WATER & SEWER BOARD AGENDA

Wednesday, July 19, 2016
2:00 p.m.

DISTRICT 6
ADMINISTRATION BUILDING
1025 9th Avenue
Greeley, CO 80631

1. Roll Call:

_____ Chairman Harold Evans	_____ Vice Chairman Mick Todd
_____ Mr. Bob Ruyle	_____ Mr. Fred Otis
_____ Mr. Joe Murphy	_____ Mr. Tony Miller
_____ Mr. Manuel Sisneros	_____ Mayor Tom Norton
_____ Mr. Roy Otto	_____ Mrs. Victoria Runkle

2. Approval of Minutes

3. Approval of and/or Additions to Agenda

4. Action: Approve Ogilvy Bypass Agreement and Recommend to Council

5. Action: Approve Cash-In-Lieu

6. Report: Water Supply Update

7. Report: 2016 Water Master Plan Review

8. Executive Session

9. Legal Report

10. Director's Report

    - Citizen Tour Update

11. Such Other Business That May Be Brought Before The Board and Added to This Agenda by Motion of the Board

If, to effectively and fully participate in this meeting, you require an auxiliary aid or other assistance related to a disability, please contact Shannon Metcalf at 970-350-9818.

City of Greeley
Water and Sewer Board
Minutes of June 21, 2017
Regular Board Meeting

Chairman Harold Evans called the Water and Sewer Board meeting to order at 2:00 p.m. on Wednesday, June 21, 2017.

1. Roll Call

The Clerk called the roll and those present included:

Board Members:
Chairman Harold Evans, Vice Chairman Mick Todd, Bob Ruyle, Fred Otis, Tony Miller, Joe Murphy, Manual Sisneros and Roy Otto

Water and Sewer Department staff:
Water and Sewer Director Burt Knight, Deputy Director of Water Resources Eric Reckentine, Operations Manager Bob Neal, Utility Finance Business Manager Erik Dial, Chief Engineer Adam Prior, Water and Sewer Development Reviewer Scott Kempin, Office Manager Shannon Metcalf, Senior Administrative Assistant, Ettie Arnold

Legal Counsel:
City Attorney Doug Marek, Environmental and Water Resources Attorney Jerrae Swanson, Environmental and Water Resources Attorney Dan Biwer, and Water and Sewer Board Counsel Jim Witwer

Other Guests: Director of Planning Brad Mueller, Director of Coalition for the Poudre River Watershed Jennifer Kovesces, Greeley Tribune Reporter Tyler Silvy

2. Approval of Minutes

Mr. Murphy moved and Mr. Miller seconded to approve the May 17, 2017 Water and Sewer Board meeting minutes as presented. The motion carried 7-0.

3. Approval of and/or Additions to Agenda

Item 6 should be an Action item

4. Report: Coalition for the Poudre River Watershed Lower Poudre River Flood Recover and Resilience Project and High Park Fire Restoration Update and Seaman Reservoir Restoration Work Update

Mr. Reckentine introduced Jennifer Kovecses from the Poudre River Watershed Coalition. The Coalition is a registered non-profit business founded with support from the City of Greeley in the wake of the High Park Fires. Ms. Kovecses said that current projects and goals include identifying unmet flood recovery needs, plan and prioritize additional opportunities for increasing resiliency in the corridor, post-flood analysis of sediment conditions and community outreach and engagement around corridor issues.

Chairman Evans thanked Ms. Kovecses for the work the coalition has done and then complimented Mr. Reckentine for his efforts.

Mayor Norton joined the meeting at 2:16 p.m.

5. Report: 2017 Annual Growth and Development Projections

Ms. Kovesces left the meeting at 2:27 p.m.

Mr. Mueller explained that the population estimate for 2017 is 104,939. There has been a steady reduction in unemployment. Available previously developed Single Family Detached (SFD) lots have decreased. This occurred while there has been a decline in oil field drilling.

6. Action: Approve 2018 Budget and 5 Year CIP and Recommend to City Manager

Mr. Dial provided an overview of the 2018 Budget and 5 Year CIP. The 2018 rate models reflected a 1.65% growth rate and decreased Single Family Residential water use This will be the second year using water budget rates. The 2018 water budget rates will vary over four tiers from $4.09/1,000 gallons for the within Water Budget tier to $9.09/1,000 gallons for the Unsustainable Use tier. Commercial rates will increase approximately 4.0% and industrial rates will increase 3.5%. The goal continues to be to keep the rate changes steady without large spikes.

Mr. Dial indicated that sewer customers will see moderate rate changes. Single Family, Multi-Family and Commercial rates will increase by 3%. Industrial rate changes vary from 0% to 12.5%. The water Plant Investment Fee will increase by $600 to $11,400 and the sewer Plant Investment Fee will increase by $400 to $5,700 for a combined Plant Investment Fee of $17,100. System wide, the average residential water and sewer monthly bill will increase by $2.28.

Staff's proposed operating budget has no new positions or programs. The primary drivers in the capital program continue to be the rehabilitation efforts at the water and sewer

treatment plants, the Windy Gap Firming Project, Milton Seaman Permitting, and new trunk sewer construction.

A motion was made by Mr. Todd, seconded by Mr. Sisneros, that the Board approve the Water and Sewer 2018 Operating Budget and 5 Year CIP and recommend the same to the City Manager. The motion carried 7-0.

Mr. Mueller left the meeting at 3:26 p.m.

7. Report: Cache La Poudre Water Infrastructure Projects Update

Mr. Reckentine provided a status update on the following Cache La Poudre Water Infrastructures:

●Bellvue Pipeline - Nationwide 12 Permit & Approved Special Condition Lifted Nationwide 12 Permit – February 2017

●Northern Integrated Supply Project - Final Environmental Impact Statement Released 2018

●Halligan Reservoir Water Supply Project - Draft Environmental Impact Statement Released 2018

●City of Thornton Northern Water Delivery Project - Thornton Beginning 1041 Process March 2017

●Windy Gap Firming Project Report 1 - Series of Discussions on Legal and Permitting Issues

●Milton Seaman Water Supply Project Report 2 - Purpose and Need Report, Demand Analysis, and Alternative Development

Mr. Neal, Mr. Prior, Mr. Dial, Mr. Kempin left the meeting at 3:41 p.m.

8. Executive Session

At 3:56 pm Chairman Evans made a motion to move into executive session to address the following matters:

1. Purchase, acquisition, lease, transfer, or sale of property under C.R.S. §24-6-402(4)(a) and Greeley Municipal Code 2.04.020(1).

2. Conferences with an attorney for the purposes of receiving legal advice on specific legal questions under C.R.S. §24-6-402(4)(b) and Greeley Municipal Code 2.04.020(2).

3. Matters required to be kept confidential under Title 5 of the United States Code § 552(b)(5) and as authorized by C.R.S. §24-6-402(4)(c) and Greeley Municipal Code 2.04.020(3).

4. Determining positions relative to matters that may be subject to negotiations, developing strategy for negotiations, and instructing negotiators, as authorized by C.R.S. §24-6-402(4)(e) and Greeley Municipal Code 2.04.020(5).

Chairman Evans identified the following topics for discussion:

1. Matters related to Milton Seaman Water Supply Project

Mr. Miller seconded the motion. The motion carried 7-0.

Present during the executive session were:

Chairman Harold Evans, Vice Chairman Mick Todd, Fred Otis, Tony Miller, Manual Sisneros, Joe Murphy, Tony Miller, Mayor Tom Norton, Director of Water and Sewer Burt Knight, Deputy Director of Water Resources Eric Reckentine, Environmental and Water Resources Attorney Jerrae Swanson, Environmental and Water Resources Attorney Dan Biwer, Environmental, and Water and Sewer Board Counsel Jim Witwer

The majority of this executive session was unrecorded because the discussion constituted attorney-client privileged communication.

Mr. Otto left the meeting at 4:40 p.m.

The Executive Session ended at 5:28 p.m. and the regular meeting resumed.

9. Legal Report

Mr. Witwer stated that staff and counsel recommend filing one statement of opposition this month.

a. East Cherry Creek Valley Water and Sanitation District (Case No. 17CW3068): Application for Finding of Reasonable Diligence and to Make Conditional Water Rights Absolute (Beebe Draw and 70 Ranch Recharge Projects). Greeley participated as an opposer in the initial cases (Nos. 02CW404 and 03CW442); the claimed recharge rights are to be used as part of broader augmentation plan and to replace return flows from senior 70 Ranch water rights.

A motion was made by Mr. Murphy, seconded by Mr. Miller to recommend filing a motion of opposition in the East Cherry Creek Valley Water and Sanitation District Case

17CW3068 and for staff and legal counsel to seek resolution of issues raised by the case as consistent with Water and Sewer Board Resolution No. 3, 2015. The motion carried 7-0.

10. Director's Report

Mr. Knight and Mr. Reckentine explained the following:

- 2017 AWWA Water Taste Test
  Greeley received the Best of the Best and People's Choice Award at the AWWA Conference in Philadelphia

- Windy Gap Firming Project
  404 Approval

- Western Water Symposium
  The Symposium will be held at CSU on July 24th

- MWRD Tour
  The tour will be held on June 26th

- NCWCD NISP 122.2
  Fish and Wildlife Mitigation Plan Application to CPW

There being no further business, Chairman Evans adjourned the meeting at 5:40 p.m.

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_____
Harold Evans, Chairman

_____
Shannon Metcalf, Office Manager

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE __X__ NO ENCLOSURE ____

ITEM NUMBER: 4

TITLE: ACTION: APPROVE OGILVY BYPASS AGREEMENT AND RECOMMEND TO COUNCIL

RECOMMENDATION: APPROVE AGREEMENT AND RECOMMEND TO COUNCIL

ADDITIONAL INFORMATION:

Greeley requires the need to bypass flows at the Ogilvy ditch in order to meet downstream depletions per our water decrees and as required by the State Engineer's Office. Central Water Conservancy owns a bypass structure just downstream of the Ogilvy headgate and has agreed to let Greeley use the structure under certain terms and conditions as outlined in the following Agreement. Water Resources seeks approval of this agreement.

AGREEMENT REGARDING USE OF BYPASS STRUCTURES

This Agreement Regarding Use of Bypass Structure ("Agreement") is made this 20th day of June 2017, by and between Central Colorado Water Conservancy District/the Ground Water Management Subdistrict of the Central Colorado Water Conservancy District/the Well Augmentation Subdistrict of the Central Colorado Water Conservancy District (collectively, "CCWCD") and the City of Greeley ("Greeley").

BACKGROUND

1. Central Colorado Water Conservancy District ("CCWCD") is a quasi-municipal corporation and political subdivision of the State of Colorado organized and existing as a water conservancy district pursuant to §37-45-101, et. seq. *C.R.S.* and is authorized and empowered thereby to furnish water to lands within its boundaries.

2. The Ground Water Management Subdistrict of the Central Colorado Water Conservancy District ("GMS") is a quasi-municipal corporation and political subdivision of the State of Colorado organized and existing as a water conservancy district pursuant to §37-45-101, et. seq. *C.R. S.* and is authorized and empowered thereby to furnish water to lands within its boundaries.

3. The Well Augmentation Subdistrict of the Central Colorado Water Conservancy District ("WAS") is a quasi-municipal corporation and political subdivision of the State of Colorado organized and existing as a water conservancy district pursuant so § 37-45-101, et seq. *C.R.S.* and is authorized and empowered thereby to furnish water to lands within its boundaries.

4. CCWCD, GMS and/or WAS (collectively "CCWCD") owns, controls, has an interest in or otherwise has rights to use certain bypass structures on the South Platte River and its tributaries that it uses to carry water past dry up points on these rivers.

5. Greeley is a Colorado home rule municipal corporation.

6. Greeley owns or controls wholly consumable water supplies that need to be delivered down the Cache la Poudre River from Poudre Ponds, the Greeley Wastewater Treatment Plant, or the GIC #3 Ditch to the confluence of the Poudre and South Platte Rivers. In order to accomplish this delivery in times of low flow, Greeley needs to run water through the CCWCD bypass structures located at the Ogilvy Ditch.

7. CCWCD and Greeley desire to enter into an agreement setting forth the terms and conditions upon which Greeley's wholly consumable water supplies may be delivered through the Bypass Structures.

AGREEMENT

1. **Deliveries.** CCWCD agrees to deliver Greeley water through the Ogilvy Ditch bypass structures, subject to the terms and conditions set forth in this Agreement. Deliveries of Greeley's water through the Bypass Structures shall not exceed 500 AF in a calendar year or 10 CFS in instantaneous delivery. Greeley's anticipated schedule of deliveries is attached hereto as Exhibit "A".

2. **Term.** The term of this agreement is for 3 years, April to March, from the date of execution.

3. **Consideration.** Greeley agrees to pay CCWCD $500 as a "buy-in" fee, and a running fee of $10/AF. The buy-in fee and the running fee for the first year are due upon signing of this Agreement, and CCWCD acknowledges receipt of same. Subsequent running fees shall be due annually on the date the Agreement was executed.

4. **Terms and Conditions.** The following terms and conditions shall apply to the delivery of Greeley water through the Bypass Structures.

    a. CCWCD shall have the primary right to use the Bypass Structures at all times. To the extent that, for whatever reason, water actually passed through the structure is less than the amount required to services CCWCD and all of the other parties, the CCWCD requirement shall be satisfied first, and the remaining water divided between the non-CCWCD parties that have bypass agreements with CCWCD in proportion to their total flow requirements.

    b. Any changes in requested bypass amounts must be made no less than 48 hours in advance.

    c. Deliveries through the bypass structure are made using the CCWCD's best efforts, but it is not possible to set the structures to deliver precisely the necessary amount of water at all times. Greeley acknowledges the potential for this variability, accepts this risk, and agrees not to hold CCWCD liable for variations in delivery.

    d. Central shall not be liable for any claim, suit or damages of any kind arising out of or related to Greeley's use of the Bypass Structures.

5. **Integration.** This Agreement represents the entire agreement between the parties regarding the subject matter addressed. It supersedes all previous communications, representations or agreements, verbal or written. No alterations to this Agreement, with

the exception of changes in the requested delivery amounts within the maximums set in ¶1, shall be valid unless in writing and signed by both parties.

6. **Default-remedies.** A default of this agreement shall occur if either party breaches its obligations hereunder and fails to remedy the breach within 30 days of written notice by the non-breaching party. Failure to notice any breach or default shall not be construed as waiver of continuing or additional defaults. In addition to all other remedies available, the non-breaching party shall be entitled to cancel this agreement if the breaching party fails to respond to the notice of default within 30 days. In such event, the non-breaching party shall provide written notice of cancellation to the breaching party.

7. **Notices and Payments.** Notices and payments shall be delivered to the following:

CCWCD	CCWCD 3209 W. 28th Street Greeley, CO 80634
Copy To:	Kim Lawrence, Esq. Lawrence Jones Custer Grasmick LLP 5245 Ronald Reagan Blvd., Suite 1 Johnstown, CO 80534
Greeley:	John Thornhill City of Greeley Water and Sewer Department 1100 10th Street, Suite 300 Greeley, CO 80631
Copy To:	Greeley City Attorney's Office Environmental and Water Resources Practice Group 1100 10th Street, Suite 401 Greeley, Co 80634

8. **No Beneficiaries.** This agreement is for the sole benefit of the parties and not for the benefit of any third party.

9. **Governmental Immunity.** Neither CCWCD nor Greeley intends to waive its sovereign immunity by the execution of this agreement, and it shall not be so construed.

10. **Governing Law.** Colorado Law shall govern this agreement. In the event of litigation, jurisdiction and venue shall be proper and exclusive in the District Court for Weld County, Colorado.

11. **Counterparts.** This Agreement may be executed in counterparts.

12. **Authority.** The parties to this agreement warrant that they have taken all actions necessary to authorize the signatories to sign this agreement and bind the parties to its terms.

CENTRAL COLORADO WATER CONSERVANCY DISTRICT
GROUND WATER MANAGEMENT DISTRICT OF THE CENTRAL COLORADO WATER CONSERVANCY DISTRICT
WELL AUGMENTATION SUBDISTRICT OF THE CENTRAL COLORADO WATER CONSERVANCY DISTRICT

Attest

By: Randall C Knutson
Randall Knutson, President

Randy Ray, Secretary

Dated this 20th day of June, 2017.

THE CITY OF GREELEY, COLORADO

APPROVED:

By:_____
Tom Norton, Mayor

By:_____
Harold Evans, Board Chairman

ATTEST:

AS TO SUBSTANCE:

By:_____
Betsy Holder, City Clerk

By:_____
Roy Otto, City Manager

AS TO AVAILABILITY OF FUNDS:

AS TO LEGAL FORM:

By:_____
Victoria Runkle, Director of Finance

By:_____
Doug Marek, City Attorney

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE __X__ NO ENCLOSURE ____

ITEM NUMBER:	5
TITLE:	ACTION: APPROVE CASH-IN-LIEU
RECOMMENDATION:	APPROVE CASH-IN-LIEU POLICY AS RECOMMDED

ADDITIONAL INFORMATION:

Please see the attached memorandum for details.

MEMORANDUM

To: Water and Sewer Board

From: Emily Carbone, Water Resources Analyst

Date: July 10, 2017

Re: Colorado Big Thompson (C-BT) project water applications for Change of Water Allotment Contracts

ISSUE:

The C-BT *Change of Water Allotment Contracts* for April, May, and June 2017 have been published. The average market price per C-BT unit over the last 36 months will be used as an indicator for the City of Greeley Water and Sewer Board at the April Board Meeting to set the City's cash in-lieu rate.

BACKGROUND:

In the month of **April 2017**, the NCWCD Board reviewed 7 applications for change of water allotment contracts, totaling 26 units. Transfers to cities, towns and rural domestic water providers totaled 23 units, of which 23 units were purchased.

Purchaser	Number of Units Purchased	Purchase Price per Unit	Total Purchase Price	Monthly Average Purchase Amount per Unit
April 2017				
Central Weld County Water District	8	$27,000.00	$216,000.00	
Central Weld County Water District	12	$27,000.00	$324,000.00	
Little Thompson Water District	1	$26,500.00	$26,500.00	
Little Thompson Water District	1	$26,500.00	$26,500.00	
Fort Collins-Loveland Water District	1	$26,500.00	$26,500.00	
April Totals	23		$619,500.00	$26,934.78

In the month of **May 2017,** the NCWCD Board reviewed 5 applications for change of water allotment contracts, totaling 47 units. Transfers to cities, towns and rural domestic water providers totaled 15 units, of which 15 units were purchased.

Purchaser	Number of Units Purchased	Purchase Price per Unit	Total Purchase Price	Monthly Average Purchase Amount per Unit
May 2017				
Longs Peak Water District	1	$27,000.00	$27,000.00	
North Weld County Water District	7	$26,500.00	$185,500.00	
North Weld County Water District	7	$26,500.00	$185,500.00	
May Totals	15		$398,000.00	$26,533.33

In the month of **June 2017**, the NCWCD Board reviewed 7 applications for change of water allotment contracts, totaling 100 units. Transfers to cities, towns and rural domestic water providers totaled 29 units, of which 29 units were purchased.

Purchaser	Number of Units Purchased	Purchase Price per Unit	Total Purchase Price	Monthly Average Purchase Amount per Unit
June 2017				
Fort Collins-Loveland Water District	1	$26,500.00	$26,500.00	
Fort Collins-Loveland Water District	3	$26,500.00	$79,500.00	
Central Weld County Water District	8	$27,000.00	$216,000.00	
Town of Windsor	2	$27,000.00	$54,000.00	
Little Thompson Water District	15	$27,500.00	$412,500.00	
June Totals	29		$788,500.00	$27,189.66

Over the 36 month period from **July 2014 through June 2017**, the Northern Colorado Water Conservancy District (NCWCD) Board reviewed 224 applications for change of water allotment contracts, totaling 5,054 units. Transfers to cities, towns and rural domestic water providers totaled 3,283 units, of which 3,269 units were purchased.

RECOMMENDATIONS:

Cash-in-lieu is currently set at $34,000 per acre-foot. The total average cost over the 36 month period from July 2014 through June 2017 was $25,842 per unit or approximately $34,000 per acre-foot. Staff recommends to keep the cash-in-lieu rate at $34,000 per acre-foot.

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE _X___ NO ENCLOSURE ____

ITEM NUMBER: 6

TITLE: REPORT: WATER SUPPLY UPDATE

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

Please see the attached memorandum for details.

MEMORANDUM

TO: Burt Knight, Water and Sewer Director

FROM: John Thornhill, Water Resources Operations Manager

DATE: July 14, 2017

RE: July 2017 Water Supply Update

ISSUE

In accordance with the Drought Emergency Plan, staff reports the water supply status to the Greeley Water and Sewer Board ("Board") in April, July and November of each year. The Water Resources Division uses three metrics to evaluate drought protection, associated hydrologic conditions, and to establish targets for storage. The three metrics used are "target storage level", "safe storage level", and "design drought" as defined below:

Safe Storage Level: A volume of stored water that is equal to six months of Greeley's base treated water demand. This equates to approximately 25% of Greeley's annual treated water demand. The average base treated demand for the last 20 years is 6,500 acre-feet/year (Figure 1).

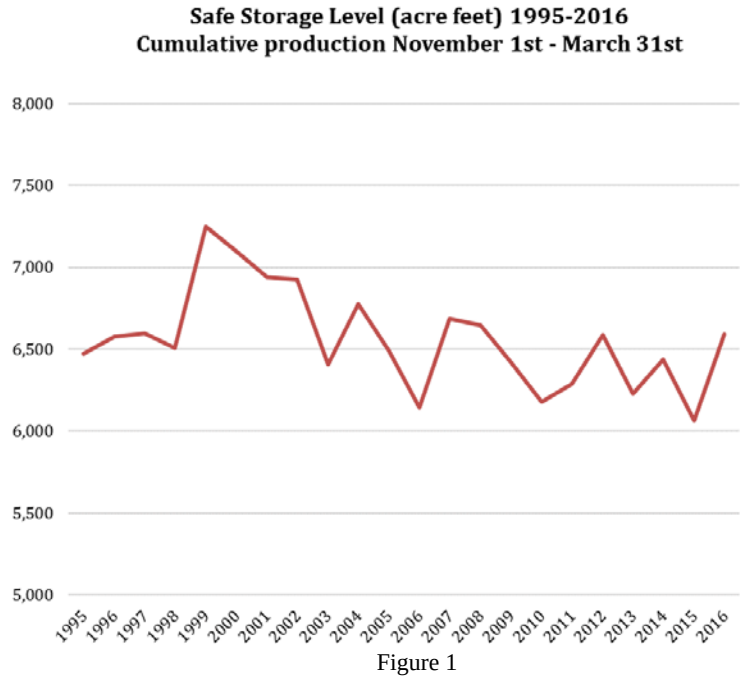

Figure 1

Target Storage Level: the minimum initial storage level required to maintain a *safe storage level* throughout the design drought.

Design Drought: the 50-year critical drought represented by six consecutive years of below average runoff on both the Big Thompson and Cache la Poudre rivers. This drought can be defined as the average of the worst droughts that would occur in any 50-year time period. The recurrence interval has been estimated at 130 years.

Previous modeling analysis has shown that the **target storage level** needed to provide adequate drought protection **(safe storage level)** for the citizens of Greeley is approximately 20,000 acre-feet. When the target storage level is met, Board can declare an "adequate water year" with normal watering restrictions. As base use demands increase in the future, periodic reevaluation of the *target storage level* will be required to ensure the safe storage level is adequate in the event of extreme drought.

The Greeley System Storage Analysis excel application is used for the testing of the target storage level criteria. The model performs an annual water balance to arrive at a forecasted April 1st carryover storage based on existing supplies and demands for the current year. The **design drought** modeled yields are then utilized to extend the forecast to six years to arrive at the projected **safe storage level**. The storage analysis model only includes standard operational practices and does not take into account other plans (additional drought restrictions, etc.) that may be available to Greeley.

BACKGROUND

This Water Year has seen a return to neutral ENSO conditions after a long period of El Nino. Thru July 7, cumulative precipitation in Greeley was 175% of the historic average. Unfortunately, most of that above average precipitation came in one event in mid-May. The mountain basins did see a substantial boost to snowpack during the May storm which helped most reservoirs with reaching fill. The Colorado SWSI[1] report for June showed the South Platte Basin at above normal supply levels (2.3), slightly higher than the same time last year (1.9). The Climate Prediction Center Short-term forecasts are predicting normal precipitation conditions for the next three months with above average temperatures during that same period.

The High Mountain Reservoir (HMR) system yielded over 4,000 acre-feet of supply with the majority of that rented out to agriculture. The Greeley Loveland System (GLIC) yielded approximately 11,000 acre-feet through July 5. Northern water currently has no plans to pump Windy Gap supplies this year so Greeley will have to use 800 acre-feet of Colorado Big Thompson (C-BT) supplies as collateral for any Windy Gap demands.

Through July 14, staff has rented approximately 22,000 acre-feet of water to agriculture. With forecasted temperatures expected to be above average and storage levels dropping, staff has ceased water rentals at this time.

[1] The Surface Water Supply Index (SWSI) was developed by the Colorado Division of Water Resources and the U.S.D.A Natural Resources Conservation Service (NRCS). This is an indicator of mountain-based water supply conditions for the major river basins in Colorado. It is based on streamflow, reservoir storage, and precipitation. The SWSI scale goes from -4 (severe drought) to +4 (abundant supply) with 0 being near normal supply.

The Greeley System Storage Analysis table shows the April 2018 storage level will be approximately 21,906 acre-feet. This is after collateralizing 800 acre-feet due to potential Windy Gap spills in the Northern system. In accordance with GLIC carryover policy, water carried over from 2016 was spilled (5,291 acre-feet) in order to accept 2017 stock water.

RECOMMENDATION

Projected storage remains above the 20,000 acre-feet target storage level; therefore, the Adequate Water Year conditions declared in April 2017 remain valid.

Greeley System Storage Analysis | **2017 Water Supply Update** | **C-BT=80% HMR*= 0 AF**
Yields GL/LL/7L = 11/40/20

Water Year 2017 Operations

	Beginning Storage (1)	Estimated Yield (2)	Total Supplies (3)	Total WY 2017 Demands (4)	Early Season Spills and Collateralized (5)
NCWCD (C-BT)	5,821	22,256	28,077	(18,509)	(800)
WINDY GAP	0	849	849	(2,029)	800
POUDRE SYSTEM	7,218	11,545	18,763	(12,041)	0
GLIC SYSTEM	17,329	12,472	29,801	(13,985)	(5,291)
TOTAL	30,368	47,122	77,490	(46,564)	(5,291)
				Balance	25,635

Water Year 2018 Storage Volume

	Ending WY '17 31-Oct-17 Storage (6)	1-Nov-17 Spills (7)	Beginning WY 2018 1-Nov-17 Storage (8)	Winter 2018 (Nov thru April) Demands on Storage and Shrink (9)	1-Apr-18 Carryover (10)
NCWCD (C-BT)	7,248	0	7,247	(725)	6,523
WINDY GAP	0	0	0	0	0
POUDRE SYSTEM	7,342	0	7,342	(1,789)	5,553
GLIC SYSTEM	11,046	0	11,046	(1,215)	9,831
TOTAL	25,635	0		(3,729)	21,906
				Target Storage Volume:	20,000

ATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE __X__ NO ENCLOSURE ____

ITEM NUMBER: 7

TITLE: REPORT: 2016 WATER MASTER PLAN REVIEW

RECOMMENDATION: INFORMATIONAL ONLY

ADDITIONAL INFORMATION:

The 2003 Water Master Plan (Master Plan) identified the need for annual reviews to update project goals and accomplishments. Master Plan reviews were completed annually from 2003 to 2007, a combined 2007 to 2014 Master Plan review and a 2015 review. The 2016 Annual Master Plan Review is included in the board packet and staff will provide a brief presentation. This review and future annual Master Plan reviews will assist in budget processes and discussions.

2016 Water Master Plan Review

SUMMARY As required by the Water Master Plan, Greeley staff has performed a review of the following key areas of the Plan:

- **Key policies.** Policy No. 1 "Growth shall pay its own way without unduly affecting existing ratepayers" may be challenging if Greeley wishes to secure its water future. Greeley's population growth rate has recovered to pre-recessional rates; the raw water market price has increased substantially, while water acquisition competition has increased. For their own long-term benefit, the current ratepayers have and may have to continue to act now to secure an adequate water supply for the next fifty years.

- **Driving factors.** The four existing driving factors are population, regulations, age, and competition.

    - Population growth dropped below projections for several years during the recession. Recent population growth rates have increased to previously projected rates and are projected to range between 2% and 2.5%. Water demand projections remain consistent with comprehensive plan projections, as do future estimated water supply needs.
    - Regulatory demands continue to be tracked with potential impacts from changes, by the Colorado Department of Public Health and Environment for disinfection. Some of the previous regulation changes staff has been able to comply with by operational modifications and avoid capital projects.
    - Bellvue and Boyd water treatment plants continue to age as well as the transmission and distribution systems. Several replacement projects from depreciation funding have been completed or are planned to keep the system in good condition.
    - Competition for water rights in the Cache La Poudre Basin has increased as large municipalities such as Aurora, Arapahoe County and Cherry Creek are still acquiring new supplies in the basin as well as private equity investors, which have purchased water in the Poudre Basin to later sell to the highest bidder. In 2015, C- BT water has become scarce and the price of C-BT water has risen to more than three times 2008 prices or $25,000

per unit. Greeley has long benefited from having diverse, relatively cheap water supplies available as it grows; it is becoming clear that those water supplies may no longer be available in as little as 10 to 15 years.

- **Blocks of Agricultural Water.** Greeley has continued its historical practice of being proactive in the development of new water supplies prior to water demands from new growth coming on-line. Recognizing the increasing competition for water supplies in northern Colorado, Greeley Council and the Board committed to a Future Water Account Phase II with the goal of acquiring an additional 10,000 acre-feet over a fifteen-year period. Greeley has acquired from 2011 through the end of 2016 3,490 acre-feet of new water supply. Acquisitions are on track with the fifteen year acquisition program volume and financial targets.

- **Review of Integrated Strategies.** Several Master Plan Integrated Strategies have been implemented including constructing a new pipeline from the Bellvue WTP, upgrading both treatment plants, utilizing existing supplies for non-potable or augmentation, and gravel pit acquisition. Improvements to the flocculation/sedimentation basins and filter influent/effluent piping modifications allowed CDPHE to re-rate the Bellvue WTP to 32 MGD contingent upon maintaining the finished water quality. Greeley has completed construction on 25 miles of the total 29 miles of the Bellvue Pipeline with 4 miles for the Gold Hill segment. When complete the entire pipeline including the Northern Segment, currently under construction, and the future Gold Hill Segment, will allow an additional 50 MGD capacity to flow by gravity from Bellvue to Greeley (total of 70 MGD). Permitting for Milton Seaman Reservoir expansion has entered the alternatives evaluation phase and based on request from the United States Army Corps of Engineers (USACE), Greeley has re-drafted portions of the Purpose and Need Report. Greeley continues to pursue and complete all raw water options identified in the Master Plan.

Key Policies

1. Growth shall pay its own way without unduly affecting existing ratepayers. Specifically:
   a) Greeley will develop a "Future Water Account" of additional water supplies in advance of new growth. The near-term development of the additional supplies shall be limited to the projected growth expected to 2020 by Greeley's Comprehensive Growth Plan, or 6,000 acre-feet.
   b) New dry land growth will pay cash-in-lieu of water rights as it occurs once new water supplies have been developed in the Future Water Account. Cash-in-lieu shall be priced at the full, actual cost of developing new water at a 50-year drought yield basis so as to completely replenish the water used from the Future Water Account.
   c) System development charges (plant investment fees) for development shall be based on growth buying into the replacement cost of the existing asset base without deducting depreciation.
   d) Waivers or reductions of raw water dedication or system development charges by City Council (e.g., for economic development incentives) shall be repaid by the General Fund to the Water Acquisition Fund.
2. Greeley will pursue agricultural water acquisitions from areas outside Greeley's growth boundaries.
3. Greeley will not enter into any additional open-ended outside service contracts.
4. During a severe drought, Greeley shall incrementally increase the severity of water restrictions as drought conditions intensify considering factors such as water storage within Greeley's system and regional water systems (i.e. C-BT System) Greeley is dependent upon for yield.
5. Greeley will develop non-potable systems where equal or less than the cost of potable sources, striving for 15 percent of new development to be served from non-potable sources.
6. Greeley will maintain a strong water conservation ethic and will invest in additional cost effective water conservation. The volume of savings from conservation will be analyzed periodically and Greeley shall only rely on this volume when those savings actually occur.
7. Construction of new treatment and transmission capacity shall begin when peak demands exceed 90 percent of existing capacity.
8. For the foreseeable future, Greeley will maintain the existing raw water safety factor of 7,300 acre-feet to protect against risks that may occur in meeting customer needs.

Driving Factors

Four driving factors were identified by the Water Master Plan:

- Population and Economic Growth
- Limited Raw Water Opportunities
- State and Federal Regulations
- Aging Infrastructure

Population and Economic Growth

Long-term projections of population growth remain firm at approximately 2% annually. The average population growth rate between 2014 and 2016 was 2.0%, suggesting that the projected population growth rate of 2.5% to 2060 as identified in the *Comprehensive Plan* is still reasonable. The Milton Seaman Water Supply Project has projected a more modest 2.25% for the next forty years.

Approximately 301 water taps were added in 2016 compared to 940 taps sold in 2015.

Increasingly Limited Raw Water Opportunities

Public awareness of the need for additional water supplies remains high. Denver suburbs (Castle Rock, ECCV, and Arapahoe County are acquiring ditch company shares in Northern Colorado) have become acutely aware of the need to develop additional water supplies and have evaluated and acquired water sources within the Poudre Basin. Thornton intends to begin taking a portion of their Water Supply and Storage Company (WSSC) water. Private equity firms have been attempting to corner the market on Colorado-Big Thompson units as well as negotiating purchases with ditch companies.

State and Federal Regulations

Greeley is currently in the National Environmental Protection Act (NEPA) permitting process for expansion of Milton Seaman Reservoir. The expansion, if allowed, will require both an occupancy permit from the United States Forest Service and a permit from the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. The permitting process is complicated by the designation under the Endangered Species Act of “Critical Habitat” for the Preble’s Meadow Jumping Mouse in the area of expected reservoir inundation.

The United States Environmental Protection Agency has promulgated its Long Term 2 Enhanced Surface Water Treatment Rule and the “companion” regulation, the Stage 2 Disinfection Byproduct Rule. The Surface Water Treatment Rule was designed for more effective treatment for microbial pathogens of high concern (such as cryptosporidium, which caused an outbreak in Milwaukee in 1993 that sickened over 400,000 people). If levels in raw water required additional treatment, the Greeley water treatment plants

would need to add an additional treatment system. Additional testing of the raw water has not shown levels which trigger the regulations requirements. Stage 2 Disinfection Byproduct Rule was designed to address Tri-halo-methane's (THMs) and Halo-acetic-acids (HALOs). Both Bellvue and Boyd had projects to change the disinfection from chlorine to a different method. Neither project has been required to date by the new regulations as a result of increased testing in the transmission and distribution systems.

Aging Infrastructure

Greeley continues to replace or repair aging infrastructure. Adding capacity while ensuring the two water treatment plants (WTPs) meet future regulatory compliance requirements and constructing the Bellvue transmission line were identified as the most important needs of Greeley's water system as presented in the *2003 Water Master Plan*.

During past 2003 Master Plan Annual Reviews, decisions were made to defer constructing rehabilitation, treatment and capacity improvements to the Bellvue Water Treatment Plant (WTP) while also minimizing winterization improvements to the Boyd Lake WTP. Capital improvements to the treatment, transmission and distribution system have increased during the past several years. Projects undertaken during 2016 include the following;

- Bellvue Transmission: Construction of the final phase of the Bellvue Northern pipeline segment was underway during 2016. This phase consists of installing a tunneled section located near LaPorte along with completing the remainder of the open-cut installation. This will complete the final segment on the Bellvue Northern transmission line in late summer of 2017. The last remaining segment of the Bellvue Transmission pipeline to be installed between the Poudre River and the Gold Hill water storage tanks paralleling State Highway 257 still remains to be designed and constructed.
- Bellvue WTP: Design activities were initiated to construct two new 10 MGD treatment trains that will replace the existing treatment facilities that were constructed from 1946 to 1953. Once the new 20 MGD of treatment capacity, the older treatment facilities will be removed from service. The construction activity is scheduled to be completed during the spring of 2019. This rehabilitation project will not increase plant capacity beyond its current rated capacity of 32 million gallons per day (MGD). The newer set of old filters (constructed from 1958 to 1964) were rehabilitated and the filter media replaced during 2016.
- Boyd Lake WTP: Construction replacing the tube settlers and sludge collection mechanisms at Boyd Lake WTP with plate settlers and a new sludge collection system was completed during the spring of 2016. These improvements are part of upgrades intended to improve the finished water quality produced at Boyd Lake WTP. Other treatment improvements were also being designed during 2016. These process improvements include the installation of back-up power, new chemical feed lines, an upgraded supervisory control and data acquisition (SCADA) system, along with modifications to the sludge pumping operations.

- WPCF: Construction of digester improvements at the WPCF was initiated during 2016 and scheduled to be completed in 2018. These improvements consist of converting an existing sludge storage tank into a primary digester along with rehabilitation of the other two primary digesters. New mixing and thickening equipment is also being installed in the digesters. Construction activity was initiated during the late fall of 2016.
- Gold Hill 5 MG Water Storage Tank: A 5 MG water storage tank was constructed during 2016 at the Gold Hill site adjacent to the existing tanks. Operation of this new tank will allow rehabilitation of the existing 15 MG tank located at this site to occur in addition to providing additional finished water storage at Gold Hill.

Changes to Options Available to Meet New Demands

Water Conservation

On November 19, 2008, the Greeley Water and Sewer Board adopted the Water Conservation Plan that projects a more than eight percent reduction in Greeley's water demand over the next 20 years. The Water Conservation Program is one of the largest programs in the state with an annual budget over $500,000. Since 2008, the Water Conservation program has provided approximately 175 residential irrigation audits per year, 65 indoor commercial audits per year, 50 commercial irrigation audits, as well as provided over 1,650 toilet rebates and 2,212 washer rebates.

In January 2015, the Water and Sewer Board and City Council approved an updated version of the Water Conservation Plan and sent the plan to the Colorado Water Conservation Board for approval. In the fall of 2015, the Conservation Plan Update was approved by the State of Colorado. The plan includes several new conservation strategies including residential landscape code changes, commercial audits and conservation strategies at city park landscapes. The 2014, Water Conservation Plan Update projects 1820 acre-feet of water demand reduction over a 20-year planning horizon.

Greeley has evaluated moving to a water budget rate structure. Greeley began a water budget study in 2008. The project goal for the study was to evaluate the effectiveness of empowering customers with information to improve their water efficiency.

After evaluating the water consumption of over 800 residential meters since the early 2000's, Greeley believed a water budget was the best rate structure to promote and encourage the efficient use of water for its customers while discouraging waste. In 2008, staff requested Statements of Qualifications (SOQs) from firms to assist with the development and implementation of a water budget rate structure. Greeley has since implemented a water budget based rate structure study. To date the following has been implemented:

- The Utility Billing System was upgraded to incorporate informational water budget billing.
- An irrigated area database was developed for each single-family residential customer as part of the Water Budget Pilot Project.

- Developed a water budget-based rate model for single family residential customers.
- The first year of the program was completed in 2011. An informational water budget pilot project was conducted with approximately 250 volunteers.
- The program was expanded in 2012 to include a random sample of up to 1,000 residential customers in addition to existing volunteers. The water budget was modified to forecast the customer's water demand, based on historic averages.
- In 2013, the program was expanded to all residential customers city-wide. Per customer feedback, the water budget is now based on actual weather data instead of historical weather data, which was used in 2012. Customers who use more water are in most need of water conservation messages and incentives. Greeley develops targeted communication pieces for customers who regularly exceed water budgets, and exceptionally high water bills are also flagged by utility billing. In order to reduce demand for gross water over users, Greeley will be applying rates to the water budget program.
- In the fall of 2015, the City of Greeley Water & Sewer Board approved further actions that allowed for the implementation of the Water Budget Rate Structure that would adjust single family residential rates to promote water efficiency.
- In the spring of 2016, the Water Budget Rate Structure was supported by Council.
- The Water Budget Rate Structure Resolution was presented to and approved by the Water & Sewer Board and City Council in the fall of 2016.
- In 2016, Water budget Rate Structure implementation steps were competed these included: changes to the billing system an extensive public outreach program, and incorporation of the rate structure into the Water & Sewer Department financing and budget systems.

In 2016, The Water Efficiency Tactical team (WETT) initial program roll out and funding methods was presented to multiple department members, teams, Water & Sewer Board and City Council. Interdepartmental development and collaboration is a primary focus of the program. Through this collaborative effort the WETT program planning and implementation will focus on the landscape code revisions, the water budget rate structure, the implementation of the water issues messaging campaign similar to the Greeley Unexpected program, and parks and open space enhanced conservation methods. Two .Landscape code implementation pilot programs have been developed with the design phase complete. The first re- vegetation pilot program using new landscape code design is underway at College Green. The water budget rate structure program has been presented to Water & Sewer Board and City Council and is currently being implemented. The water Budget Outreach Program has been implemented and includes flyers, radio ads and Greeley Tribune advertisements to date. Phase II of the outreach program is underway. The Helvetica messaging campaign (similar to Greeley Unexpected for water issues) was discussed at the April 2016 Water & Sewer Board meeting. The messaging campaign implementation of Phase I is scheduled to begin April 2017.

Review of Integrated Strategies

Treatment and Transmission

Greeley continues to work diligently to improve the treatment and transmission portion of the integrated strategy outlined in the October 2003 *Water Master Plan*. The following four items represent the major changes and updates on the most important aspects of treatment and transmission.

1. **Bellvue Transmission System** –To date, 24 of the 29 miles of the Bellvue transmission system have been constructed. The Northern Segment of the Bellvue pipeline is the last segment of the pipeline to be constructed in Larimer County. It will extend from the Bellvue WTP and connect to existing transmission piping located at Shields Street. The Bellvue transmission line will be capable of transporting 50 MGD to Greeley and 70 MGD through the transmission system after construction of the final 4 mile pipeline segment located near the Poudre River to the Gold Hill water storage tanks.

   The second phase of this construction was underway during 2016. Phase 2 consists of approximately ½ mile of a tunneled section located near Point-of-Rocks by LaPorte, along with the remaining ½ mile of open-cut installation. Construction of Phase 2 will complete the Bellvue Northern Pipeline project and is scheduled to be finished during the late summer of 2017. Completion of Phase 2 will allow this new Bellvue transmission line to convey water to Greeley from the Bellvue WTP by gravity.

In 2014, USACE issued a Nationwide Permit Verification allowing construction of the Northern Segment of the Bellvue Pipeline with a maximum 26.7 mgd flow restriction from the Bellvue plant until the minimal effect determination is finalized. In September of 2015, necessary existing conditions data was released by the USACE. In 2016, the City began updating the minimal effects determination reports using multiple technical consultants and had completed the minimal effects analysis. The USACE confirmed that the impacts related to the Bellvue Pipeline diversion were minimal and released all special conditions of the permit. The Bellvue Pipeline Nationwide permitting process is complete.

2. **Bellvue and Boyd Lake WTP Improvements** – Efforts are being made to rehabilitate both water treatment plants, while planning for future growth and ensuring they meet future regulatory compliance requirements. Construction efforts for the initial set of improvements were completed during 2016. This work included replacing the existing tube settlers and sludge collection mechanisms at Boyd Lake WTP with plate settlers and a new sludge collection system. The newer filters at Bellvue WTP were also rehabilitated and the filter media replaced.

   Design efforts continued following the completion of these projects to provide additional improvements to these two facilities. A construction manager at risk process (CMAR) was implemented in order to achieve cost certainty of the proposed improvements along with obtaining valuable

contractor input during the design process. The preliminary design documents for the two treatment plants were completed during 2016.

Proposed design improvements to the Bellvue WTP include the construction of two 10 MGD treatment trains. These trains are comprised of new rapid mix, flocculation/sedimentation facilities and filters trains along with office and laboratory space all housed within a new building. Construction of these facilities will allow the older existing Bellvue filters to be removed from service and only operated on an emergency basis. These construction improvements will help ensure the long-term reliability of the treatment plant.

Other treatment improvements at Boyd Lake WTP were being designed during 2016, including the installation of back-up power, new chemical feed lines, and modifications to the sludge pumping operations. Staff is investigating an IGA with the City of Loveland which would provide backup electrical power for this treatment plant when Xcel's main power feed is interrupted ensuring continuous operations at this plant.

Completing the proposed improvements to the two water treatment plants will provide reliability to the water treatment system, robustness to meet more stringent water quality requirements, and redundancy allowing operation of either plant if required.

3. **WPCF Solids Processing Improvements:** Solids are separated from the liquids during the wastewater treatment process and conveyed to the solids processing facilities of the WPCF for further processing. The primary treatment process used to reduce pathogens from the sludge is anaerobic digestion. The WPCF's existing anaerobic digesters are in need of rehabilitation along with the need for increased capacity to create treatment that is more effective. Construction of these improvements at the WPCF were initiated during the fall of 2016 and is scheduled for completion in 2018. The improvements consist of adding a third primary digester by converting an existing sludge storage tank to this digester while also rehabilitating the other two primary digesters. The improvements also include the installation of new covers for each of the digesters along with providing digester mixing and new sludge thickening equipment.

4. **Finished Water Storage** –Construction of the new Gold Hill 5 MG finished water storage tank was completed during 2016. Since this tank has become operational, it allows for the inspection and rehabilitation of the existing 15 MG tank also located at Gold Hill to be undertaken in addition to providing additional finished water storage at Gold Hill.

5. **Seaman Water Supply Project (the Milton Seaman Reservoir Expansion**) Greeley initiated formal consultation with USACE in 2005 for permitting associated with the Seaman Water Supply Project, and the Corps published a Notice of Intent in the Federal Register in 2006. At approximately the same time Greeley was researching the expansion of the Milton Seaman Reservoir, Fort Collins and other water providers were investigating expanding Halligan Reservoir, also located on the North Fork approximately 16 miles upstream

from Milton Seaman Reservoir. The participants in the Halligan Reservoir Expansion and Greeley initially formed the Halligan-Seaman Water Management Project (HSWMP) in an effort to share costs and develop operational synergies between the two projects.

These projects were initially assessed in a combined Environmental Impact Statement (EIS) led by the USACE Denver Regulatory Office with the Corps hosting two scoping meetings in 2006. As part of this combined process, the Corps developed a Common Technical Platform (CTP) for the HSWSP and another proposed EIS in the Poudre Basin (called the Northern Integrated Supply Project) that established a consistent method for evaluating resources and hydrology for these multiple projects in the Poudre River Basin. The following work associated with the HSWSP has been completed:

- The permit applicants transitioned from a Shared Vision Planning Outreach Program to a city-designed public outreach program and web 2.0 outreach programs in 2012.
- Hydrologic model runs were completed for the Common Technical Platform for current and future river conditions in 2012.
- The Purpose and Need (P&N) statement was completed and finalized in Feb. 2013 after EPA comments on water quality and water conservation were addressed.
- A Preliminary Draft Alternative Screening Report was released in April 2013 with additional analysis and comments developed in 2014.

In January of 2015, Greeley, Fort Collins, and USACE agreed to separate the HSWSP into two distinct EISs, the Halligan Water Supply Project and Seaman Water Supply Project (SWSP), to primarily address growing discrepancies in timing between the two projects. The newly independent projects will be evaluated and developed by separate Third-Party Consultants. In 2015, under the guidance of the USACE, Greeley selected a new third party contractor and new owners consulting team.

In 2016, The City has hired a new third party contractor and has begun the data transfer process. The City has also started revising and updating report information and begun the alternative analysis evaluation. The USACE requested the City to revise the projects Purpose and Need and in 2016, additional technical memorandum were provided to the USACE for review in relating to population growth and water demand. Moving forward, the new third-party contractor has begun to review past analyses and will assist USACE with re-evaluating project screens and project alternatives. The third-party contractor has begun developing water quality models on behalf of Greeley and will also complete impacts assessments for the finalized alternatives and develop the project's draft and final EIS.

A Compensatory Mitigation Plan for river depletions caused by the proposed infrastructure projects was drafted and is ready for submission to USACE following completion of USACE's assessment of environmental impacts in relation to MSWSP. Based on the Mitigation Plan, target properties were

identified as potential mitigation sites for potential future infrastructure's environmental impacts. Properties have been acquired and Ducks Unlimited with additional other consulting support are underway in the development of a wetland banking and conservation credit program in the lower and upper reach of the Cache la Poudre River and North Fork of the Cache la Poudre.

Raw Water

Below is an update on the raw water projects identified in the *Water Master Plan*:

- **Windy Gap Firming Project** – The Windy Gap Firming Project entered the federal permitting process in 2003 and a draft EIS was released in the summer of 2011. The Municipal Subdistrict, Northern Colorado Water Conservancy District (Subdistrict) requested a Section 404 (Clean Water Act) Permit from the USACE Omaha District Regulatory Branch to construct Windy Gap Firming Project Water Supply facilities for its customers and 13 other Front Range water providers located in Colorado between Denver and Fort Collins. The U.S. Bureau of Reclamation is the lead federal agency managing the EIS and the USACE Omaha District Regulatory Branch has been participating as a Cooperating Agency.

  A portion of costs for the firming project will be paid using the revenue from the sale of 20 of Greeley's 64 Windy Gap units. In 2005, Greeley sold three units to Fort Lupton. Twelve units were put under contact with the Little Thompson Water District, which closed and were transferred in February 2015, and another five units were put under contract with Evans. Evans' Lease/Option Contract expired 2015. The Lease/Option Contract was not renewed and the revenue associated with this transaction was not included in the 2016 budget.

  The project permitting is anticipated to be complete by mid of 2017, a delay of about seven years. The draft EIS process had taken significantly longer than anticipated, primarily due to lagged turnaround by the Bureau of Reclamation on reviewing key data/reports, federal agreements and Grand County 1041 approvals.

  Key milestones were reached between 2011 and 2016 including: the Windy Gap Firming Project's final Environmental Impact Statement published in 2012, State Wildlife Mitigation Plan was approved by the State of Colorado in 2012, the Windy Gap Firming Project's Grand County 1041 approval was obtained by the Sub district in 2013, the supplemental Clarity Agreement for Grand Lake was signed, settlement agreement was reached with Rancher opposition groups, The Record of Decision was signed by the Bureau of Reclamation, and the Carriage Agreement Contract was approved by the Bureau of Reclamation in 2014. The Sub district is still required to obtain 404 Permit from the USACE following the issuance of a Colorado Water Quality Control Division 401 Water Quality Certification. The 401 Certification was issued in of May 2016, and the Section 404 Permit is not anticipated to be issued until late 2017. Project design is anticipated to begin in January 2017, and construction to begin in later 2018.

- **Upper Poudre Gravel Pit Storage** – Greeley, along with the Tri-Districts (Partners), purchased the already mined Overland Trail Gravel Pits from Lafarge in 2006. When fully online (2022) the pits will increase operational flexibility and serve to maximize existing and newly acquired water supplies.

  The total project storage estimated need for Greeley was projected to be 2500 acre-feet. To date, approximately 2500 acre-feet of storage is owned by Greeley, with approximately 1000 acre-feet lined and ready for operation.

  In 2009, the Partners successfully negotiated and purchased properties critical to the Overland Trail Reservoir Project. These include Ponds 1 (Linder), Pond 2 (Trieber), and Pond 3 (Treiber/Warson) south of the existing bike trail. These ponds added approximately 1,200 acre-feet of additional storage to the existing storage purchased in 2005 for the Partners. In 2015, the Partners closed on the Trieber/Warson Parcel following the approval from the State Engineers Office for the compacted clay liner leak test, providing an additional 250 acre-feet of storage for Greeley. In 2016, the Partners successfully negotiated the purchase Pond 4 (Hilt) property which will add approximately 200 AF of storage to the Overland Trail Reservoir Project, and is scheduled to close in July 2017.

- **Lower Poudre Gravel Lake Storage** – Greeley completed construction of the Poudre Ponds at Greeley (aka 25th Avenue Gravel Lake) along with pump station and inlet / outlet facilities. The ponds met the State Engineer's requirements for lined storage in 2003. Storage at the site is approximately 1,500 acre-feet. As much as 1,000 acre-feet of additional capacity can be created at the site (for a total capacity of 2,500 acre-feet) with additional mining, which does not appear cost-effective at this time. This project increases the efficiency of Greeley's water system by allowing the retiming of untreatable supplies to meet non-potable demands.

  The total project storage estimated need for Greeley was projected to be 3500 acre-feet; therefore, Greeley began a Poudre Ponds expansion program.

  In 2012, Greeley exercised the option to purchase additional property (Poudre Ponds Flatiron Parcels) that adjoined Poudre Ponds. Greeley obtained Division of Mining Reclamation and Safety (DRMS) as well as local mining and reclamation permits, and rezoned and annexed the parcels. Greeley selected Hall Irwin to mine Poudre Ponds Flatirons Parcels (Parcel B) contingent upon execution of the option to purchase the additional property. The mining and generation of water storage in the adjoining parcel have many benefits such as shared infrastructure, reduced slurry wall costs, existing conveyance structures and reduction in existing augmentation obligations at the site. To date, over three quarters of the mineable materials have been extracted from the site, and project completion is anticipated in 2019. The project will add an additional 1,500 acre-feet of water storage to the Poudre Ponds facility. Following

construction of the liner on Parcel B, Greeley will have approximately 3,000 acre-feet available for storage by 2021.

- **Large Non-potable Development Projects** – Greeley is assessing a Lower Equalizer Project, which could serve Greeley's existing and master-planned non-potable demand in the service area of the Greeley Loveland Irrigation Company (GLIC) with Greeley's excess untreatable supplies (primarily wholly consumptive effluent) allowing Greeley to treat its GLIC water supplies at the Boyd Water Treatment Plant.

  In 2012, Greeley evaluated the project's feasibility and concluded that the critical success factors (water supply, water demand, exchange potential and operational considerations) suggest that the Lower Equalizer Project could be an efficient way to increase the firm yield of Greeley's water system. Site analysis of four potential reservoir locations began in 2007. A potential site was identified in 2012. Negotiations for the acquisition of this site have been on going.

  Greeley has since assessed an alternative Equalizer Project, which will provide the same function as the Lower Equalizer Project. This Upper Equalizer Project could also serve Greeley's existing and master-planned non-potable demand in the service area of the Greeley Loveland Irrigation Company (GLIC) with Greeley's excess wholly consumptive effluent allowing Greeley to treat its GLIC water supplies at the Boyd Water Treatment Plant.

  Potential benefits of the Upper Equalizer Project compared to the Lower Equalizer Project include less or simpler environmental permitting; optimization of existing non-potable facilities; and consolidation of new infrastructure in or near city limits. Ananalysis was completed in 2016 for this alternative.

- **Blocks of Agricultural Water –** Greeley has continued its historical practice of being proactive in the development of new water supplies prior to water demands from new growth coming on-line. Greeley developed future water accounts in order to acquire water prior to growth occurring.

  In 2008, recognizing the increasing competition for water supplies in northern Colorado, Greeley Council and the Board committed to a Future Water Account Phase II, with the goal of acquiring an additional 10,000 acre-feet over a ten-year period. Greeley has since acquired from 2011 to 2016 3,490acre-feet of new water supply. This water purchased is still decreed for agricultural use and must go through a water court change case to be used for municipal purposes. In summary, Greeley:

a. Had begun acquiring shares in the Larimer & Weld Irrigation System and has acquired approximately 45 shares to date since 2012;
b. Has continued with WSSC acquisition program and has acquired an additional 15 shares;

c. Has acquired the remaining 240 shares of the Boyd and Freeman Irrigation Company;
d. Has acquired 90 shares in the NPIC; and
e. Has acquired additional shares in New Cache La Poudre Irrigation Company and Reservoir Company, as well as New Mercer shares.
f. In 2015, Greeley acquired an additional 16 Shares of New Cache La Poudre Irrigation Company and Reservoir Company, two Shares of Windsor Reservoir and Canal Company and 5 Units of Windy Gap Water Rights for additional 400-acre feet of new supplies.

In addition, the following successful water court proceedings are relevant to the continuation of the Water Master Plan and cost reductions in relation to legal fees.

- *15CW3162 (Rockwell Reservoir)* Greeley owns a conditional storage right in the amount of 4,900 acre feet, originally decreed to the Rockwell Reservoir in Case No. W-8675. Greeley also owns certain conditional appropriative rights of exchange originally decreed to the Rockwell Reservoir from a number of other structures in Case No. W-9385-78. In December 2015, Greeley filed its application seeking to make Milton Seaman Reservoir an alternate place of storage for the Rockwell Reservoir conditional storage right, as well as adding Milton Seaman Reservoir as an exchange-to point associated rights of exchange. City has been actively working with opposers and submitted a revised decree in May 2017.

- *Greeley Irrigation Company Case No. 15CW3163- In* December 2015 Greeley filed an application for the change of use for 77.8 of its Greeley Irrigation Company (GIC) shares. GIC owns 5/8ths of Greeley Canal No. 3 and its water rights (Greeley owns the other 3/8ths separate from its GIC share ownership). The application generally tracks Greeley's first GIC share change application (99CW232) and applications filed by others. The case remains on a settlement track.

- *Leprino* - Greeley has been working with Leprino Foods, Inc. ("Leprino") to file a water court application for quantification of reusable return flows and appropriative rights of substitution and exchange. In 2016, Greeley filed an application for to claim credit for the quantified return flows._-

- *Larimer & Weld Irrigation Company change case* Greeley now owns and will seek to change its shares under the Larimer and Weld Irrigation Ditch system. Greeley has been cooperating with the various ditch companies to review their records in anticipation of a future change case. Engineering required for the future change of use application was substantially completed in 2016. In addition a cost share agreement with the Ditch Companies was executed in 2016.

Diligence Applications:

In addition to the applications above, Greeley filed diligence on several matters

- *15CW3099 (application to make absolute, and for reasonable diligence, for 99CW234 conditional rights (Poudre Ponds)* Greeley filed its application for the 99CW234 (Poudre Ponds) conditional water right on August 31, 2015. Greeley is claiming 1300 acre-feet of absolute storage under its 1999 junior priority and a maximum absolute exchange rate of 10.34 cfs. Diligence application was approved in 2016

Reduced water court case objections:

At the end of 2015, Greeley was an active objector in 25water court cases. From 2015 to 2016, Greeley stipulated to 6 cases. At the end of 2016, Greeley was actively opposing 19 cases, an approximate 30% decrease in caseload.

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE ____ NO ENCLOSURE __X__

ITEM NUMBER: 8

TITLE: EXECUTIVE SESSION

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE ____ NO ENCLOSURE __X__

ITEM NUMBER: 9

TITLE: LEGAL REPORT

POSSIBLE ACTION: STATEMENTS OF OPPOSITION, IF ANY

RECOMMENDATION: INFORMATION ONLY

ADDITIONAL INFORMATION:

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE _____ NO ENCLOSURE __X__

ITEM NUMBER: 10

TITLE: DIRECTOR'S REPORT

RECOMMENDATION: INFORMATIONAL ONLY

ADDITIONAL INFORMATION:

- Citizen Tour Update

WATER & SEWER BOARD AGENDA JULY 19, 2017

ENCLOSURE _____ NO ENCLOSURE __X__

ITEM NUMBER: 11

TITLE: SUCH OTHER BUSINESS THAT MAY BE BROUGHT BEFORE THE BOARD AND ADDED TO THIS AGENDA BY MOTION OF THE BOARD

RECOMMENDATION: TO BE DETERMINED

ADDITIONAL INFORMATION: