



# Buildings and General Services

Providing essential services and quality customer service to Vermont's state employees



# Office of State Auditor (SAO) assessed 10 Capital Bill projects authorized between 2012 and 2016.

Found that “projects consistently exceeded cost and schedule estimates; BGS’ process weaknesses hinder it’s ability to improve Capital Project management.”



# Audit Findings:

- Cited weaknesses
  - Actual project costs exceed initial cost estimates
  - Delayed projects
  - Scope creep
  - Inability to monitor program performance
- Report culminates in 17 recommendations





# Program Improvements

## Standardizing the Project Delivery Process



# Project Delivery Process

Standardization is essential for reliability, consistency, and incorporate lessons learned.



# Project Delivery Procedures Manual:

- Existing procedures manual is outdated
- Sent query to NASFA (National Association of State Facility Administrators); 6 examples received
- Held kick-off meeting
- Plan to meet monthly to continue development
- Intended to be a living document



# Credible Project Schedules:

- Unable to clearly define time needed to deliver a project and we often overcommit
- To address this gap, BGS is implementing the use of project scheduling software:
  - Microsoft Project software purchased
  - PMs received training
  - Three templates developed

# Credible Project Schedules, Next Steps:

- Will be implemented this winter
- Baselines will be used to monitor performance
- Our templates show that aligning project development to the Capital Bill schedule is problematic and causes projects to be “put down”





# Program Improvements

Creating a solid foundation for success



# Project Scope, Cost Estimates, and Change Orders

Revamping internal structures and processes to focus on planning, the first phase of project development, eliminating scope creep and improved cost estimates.



# Spring 2017 Reorganization:

- Planning is often underemphasized and yet it is one of the most important
- Reorganized to create a Planning Unit in the new Planning and Property Management Division
- New line item in the FY18/19 Capital Bill, “Planning, Contingency, and Reuse” allows BGS to conduct feasibility studies in advance of requesting funding for D&C



# Limiting Scope Creep:

- Developed template for feasibility studies to ensure accuracy and consistency
- Feasibility studies will include:
  - project requirements,
  - potential barriers,
  - various alternatives, and
  - recommended alternative with cost and estimate
- Scope will be vetted and approved by the BGS Commissioner and customers (“Management Approval of Scope”)



# Cost Estimates:

- Cost estimating for facilities is challenging
- Software and square foot method problematic
- Sometimes factors are added to account for variability
- Small contingency vs. industry standard of 25% to 100%



# Cost Estimates Cont.:

- Conduct an analysis to develop accurate:
  - contingency estimate
  - factors (location, time of year, duration, construction type, facility type)
- Research industry best practices
- Retain independent cost estimators



# Change Orders:

- Often derived from:
  - Code compliance
  - Unforeseen site condition
  - Tenant or building owner request
- Actions to reduce change orders:
  - Formalizing the planning process
  - MAOS (tenant acceptance of scope)
  - Reinstate formal design review process
- Change orders will be monitored in our future Project Tracking System





# Program Improvements

Using data to identify opportunities for improvement





# Documentation, Program Performance, and Incorporating Lessons Learned

Monitoring program and project performance to readily identify opportunities for improvement and incorporate lessons learned.



# Project Tracking System:

- We are committed to implement a project tracking that would encompass the full life-cycle of a project
- Currently compiling list of requirements
  - general project characteristics,
  - funding sources,
  - project milestones,
  - project estimates,
  - actual project costs, and
  - change orders.



# Project Documentation:

- Developed a proposed file structure for all facility projects
- Working with ADS to upload to SharePoint
- Will develop SOP

# Incorporating Lessons Learned:

- Post-construction project reviews





# Program Improvements

Leveraging contracting and procurement opportunities to advance projects



## Contracting and Procurement:

Various contracting and procurement methods and tools are needed to ensure timely and cost-effective project completion



# Procurement Methods:

- Irrefutable reasons for utilizing sole source contracts and change orders
- Building systems and types require specific skill set
- Correctional and mental health care facilities have strict requirements
- Design services broken down into same phases as project development due to uncertainty
- Less efficient with risk of greater error to hire new design firm to complete subsequent phase(s)



# PMs “Binding the State”:

- We do not believe our current contract change order process is in conflict with 29 V.S.A. 152(a)(3)(A):
  - Requires change orders “have approval” of the Secretary
  - Secretary approval provided by BGS Contracting Waiver Plans when coupled with review and approval thresholds established in Bulletin 3.5
  - Bulletin 3.5 authorizes all State departments to establish change order process in construction contracts
  - No further Secretary approval is needed unless 1. there is a deviation and 2. consolidation of change orders

# PMs Binding the State:

- Agree that existing language in our construction contract could create the appearance of an improper delegation of authority
- Practical realities of managing construction contracts, PMs do need to have the ability to communicate the State's position
- We will modify the project manager language in our existing contract general conditions







# Program Improvements

Defining success and identifying opportunities for improvement



## Key Performance Indicators (KPIs):

KPIs place emphasis on various aspects of a program to define whether a program is successful and to help more easily identify areas for improvement.



# Key Performance Indicators:

- 80% of projects advertised within 30 days of the bid date
- Cost of change order relative to the awarded contract
- Source of change orders:
  - Client
  - Unforeseen conditions
  - BGS/Owner-Initiated
- Implement design review at different phases
- Implement project scheduling software





# Program Improvements

Going beyond audit findings



# Other Ongoing Initiatives:

- Stakeholder meetings (AGC, ACEC, and AIA)
- Contractor evaluation forms
- Contract prequalification process
- Asset management software
- Construction management software
- Adjust bid dates to better align with the industry
- Post list of upcoming projects for bid
- Design Guidelines update





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Questions/Comments?

