

AGENDA

Denver Board of Water Commissioners

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

Wednesday, March 8, 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. Minutes from February 8, 2017 – Open and Executive
2. Minutes from February 22, 2017 – Open and Executive
3. Contract 16954A-C Trench Shoring Equipment Rentals
4. Contract 16975A-C Asphalt and Concrete Sawcutting
5. Contract 17002A Valve Replacements at W. 29th Avenue and Sheridan Boulevard
6. Contract 17050A Lupton Lakes Complex, Bromley Property Acquisition – Parcel 3, Purchase and Sale Agreement
7. Contract 14510A Fifth Amendment to Legal Services Contract with Hogan Lovells US LLP

8. Designation of Surplus Property Conduit No. 74 at I-70 and Peoria Street
9. Ratification of Construction Contracts Change Orders and Amendments to Contracts/Agreements

B. Individual Approval Items

- | | | |
|--------------------------------------|-----------|------------|
| 1. Highline Canal Vision Plan | Tom Roode | 20 minutes |
|--------------------------------------|-----------|------------|

III. POLICY MATTERS

- | | | |
|--|-----------------------|------------|
| A. Supplier Diversity Annual Report | Dawn Hamm/Katie Knoll | 20 minutes |
| B. Regulatory Support Project | Brenley McKenna | 20 minutes |

IV. EXECUTIVE UPDATE

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

V. BRIEFING PAPERS & REPORTS

A. Briefing Papers

1. Legislative Update
2. Regulatory Support Project (Regulation 84)
3. Hydropower Research Project
4. Highline Canal Vision Plan

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: March 8, 2017

Board Item: II-A-3

Trench Shoring Equipment Rental Contract # 16954A-C

Action by Consent

Individual Action

Summary:

Denver Water has historically rented all trench shoring and related equipment for emergency field work. Some of the common shoring configurations were identified and shoring equipment was purchased based on these configurations. The purchase of the common shoring equipment has significantly reduced the need for these rentals; however rentals will continue to be needed for unusual shoring configurations that Denver Water does not own.

Budget Information:

The total amount of this contract is \$120,000.00, and the term of the contract is April 1, 2017 to March 31, 2020. Funds for this service/contract will come from the 2017 budget for Main Breaks & Valve Repairs and Main Replacements, which has sufficient funds to pay the \$40,000.00 estimated to be needed in 2017. The remaining \$80,000.00 will be budgeted in years 2018, 2019, 2020.

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 community, and via direct solicitation to known vendors. Denver Water received two (2) bids, neither of which are SBE/MWBE. Awards were made to both bidders as each Bidder provided cost savings on varying line items and several items on the Bill of Material are only provided by one of the Bidders. Both Bidders are also incumbents for this service.

S/MWBE Information:

Trench Shoring Services and United Rentals (North America), Inc. are neither SBE nor MWBE. This service has been determined to fall within the O&M Construction Related MWBE program, which has an overall 2017 target of 50% 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 16954A-C with Trench Shoring Services and United Rentals (North America), Inc. for Trench Shoring Equipment Rental for the contract period April 1, 2017 to March 31, 2020 for a total contract amount not to exceed \$120,000.00.

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: March 8, 2017

Board Item: II-A-4

Asphalt and Concrete Sawcutting Services Contract # 16975A-C

Action by Consent

Individual Action

Summary:

Denver Water uses sawcutting services to cleanly cut the borders of asphalt or concrete sections that need to be removed in order for T&D crews to install new pipe or perform emergency repairs. The service is also used for any work done on concrete roadways. The clean cut removal of asphalt or concrete is necessary to help minimize damage and to reduce repair costs.

Budget Information:

The total amount of this contract is \$300,000.00, and the term of the contract is May 1, 2017 to April 30, 2020. Funds for this service/contract will come from the 2017 budget for Main Breaks & Valve Repairs and Main Replacements, which has sufficient funds to pay the \$100,000.00 estimated to be needed in 2017. The remaining \$200,000.00 will be budgeted in years 2018, 2019 and 2020.

Selection of Business Partner:

Denver Water issued an Invitation for Bid to the public on the Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, through notifications to the SBE and MWBE community, and via direct solicitation to known vendors. Denver Water received three bids, including one MWBE and one SBE. Two vendors were selected: Russ T. Diamonds, Inc., will serve as the primary vendor and DeAndrea Coring & Sawing, Inc. will serve as a back-up.

S/MWBE Information:

Russ T. Diamonds Inc. is an SBE; DeAndrea Coring and Sawing, Inc. is neither SBE nor MWBE. This service has been determined to fall within the O&M Construction Related MWBE program, which has an overall 2017 target of 50% MWBE participation. MWBE participation targets are not set on an individual contract basis in this program.

Recommendation:

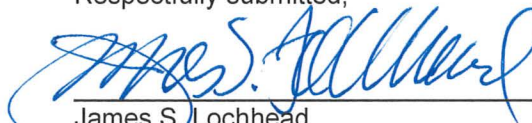
It is recommended that the Board approve Contract 16975A-C with Russ T. Diamonds, Inc. and DeAndrea Coring and Sawing, Inc. for asphalt and concrete sawcutting services for the contract period May 1, 2017 to April 30, 2020 for a total contract amount not to exceed \$300,000.00.

Approvals:



Thomas J. Roode
Chief Operations Maintenance Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Angela Brimont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-A-5

Valve Replacements at W. 29th Avenue and Sheridan Boulevard Contract 17002A

Action by Consent

Individual Action

Summary:

The valve vault located at the north property line of West 29th Avenue in Sheridan Boulevard was constructed in 1927 and connects Conduit No. 42 (24-inch cast iron), Conduit No. 49 (36-inch cast iron), and a 20-inch cast iron transmission main. The existing 20-inch gate valve and two 36-inch gate valves located within the vault are inoperable and need to be replaced.

The general project scope is to demolish the existing brick walled valve vault, and replace it with two new buried gate valves and connecting ductile iron piping. Due to the location of the work, the project contains many complex items including: providing temporary bypass service to serve customers during conduit and main outages, noise ordinance restrictions requiring a variance for night time construction, potential environmental remediation work if contaminated groundwater or soil is encountered at the project site, and coordination of permitting and traffic control with Colorado Department of Transportation (CDOT), Denver Public Works, and the City of Wheat Ridge.

Budget Information:

The work will be completed in 2017. The 2017 Capital Improvement Plan for Valve Replacements at W. 29th Avenue and Sheridan Boulevard Business Unit does not include sufficient funds for this project. A project budget adjustment is recommended by the System and Program Managers.

Selection of Business Partner:

Denver Water solicited bids from four general contractors listed on the Prequalified Contractor List under the Civil-Pipelines discipline. This Contract used Invitation to Bids on the QuestCDN platform. On February 23, 2017, bids were received from four General Contractors. Concrete Works of Colorado, Inc. was selected based on the lowest cost bid.


S/MWBE Information:

The Minority and Women Business Enterprise (MWBE) goal established for this construction project is 8% participation. Concrete Works of Colorado, Inc. achieved 8.03% participation.

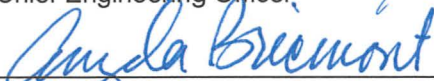
Recommendation:

It is recommended that the Board approve Contract 17002A with Concrete Works of Colorado, Inc. for the Valve Replacements at W. 29th Avenue and Sheridan Boulevard for the contract period March 8, 2017 to June 16, 2017 for a total contract amount not to exceed \$740,000.00.

Approvals:

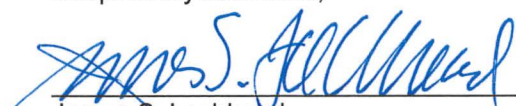


Robert J. Mahoney
Chief Engineering Officer



Angela Brimont
Chief Finance Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-A-6

Lupton Lakes Complex Bromley Property Acquisition – Parcel 3 Purchase and Sale Agreement Contract # 17050A

Action by Consent

Individual Action

Summary:

The Lupton Lakes Complex is comprised of two reservoirs (North Cell and South Cell); it is one of Denver Water's three downstream reservoir complexes. Water in the North Cell will be impounded by an embankment and groundwater cutoff wall within Parcel 3 as shown in Attachment 1. Parcel 3 is divided into an east portion consisting of 8.05 acres, and west portion consisting of 8.6 acres that Denver Water refers to as Parcel 3a and 3b, respectively. Denver Water currently has a perpetual, exclusive easement for water storage on Parcel 3a. Parcel 3b is owned by the Theodore Shipman Living Trust and TRS Equities, LLC (collectively "Bromley"), and it is in Denver Water's best interest to purchase this property.

Maintaining and monitoring the embankment is considered critical for the safe operation of the Lupton Lakes Complex and acquisition of Parcel 3b ensures Denver Water controls the property under the embankment and immediately downstream. With this acquisition, Denver Water can prevent development that may cause damage to the groundwater cutoff wall and surrounding embankment.

If the embankment within Parcel 3 is considered a jurisdictional dam by the State Engineer's Office (SEO), a hazard classification would be required since it impounds water above the natural ground. Preventing downstream development on Parcel 3b would reduce the hazard classification, and reduce risk to human life in the event of a dam failure. A reduced hazard classification decreases the cost associated with design, operation, inspection, and instrumentation of the reservoir.

In addition to risk reduction, safety, and improved operations, acquisition of Parcel 3b would provide land for adjacent hydraulic facilities (inlet pipeline), and an alternate location for an emergency spillway and pump station. Parcel 3b provides access, design, and construction flexibility of future ancillary facilities.

The purchase of Parcel 3b was originally presented to the Board as a Briefing Paper on January 25, 2017, and is attached at the end of this Board Item for reference.

Budget Information:

The total amount of this contract is \$464,000 plus closing costs, which are anticipated to be less than 1-percent of the purchase price. Funds for this contract will come from BU# 2009612019 Lupton Lakes Development which has sufficient funds for this purchase.

Recommendation:


It is recommended that the Board approve Contract #17050A with the Theodore Shipman Living Trust and TRS Equities, LLC for the purchase of 8.6 acres of Parcel 3b for a total contract amount not to exceed \$464,000 plus closing costs.

Approvals:



Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Angela Bricmont
Chief Financial Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-A-7

Fifth Amendment to Legal Services Contract with Hogan Lovells US LLP Contract # 14510A

Action by Consent

Individual Action

Summary:

In late spring of 2012, the Board determined that outside legal experience would be helpful to assist Denver Water with federal regulatory issues involved in the Moffat Project, as well as Denver Water's interactions with the U.S. Forest Service in conducting its activities on federal land. Denver Water continues to rely on Hogan Lovells' federal regulatory expertise for the remaining Clean Water Act Section 404 and Federal Energy Regulatory Commission License processes.

Because those federal regulatory processes are still underway, the Agreement needs to be extended through the end of March 2019. The extension requires an increase in compensation under the Agreement of \$150,000.00 for a total compensation not to exceed \$950,000.00.

Budget Information:

The approved budget of this contract extension is \$150,000.00, and the term of the contract is March 31, 2017 through March 31, 2019. Funds for this service will come from the 2017 budget for object account number 621060, OGC Professional Services, which has sufficient funds to pay the amount estimated to be needed in 2017. Expenditures in future years will be budgeted as needed.

Selection of Business Partner:

In 2012, Denver Water conducted interviews with several capable law firms and selected Hogan Lovells to provide services based upon its strong presence in Washington and the experience of its attorneys in the Denver office with the relevant federal agencies.

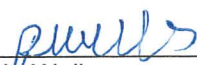
S/MWBE Information:

No goal has been established for this type of service.

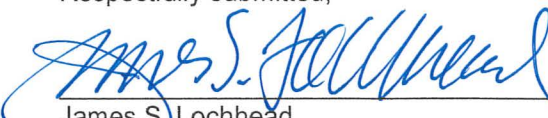
Recommendation:

It is recommended that the Board approve the Fifth Amendment to Contract No. 14510A with Hogan Lovells US LLP for legal services for an extension of the contract period of March 31, 2017 through March 31, 2019 and for an addition of \$150,000.00 for a total amended contract amount not to exceed \$950,000.00.

Approvals:



Patricia L. Wells
General Counsel

Respectfully submitted,


James S. Lochhead
CEO/Manager



Angela Brimont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-A-8

Designation of Surplus Property Conduit No. 74 at I-70 and Peoria Street

Action by Consent

Individual Action

Summary:

In 1993, CDOT relocated a portion of Conduit No. 74 for the widening of I-70 between Peoria Street and Chambers Road. It has been recently discovered that although CDOT intended to grant Denver Water a new easement for this relocated conduit, in error approximately 3.98 acres of property was deeded in fee. To correct this error, Denver Water will deed the fee title property back to the surrounding property owner, MWBP, LLC and acquire a 70-foot easement underlying the conduit.

Recommendation:

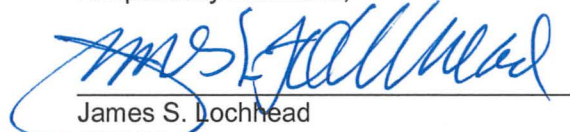
It is recommended that the Board declare 3.98 acres of Conduit No. 74 fee property ownership surplus, as it is not required for water works purposes.

Approvals:

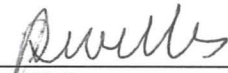


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Patricia L. Wells
General Counsel

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-A-9

Ratification of Construction Contract Change Orders and Amendments to Contracts/Agreements

Action by Consent

Action

Information

Summary:

The attached are Construction Contracts Change Orders and Amendments to Contracts/Agreements for Board ratification for January and February 2017.

Recommendation:

It is recommended that the Board ratify these Construction Contract Change Orders and Amendments to Contracts/Agreements.

Approvals:



Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: II-B-1

Resolution in Support of the High Line Canal Vision Plan

Action by Consent

Individual Action

Summary:

In 2012, Denver Water entered into an MOU with the City and County of Denver, Arapahoe County and Douglas County to explore the potential of changing the purpose of the High Line Canal. The 2012 MOU efforts resulted in a recommendation to harness the commitment of community leaders throughout the region to create an organizational structure that supports a comprehensive community-based visioning and planning process for the High Line and second, to generate public and private funding to support the vision created through such a process. This organization has been created in the High Line Canal Conservancy (HLCC), and has made significant progress towards these goals.

Over the past year Denver Water has actively partnered with the High Line Canal Conservancy and a number of governmental organizations along the Canal to develop the High Line Canal Vision Plan. With unprecedented community engagement, the Conservancy brought together thousands of residents from all over the region and inspired them to "think big" about their vision for the Canal's future. This open, broad, and inclusive process is the foundation of the Vision Plan for the High Line Canal. The Vision Plan identifies potential alternative concepts for the Canal's future.

Budget Information:

There is no budget impact from this specific resolution, though Denver Water has provided \$330,000.00 to the High Line Canal Conservancy over the last three years in support of this effort.

Recommendation:


It is recommended that the Board approve the resolution in support of the High Line Canal Vision Plan.

Approvals:



Thomas J. Roode
Chief Operations Maintenance Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Patricia Wells
General Counsel

Supplier Diversity Program



2016

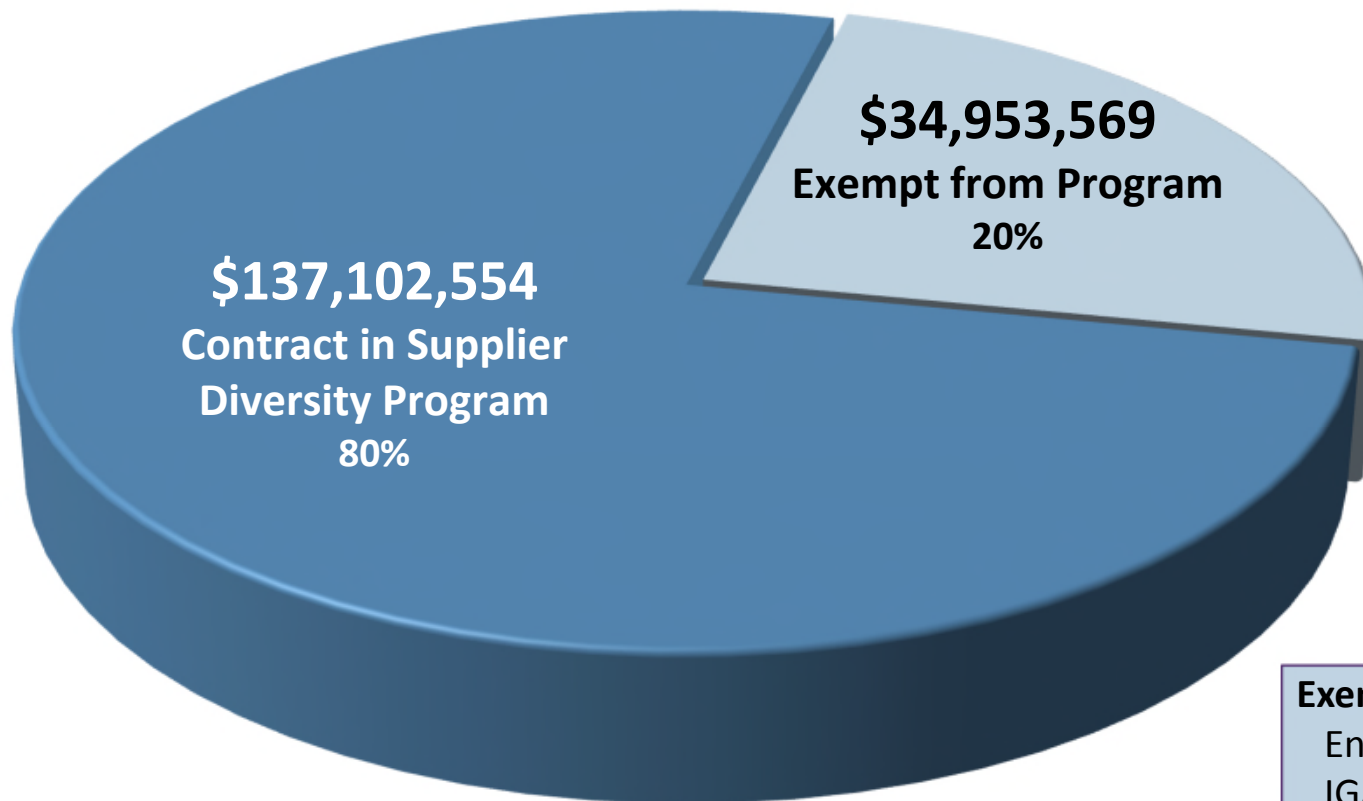
2016 Goals and Targets

SBE Program	
Program Categories	2016 Target
Organization-wide	15%
Contracts	

MWBE Program	
Program Categories	2016 Target
Covered Goods and Services	10%
O&M	10%
	2016 Goal
Construction and Construction-Related	10%

Total Contract Spend in 2016

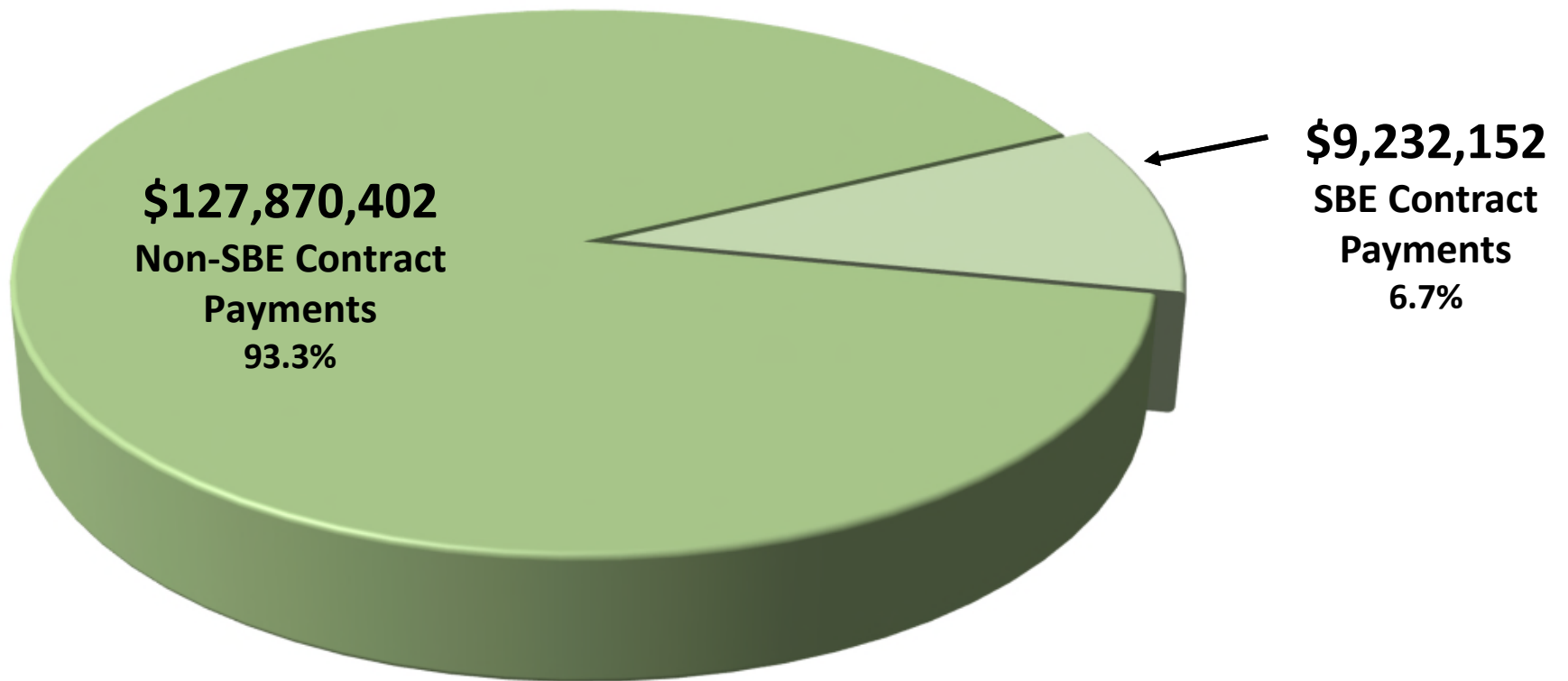
\$172,056,123



Exempt Contracts:

- Energy Generation
- IGA/MOU
- Insurance/Banking
- Land/Real Estate
- Leases
- License & Software Agreements
- Utility Agreements

Contract Spend in 2016 within the SBE Program \$137,102,554

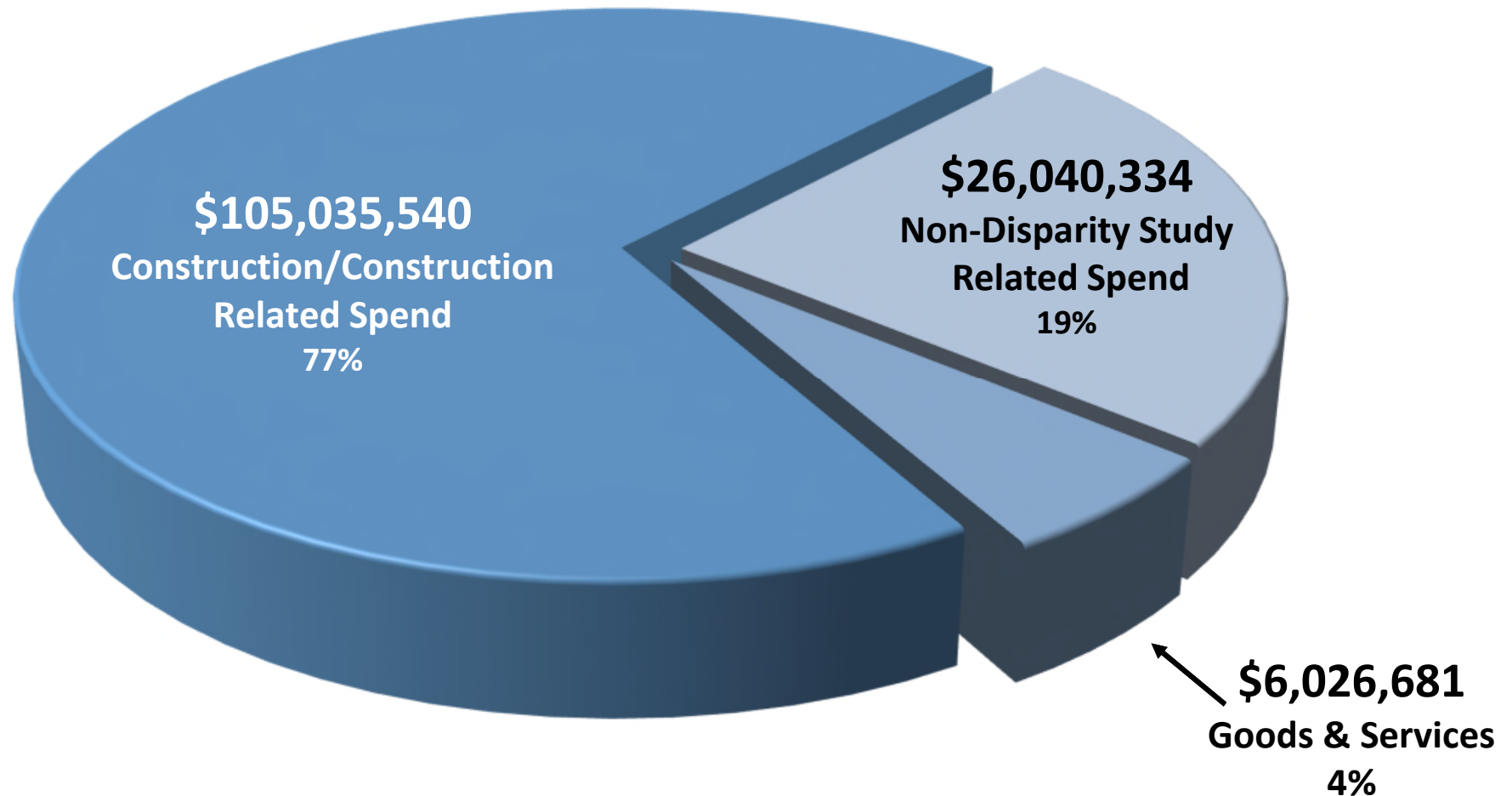


Contract Spend in 2016 within the SBE Program

SBE Contract Reporting Summary				
Contracts Contained in the Period from January 1, 2016 to December 31, 2016				
Results by Division	SBE Paid in Period	% of Divisional Spend	Total Contract Dollars Paid in Period	% of DW SBE Period Spend for Division
Administrative Services	\$403,826	14.76%	\$2,735,611	4.37%
Engineering	\$1,683,713	1.69%	\$99,823,551	18.24%
Finance	\$104,655	4.45%	\$2,349,663	1.13%
Human Resources **	\$674,465	18.89%	\$3,569,882	7.31%
Information Technology	\$1,226,085	17.63%	\$6,955,280	13.28%
Manager and Staff	\$213,202	17.29%	\$1,233,298	2.31%
Operations and Maintenance **	\$3,786,913	24.22%	\$15,637,898	41.02%
Planning **	\$492,589	17.37%	\$2,835,169	5.34%
Public Affairs	\$646,705	32.96%	\$1,962,203	7.00%
OVERALL	\$9,232,152		\$137,102,554	6.73%

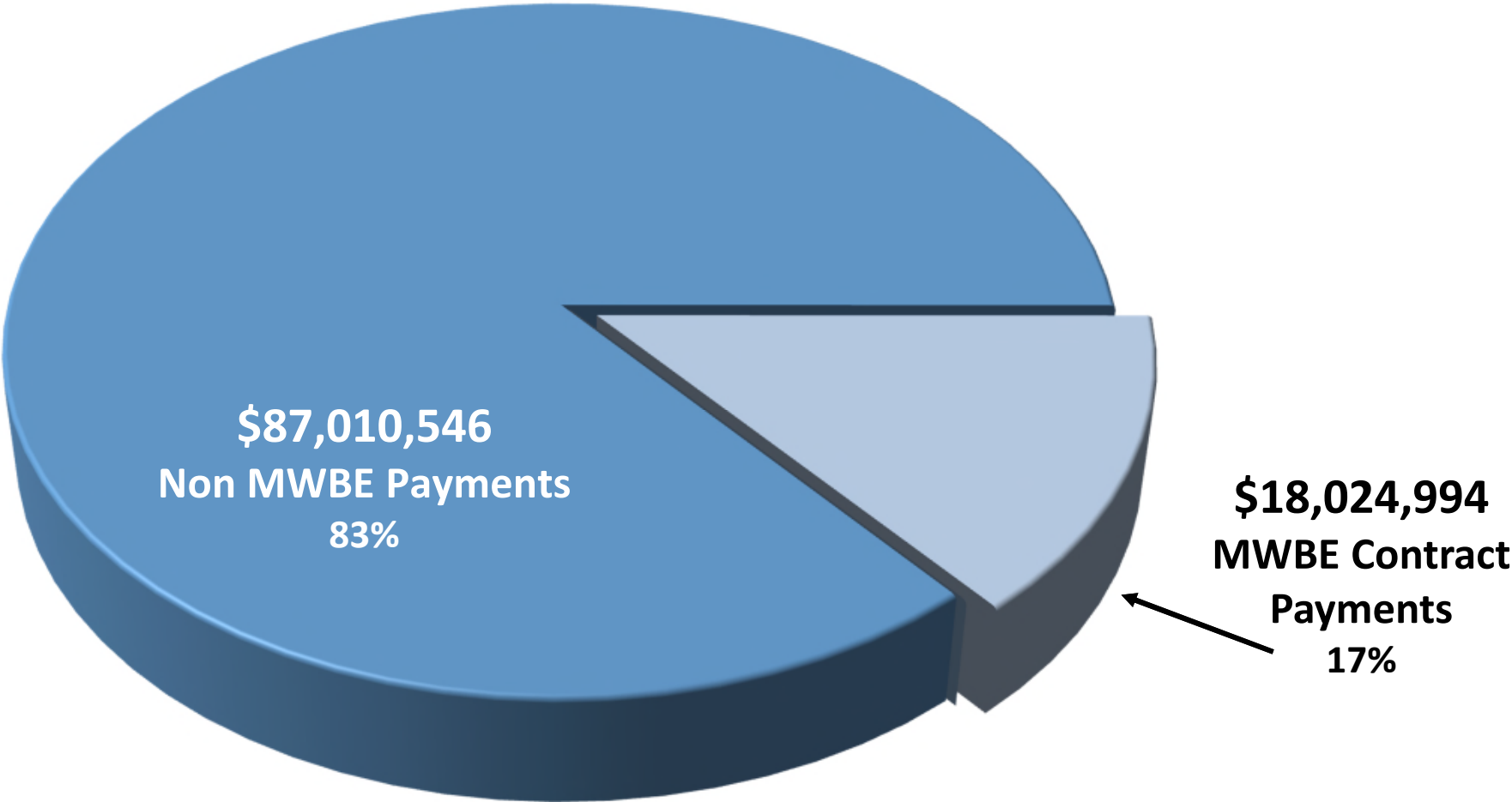
** Includes Tier 2

Contract Spend in 2016 within the MWBE Program \$137,102,554

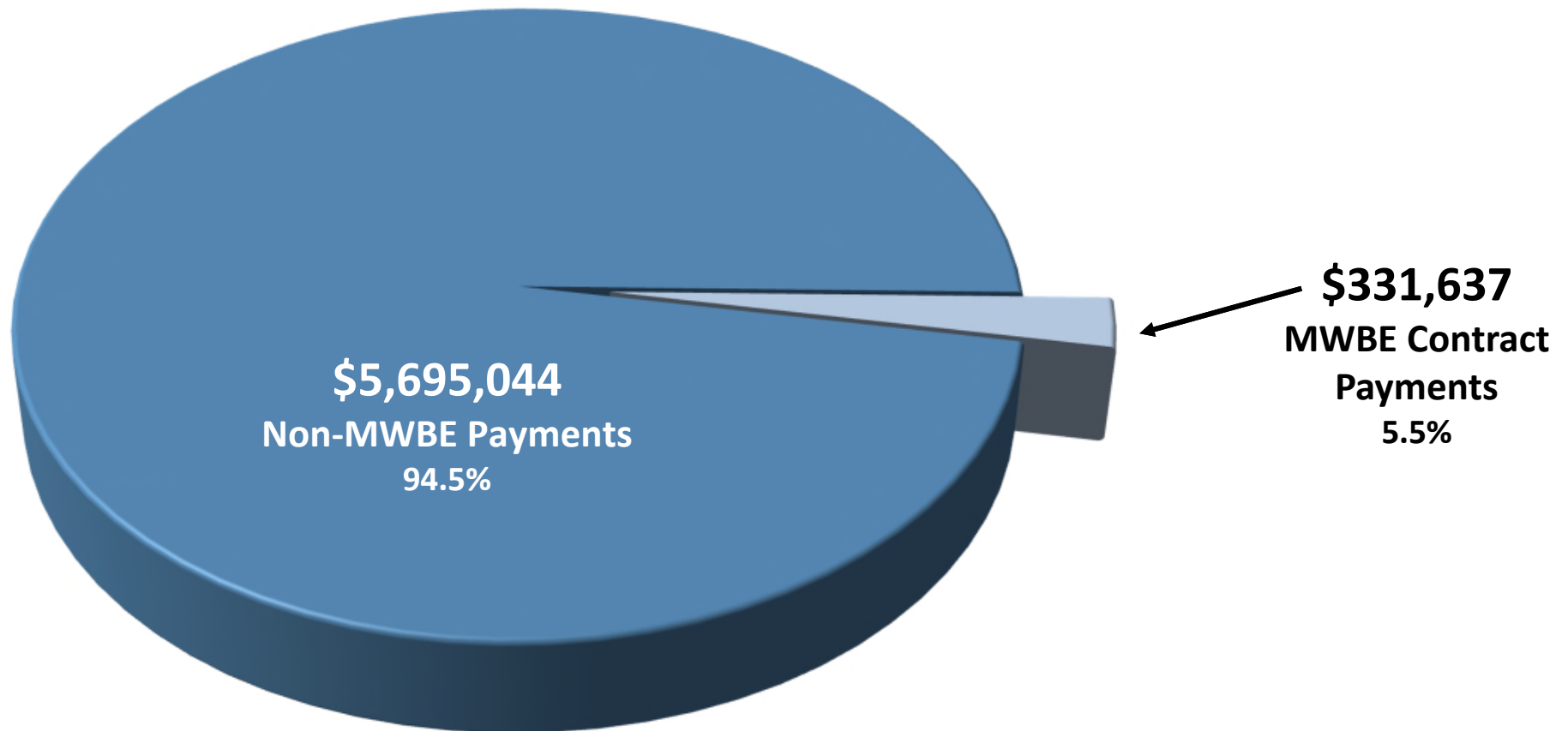


Construction/Construction Related Spend in 2016 within the MWBE Program

\$105,035,540



Goods & Services* Spend in 2016 within the MWBE Program \$6,026,681

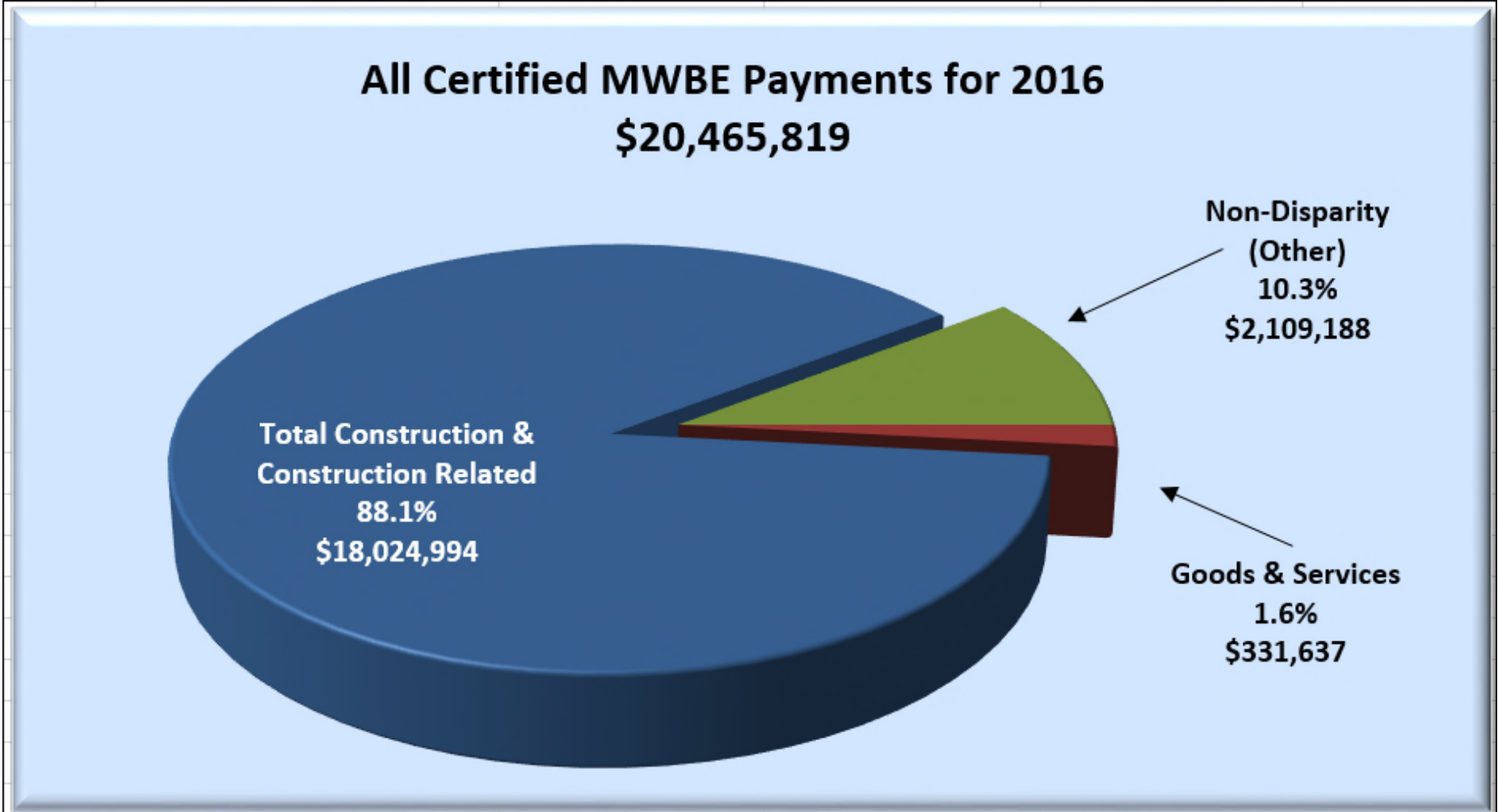


* Specific categories that are identified in the disparity study

Contract Spend in 2016 within the MWBE Program

MWBE Contract Reporting Summary				
Contracts Contained in the Period from January 1, 2016 to December 31, 2016				
	MWBE Paid in Period	Total Contract Dollars Paid in Period	% DW MWBE Spend	GOAL/ TARGET
Construction or Construction Related Contracts				
O&M	\$2,572,385	\$5,375,789	47.85%	15%
Engineering	\$15,452,609	\$99,659,751	15.51%	10%
Total Construction/Construction Related	\$18,024,994	\$105,035,540	17.16%	
Goods and Services Contracts				
Goods & Services	\$331,637	\$6,026,681	5.50%	10%
Non-Disparity Study Contracts				
Non-Disparity Contracts	\$2,109,188	\$26,040,334	8.10%	
Total MWBE Payments	\$20,465,819	\$137,102,554	14.93%	

Contract Spend in 2016 within the MWBE Program



2016 - 2017 Goals and Targets

SBE Program		
Program Categories	2016 Target	2017 Target
Organization-wide Contracts	15%	15%

MWBE Program		
Program Categories	2016 Target	2017 Target
Covered Goods and Services	10%	10%
O&M	15%	50%
	2016 Goal	2017 Goal
Construction and Construction-Related	10%	12%

2016-2017 Outreach

- 2016 Outreach Summary
- 2017 Outreach Events
- 2017 OCR Outreach
- External Committee

QUESTIONS



REGULATORY SUPPORT PROJECT



March 8, 2017

Expanding Regulation 84

- Regulation Background
- Project Goals
- Project Approach
- Timeline

Regulation 84

- Promulgated in 2000.
- The purpose of Regulation 84 is to establish requirements, prohibitions, standards, and concentration limits for the use of reclaimed water to protect human health and environment.
- The regulation is treatment based and not use based.
- There are no federal regulations for reclaimed water.
- The regulation is opened up for review every three years during the Triennial Review Process

Current Uses for Reclaimed Water

- Industrial Uses
- Landscape Irrigation
- Commercial Operations
- Non-Food Crop Irrigation
- Fire Protection

Proposed New Uses

- Irrigation for edible crops in an urban/community garden setting
- Irrigation for edible crops for commercial agriculture (including commercial marijuana operations)
- Indoor toilet and urinal flushing
- Livestock wash down operations
- Discharge to impoundments

Project Goals

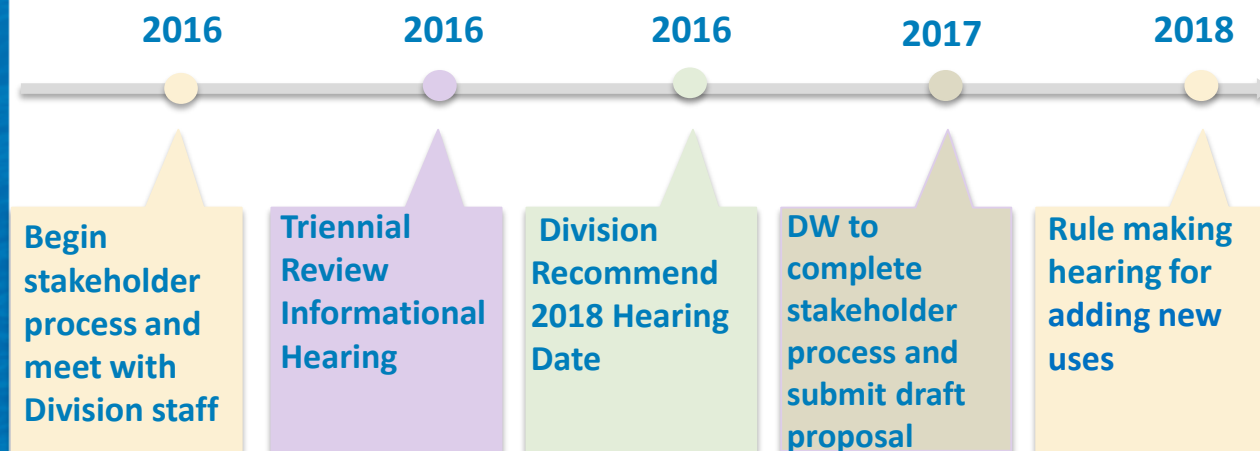
- Increase utilization of recycled water
- Build framework for One Water
- Work with stakeholders to increase acceptance
- Develop technical guidance for expanding the regulation
- Favorable decision from Water Quality Control Commission

Project Approach

- Literature Review and Data Analysis
- Develop Stakeholder Process
- Facilitate Stakeholder Meetings
- Review CDPHE Documents
- Participation in Rulemaking Hearing
- Preparing Expert Testimony

Time Line of Changes to Regulation

84



- WQCC Process

Questions?

Backup Slides

Current Regulatory Framework

Level of Treatment	Uses	Restrictions
Category 1	Few	Many
Category 2		
Category 3	Many	Few

Proposed Changes

Level of Treatment	Uses	Restrictions
Category 1	Few	Many
Category 2		
Category 3		
Category 4	Many	Few

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: V-A-1

Briefing Paper for Legislative Update

Summary:

We are now nearly at the half way mark of the legislative session. In this update we have recommended positions on two bills and have one piece of news on a legislative proposal. These are outlined below.

Recommendations and Updates:

- **HB17-1190 Limited Applicability Of St. Jude's Co. Water Case** – as you will recall from our previous briefing paper, we have successfully negotiated a compromise with the CO River District on their issue with the St. Jude's case. *This is the River District's bill and while they will lead this bill through the legislature we will be supportive of that effort.* A full report on what this bill does and our analysis is located in the attached bill report.
- **HB17-1008 Graywater Regulation Exemption For Scientific Research** –This is a bill recommended by the Water Resources Review Committee. It creates a carve-out from the rules for graywater use that is for scientific research. Under the new graywater regulations, pre-existing, research related graywater systems, like the one in the dormitory at Colorado State University, could no longer operate. This bill attempts to remedy that. We have been delaying taking a position on this bill until the bill sponsor and CDPHE worked out a strategy for solving this conflict. CDPHE has decided that the best way forward is to have a legislative remedy instead of creating separate rules and they will be supporting this bill. *We have recommended supporting this bill as it will help advance research on graywater systems.*
- **Seaplanes Allowed to Land on Lakes and Reservoirs in Colorado** – we are tracking conceptual legislation that will likely be introduced by seaplane owners that would allow seaplanes to be landed on lakes and reservoirs in Colorado. This is not a new issue. The water community has been strongly against this idea in the past out of fear that seaplanes can carry and spread aquatic nuisance species from other States to Colorado, specifically invasive species of mussels. Colorado is already furiously working to shore up boat inspection programs and funding for such programs to prevent against contamination of our waterways from these invasive species. Failure to keep them out of our waterways could lead to costly and ongoing maintenance challenges on intake pipes and valves for water providers specifically. While seaplane owners are claiming to have come up with a self-administered inspection and decontamination system for their airplanes, it is impossible to see how this honor system driven program could possibly meet the standards that current boat inspection programs do.

We have attached a full report of all of the legislation that we are following with additional details on each.

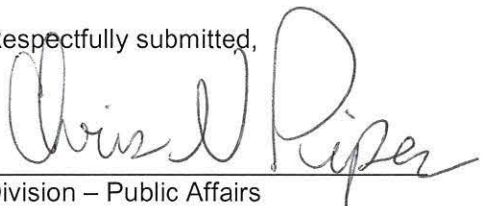
Owner(s):

Chris Piper, Government Relations, Public Affairs

Attachments:

Report on 2017 Legislation

Respectfully submitted,



Division – Public Affairs

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: V-A-2

Briefing Paper Regulatory Support Project (Regulation 84)

Action by Consent

Action

Information

Summary:

Denver Water is the proponent for adding five new uses to the Water Quality Control Regulation for Reclaimed Water (Regulation 84) during the Triennial Review (TR) process with the Colorado Department of Public Health and Environment. The new uses include:

- Irrigation for edible crops in an urban/community garden setting
- Irrigation for edible crops for commercial agriculture (including commercial marijuana operations)
- Indoor toilet and urinal flushing
- Livestock wash down operations
- Discharge to impoundments

To assist with the TR process, Denver Water solicited proposals in response to a Request for Proposals (RFP). Upon review of two proposals, Stantec (Consultant) was selected to provide technical support to Denver Water throughout the TR process as the lowest bid. The Consultants approach, breadth of expertise and overall understanding ultimately provides the best value and approach for this project. The Consultants have worked to develop similar regulations in other states including amending Nevada reuse regulations, developing federal guidelines for reuse, and amending California regulations, these projects ultimately resulted in increased utilization of recycled water. The role of the proponent and selected Consultant during the TR includes:

- Engaging with stakeholders
- Responding to requests from CDPHE staff
- Gathering evidence to show new uses are protective of human health and the environment
- Participate in rulemaking hearing
- Providing a "Redlined" version of Regulation 84

Background:

Currently, there are no federal regulations regarding the treatment and usage of reclaimed water. Each state that utilizes reclaimed water must develop their own regulations and guidelines, resulting in a wide spectrum of water quality and allowed uses between states. For example, California, Idaho, and Texas all allow for recycled water to be used on edible crops however, each state has vastly different requirements for disinfection and treatment.

Colorado began development of reclaimed water regulations in the late 1990's and then promulgated Regulation 84 in 2000. Since the adoption of the regulation it has been amended four times to add new uses. During the last update to Regulation 84, Denver Water was instrumental during the process to allow for two new uses (commercial laundries and car washes). Recently several new uses have been identified by Denver Water staff that would allow for increased utilization of recycled water in Colorado. Current uses of recycled water in Colorado include:

- Industrial Uses
- Landscape Irrigation
- Commercial Operations
- Non-Food Crop Irrigation
- Fire Protection

Drivers for Modifications to Regulation 84

Colorado Water Plan

Denver Water has been active in the water community by participating and developing language in Colorado's first State Water Plan. This effort culminated in eight specific supply strategies for expanding reuse in Colorado. In order to implement the plan, actions need to be taken to expand the uses under Regulation 84. Adding new uses is a crucial step to expanding and preserving this supply option and furthering Denver Water's commitment to the using the "right water for the right use".

One Water Implementation

Denver Water has a long history of excellence in water resource stewardship. One example is the vision to create a means to reuse water resources to the fullest extent possible and implement a 'One Water' philosophy in water resources planning. The Denver Water's Reusable Water Program is a visible and tangible demonstration to the community of the organizations' commitment to its mission to be a responsible steward of the environment. For One Water to be successful, several regulatory barriers need to be addressed, including Regulation 84.

Project Approach

The Consultant will provide technical support to Denver Water throughout the TR process. Key tasks for the Consultant include:

- Literature Review and Data Analysis
- Develop Stakeholder Process
- Facilitate Stakeholder Meetings
- Review CDPHE Documents
- Participation in Rulemaking Hearing
- Preparing Expert Testimony

Regulatory Process

The Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission's (Commission) triennial review cycle of regulations commenced with a Triennial Review Informational Hearing (TRIH) for the Regulation 84 on May 9, 2016. Due to constraints with resources, the Division requested to delay setting a rulemaking hearing. In October, the Division was able to secure funding to support the position required to perform an evaluation of Denver Water's proposal. The date of the hearing is scheduled for August 13, 2018 at 9:30 am.

Stakeholders will be engaged throughout the TR process. These stakeholders will have an opportunity to participate in the hearing. Key stakeholders include:

- Proponent – Denver Water
- Regulatory Agency – Water Quality Control Division
- Rulemaking Party – Water Quality Control Commission
- Key Supporters – Denver Urban Gardens and WateReuse Colorado
- Member of the Public

Budget Information:

The Board will be presented with a professional services agreement with Stantec on March 22, 2017. The contract will last 19 months. Table 1 summarizes the estimated total cost for the Regulatory Support Project.

Table 1 – Regulatory Support Project Cost Summary

Budget as of March 8, 2017	Current Estimated Cost
Approved 2017 Budget	\$160,000
Proposed 2018 Budget	\$86,663
Total Project Cost	\$246,663

Approach:

Denver Water selected the Consultant based on the criteria outlined in the RFP that included cost, approach, and experience with similar projects. Stantec submitted the proposal with the lowest bid and met the recommendations of 5% of the total project cost will be completed by small and minority-owned businesses.

Denver Water and the Consultant will work over the next 19 months to engage stakeholders, gather supporting technical evidence, and develop expert testimony at the Triennial Review Hearing. This effort will culminate in a 'redlined' Regulation 84 that supports Denver Water's proposed new uses.

Owner(s):

Brenley McKenna, Reusable Water Program Manager, Planning Division

Respectfully submitted,



Division – Planning

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: March 8, 2017

Board Item: V-A-3

Briefing Paper Hydropower Research Project

Action by Consent

Action

Information

Summary:

Denver Water is proposing to engage in an innovative hydropower research project that will test a series of ten, 10kW generators placed in series within the South Boulder Canal near Ralston Reservoir.

Background:

The type of hydropower proposed for testing will use hydrokinetic energy technology in a shallow, slow moving waterway with ultra-low head, the South Boulder Canal. The technology being proposed consists of ten, dual-runner units that are part of a self-contained, portable, concrete system that will be lowered into the canal with a crane and adjusted, as needed, during the project. Application of hydrokinetic technology in this manner is relatively new and while several individual units have been installed at other locations (including with Southern Company and the City of Atlanta), multiple generators have not been tested in series. There are thousands of miles of canals in the United States, particularly in the Southwest, so the opportunity to tap the flow of water in those canals to generate electricity has generated a significant amount of interest from other stakeholders. Proposed partners on this project include:

- US Bureau of Reclamation
- National Renewable Energy Laboratory
- Oak Ridge National Laboratory
- Colorado School of Mines
- Colorado Small Hydro Association
- Xcel Energy
- United Power
- Emrgy, Inc.

Partner organizations will provide flow modeling and monitoring to evaluate the impact of hydrokinetic generators on water levels and in-channel hydraulics, evaluate environmental impact to water systems, analyze energy generation by multiple hydro units and develop specifications for consolidation / smoothing of power for grid connection, recommend potential tariffs for this type of energy generation, provide student research opportunities, and consult on technology and manufacturing details. Emrgy, Inc. is the manufacturer of the technology and will provide engineering design, the ten hydrokinetic units, and overall project management. Emrgy is a startup organization operating with private funding and grants from the US Department of Energy.

Budget Information:

Denver Water's proposed participation in this project includes purchase of ten hydrokinetic turbines, labor to install them and monitoring of conditions in the South Boulder Canal to ensure normal operations. The cost to purchase the units from Emrgy, including design and project management, is \$330,000. Emrgy is currently a Small Business Enterprise and is seeking MWBE certification. Funds are included in the 2017 budget for Source of Supply for this work. The other partners in this research effort are also contributing funding to support the project, including the Bureau of Reclamation (\$270,000 committed) and Oak Ridge National Lab (\$240,000 committed). Emrgy is also pursuing an additional grant from the US Department of Energy for this project that could help offset some or all of Denver Water's costs, including reimbursement for equipment rental and a lease for the project team to use a small piece of Denver Water property for placement of a job trailer. The Department of Energy grant application also requests funding for the grid infrastructure that would enable this project to be revenue generating for Denver Water as opposed to energy saving.

Denver Water aspires to be the best water utility in the nation.
Integrity :: Vision :: Passion :: Excellence :: Respect



Approach:

Staff is finalizing a research agreement with the US Bureau of Reclamation and a contract for purchase of the equipment and project management with Emrgy. These items are scheduled to come to the Board for approval on March 22, 2017. In addition, Emrgy is in the second phase of consideration for the US Department Energy grant to help fund the project. That grant is not likely to be awarded prior to the start of the project.

The project's schedule includes delivery and installation of the ten hydrokinetic turbines according to a phased project schedule beginning in June of 2017, allowing the project team time to complete testing between then and October 2017, with a final report in December 2017.

Upon completion of this research project, Denver Water intends to use the turbines, research and any resulting components to deliver power behind the meter at Ralston Reservoir or potentially, deliver it to the electric grid through the local provider, United Power.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'R. U.', is written over a horizontal line.

Division – Administrative Services