

# AGENDA

## Denver Board of Water Commissioners

Denver Water Administration Building  
1600 West 12<sup>th</sup> Avenue  
Denver, CO  
Board Room, Third Floor

**Wednesday, December 13, 2017 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

### 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. Water Sense and Low Income Retrofit Program - Contract 17010A
2. Heavy Equipment Rental - Contract 503056

**B. Individual Approval Items**

- |   |                 |            |
|---|-----------------|------------|
| 1. Approval of Total Service Improvement Contract with Berkeley Water and Sanitation District – Contract 503080   | Julie Seagren   | 10 minutes |
| 2. Agreement with Bear Creek Water and Sanitation District for Collection of District Surcharge – Contract 503110   | Julie Seagren   | 15 minutes |
| 3. Termination of Total Service Contract No. 46 with Arapahoe Estates Water District and Transfer of Water Service to Total Service Contract No. 1 with South-East Englewood Water District |                 |            |
| 4. Amendment No. 1 with Black and Veatch Corporation for Gross Reservoir Expansion Project Owner’s Representative Services – Contract 17075A  | Jeff Martin     | 30 minutes |
| 5. Gross Reservoir Expansion Project Design Engineer – Contract 503074  |                 |            |
| 6. Adoption of 2018 Budget  | Stephanie Abram | 15 minutes |
| 7. Supplier Diversity External Advisor Committee  | Katie Knoll     | 5 minutes  |

**III. POLICY MATTERS**

- |                                   |                  |            |
|-----------------------------------|------------------|------------|
| <b>A. OCR Update</b>              | Jeremy Ross      | 10 minutes |
| <b>B. National Western Update</b> | Abbey Antolovich | 30 minutes |

#### **IV. EXECUTIVE UPDATE**

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

#### **V. BRIEFING PAPERS & REPORTS**

- A. Briefing Paper**
  - 1. Legislative Briefing Paper
  - 2. Gross Reservoir Expansion Project 2018 Budget Update
- B. Report**

#### **VI. ADJOURNMENT**

#### **VII. TRUSTEE MATTERS**

#### **VIII. EXECUTIVE SESSION**

The Board may adjourn the regular meeting and reconvene in executive session on topics authorized by C.R.S. Sec. 24-6-402 or D.R.M.C Sec. 2-34.

- A. Confidential Report § 24-6-402(4)**

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-A-1

## Water Sense and Low Income Retrofit Program Contract #17010A (#503077)

Action by Consent

Individual Action

### **Summary:**

This three-year contract supports programs identified in the approved Water Efficiency Plan to install ultra-high efficiency toilets, showerheads and aerators into approximately 6,000 (2,000/year) multifamily and low-income residential units. The programs include:

- Low-income/non-profit retrofit program in which Denver Water provides a third party vendor (Ecosystems) to install ultra-high efficiency fixtures into income qualified customer residences. Approximately 600 residential units per year will be retrofitted through this program.
- Multi-family residential and community association toilet distribution program (“Water Sense”) that provides fixtures to apartments or HOAs selected through a competitive process, based on cost per acre foot and total water savings. Approximately 1,400 residential units per year will be retrofitted through this program.

The majority of high-efficiency toilets to be installed are 0.8 gallons per flush (GPF); however, in some instances, a 1.28 GPF toilet will be installed to accommodate a larger rough-in size. Showerheads will be 1.5 gallons per minute (gpm) and aerators will be either 0.5 or 1.5 gpm based on location.

### **Budget Information:**

The total amount of this contract is \$1,100,000.00. The term of the contract is January 1, 2018 to December 31, 2020. Funds for this contract are included in the 2018 budget and will be budgeted for in 2019 and 2020. This reflects the total budgeted amount from the five-year Water Efficiency Plan.

### **Selection of Business Partner:**

Denver Water issued two separate requests for proposals (RFPs), one for each program, to the public via the following mechanisms:

- Rocky Mountain E-Purchasing System (BidNet)
- Denver Water’s website
- Notifications to small business enterprise (SBE) and minority and women-owned business enterprise (MWBE) communities
- Direct solicitation to known vendors

Denver Water received three proposals for the multi-family program: Ecosystems, LLC, Mile High Youth Corps, and US Water Conservation. Of these responses; one is a SBE, one is a 501(c)(3) and one was neither SBE nor MWBE. Denver Water received two proposals for the low-income program: Ecosystems, LLC, and Mile High Youth Corps. Of these responses; one is a SBE, and one is a 501(c)(3). Ecosystems was selected for both programs based on lowest price and understanding of the work from the RFP.

**S/MWBE Information:**

Ecosystems is a SBE but not a MWBE.

**Recommendation:**

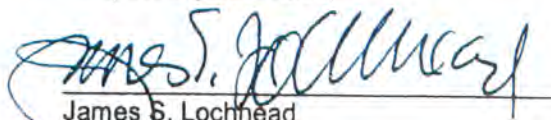
It is recommended that the Board approve Contract #17010A (#503077) with Ecosystems to install ultra-high efficiency plumbing fixtures for low-income, non-profit, multi-family and community association programs for the contract period January 1, 2018 through December 31, 2020, for a total contract amount not to exceed \$1,100,00.00

**Approvals:**



\_\_\_\_\_  
Mike King  
Chief External Affairs Officer

Respectfully submitted,



\_\_\_\_\_  
James S. Lochhead  
CEO/Manager



\_\_\_\_\_  
Angela Bricmont  
Chief Finance Officer

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-A-2

## Heavy Equipment Rental Contract # 503056

Action by Consent

Individual Action

### Summary:

Denver Water requires rental of heavy equipment for various projects on an as-needed basis. By renting high-cost equipment with low utilization, Denver Water does not incur the expense of ownership. The equipment rental supports large projects for Source of Supply and unexpected repairs in T&D.

### Budget Information:

The total amount of this contract is \$1,000,000.00, and the term of the contract is February 1, 2018 to January 31, 2021. Funds for this service/contract will come from the 2018 budgets for Source of Supply and Water Distribution, which have sufficient funds to pay the \$275,000.00 estimated to be needed in 2018. The remaining \$725,000.00 will be budgeted in years 2019, 2020 and 2021.

### Selection of Business Partner:

Denver Water issued an Invitation for Bids ("IFB") to the public on the Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, through notifications to the SBE and MWBE list, and via direct solicitation to known vendors. Denver Water received nine (9) bids. Our recommendation is that the award is made to Contractors Equipment Center, Power Equipment Company, Power Motive Corporation, Power Screening, LLC, Wagner Equipment Co. and World Wide Rentals. Selecting multiple bidders enable Denver Water to rent a wide range of heavy equipment while ensuring equipment availability.

### S/MWBE Information:

None of the awarded suppliers are a SBE or certified MWBE. This contract has been determined to fall within the Covered Goods & Services MWBE program, which has an overall 2017 target of 10% MWBE participation. MWBE participation targets are not set on an individual contract basis in this program.

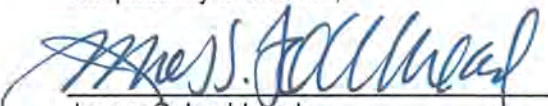
### Recommendation:


It is recommended that the Board approve Contract 503056 (dollar contract), 503058, 503059, 503060, 503061, 503062 and 503063 with Contractors Equipment Center, Power Equipment Company, Power Motive Corporation, Power Screening, LLC, Wagner Equipment Co. and World Wide Rental respectively, for heavy equipment rental for the contract period February 1, 2018 to January 31, 2021 for a total contract amount not to exceed \$1,000,000.00.

### Approvals:

  
Thomas J. Roode  
Chief Operations Maintenance Officer

Respectfully submitted,

  
James S. Lochhead  
CEO/Manager

  
Angela Bricmont  
Chief Finance Officer

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-1

## Approval of Total Service Improvement Contract with Berkeley Water and Sanitation District Contract # 503080

Action by Consent

Individual Action

### **Summary:**

Under Operating Rule 5.02.1(a), distributors with Read and Bill or Master Meter contracts may request to convert to Total Service status in order to ensure that their customers receive the level of service that Denver Water's standards and rules require. This conversion is accomplished through a Total Service Improvement contract, under which Denver Water takes dominion over the distributor's existing water system pursuant to a plan to upgrade it to Total Service standards. Denver Water determines the schedule to complete the upgrades, and recovers the cost of constructing the upgrades through payments from the distributor or assessment of surcharges on the customers within the Distributor's service area.

Berkeley Water and Sanitation District is a Read and Bill distributor located roughly between Pecos and Sheridan, from 51<sup>st</sup> to 64<sup>th</sup> Avenue and serving 1300 taps. Berkeley is not an affluent area, and the district has struggled for several years to maintain its distribution system. Denver Water staff have been in discussions with Berkeley for almost a year regarding conversion to Total Service status. Denver Water has identified the necessary upgrades to facilities and improvements in property interests. Berkeley has communicated with its customers and developed financial resources for it to undertake the improvements.

The attached Total Service Improvement contract, Contract # 503080, provides that Denver Water will take over operation of the distribution system on January 1, 2018. The facilities and related property interests will be conveyed to Denver Water that same day. While Denver Water operates the system, Berkeley will construct the necessary upgrades and acquire the needed property interests identified in the agreement, and convey them to Denver Water as completed. If Berkeley fails to complete the upgrades within five years, Denver Water will finish construction and recover its costs by applying a surcharge to Berkeley's customers. Once the upgrades are complete, Berkeley's contract will convert to a standard Total Service agreement.

### **Budget Information:**

Denver Water already reads the meters and bills the customers of Berkeley, there will be no additional cost for those services. T&D is aware and prepared to undertake the maintenance and repair work and absorb the increased duties of the Total Service contract

### **Selection of Business Partner:**

### **Recommendation:**

It is recommended that the Board approve the Total Service Improvement Contract, Contract # 503080, with Berkeley Water and Sanitation District.


**Approvals:**

  
\_\_\_\_\_  
Patricia Wells  
General Counsel

  
\_\_\_\_\_  
Mike King  
Chief External Affairs Officer

Respectfully submitted,

  
\_\_\_\_\_  
James S. Lochhead  
CEO/Manager

  
\_\_\_\_\_  
Tom Roode  
Chief Operations and Maintenance Officer



# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-2

## Agreement with Bear Creek Water and Sanitation District Contract # 503110

Action by Consent

Individual Action

### Summary:

Bear Creek Water and Sanitation District (RB 200, Contract # 05923A) has requested that Denver Water include a surcharge on bills sent to customers in their district. Operating Rule 6.06.3 provides that an additional Distributor Improvement Charge may be added to customers' bills at the request of a distributor. The surcharge proceeds would be used by Bear Creek to fund immediate replacement of infrastructure in their Read & Bill service area. The district is generally located between S Urban Ct and S Wadsworth between W Warren Dr. and W Jefferson Ave. and serves approximately 3,074 customers.

Upon Board approval, Bear Creek Water and Sanitation District will pay the standard \$10,170 for the initial development of the surcharge billing capability. Once the program begins, customers in Bear Creek will be billed a monthly surcharge on their water bill. Denver Water will remit to Bear Creek the proceeds from the surcharge minus Denver Water's quarterly fee of \$2,098.12 or \$8,392.00 annually.

The contract may be terminated by either party with 60 days written notice. If terminated by Denver Water within 5 years, Bear Creek is entitled to a refund of a portion of the initial development fee of \$8,500.

### Recommendation:

It is recommended that the Board approve Contract 503110 with Bear Creek Water and Sanitation District for Collection of Surcharge.

### Approvals:



Mike King  
Chief External Affairs Officer

Respectfully submitted,



James S. Lochhead  
CEO/Manager



Patricia Wells  
General Counsel

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-3

## Termination of Total Service Contract No. 46 with Arapahoe Estates Water District and Transfer of Water Service to Total Service Contract No. 1 with South-East Englewood Water District

Action by Consent

Individual Action

### Summary:

Arapahoe Estates Water District is a small district encompassing 74 acres of property located west of Colorado Boulevard and north of Arapahoe Road. Denver Water provides water service to the area under Total Service Contract No. 46 dated October 15, 1996. Arapahoe Estates has paid off all its existing debt obligations and has filed with the court a Petition and Plan for dissolution of the district; a hearing is scheduled for December 19. Arapahoe Estates hopes to complete the dissolution process no later than December 31, 2017. South-East Englewood Water District encompasses over 6200 acres, and has received water service from Denver Water under Total Service Contract No. 1 since 1964. Arapahoe Estates is surrounded on three sides by South-East Englewood. South-East Englewood has completed most of the legal steps necessary to include the property currently being served through Arapahoe Estates into its own service area. An election was held on December 5, 2017 to approve the inclusion. The results of that election are due to be certified on or before the close of business on December 13, 2017.

Denver Water's Distributor contracts permit a distributor district to dissolve so long as the rights and obligations of the district are transferred to a party acceptable to Denver Water. Because both districts are Total Service Distributors and Denver Water is already providing service to both districts, South-East is a party acceptable to Denver Water.

### Budget Information:

Because Denver Water is currently providing services to Arapahoe Estates, there will be no change in Denver Water's operations and no impact on the budget.

### Recommendation:

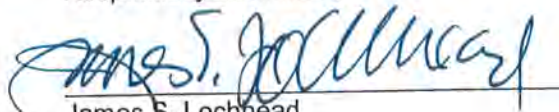
It is recommended that the Board: (1) terminate Total Service Contract No. 46 with Arapahoe Estates Water District, and (2) execute the attached Second Amendment to Total Service Contract No. 1 with South-East Englewood Water District to reflect the addition to South-East Englewood's service area of the property currently being served under Total Service Contract No. 46 upon a showing by December 27, 2017 that electors of Arapahoe Estates approved inclusion of the property into South-East Englewood and the court approved dissolution of Arapahoe Estates.

### Approvals:



Mike Kirig  
Chief External Affairs Officer

Respectfully submitted,



James S. Lochnead  
CEO/Manager



Patricia Wells  
General Counsel

*Denver Water aspires to be the best water utility in the nation.*

Integrity :: Vision :: Passion :: Excellence :: Respect



# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-4

## Amendment No. 1 with Black and Veatch Corporation for Gross Reservoir Expansion Project Owner's Representative Services Contract 17075A

Action by Consent

Individual Action

### **Summary:**

Denver Water is in the process of forming an integrated project team comprised of Denver Water staff, Consultants, Engineers, Contractors, Specialists, and Regulators to deliver the Gross Reservoir Expansion (GRE) project. The first step in forming the team was the procurement of the Owner's Representative (OR), Black & Veatch Corporation, who has augmented Denver Water's staff to provide specialized expertise in project management, project control, and public communication.

In this first phase (Phase 1), scheduled for completion by December 31, 2017, the OR developed the principal project management plans and processes including the delivery structure, document management systems, and public communications strategy. The OR also assisted in the development of the baseline schedule and program initial budget. In addition, the OR assisted Denver Water with the procurement of the Board of Consultants and the final Design Engineer. The OR also aided Denver Water with ongoing preliminary engineering studies and augmented Denver Water's Public Affairs staff to provide strategic counseling and onsite project representation.

Denver Water and Black & Veatch Corporation agreed to negotiate the scope and fee of the subsequent work (Phases 2 and 3) in a phased contract approach based on the project schedule and the OR's performance.

The purpose of this Board Item is to execute the First Amendment to the GRE OR contract for the planned Phase 2 work which includes project management, controls, and monitoring; regulatory approvals, Board of Consultants workshop facilitation, and design reviews; procurement services for the site development and dam raise construction contracts; public affairs and community outreach resources; and contingency to support un-budgeted items which may arise during the course of the work.

### **Budget Information:**

The amount of the original agreement is \$1,174,925. Amendment No. 1, in the amount of \$6,999,834, brings the total contract amount to \$8,174,759. Funds for this Amendment will come from the GRE project Business Unit which includes sufficient funds for the estimated \$2,183,132 for the 2018 expenditures. The remaining funds will be budgeted for the 2019 and 2020 Capital Improvement Plans. The term of the Amendment is December 13, 2017 to December 31, 2020.

### **Selection of Business Partner:**

The GRE OR Services (Phase 2) is a continuation of the phased contracting method for the GRE OR Services. The original Contract 17075A (Phase 1) was competitively bid in January 2017 and Denver Water stakeholders agreed to award the contract to Black & Veatch Corporation for an 9 month term (not including schedule contingency).

### **S/MWBE Information:**

No specific MWBE goal was set for the OR Services. However, a subconsultant on the Black & Veatch team, Katz & Associates, is a WBE business and accounted for about 11% of the total of the Phase 1 services. The estimated MWBE participation for the Phase 2 OR Services includes support from Katz & Associates and Sigler Communications (a recently certified WBE) and amounts to about 18.3% of this contract. MWBE participation is monitored and reported within the bi-monthly Board Report.

*Denver Water aspires to be the best water utility in the nation.*


Integrity :: Vision :: Passion :: Excellence :: Respect



**Recommendation:**

It is recommended that the Board approve Amendment No. 1 to Contract 17075A with Black and Veatch Corporation for the GRE OR Phase 2 – Final Design Services Support for an extension of the contract period through December 31, 2020, for an additional \$6,999,834 and a total amended contract amount not to exceed \$8,174,759.

**Approvals:**

  
\_\_\_\_\_  
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: December 13, 2017

Board Item: II-B-5

## Gross Reservoir Expansion Project Design Engineer Contract 503074

Action by Consent

Individual Action

### **Summary:**

Denver Water is in the process of forming an integrated project team comprised of Denver Water staff, Consultants, Engineers, Contractors, Specialists, and Regulators to deliver the Gross Reservoir Expansion (GRE) project. The GRE will raise Gross Dam by 131 feet to provide an additional 77,000 acre-feet for storage capacity in Gross Reservoir. The GRE is crucial in providing a secure water future for Denver Water's customers and is a key component to Denver Water's long-term, multi-pronged approach (including conservation, recycled water, and responsible sourcing of new supply) to deliver safe and reliable water.

The purpose of this Board Item is to execute a contract with the GRE Design Engineer for the design of the dam raise and ancillary works and facilities (Phase 2 of the project). The Design Engineer work includes investigations, analysis, design, contract document development, and workshops with state and federal regulators to construct a new 471 foot tall roller compacted concrete curved-gravity dam on top of the existing dam.

### **Budget Information:**

The work begins in 2018 and will be completed in 2020. The 2018-2027 Long Term Forecast (LTF) for the GRE Business Unit includes sufficient funds for the contract expenditures. Dependent upon the design progress, interaction with regulators, and site investigation efforts, a budget adjustment may be required for the 2018 budget. Additional funding in 2018 would result in a commensurate decrease for funding years 2019 and 2020 as appropriate. Any adjustment to the annual budget will follow the Denver Water Systems Management process for project budget variance.

### **Selection of Business Partner:**

The GRE Design Engineer was selected through a value based competitive process which considered qualifications, design approach, technical submissions, and cost.

The Design Engineer selection began with an advertised informational meeting attended by more than 50 professionals representing dozens of firms, this meeting was followed by an advertised Request for Qualifications solicitation. The solicitation resulted in submission of three Statements of Qualifications (SOQs). Careful consideration of the SOQs produced a shortlist of two well qualified teams - Gannett-Fleming/Rizzo and Stantec/AECOM.

These two teams received the Design Engineer Request for Proposal (RFP) and were provided a \$50,000 stipend for the technical proposal submission which included preliminary engineering analyses. Both Respondents participated in a three-hour mid-proposal workshop on August 30, 2017. At the workshop, each Respondent presented their progress toward each of four technical requests posed in the RFP. The Denver Water Selection Team (comprised of Denver Water staff from Engineering, External Affairs, Operation and Maintenance, and the Owner's Representative) discussed, questioned, and generally interacted with each Respondent.

Technical and Cost Proposals were submitted by both teams on September 21, 2017. The Selection Team reviewed the proposals after a daylong meeting to thoroughly discuss the submissions by each team and unanimously chose the Stantec/AECOM team as the preferred Design Engineer based on the selection criteria presented in the RFP.

*Denver Water aspires to be the best water utility in the nation.*

Integrity :: Vision :: Passion :: Excellence :: Respect



Pending performance, and as stipulated in the RFP, the intention is to retain the selected firm for future construction phases (Phase 3) of the GRE project.

**S/MWBE Information:**

No specific MWBE goal was set for the Design Engineer services. However, Denver Water required the respondents to seek meaningful participation and to provide documentation regarding the participation. In addition, the program management team worked with the respondent's throughout the course of the proposal process and at the mid-proposal workshop to develop MWBE participation. As a result, the Stantec/AECOM team will utilize several MWBE businesses to support the program; including the geotechnical driller, CAD services, and the bridge design engineer. The estimated MWBE participation for the Design Engineer services is approximately 6%. The overall GRE program MWBE participation is monitored and reported within the bi-monthly Board Report.

**Recommendation:**

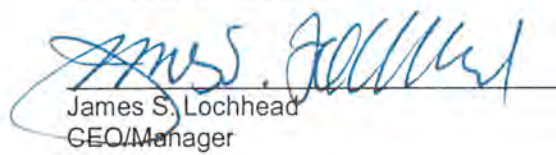
It is recommended that the Board approve Contract 503074 with Stantec/AECOM for the GRE Design Engineer for the contract period of January 1, 2018, through December 31, 2020, for a contract amount not to exceed \$13,000,000.

**Approvals:**

Respectfully submitted,



Robert J. Mahoney  
Chief Engineering Officer



James S. Lochhead  
GEO/Manager



Angela Brichmont  
Chief Finance Officer

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-6

## Adoption of 2018 Budget

Action by Consent

Individual Action

### Summary:

The Board was presented the proposed 2018 budget at the November 15<sup>th</sup> and November 16<sup>th</sup> budget workshop. Budget preparation began after the Strategic Plan priorities were identified, followed by establishment of an overall revenue adjustment within which the 2018 budget was set.

The 2018 budget reflects funds required to meet the operating and capital needs to supply, treat, and distribute water to over 300,000 customers. Within this budget, are funds specifically identified to meet the organization's top strategic initiatives for 2018. A summary of the proposed 2018 budget is below and a summary of the 2018 Budget is attached to this Board item.

<b>PROPOSED 2018 BUDGET</b>	
<i>\$ in thousands</i>	<b>2018 Proposed Budget</b>
Water sales and Hydropower	287,265
Special assessments and fees	7,583
Other Revenue	10,984
Proceeds from debt	60,000
Sale of assets	350
SDC revenue and Contributions	38,800
<b>TOTAL REVENUE</b>	<b>\$ 404,982</b>
Personnel Costs	119,788
Professional and Purchased Services	42,056
Materials, Supplies, and Chemicals	16,680
Travel, Training and Conferences	1,573
Other Expense	3,539
<b>TOTAL OPERATING w/o DEBT &amp; PROJECTS</b>	<b>\$ 183,636</b>
Operating Projects - Systems and Programs	11,400
Operating Projects - IT	2,479
<b>Operating Projects</b>	<b>13,879</b>
<b>TOTAL OPERATING COSTS w/o DEBT</b>	<b>\$ 197,515</b>
<b>Debt</b>	<b>49,149</b>
<b>TOTAL OPERATING COSTS</b>	<b>\$ 246,664</b>
Capital Projects - Systems and Programs	195,240
Capital Projects - IT	1,286
<b>TOTAL CAPITAL (incl. applied labor)</b>	<b>\$ 196,526</b>
<b>TOTAL ALL EXPENSES</b>	<b>\$ 443,190</b>

*Denver Water aspires to be the best water utility in the nation.*

Integrity :: Vision :: Passion :: Excellence :: Respect




**Recommendation:**

It is recommended that the Board approve the proposed 2018 Budget as summarized in this Board item.

Approval of the 2018 budget incorporates approval of the 2018 pay structure changes that were detailed in the appendix of the 2018 Proposed Budget book. To note, a change was made after the Board Workshop to adjust two pay ranges (FTS3 and FTS4) to ensure the earning potential for employees moving from the ATS job family is not impacted. This change does not impact budget. Full details of the Pay Range Structure are attached to this Board item.

**Approvals:**

  
\_\_\_\_\_  
Angela Bricmont  
Chief Finance Officer

Respectfully submitted,  
  
\_\_\_\_\_  
James S. Lochhead  
CEO/Manager



# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: II-B-7

## Supplier Diversity External Advisory Committee

Action by Consent

Individual Action

### **Summary:**

The Supplier Diversity External Advisory Committee reviews and provides feedback for the goals, programs, outreach efforts and communication plans intended to ensure the sustainability, growth and success of Denver Water's Supplier Diversity program. The Committee assists in and provides guidance for making recommendations to the Board of Commissioners on annual program goals, targets and outreach efforts.

Members are appointed to staggered 2 year terms. New and renewing members will serve 2 year terms through 2019. Please see the attached document for a list of the full proposed committee, including new members identified below.

### **Departing Members:**

Jarod Casey, Faison Office Products  
Lloyd Herrera, HCL Engineering  
Helga Grunerud, Hispanic Contractors of Colorado

### **New Members:**

Rosie McDonough, State of Colorado, Office of Economic Development, Minority Business Office  
Karen Comba, KC Restoration  
Chris Martinez, Hispanic Contractors of Colorado


### **Renewing Member:**

Nancy D'Rosario, CE Group

### **Recommendation:**

Approve new members to fill vacancies created by departure of term-limited members as described above.

### **Approvals:**

  
\_\_\_\_\_  
Mike King  
Chief Public Affairs Officer

Respectfully submitted,

  
\_\_\_\_\_  
James S. Lochhead  
CEO/Manager

## DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: V-A-1

### Briefing Paper for Legislative Update

---

#### **Strategic Plan Alignment:**

Lenses: Customer Centric, Industry Leader, and Long-Term View

GOAL: Play a key role in issues important to our success by advocating the interests of Denver Water in legislative and regulatory matters, specifically by proactively lobbying the Colorado General Assembly.

#### **Summary:**

The Colorado General Assembly will convene its 2018 Session on January 10 and end on May 9. Throughout the Session we will provide you with a legislative briefing paper at your meetings and will be available for your questions and/or guidance at your request.

In this first briefing we have attached a table listing known and rumored topics for bills. Where we know more about a topic we have included a summary and recommendation for a position. The priority topics at this point in the process include and are all detailed in the attached table:

- Our lead plumbing policy initiative
- Recycled water uses
- Aquatic nuisance species control
- Allowing seaplanes on reservoirs
- Colorado 811 One-Call changes

We will again be hosting a legislative lunch in conjunction with the Front Range Water Council toward the beginning of the session in the West Foyer of the State Capitol. The Council will use this opportunity to brief Legislators on some of the important water related issues facing Colorado.

#### **Background:**

N/A

#### **Budget Information:**

N/A

#### **Alternatives:**

N/A

#### **Approach:**

N/A

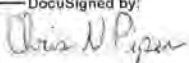
#### **Owner(s):**

Chris Piper, Government Relations, External Affairs

#### **Attachments:**

2018 Legislative Session Issues Agenda

Respectfully submitted,

DocuSigned by:  
  
Division – External Affairs

# DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: December 13, 2017

Board Item: V-A-2

## Briefing Paper for Gross Reservoir Expansion 2018 Budget Update

---

### Strategic Plan Alignment

Lenses:  Customer Centric  Industry Leader  Long-Term View

Development and management of the Gross Reservoir Expansion (GRE) project budget is a critical process in executing the project and delivering a secure water future to Denver Water customers. Communication of the budget to the Denver Water Board, organization, and enterprise systems allows Denver Water to confirm alignment with Denver Water's strategic goals, be fiscally responsible, optimize resources to meet the programs objectives, and to balance the programs resource requirements with organizational needs.

### Summary

Water development projects are ambitious and expensive. The GRE project is no exception, yet the value of water storage and yield for the GRE is high compared to other projects in Colorado and the Front Range. More importantly, the resiliency benefit specific to water storage in Denver Water's North (Moffat) System is fundamental in achieving a secure water future for our customers.

The Project Initial Budget (PIB) was created based on the current understanding of the GRE components, specifically, the estimated construction, permitting, environmental mitigation and compliance, and management (program and construction) costs. The total all-in cost to complete the project is approximately \$420,000,000 (in 2017 dollars with no escalation), of which about \$25,000,000 has been spent on permitting and preliminary engineering studies as of the end of 2017. The remaining \$395,000,000 will be budgeted over the next 8 years to fund the expected project spend curve.

### Background

The first comprehensive and detailed construction cost estimate was developed in 2013 by an independent construction cost estimator. The cost estimate was revised in 2015 to account for design changes and cost escalation. The 2015 program budget established the all-in cost to complete the project at about \$380,000,000. The program budget was again updated in 2017, as detailed in this briefing paper. As part of GRE project work in 2017, the PIB was developed based on market escalation (labor and commodities), new project detail, updated design considerations, and risk occurrences or mitigation planning.

Historically, the program budget was presented in present day dollars and did not account for future escalation over the project life span. For this 2017 budget update, the program costs are provided in both 2017 dollars (with no escalation) and future dollars, accounting for escalation based on a similar market as the last seven years. The budget also includes high risk considerations which account for potential risk occurrences that may impact the program budget.

## Approach

The 2017 PIB accounts for all program costs from initiation of environmental permitting through first filling of the enlarged reservoir. Costs associated with environmental mitigation extending beyond 2026 are not included in the PIB as they are considered legacy costs to Denver Water.

The cost estimate itself was developed using a “bottom up” contractor style approach which considers specific activity work plans, labor estimates, and production rates. Based on the available project information, the PIB is considered a Class 3 to 4 estimate per the Association for the Advancement of Cost Engineers (AACE), which considers a Class 4 estimate useful for evaluating project feasibility and a Class 3 estimate for project budgeting and authorization. Although the GRE design definition is less than a typical Class 3 estimate, many of the major elements influencing the cost are well known due to the knowledge of the existing dam and site, original dam designer’s intentions to raise the dam, and ongoing preliminary engineering studies. This additional project definition and knowledge allowed the cost estimating team to consider certain elements of the project at the Class 3 level, specifically the foundation treatment (excavation and grouting), dam geometry, quarry location, and the spillway structure. The PIB is organized into the following major cost categories:

Construction – This category considers all major construction activities at the site including site development, reservoir clearing, quarry development, foundation treatment, and Roller Compacted Concrete (RCC) placement. The costs of the Contractor’s Markup (overhead and profit) of 18 percent, and Unlisted Items of 10 percent were added to the estimated contractor’s direct costs.

Environmental Permitting – This category captures past and future Denver Water costs for environmental permits. Almost all costs under this category were encumbered between 2003 and 2017.

Environmental Mitigation and Compliance – Environmental mitigation and compliance considers commitments to various regulatory agencies including payments as well as the design, construction, maintenance, and operation of mitigation infrastructure. Costs extending beyond 2026 are not included in the PIB and are accounted for in Denver Water’s Long Term Forecast budget.

Engineering Design – This category includes costs to complete the design and prepare contract documents for the GRE. These costs consider design consultant fees, contractor consultant fees, Board of Consultants fees, and internal Denver Water costs.

Program and Construction Management – The category considers both the program management costs to execute the program and construction management costs to administer the construction contract and provide construction quality control. The GRE management team provides project management; controls and monitoring; regulatory approvals; design reviews; procurement services; public affairs and community outreach resources; and general support. The GRE construction management services include contract administration, construction quality assurance, construction quality control of RCC, and on-site environmental compliance. In addition the aforementioned major cost categories, the Program Management Team (PMT) incorporated several other costs into the PIB. These include the following:

Contingency – In addition to estimating the costs for each of the categories, the PMT applied contingency to each category to account for the limited project definition and level of unknowns which could occur through the execution of the program. Based on the level of design detail and in accordance with AACE and Denver Water guidelines, a 35% contingency value was applied to the estimated construction cost.

Escalation – This category is intended to account for cost growth as a result of yearly changes to commodity prices and salaries. Considering the program duration, future escalation (as a percentage) is assessed through estimated regional pressures on commodities and salaries. The escalation model resulted in an average annual escalation rate of 3.8% for construction activities from 2019 to 2026.

High Risk Considerations – Cost were attributed to numerous high risk considerations (high consequence, high probability or both) for risk items the PMT believe have the greatest potential for affecting the program budget.

## Program Initial Budget

The 2017 PIB is the first budget developed since completing two major engineering studies (Design Flood and Seismic Hazard), finishing the 404 permit process (resulting in defined mitigation), and finalizing procurement of the Owner’s Representative, and Design Engineer. The PIB is presented in 2017 dollars and in escalated 2026 dollars. The PIB (2017 dollars and 2026 dollars) per cost category is presented in the following table.

PIB Comparison – 2017 vs Escalated 2026 (\$)		
Category	2017	2026 Escalated
<b>Construction</b>	303,000,000	341,000,000
<b>Environmental Permitting</b>	20,000,000	20,000,000
<b>Environmental Compliance and Mitigation</b>	24,000,000	25,000,000
<b>Engineering Design</b>	23,000,000	24,000,000
<b>Program and Construction Management</b>	50,000,000	54,000,000
<b>TOTAL<sup>1</sup></b>	420,000,000	464,000,000

<sup>1</sup>Contingency is included in the subtotal for each category. Total GRE contingency is estimated at about \$80M.

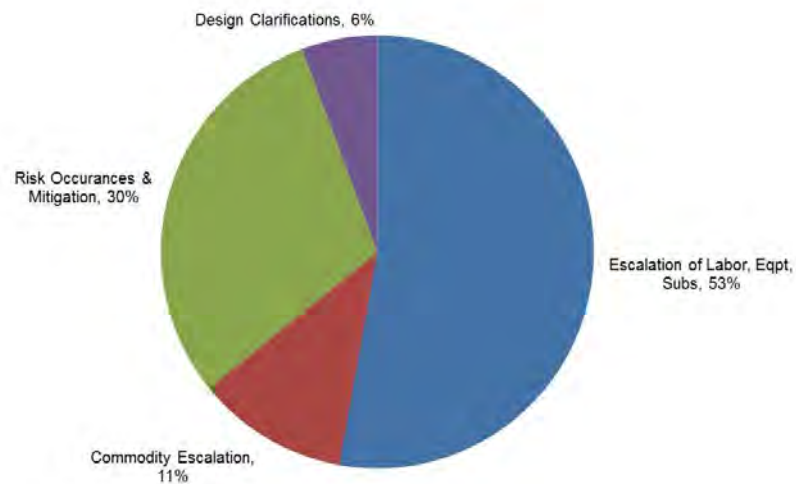
The 2015, 2017, and escalated 2026 budgets, along with the estimated high risk considerations are presented in the following chart for comparison purposes. The red bars represent the “best estimate” or the anticipated project cost including contingencies. The orange bars represent the “high risk estimate” which include the cost for key project risks which are actively tracked and managed by the PMT.

Figure 1 – 2015, 2017, and 2026 Cost Escalation and High Risk Estimate



The key cost differences, as percentage of the whole difference, between the 2015 and 2017 estimates are presented in the following pie chart.

Figure 2 - Cost Increases by Category

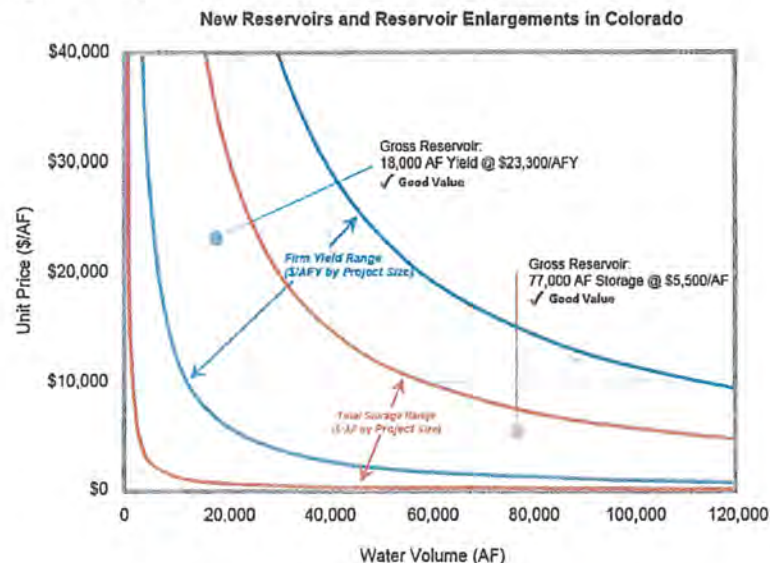


## Project Value

The value, based on cost and storage benefit, of the project to the Denver Water system is very high considering both the cost of the firm yield and storage. Additionally, the qualitative benefit of increased water storage in Denver Water's North (Moffat) System provides water supply resiliency and a more secure water future for our customers. In alignment with Denver Water's fiscal responsibility commitment, the PMT researched and analyzed other water development projects along the Front Range and Colorado to appreciate the cost of developing firm yield and storage for the region.

The graphic below illustrates the cost to develop additional water supplies as a function of firm yield (blue band) and total storage (red band). The colored bands encompass recently completed and proposed projects in Colorado. The band limits demonstrate what other water supply owners and developers have considered to be the range of reasonable cost with beneficial value. It should be noted that the total benefit of a project to any single owner is highly specific. However, because the GRE falls well within the established ranges, the project value remains high considering only the firm yield and total storage metrics.

Figure 3 - Project Value Comparison with Other Regional Projects



### Owner

Jeff Martin, GRE Program Manager – Engineering Division, is responsible for the management of the GRE project budget development and management, and the overall execution and delivery of the GRE project.

Respectfully submitted,

  
 Jeff Martin  
 GRE Program Manager

  
 Robert J. Mahoney  
 Chief Engineering Officer