



Performance Audit:

DWM Capital Projects Contract Management

What We Found

The Department of Watershed Management has developed a mature PDS (project delivery system) to describe detailed policies and procedures that follow best practices for capital project management. This provides project teams with a framework for project management that addresses relevant risks. We found that Watershed Management has established controls that address most capital project risks. We identified minor gaps in controls over cost, schedule, reporting, safety, and quality management. We also noted portions of the PDS that no longer reflect current practice that should be updated.

While the PDS is a mature system of internal control following most industry best practices, controls must be actually implemented in order to have the desired effect on risks. We tested implementation of the controls detailed in the PDS and found that most key controls had been implemented, in e-Builder or otherwise, but that inconsistencies and opportunities for improvement remain. We reviewed project documentation in e-Builder for three sample projects: an active project, a complete project, and a project with a detailed design phase.

The e-Builder program management information solution contains an important suite of controls used by staff to manage projects. Watershed Management lost access to the system in January 2020 during the transition from an agreement between e-Builder, Inc. and the former program management team to an agreement directly between the city and e-Builder, Inc. The department did develop temporary backup controls to mitigate the effects of the lapse in access to e-Builder, though replacing automated with manual processes does introduce risk. The department also developed a detailed plan to migrate 2020 data into e-Builder after regaining access. Access to e-Builder was restored in August 2020, and we were able to confirm that staff has begun executing the plan to load 2020 project data into e-Builder.

Why We Did This Audit

We undertook this audit to review controls over the management of capital projects in the Department of Watershed Management and to assess whether those controls were followed.

What We Recommended

To address minor gaps in controls and to update controls to reflect current practice, the Capital Projects Management Division should:

- Incorporate safety plan elements into the project management plan template.
- Regularly review and update the PDS.
- Incorporate supplemental guides in PDS.
- Add activity to process consultant invoices.
- Establish project cost threshold over which a value engineering workshop is required.
- Develop and document process to compare design costs to construction costs.
- Add an item to closeout checklists to ensure reporting requirements for grantors and bond covenants are addressed.
- Develop formal warranty inspection and post-occupancy evaluation procedures.
- Ensure backup manual processes document established workflows.
- Update Inspection Daily Report process in e-Builder to include safety issues.
- Update change document workflow in e-Builder to include routing step for review by the project controls team.

To consistently apply project management tools as described in the Project Delivery System, Watershed Management staff should:

- Follow procedures for developing and updating project management documents.
- Create and maintain technical review meeting summaries.
- Ensure all construction oversight documentation is maintained in e-Builder.
- Ensure that punch lists are generated.
- Maintain review comments and approvals of safety plans and related submittals.
- Consistently use pay application checklists.

To avoid future loss of access to systems, the Department of Watershed Management should:

- Procure any systems directly from vendors through the city's procurement process.

To maintain project documentation, Watershed Management staff should:

- Continue to upload remaining data from during the e-Builder outage to e-Builder.

For more information regarding this report, please use the "contact" link on our website at www.atlaudit.org

Management Responses to Audit Recommendations

Summary of Management Responses		
Recommendation #1:	We recommend that the Project Delivery System administrator incorporate safety plan elements into the project management plan template.	
Response & Proposed Action:	Will include references to safety plan requirements in the Project Management Plan Outline template in the PDS.	Agree
Timeframe:	March 31, 2021	
Recommendation #2:	We recommend that the Project Delivery System administrator regularly review and update the Project Delivery System to ensure it more clearly reflects current practice using e-Builder forms and what legacy forms are used only as backup controls.	
Response & Proposed Action:	We will review all forms referenced in the PDS with respect to e-Builder forms and current practices and make appropriate modifications to the PDS. This will be performed annually.	Agree
Timeframe:	June 30, 2021	
Recommendation #3:	We recommend that the Project Delivery System administrator incorporate supplemental guides by reference within the appropriate flowchart steps of the Project Delivery System, including the final version of the dashboard standard operating procedure in the recurring activity Update Project Summary Report.	
Response & Proposed Action:	Will finalize the Standard Operating Procedure Content Element Definitions/Development Project Summary Dashboard report, dated February 2017, and add it to the PDS with discussion and a reference link in the overview flowchart Recurring Activities: Update Project Summary Report.	Agree
Timeframe:	March 31, 2021	
Recommendation #4:	We recommend that the Project Delivery System administrator add a recurring activity for processing consultant invoices to the Project Delivery System design phase.	
Response & Proposed Action:	Will add recurring activities for consultant Process Payment Applications in the PDS at the appropriate flowchart design phase locations.	Agree
Timeframe:	March 31, 2021	
Recommendation #5:	We recommend that the Capital Projects Management Division establish a project cost threshold over which a value engineering workshop is required and require documentation for the reasons for waiving value engineering studies so required.	
Response & Proposed Action:	Will develop a Value Engineering guidance document/approval template for the PDS. It will be linked at appropriate flowchart locations.	Agree
Timeframe:	June 30, 2021	

Recommendation #6:	We recommend that the Capital Projects Management Division develop and document a process to compare design costs to construction costs during the documentation of lessons learned.	
Response & Proposed Action:	Will develop a report in e-Builder to capture and record design costs as a percentage of construction costs with verification as part of the Lessons Learned process.	Agree
Timeframe:	June 30, 2021	
Recommendation #7:	We recommend that the Capital Projects Management Division add an item to the closeout checklists to ensure that reporting requirements for grantors and bond covenants are addressed during closeout.	
Response & Proposed Action:	Department of Finance/Office of Debt and DWM/Office of Financial Administration are jointly responsible for reporting on the grants and bond covenants requirements. Will modify the Project Closeout Checklist in the PDS to include the request for a verification of project compliance with grant requirements and the bond covenants in the memorandum for the final project closeout.	Agree
Timeframe:	March 31, 2021	
Recommendation #8:	We recommend that the Capital Projects Management Division develop formal warranty inspection and post-occupancy evaluation procedures to take place during the warranty period.	
Response & Proposed Action:	Will develop additional warranty inspection and post occupancy evaluation procedures and add it to the PDS under the Post-Construction Activities/Warranty Administration flowchart location.	Agree
Timeframe:	June 30, 2021	
Recommendation #9:	We recommend that the Capital Projects Management Division ensure that backup manual processes document established workflows during e-Builder interruptions.	
Response & Proposed Action:	During the e-Builder outage we established several temporary procedures to manually continue project management activities outside of e-Builder. These documents will be reviewed, updated, and supplemented as needed and stored in the PDS for future reference.	Agree
Timeframe:	June 30, 2021	
Recommendation #10:	We recommend that the e-Builder administrator update the Inspection Daily Report process in e-Builder to include a section for reporting safety issues.	
Response & Proposed Action:	The Daily Safety Inspection Checklist in the PDS is completed by the inspectors to document and track general site safety issues. The contract-provided Project Safety Officer prepares and transmits daily safety reports to DWM Construction Manager as required by City contract. Additionally, e-Builder already has a stand-alone Safety Violation Notice (SNV) Form. It will be added to the PDS with a link to the document under the flowchart stage: Construction/Monitor Safety Compliance.	Agree
Timeframe:	March 31, 2021	
Recommendation #11:	We recommend that the e-Builder administrator update the change document workflow in e-Builder to include a routing step for review of the contractor proposal by the project controls team.	

Response & Proposed Action:	Will assure the Change Document (CD) process in e-Builder and planned modifications to divide the CD process into three separate processes, include Project Controls review steps.	Agree
Timeframe:	June 30, 2021	
Recommendation #12:	We recommend that Watershed Management staff follow procedures for developing project management plans, project risk registers, and project communications plans and maintain these documents in the project files in e-Builder.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021	
Recommendation #13:	We recommend that Watershed Management staff follow procedures to update project management plans, project risk registers, and project schedules throughout projects and maintain these updated documents in the project files in eBuilder.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021	
Recommendation #14:	We recommend that Watershed Management staff create technical review meeting summaries and maintain these documents in the project files in e-Builder.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021	
Recommendation #15:	We recommend that Watershed Management staff ensure all construction oversight documentation, including preconstruction meeting agendas, checklists, testing forms, and submittal approvals, are maintained in the project files in eBuilder.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021	
Recommendation #16:	We recommend that the Watershed Management staff ensure that city-issued punch lists are generated according to procedures described in the Project Delivery System to document the city's awareness of critical or incomplete items and completion dates of corrective actions.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021	
Recommendation #17:	We recommend that the Watershed Management staff maintain review comments on and approvals of safety plans and related submittals in the project files in e-Builder.	
Response & Proposed Action:	Will develop an oversight process to monitor the extent project management procedures are being followed.	Agree
Timeframe:	June 30, 2021`	
Recommendation #18:	We recommend that the Watershed Management staff consistently use pay application review checklists and maintain these documents in the project files in e-Builder.	
Response & Proposed Action:	The pay application checklists will be added to the Invoice Approval process as a linked reference document for consultation during reviews.	Agree

Timeframe: June 30, 2021

Recommendation #19: We recommend that the Department of Watershed Management procure any systems directly from vendors through the city's usual procurement process, rather than issuing a task order for a contractor to procure systems.

Response & Proposed Action: On July 30, 2020, DWM issued an NTP for a contract with e-Builder, SP-S 1200145, e-Builder Software Support and Training Services. The initial term of the Contract was one year with up to four annual renewals. The first renewal was executed on October 31, 2020. The last year of the contract would expire on October 31, 2024, by which a new contract will be procured. **Agree**

Timeframe: Complete

Recommendation #20: We recommend that the Watershed Management staff continue to upload all remaining project data from during the eBuilder outage to e-Builder.

Response & Proposed Action: This is an ongoing effort expected to continue through the end of the 2020 calendar year. **Agree**

Timeframe: December 31, 2020
