

AGENDA

Denver Board of Water Commissioners

Denver Water Administration Building
1600 West 12th Avenue
Denver, CO
Board Room, Third Floor

Wednesday, March 13, 2019 9:00 a.m.

I. INTRODUCTORY BUSINESS

A. Call to Order and Determination of Quorum

B. Public Comment and Communications

At this point in the agenda, the Board may allow members of the public to address the Board on any item of interest within the jurisdiction of the board, and not on the agenda for action. Speakers wishing to address a specific Action Item will be invited to address the board when the item is being considered. Three minutes are allowed for each person unless the President determines otherwise.

1. Distributor Communications
2. Citizen Advisory Committee Communications

C. Ceremonies, Awards and Introductions

D. Legislative Update

II. ACTION ITEMS

A. Consent Items

Items listed below are considered routine and may be enacted by one motion and vote. If any Board member desires discussion beyond explanatory questions, or corrections to the Minutes, the President may order that item to be considered in a separate motion and vote.

1. Minutes from February 13, 2019 - Open Session
2. Minutes from February 27, 2019 - Open Session
3. Security Guard Services – Contract 503678
4. Third Amendment for Gross Reservoir Expansion Project Design Engineer – Contract 501750

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B. Individual Approval Items

- | | | |
|---|---------------|---------|
| 1. No Fault Main Break Assistance Program Resolution | Jason Taussig | 10 min. |
| 2. Hazeltine Reservoir – 2019 Material Removal - Contract Under Development | Ryan Stitt | 10 min. |

III. POLICY MATTERS

- | | | |
|---------------------------------------|------------------|---------|
| A. 2018 Financial Update | Angela Bricmont | 15 min. |
| B. System and Programs Update | Angela Bricmont | 10 min. |
| C. BTMO Annual Strategy Update | Virginia Roberts | 10 min. |
| D. National Western Update | Tom Roode | 10 min. |

IV. EXECUTIVE UPDATE

- A. CEO Update**
- B. CFO Update**
- C. Operations Update**

V. BRIEFING PAPERS & REPORTS

A. Briefing Papers

- 1. Legislative Update
- 2. Business Technology Transformation Annual Strategy Update

B. Reports

VI. ADJOURNMENT

VII. TRUSTEE MATTERS

VIII. EXECUTIVE SESSION

The Board may adjourn the regular meeting and reconvene in executive session on topics authorized by D.R.M.C. Sec. 2-34

A. Confidential Report D.R.M.C. Sec. 2-34

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: II-A-3

Security Guard Services Contract 503678

Action by Consent

Individual Action

Purpose and Background:

Denver Water requires stationary and roving security guards 24 hours per day, 365 days per year at various locations to ensure the security of its water supply, infrastructure, and employees. Security guard services aid Denver Water in deterring, detecting, and responding to emergency situations throughout the Denver Water system.

Budget and Schedule:

The total amount of this contract is \$9,346,790 and the term of the contract is May 1, 2019 to April 30, 2022. Due to increased patrols and a higher-than-expected increase in market wages for security guards, the 2019 security budget does not contain sufficient funds for the estimated \$2,003,520 needed in 2019 (short by approximately \$400,000); expenditures will be reforecast throughout the year based on actual usage. The remaining \$7,343,270 will be budgeted in subsequent years.

Selection of Business Partner:

Denver Water issued a Request for Proposals (RFP) to the public on the Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, through notifications to the SBE and MWBE lists, and via direct solicitation to known vendors. Denver Water received eight (8) proposals. Two Proposers were SBEs and one Proposer was an MBE. The remaining five (5) Proposers were neither SBE nor MWBE. The recommendation of award is made for HSS Inc. based on their experience, staffing model, professional staff, understanding of work to be performed, and pricing. This will be Denver Water's first contract award to HSS.

S/MWBE Information:

There is no S/MWBE goal for participation set for this Agreement. HSS Inc. is not an S/MWBE organization.

Recommendation:

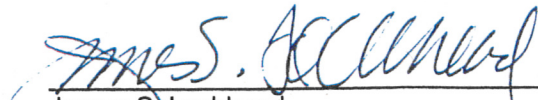
It is recommended that the Board approve Agreement 503678 with HSS Inc. for security guard services, for the contract period starting May 1, 2019 to April 30, 2022 for a total contract amount not to exceed \$9,346,790.

Respectfully submitted,


Approvals:



Brian Good
Chief Administrative Officer



James S. Lochhead
CEO/Manager



Angela Brimont
Chief Finance Officer

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DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: II-A-4

Third Amendment for Gross Reservoir Expansion Project Owner's Representative Contract 501750

Action by Consent

Individual Action

Purpose and Background:

Denver Water continues to form an integrated project team comprised of Denver Water staff, consultants, engineers, contractors, and specialists, to deliver the Gross Reservoir Expansion (GRE) project. In May 2017, Denver Water contracted with Black & Veatch to provide Owner's Representative (OR) services. The OR services broadly include program controls (document, cost, and schedule); program administration; technical and managerial assistance; and access to subject matter experts.

In late 2018, Denver Water elected to use the Construction Manager / General Contractor (CM/GC) delivery approach for the project. The CM/GC Contractor will provide preconstruction phase services and then transition to the General Contractor role during the construction phase if agreement on a Construction Agreed Price (CAP) is reached. It is, therefore, essential that Denver Water critically assess and negotiate the CAP as necessary to reach best value for the GRE and Denver Water. The Project Team's ability to do so will rely on an Independent Cost Estimator (ICE) a vital team member for CM/GC-delivered projects.

The ICE will be contracted through Black & Veatch's OR services contract. The ICE is comprised of three separate consultants: Stanton Constructability Services LLC (Stanton) is the lead firm and will guide all preconstruction activities related to cost estimates; Engineering Solutions, LLC (ES) and Pauletto & Associates (Pauletto) bring Roller Compacted Concrete (RCC) dam and production quarry development expertise to the team and will primarily focus on the dam related activities. Stanton has considerable experience providing ICE services on CM/GC projects for many clients and is familiar with best practices as detailed by the Federal Highway Administration and other departments of transportation including the Colorado Department of Transportation.

Black & Veatch's original contract included cost estimating services to review cost estimates developed by the design engineer. The budgets associated with these services were re-allocated to the ICE budget in this amendment.

The purpose of this Board Item is to execute the Third Amendment to the GRE Owner's Representative contract to procure ICE-related services.

Budget and Schedule:

The amount requested for Amendment No. 3 is \$1,200,000. A table showing the history of amendments is below.

Item	Cost	Description	Notes
Original Agreement	\$1,174,925	Phase 1 Owner's Representative Services for Gross Reservoir Expansion	Board Approved April 12, 2017
Amendment No. 1	\$6,999,834	Phase 2 (design services) scope addition	Board Approved December 13, 2017
Amendment No. 2	\$0	Co-Location Office requirements	Board Approved February 12, 2018
Amendment No. 3	\$1,200,000	Scope addition – ICE services	For Board Approval
Total Contract Amount	\$9,374,759		

This amendment was partially funded in the 2019 budget of \$14.19M. The overall GRE program forecast of \$464M is unchanged. The current 2019 forecast of \$15.45M includes the planned 2019 expenditures for the ICE scope and fees as presented in Amendment No. 3.

Selection of Business Partner:

The GRE ICE was selected through a value based competitive process which considered qualifications, cost, and approach through a written proposal and interview.

The ICE selection began with an advertisement of Request for Qualifications (RFQs). The solicitation resulted in submission of three Statement of Qualifications. The Selection Team reviewed the qualifications and after careful consideration, Stanton Construability Services was chosen as the preferred ICE.

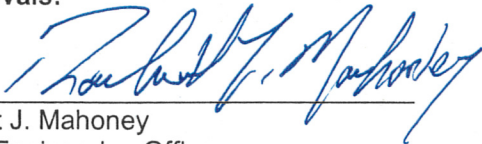
MWBE Information:

Denver Water staff requested strong and meaningful MWBE participation from the OR versus setting a specific MWBE goal for OR services. The OR utilized Katz & Associates, a Woman-owned Business Enterprise, which accounted for 11% of the total Phase 1 services. The budgeted MWBE participation for the Phase 2 OR services includes support from Katz & Associates and Sigler Communications accounting for 15.8% of the contract. MWBE participation is monitored and reported in the project's bi-monthly Board report.

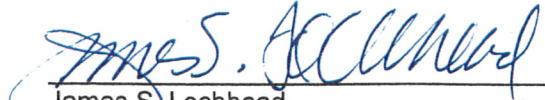
Recommendation:


It is recommended that the Board approve the Third Amendment for \$1,200,000 to Contract 501750 with Black & Veatch as the Owner's Representative for a total amended contract amount not to exceed \$9,374,759.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager

 for:
Angela Bricmont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: II-B-1

No-Fault Main Break Assistance Program Resolution

Action by Consent

Individual Action

Purpose and Background:

On Sept. 26, 2018, Staff provided the Board with an update on the types of assistance Denver Water had been providing to property owners who were impacted by no-fault (non-negligent) main breaks. Some of this assistance—specifically, the approval to pay up to a certain amount for personal property damage—was expressly approved in the Main Break Resolution first adopted by the Board in 1997 and amended in 2001.

While the current resolution acknowledges the various services that Denver Water has been providing to impacted property owners and tenants, it does not expressly authorize them. Consequently, Staff recommended that the Board consider adopting a new resolution that would expressly approve the scope of the assistance being provided, with any modifications as directed by the Board. The Board agreed, resulting in the attached proposed Resolution.

The proposed Resolution addresses the following:

- The Program will continue to provide emergency response and mitigation services, and restoration payment to property owners impacted by the break. However, the Resolution clarifies residential and commercial property eligibility under the Program due to the differences in insurance coverage availability between the two.
- Denver Water will no longer provide and oversee repair or restoration services but will have a professional estimator determine the cost of restoring the property to its pre-flood condition and offer that amount as settlement of all claims against Denver Water related to the main break.
- Denver Water will provide lodging assistance for persons whose residence is rendered uninhabitable because of main break. This assistance would be limited in duration to fourteen (14) consecutive days and capped at the appropriate GSA rates.
- Insurance deductible assistance will continue to be available for damaged vehicles.
- Personal property limits will remain at \$8,000.


Budget and Schedule:

There is no anticipated variance to the 2019 budget. Cost for administration of this Resolution is currently maintained by the Safety Section and the Office of General Counsel.

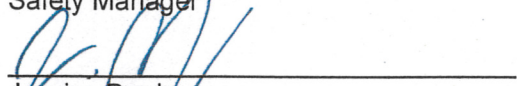
Recommendation:

Staff recommends the Board approve the “No Fault Main Break Resolution.”


Approvals:



Josh Keger
Safety Manager

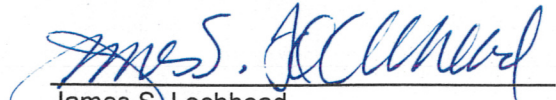


Jessica Brody
General Counsel



Brian Good
Chief Administrative Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: II-B-2

Hazeltine Reservoir – 2019 Material Removal Contract Under Development

Action by Consent

Individual Action

Purpose and Background:

Hazeltine Reservoir (Hazeltine) is the largest of five reservoirs in Denver Water's North Complex (Complex) and is the most critical for full operations. Hazeltine is the confluence of the other four reservoirs and at full build-out will contain a pump station that operates the entire Complex. The Complex will predominantly be used to store water generated as reusable return flows from transbasin diversions. The stored water is later released from the downstream reservoirs for use by downstream senior water rights in trade for water diverted at the Recycle Plant or Denver Water's upstream diversions.

Hazeltine is a reclaimed gravel mine that is constructed with a water-tight, slurry-wall barrier to isolate reservoir water from groundwater. The Hazeltine floor remains unfinished and is currently overlain with approximately 2.3 million cubic yards (CY) of excess uneconomical mining waste material from previous mining operations. Completion of Hazeltine requires grading of the material with the option to remove some, or all, of the material for increased operability and storage volume. Denver Water has an opportunity to contract with Concrete Express, Inc. (CEI) to haul away approximately 315,000 CY in Stockpiles to a CEI-owned reclamation mine immediately adjacent to Hazeltine. The contract will include an add alternate to remove an additional 325,000 CY of Common Fill if both parties agree. The contract with CEI represents an opportunity to increase storage by approximately 405 acre feet, advance reservoir completion, and capitalize on a nearby disposal opportunity at a relatively low cost. Utilization of the close disposal site demonstrates Denver Water's commitment to sustainability by minimizing the haul distance, reducing emissions, and minimizing environmental disturbance. Further, the project provides the best opportunity to minimize the impact of the project on the surrounding communities.

Because of the constrained schedule driven by CEI's need for the material, it is recommended the Board approve for the CEO/Manager to execute the project, within the approved project budget and with Board President's signatures, without requiring additional Board approval for this contract.

Budget and Schedule:

The work begins in 2019 and will be completed in 2020. The 2019 Budget for the Hazeltine Material Removal Business Unit does not include funds of \$2,684,100 for the project, although budget was included in the 2020 and 2021 Long-Term Capital Plan. Engineering requested and received System Manager approval on February 19th to accelerate funding on this project.

Selection of Business Partner:

Due to the unique and specialized nature of this work and the opportunity to remove material cost effectively, CEI submitted a proposal for this project at Denver Water's request. The proposal submitted was evaluated based on the experience of the firm and the designated personnel proposed for work of a similar nature, availability of designated personnel, and the cost of the proposed services. CEI was found to meet the criteria required to perform the needed services.

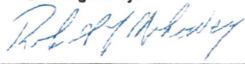
MWBE Information:

Due to the specialized nature of the work, no Minority and Women Business Enterprise (MWBE) goal was established for the design portion of the project.

Recommendation:

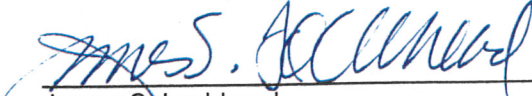
Subject to review by the Office of the General Counsel, it is recommended the Board authorize the President and CEO to execute a contract with Concrete Express, Inc. (CEI), for a contract period March 13, 2019 to October 31, 2020, to haul away from Hazeltine Reservoir approximately 315,000 CY in stockpile material to a CEI-owned reclamation mine immediately adjacent to Hazeltine, with an add alternate to remove an additional 325,000 CY of common fill if both parties agree, for a total contract amount not to exceed \$2,684,100.

Approvals:

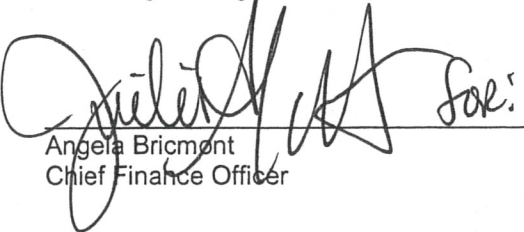
DocuSigned by:


198A4937E812416
Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Angela Bricmont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: V-A-1

Briefing Paper for Legislative Update

Strategic Plan Alignment

Lenses: Customer Centric Industry Leader Long-Term View

Government Relations plays a key role in issues important to Denver Water's success by advocating the interests of Denver Water in legislative and regulatory matters, specifically by proactively lobbying the Colorado General Assembly.

Summary

We have one recommendation and one anticipated bill we are monitoring, which are discussed below.

HB19-1200 Reclaimed Domestic Wastewater Point Of Compliance –In 2018, Denver Water helped pass legislation adding toilet flushing as a new recycled water use in Regulation 84. During the reclaimed water rulemaking process, we identified a problem with the new statutory definition of “point of compliance.” We have worked with the Colorado Department of Public Health and Environment to craft language to fix this. It has now been introduced by Representative Arndt.

Recommendation: SUPPORT

Seaplanes – We have seen three consecutive attempts to pass legislation allowing seaplanes to land on lakes and reservoirs in Colorado. We have opposed these attempts due to the risks of spreading aquatic invasive species, specifically quagga and zebra mussels. The proponents of past attempts have circulated a fact sheet this session suggesting yet another attempt. The proposal this year focuses on Single Engine Air Tankers (SEATs). These planes are used to fight fires and can land on and scoop water from lakes. While the law already allows them to land and scoop water in the case of emergencies, their proposal is to allow them to land for training purposes. We will be gathering information on this and looking for the bill if it gets introduced.

Attached is the full bill report, which includes a summary table followed by a detailed report on each bill we are tracking. Please refer to this attached report for information on all our bills.

Background N/A

Budget N/A

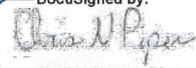
Alternatives N/A

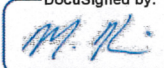
Approach N/A

Owner(s) Chris Piper, Government Relations, External Affairs

Attachments Report on 2019 Legislation

Respectfully submitted,

DocuSigned by:

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Chris Piper
Manager of Government Relations

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Mike King
Chief of External Affairs

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 13, 2019

Board Item: V-A-2

Briefing Paper for Business Technology Transformation Annual Strategy Update

Strategic Plan Alignment

Lenses: Customer Centric Industry Leader Long-Term View

This effort aligns with the Strong Financials and Excellent Operations perspectives of Denver Water's Strategic Plan as Denver Water seeks to make more responsible IT investment choices and lower IT spend to align with industry peers.

Executive Summary

The first year of Denver Water's five-year Business Technology Transformation produced many successes. 2018 spending targets were achieved, new standard work established in various areas yielded immediate results and a plan for the first major shift to a service-oriented solution on the BTT Five-Year Roadmap was set in motion. Missed BT Balanced Scorecard targets produced valuable information that initiated countermeasures. Better results against BT Balanced Scorecard targets are anticipated in 2019. We are on track to achieve the overall spending reduction target in 2023.

Background

Denver Water contracted the advisory services of Grant Thornton (GT) in 2017 to assess its IT strategy and benchmark spending against similar organizations. GT's IT Strategy Review recommended several changes aimed at improving the efficiency and effectiveness of IT at Denver Water. Key directives included: a business-driven governance model (GT 1.2), gradual reduction of operational IT spending (GT 1.3), and a suite of IT Advancement Principles to minimize internal software development in favor of external service-oriented solutions (GT 1.1). A Five-Year Roadmap for the Business Technology Transformation (BTT) was created using GT's recommendations across three domains: Governance (GT 4.0), Organization (GT 3.0) and Technology (GT 2.0). The contents and attachments of this Briefing Paper represent the first recommended BTT Annual Strategy Report (GT 4.2).

Approach

This Briefing Paper is organized by the following GT recommendation domains: Governance, Organizational Structure and Technology. Topics in this paper and the BTT Five-Year Roadmap will reference relevant GT recommendations by their numeric identifiers.

Governance

Business Technology Balanced Scorecard Results

Key performance indicators (KPIs) were adopted in 2017 to measure our progress against the BTT strategy (GT 4.1). These KPIs are gathered monthly within a BT Balanced Scorecard and are examined by the BTT Value Stream Core Team. The BTTVS Core Team includes: Chief Information Officer,

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Business Technology Management Office Director, IT Projects Director, Budget Manager, and Operations & Maintenance Asset Manager.

IT Project Performance

The IT Project Performance metric is a monthly indicator of budgeted projects expected to complete on time and within budget. The 2018 target was not achieved; however, last year's focus on project governance yielded many lessons learned that have been applied to the 2019 governance structure to put us back on track.

The 2018 IT Project Budget finished the year with a -31.6% budget variance. The primary drivers of this variance were: solution cost savings, projects not completed as planned and projects completed as planned but under budget. Additional details can be found in the 2018 YE Performance Review & Financial Update.

Several factors can impact the IT Project Performance metric: prioritization and capacity planning, maintaining the appropriate levels of salaried and outsourced support staff, maturity of project management practices and reporting, vendor performance management, governance of scope changes and external events beyond our control. The governance structure in 2019 includes the following mitigation approaches:

- **Project prioritization and capacity planning activities** established in 2018 for Business Technology will be expanded in 2019 to include three additional system categories: Operational Technology (OT), Cybersecurity and IT Infrastructure. Resource utilization across IT, Procurement and other impacted Divisions will be examined before committing to 2020's budgeted project plan.
- **Monthly project forecasting and health reporting** activities have been standardized across the IT Division. This information will be provided to the Board in the Quarterly Performance Reports. Early indicators of threats to project health are expected through this process, which should reduce the risks associated with the exclusion of OT, Cybersecurity and IT Infrastructure projects in last year's capacity planning activities.
- **Scope change decision management** has been formalized for escalation through the BTMO for evaluation of business case alignment and approval by the Executive Oversight Committee (GT 4.5).
- **New vendor management standard work** established templates for IT managers, guidelines for contract negotiation and a structure for evaluating vendor performance.

IT Spend per User / Total IT Spend as a Percent of Revenue

Two metrics are used to measure progress towards the achievement of a gradual reduction in IT spend (GT 1.3). Both performed better than expected in 2018. The IT Spend per User target savings was exceeded by \$1,684 per user. The target Total IT Spend as a Percent of Revenue was under by 0.6%.

Business Impact Outage Minutes

The Business Impact Outage Minutes metric measures operational access to business technology and operational technology systems used by Denver Water

employees and its customers. The target value represents the IT Division's service level commitment to Denver Water for management of both internal systems and vendor performance. Actual performance fell just short of meeting the annual target. Over 90% of outage time was recorded in the first five months of the year. Deployment issues of 3rd party products and downtime of our Software as a Service Vendors were primary root causes of the outages in those first five months. Improvements made to procedures during 3rd party upgrades aligned this metric with its monthly target for the remainder of the year.

IT Helpdesk Top Box Satisfaction

The IT Helpdesk provides day-to-day technology support to employees. The Top Box Satisfaction metric measures employee sentiment through a survey conducted immediately after the completion of a Helpdesk support request. The 2018 target was exceeded for this metric. This suggests the reduction in Client Support Service Capacity (GT 3.5) achieved in 2018 did not have an adverse impact on DW operations.

Security Defense Maturity Score

While the Integrated Security Strategy was not addressed in the scope of the GT study, it drives decisions regarding ongoing operations and warrants a position on the BT Balanced Scorecard. This metric indicates the maturity of our defenses against physical and cybersecurity attacks that could threaten Denver Water operations, customer data, or employee privacy. The initial metric was produced by an external assessment performed in 2017 and will be measured again in the second quarter of 2019 during the next planned external assessment of our physical and cyber-security defense structure and processes. Ten projects have been budgeted for 2019 to further address recommendations from the 2017 assessment. These will be included in the Quarterly Performance Updates.

Percentage of Projects that Meet or Exceed Planned Benefits

Denver Water's end-to-end value management process begins with business case prioritization, continues through project execution via project health monitoring and ends with value verification after project completion (GT 4.5). All business cases developed through the BTMO include a Value Verification Plan that will be used as standard work to close out the value management cycle and to calculate this metric. The first Value Verification Reports (attached) show the results of four projects added mid-year in 2018. These four projects were the only ones completed in 2018 that had predetermined Value Verification Plans created for them through the BTMO.

One of the four projects verified, a pilot of IT Security Log Aggregation & Incident Response software, did not meet all expected benefits. This resulted in an overall missed target for the year. New technology piloted was successfully proven to work for log aggregation, but the original expectation that it would be completely implemented across all Denver Water systems during the short pilot was infeasible. This work will occur subsequently in another project budgeted for 2019. The lesson learned to be applied going forward was to keep pilots focused on a proof-of-concept, rather than a full implementation. The pilot also demonstrated that the expected benefit of 100% incident response automation carries far more risk than is acceptable due to the potential disruption of critical

operational systems in the process. While this was counted as a missed expectation, the finding has shaped a go-forward approach focused on careful selection of automation candidates.

The remaining three projects successfully met their expected benefits. An easier to use replacement software for budget development introduced efficiencies and reduced the annual cost of ownership to one-fourth of what it was previously. A replacement tool for email filtering now catches more than twice as much email suspected to be malicious. New software for raw water system modeling has already paid for itself more than tenfold with saved hydraulic modeling consultant costs.

IT Vendor Management

This metric provides insight into the performance of Software as a Service (SaaS) vendors. SaaS vendors are now scored in three areas: quality and expediency of support when assistance is requested, suitability to BTT strategy as defined by the IT Advancement Principles (GT 1.1) and a confirmation that the vendor's product brings value to Denver Water. The 92% score at year-end for thirteen existing SaaS vendors exceeded the target of 90%. Only one vendor is in a yellow status, and escalations are underway to address the concerns.

BTT Five-Year Roadmap & IT Projected Spend Forecasts

The BTTVS Core Team plans to continue to follow the strategic recommendations outlined in the GT IT Strategy Report. As new learnings develop that suggest an adjustment in BT Balanced Scorecard metrics, the Information Technology Projected Spend or BTT Five-Year Roadmap, the BTTVS Core Team will communicate changes and mitigation tactics to the Board through reforecasts against the original BTT Five-Year Roadmap and Information Technology Projected Spend.

To that end, the structure of the BTT Five-Year Roadmap has been revised to reflect actual and forecasted progress of each GT recommendation against the original timeline. New tasks have been added to reflect annual Budget Development & Capacity Planning activities. While a handful of tasks are marked with a red status, most are due to the application of new information from learning experiences to original plans and do not threaten the achievement of the overall BTT strategy.

The Information Technology Projected Spend (attached) was adjusted to reflect recent organizational decisions. Industrial Control Systems staff from the O&M Division were reassigned to IT (+\$834K) as well as Human Resource Information Systems staff from the HR Division (+\$295K). Costs for Outside Printing and Mailing moved from IT to the External Affairs Division (-\$1.425M). As a result, the long-term IT Division spending target reflecting overall cost reduction goals was readjusted to \$29.1M. Projected spend is currently expected to achieve the \$29.1M target in 2023.

Organizational Structure

IT Application & Client Support Services

Three of the four recommendations for right-sizing organizational staffing to align costs with industry peers are complete. A 67% reduction in baseline capacity for

advancement projects (GT 3.1) was achieved through an involuntary Reduction in Force (seven positions) in August 2018 and through other employee attrition (nine positions) over the past two years. The consolidation of seven IT scrum teams into three business-focused IT teams (GT 3.4) is complete. The work of these teams is divided into non-discretionary, project and discretionary advancement categories. Progress on projects will be monitored through monthly forecasting and project health reviews. All IT projects over \$10K will be included in Quarterly Performance Reports in 2019. Adherence to budget and schedule is tracked by the IT Project Performance metric.

A 25% reduction in Client Support Services capacity (GT 3.5) was achieved through employee attrition over the past two years. As discussed above, the reduction has not negatively impacted the level of service provided to Denver Water employees. The IT Helpdesk Top-Box Satisfaction performance metric will continue to be monitored for stability in this area.

 ***Reduce Infrastructure Support as Service-Oriented Solutions Expand***

The fourth recommendation, a gradual approach to reducing Infrastructure support (human and physical), is dependent on the migration of a collection of large internally hosted applications to Software as a Service (SaaS) solutions (GT 3.2). The migrations of several of these are on our BTT Five-Year Roadmap (2.1.1, 2.1.2, 2.1.4). Our infrastructure plans must balance the migration of existing applications to SaaS with continued growth in other areas. Growth is expected in the data stored within internally hosted applications as well as in additional business case approved applications not available in SaaS alternatives. Progress against migrating applications to SaaS will be compared against current Infrastructure support levels on an annual basis to reforecast our expected reductions in future years.

 ***Vendor Management Skillset***

The shift to service-oriented software solutions necessitates the development of a vendor management skillset (GT 3.3). The level of effort to implement this recommendation was largely underestimated in the original BTT Five-Year Roadmap. The Vendor Management RIE in May 2018 launched the establishment of a Vendor Management Program for Software as a Service (SaaS) vendors in alignment with BTT strategy. Three Vendor Managers and thirteen existing SaaS vendors have been identified and are under evaluation. The program charter, templates, reports, standard work, metrics and indexes have been created and are currently being reviewed. Common process overlaps between the Software Asset Management Flow Cell and Vendor Management are undergoing consolidation. A comprehensive completion plan is underway and is projected to wrap-up by mid-year 2019.

 ***Invest in GIS Capabilities, Yet Focus Efforts***

Organizational changes designed to consolidate various groups across the organization to focus our use of GIS data and technology are complete (GT 3.6). As recommended, the Customer GIS and Water Resources GIS teams were consolidated under the Administrative Services GIS team. A GIS Manager was hired in February 2018, who successfully led the effort to clarify roles and responsibilities across the organization. This team serves as a hub for centralized prioritization and project management of GIS requests for analytics

and business insights across the organization under the executive sponsorship of the Chief Administration Officer. The IT GIS team was consolidated into a larger Enterprise Application Management team, and now provides partnership support to the Administration Services GIS team by maintaining underlying technology and providing accessibility to data within other systems for analytic activities.

Technology ● **Reduce Spend on Business Applications by 30%**

Denver Water's spend on business applications was benchmarked above its industry peers in the GT study. A multi-faceted approach was recommended (GT 2.1), including: application elimination and consolidation, renegotiation of licensing costs where possible and replacement of existing solutions with cost-effective service-oriented solutions. Business application spending increased by 4% between 2017 and 2018. However, a significant portion of that increase is attributed to unexpected expenses required to recover from the emergency data center replacement. An adjustment to actuals to remove emergency expenses results in a decrease in business application spending of 4.9%. New standard work for the Software Asset Management Flow Cell successfully reduced unnecessary expenses driven by over-licensing and unused maintenance agreements by ~\$500K. Switching providers for our existing Enterprise Asset Management software will begin saving Denver Water ~\$270K in 2019. Even as new software continues to be added for good cause over the course of our five-year transformation, efforts will continue in the direction of the multi-faceted approach to identify more opportunities to cut costs in appropriate ways.

● **Enterprise Resource Planning**

The first specific project on our BTT Five-Year Roadmap for reducing business application costs was to replace several disparate applications with a consolidated SaaS solution for Human Capital Management and Enterprise Finance (2.1.1). New discoveries in 2018 warranted a shift from GT's original recommendation to the implementation of ADP's services for both SaaS HCM software and business process outsourcing of Payroll and Benefits Administration. This strategic project has the largest individual IT project budget in 2019 of \$1.7M. Regular updates will be provided to the Board.

○ **Migrate/Replace Enterprise Asset Management**

An Asset Management Strategy is under development, which will serve as the foundation for future standard work. An enterprise adoption of the new strategy is tentatively scheduled for 2020, which will inform subsequent market research in 2021 to identify potential SaaS replacements for our current enterprise asset and work management systems (GT 2.1.2).

● **Software Asset Management**

While this roadmap task is marked as red due to its extended duration, the results thus far have yielded immediate progress towards the goal of reducing spend on business applications as discussed above. Software Asset Management Flow Cell standard work was put in place to limit risk in contractual terms and to reduce IT application costs by identifying unused entitlements and opportunities to consolidate applications with similar functionalities (GT 2.1.5). A Rapid Improvement Event held in December 2018 introduced changes to standard work created earlier in March to incorporate new learnings into our

process. A 120-day lead time for renewals allows the Office of General Council adequate time to negotiate unfavorable contract terms. IT and OGC agreed to a risk and monetarily driven review process in the near term to achieve the 120-day cycle through May 2019. Progress on this initiative was at 90% completion before December's RIE; however, the value-added revisions have necessitated a restart.

Industrial Control Systems – Continue to Invest

The IT ICS section created a governance plan (GT 2.1.3) in 2018, in cooperation with all System & Program Managers, that prioritizes and schedules ICS advancement and upgrade work in accordance with stakeholder needs and direction. This plan is broken down into a two-tier iteration concept to allow for changes and unexpected needs to be taken into consideration between each iteration. All stakeholders are kept informed of current demand and capacity across all ICS disciplines and workgroups by dedicated dashboards and monthly face-to-face meetings. After the first iteration, each stakeholder expressed a high level of confidence in the value of this governance process. The focus for 2019 will be to continue utilizing this structure for decision-making and resource allocation planning.

Modular Primary Data Center Build

Despite unexpected setbacks (specifically, the cooling system failure and the relocation of underground water pipes), this roadmap task is on track to complete prior to the move to the new Administration Building later this year. The creation of a new modular primary data center onsite in conjunction with the move to our new Administration Building was found to be equivalent in cost to moving to a fully hosted solution (GT 2.2). The modularity enables an ability to gradually scale down if net reductions in required capacity occur in future years. Progress on this complicated project will be made available to the Board within the Quarterly Performance Reports.

Evaluate Moving Disaster Recovery Site to Hosted Solution

Denver Water's secondary data center enables the continuity of business operations in the event the primary data center is disabled by a disaster. The BTT Five-Year Roadmap allocates time in 2022 to evaluate the cost and security of moving the secondary data center to another vendor-based solution including hosted, managed and fully-outsourced options (GT 2.3).

Owner(s)

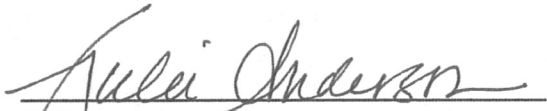
Julie Anderson, Chief of Staff – Manager & Staff
Chris Dermody, Chief Information Officer – Information Technology
Virginia Roberts, BTMO Director – Manager & Staff

Attachments

Several documents mentioned in this paper have been attached.

- Denver Water Business Technology Balanced Scorecard 2018
- Business Technology Transformation Five-Year Roadmap Status Report
- Information Technology Projected Spend
- 2018 Value verification Reports

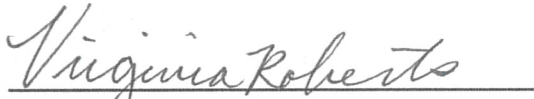
Respectfully submitted,



Julie Anderson
Chief of Staff



Chris Dermody
Chief Information Officer



Virginia Roberts
Director, Business Technology Management
Office