executive in the next supplemental budget request.</p>

**Recommendation 6**

Solid Waste Division should incorporate recent county initiatives into its operations and space needs over the lifespan of the building, including options to accommodate near-term tonnage peaks in the most cost-effective manner possible.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	Complete
Responsible agency	SWD

Comment

While refuse tonnage is projected to flatten and decrease as we achieve our Zero Waste of Resources (Re+) goals, those projections are dependent on regional changes that have not yet been made, many of which are outside the direct control of SWD. However, future tonnage did not significantly influence our staffing and space requirements at the Permanent Support Facilities because most of the positions affected by the reduction in tonnage are tipper workers and heavy equipment operators, who account for approximately 30 of about 125 Cedar Hills employees. Regardless of their numbers, tipper workers and heavy equipment operators do not require building space.

The number of FTEs at Cedar Hills may actually increase as we hire additional staff to reduce the amount of overtime worked by these employees. Between July 2021 and June 2022, SWD incurred a total of about 66,700 OT hours, equivalent to about 32 FTEs. The space plan reflects the additional FTEs needed to reduce OT costs, employee burn-out, and potential safety risks.

After closure of the landfill most operations work units will still be required to inspect, operate, and maintain the landfill, including the landfill gas, wastewater, and utility crews. Maintenance facilities will still be required for equipment, trucks, trailers and vehicles. Transfer stations will continue to operate under the next solid waste disposal option, whether waste export by rail, waste-to-energy, or some other option.

The Solid Waste Division is proposing to consolidate operations at Cedar Hills Landfill from the current seven days to five days. This will likely increase demand on shop services during the week, requiring additional bays.

**Recommendation 7**

Solid Waste Division should develop standardized guidelines for workstation allocations and follow their established space standards.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	December 31, 2022
Responsible agency	SWD
Comment	SWD agrees that standardized space guidelines are beneficial for future planning as a starting point for designs. These will be documented for use on this and other future capital projects.

In addition to using these standards, the duties and business needs of staff members and space requirements for specific equipment and furnishings will be considered in the final workspace designs. While employees are engaged in space need requirements, SWD management makes the final decision on space assignments considering supervisory, security, and special functional needs.

**Recommendation 8**

Solid Waste Division should follow King County Code and account for long-term lease costs within capital projects.

**Agency Response**

Concurrence	<b>CONCUR</b>
Implementation date	We have missed the deadline for the 2022 4 <sup>th</sup> Omnibus and the schedule for 2023 has not been published but it is likely around March 31, 2023.
Responsible agency	SWD
Comment	SWD will propose the appropriate changes in the first omnibus in 2023. This will include lowering the operating fund budget by the lease amount and adding lease budget to the Facilities Support Relocation project.



# Advancing Performance & Accountability

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## KING COUNTY AUDITOR'S OFFICE

KYMBER WALTMUNSON, KING COUNTY AUDITOR

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