**TOWN BOARD WORK SESSION MEETING**
June 27, 2016 – 6:00 P.M.
301 Walnut Street, First Floor Conference Room
Windsor, CO 80550

The Town of Windsor will make reasonable accommodations for access to Town services, programs, and activities and will make special communication arrangements for persons with disabilities. Please call (970) 674-2400 by noon on the Thursday prior to the meeting to make arrangements.

***GOAL of this Work Session is to have the Town Board receive information on topics of Town business from the Town Manager, Town Attorney and Town staff in order to exchange ideas and opinions regarding these topics.***

***Members of the Public in attendance are asked to be recognized by the Mayor before participating in any discussions of the Town Board.***

**AGENDA**

1. Water Resources

2. Future meetings agenda

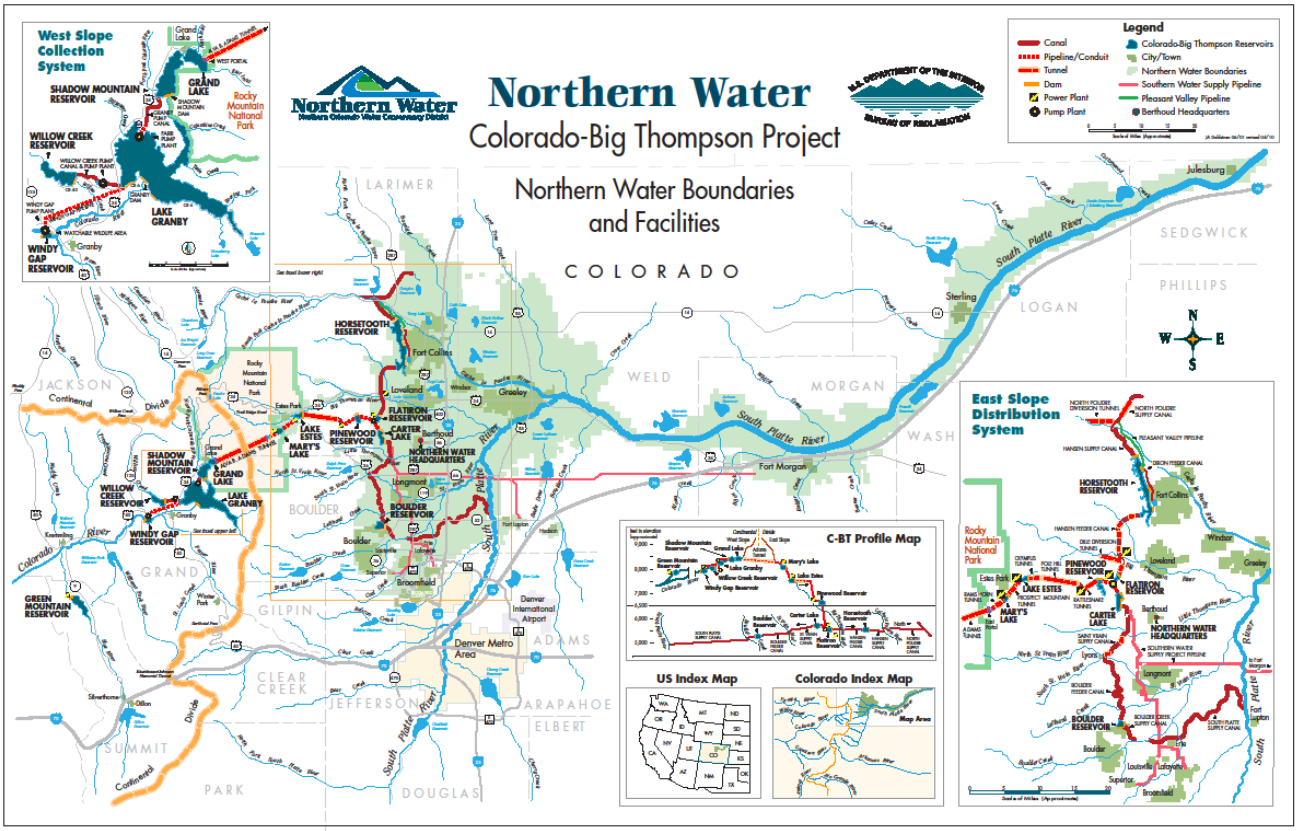
WINDSOR WATER

Water that has not been processed through a treatment plant is commonly referred to as “raw” or “non-potable” water. Following treatment it is suitable for human consumption and is called “potable”.

Water is a precious limited commodity and must be budgeted, much like money. Each year the water budget must be modified to match that year’s supply scenario.

Most of the potable water coming out of Windsor faucets starts as raw water on the other side of the continental divide in the Upper Colorado River Basin. It is collected and conveyed through an elaborate system of reservoirs, trans-mountain tunnel, canals and pipelines that were built under the name Colorado Big Thompson (CBT) Project. The project was authorized by President Franklin D. Roosevelt in 1937.

*Map of CBT system:*

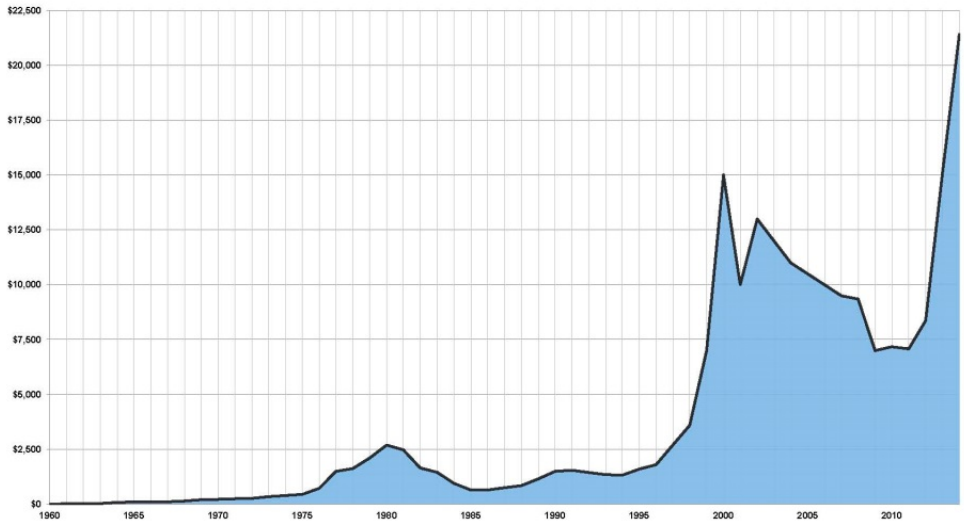



There are 310,000 acre-foot units in the CBT system. Windsor outright owns 3,701 of those acre-foot units. Windsor also owns 422 shares in the

North Poudre Irrigation Company and as a result has rights to an additional 1,688 units of CBT water through that company. The original purpose of the CBT system was to provide water to supplement the native river supplies in northern Colorado. In other words, in years when the native supply is low CBT provides additional supply from their storage reservoirs, the largest of which is Lake Granby. The amount of water from a CBT unit can vary from 0.5 ac-ft to 1.0 ac-ft in any given year.

Originally agriculture owned the majority of CBT units, but as the northern Colorado population grows, ownership shifts toward municipal and industrial interests. Agriculture now owns only about 30% of the 310,000 acre-foot units and that percentage will continue to decline. The graph below illustrates the variability of CBT prices between 1960 and 2014. The price in 2016 is around $27,000. Generally, the price ups and downs correspond to the housing market. Currently it costs about $22,000 per home just to buy the CBT water rights for a single home.

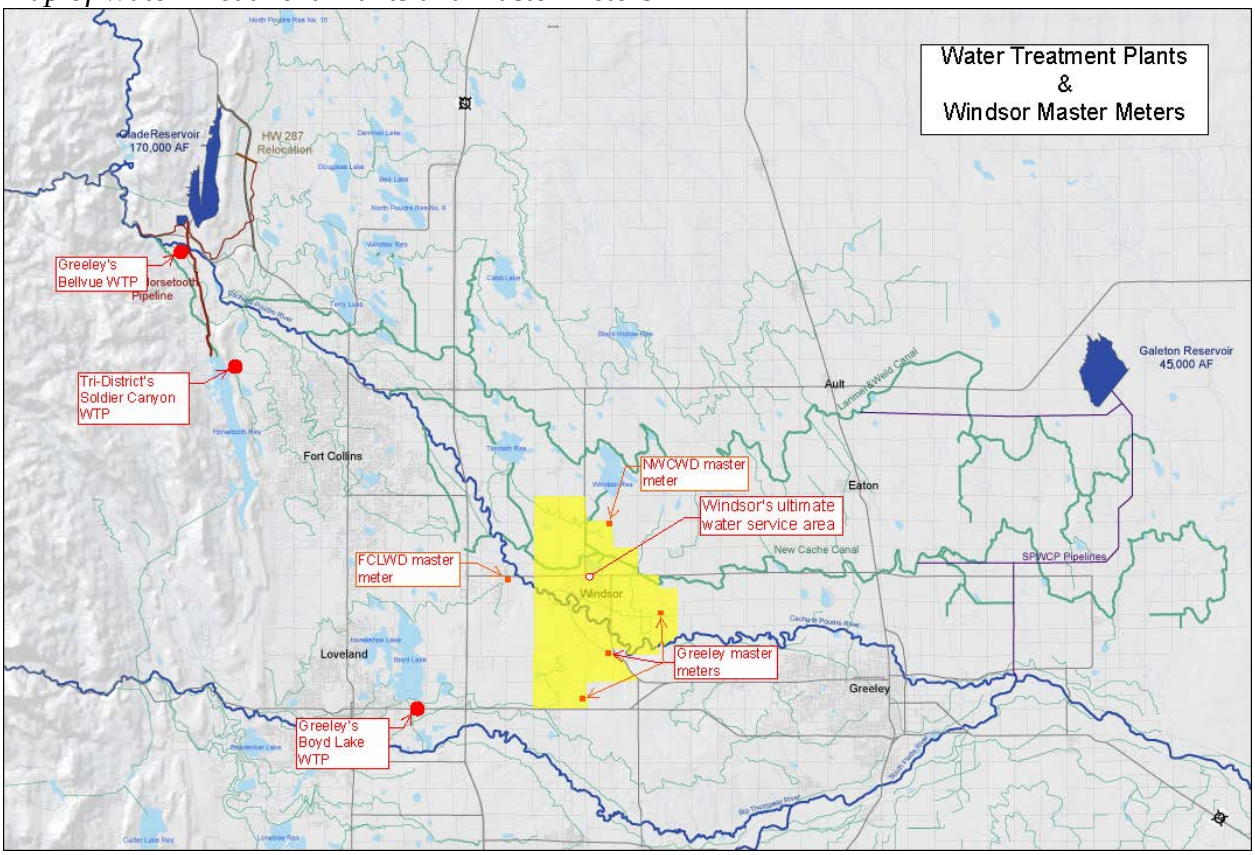
**Historical Representative Market Prices Per Acre-Foot Unit**(1)
Years ended September 30




(1) Allottees of C-BT water may transfer and sell their respective acre-foot units to other parties within Northern Water boundaries. These transactions are subject to rules and regulations of the Board. The above table represents data gathered by voluntary action and serves as an indicator of how the price of C-BT water has fluctuated on the open market through the years. Actual transaction prices may vary.

Although Windsor doesn't own a water treatment plant it does own adequate raw water rights for all existing customers in its service area. The town has contracts with the City of Greeley, the Fort Collins-Loveland Water District (FCLWD) and the North Weld County Water District (NWCWD) under which those entities treat the town's raw water and delivers potable water to master meters where it enters the town's water system.

*Map of Water Treatment Plants and master meters*




Summaries of the three existing water service contracts follow.

Fort Collins-Loveland Water District Water Service Agreement

- Maximum and minimum amount of water treated: 110 million gallon per year at a constant rate of 301,000 gallons per day.
- 2016 treatment cost = $3.38 per thousand gallons
- Expiration date of agreement: March 10, 2018; may be renewed for additional 5 years if Windsor requests renewal no later than September 10, 2017

City of Greeley Water Service Agreement

- Minimum amount of water treated: 130 million gallons per year.

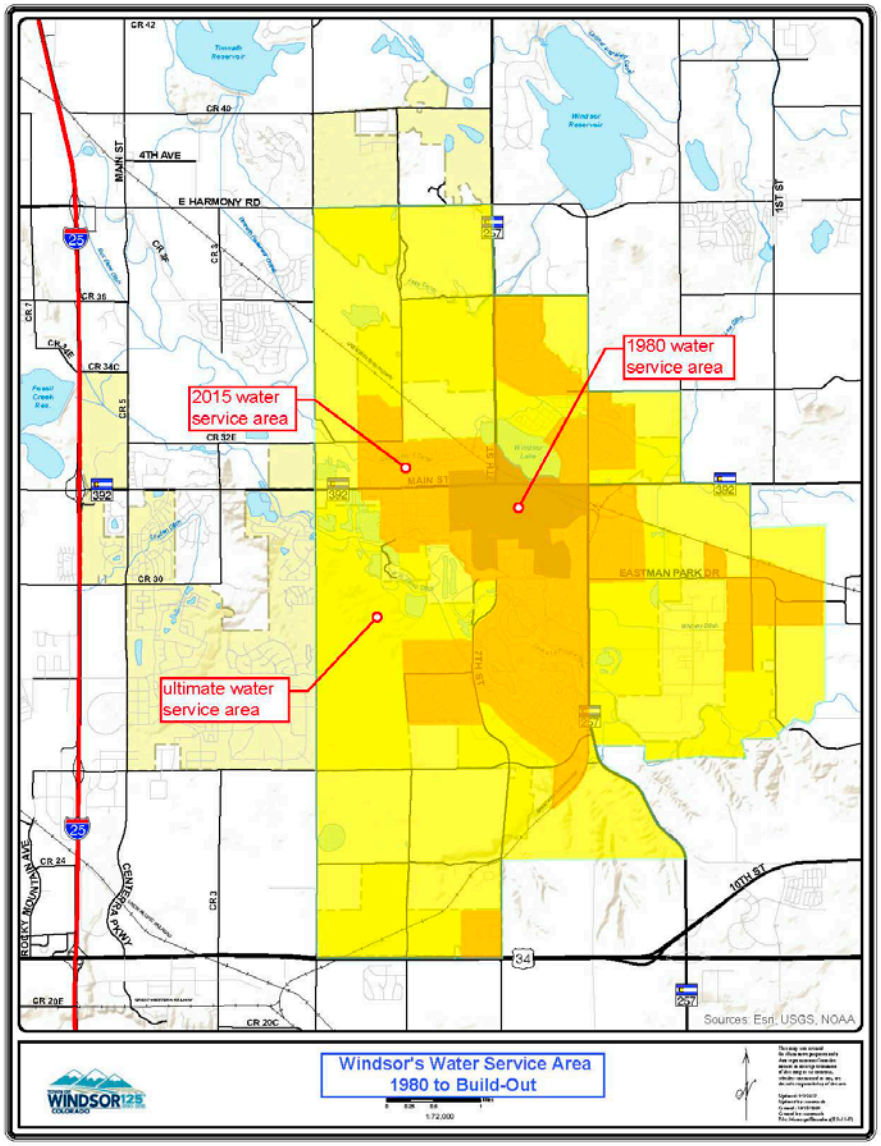
- Maximum amount of water treated: 205 million gallons per year. Additional capacity can be purchased.
- 2016 treatment cost = $3.59 per thousand gallons
- Expiration date of agreement: January 2021, with automatic renewed for successive 10 year terms unless terminated

Note: Greeley, Milliken, Evans and Windsor staff have discussed updates to the existing water service agreements with Greeley.

North Weld County Water District Water Service Agreement

- Minimum amount of water treated: none
- Maximum amount of water treated: 2.5 million gallons per day; 452 million gallons per year. Additional capacity can be purchased.
- 2016 treatment cost = $2.29 per thousand gallons.
- Expiration date of agreement: none.

*Map of Windsor's water service area from 1980 to build-out*




On a typical winter day Windsor provides about 1 million gallons of water to its customers. On a hot summer day that amount jumps to as much as 4.0 million gallons.

On average, a household in Windsor uses 0.25 ac-ft (81,500 gallons) per year inside the home. Irrigation adds another 0.25 ac-ft to the annual water usage. Windsor's projected potable water demand at build-out of its Growth Management Area is 12,500 ac-ft. With typical water losses at the treatment plant and transmission lines, the total raw water requirement will be 15,800 ac-ft. Water rights currently owned by the town yield 3,400 ac-ft in a normal year.

In 2009, the town contracted with a consultant to develop a potable water master plan (see attached Executive Summary). One of the recommendations adopted from that plan is a policy of accepting up to 50% of the raw water for a new development in the form of cash and the remainder as actual water rights dedication. As the cash accumulates, staff is able to purchase water rights that become available on the market. For example, in 2015 and 2016 sellers approached the town with CBT water rights for sale which led to the purchase of 53 units. The plan recommended two raw water sources in addition to CBT and North Poudre Irrigation Company: Water Supply and Storage and Windy Gap. Although the 2009 report did not recommend Greeley-Loveland Irrigation Company water rights, staff is discussing with the town's water consultants the feasibility of acquiring and using them.

In March 2015, the Windsor Water and Sewer Board invited developers to share their comments/concerns/suggestions pertaining to the town's raw water policies. In response to the input, staff tabulated data on actual water usage in a variety of development types. The board discussed the data during several board meetings and then passed a motion recommending the following dedication formulas for future developments:

| | |
|---|---|
| Single-family w/ dual system: | 0.25 af/house + 17% |
| Multi-family w/ dual system: | 0.15 af/dwelling unit +17% |
| Single-family w/o dual system: | 0.50 af/house + 17% |
| Multi-family w/o dual system: | 0.15 af/dwelling unit + 3 af/ac irrigated landscape +17% |

The Town Board received information on the Water and Sewer Board's study work and recommendation at a work session on August 10, 2015. No action has been taken.

## NON-POTABLE AND AUGMENTATION WATER

Much of the land in Windsor's Growth Management Area is or was used for irrigated agriculture and so as it is urbanized the historical agriculture water rights can continue to be used to irrigate lawns, trees and shrubs. In fact the town has an ordinance that requires a secondary non-potable water system within those new developments. For approximately the past 18 years most new residential developments in Windsor have included a non-

potable water system. This has made a big difference in potable water demand. The non-potable system is typically owned and operated by either a Metropolitan District or Homeowners Association.

In 2010, Windsor adopted a "Non-Potable Water Master Plan" that is the road map for irrigating future public parks and open space with non-potable water. Generally, the plan is to irrigate with well water that is augmented by storing agriculture water in a reservoir for release back to the Poudre River.

With only a few exceptions, Windsor's parks are irrigated with non-potable water that comes from either reservoirs or wells. Water taken from wells in the shallow (12-30 feet deep) aquifer depletes the groundwater that ultimately provides some of the water flowing in our rivers. In order to get a well permit the State of Colorado says that you must replace the water that will no longer be available to river. That process is called augmentation.

NISP

Windsor is one of 15 Colorado northern front-range water providers involved in the proposed Northern Integrated Water Supply Project (NISP). NISP, as planned, will provide 40,000 acre-feet of raw water. Windsor's share of that supply will be 3,300 ac-ft (8.25% of the total). The current estimated cost to build the NISP system of reservoirs, pump stations and pipelines is $700 million; Windsor's 8.25% share is $57.8 million. The most recent timeline assumes relocation of Highway 287 would be in 2019 through 2020; Glade Reservoir construction would be 2020-2023; Galeton Reservoir construction would be 2020-2023; and finally, construction of the South Platte Water Conservation Project phase would be 2023-2024.

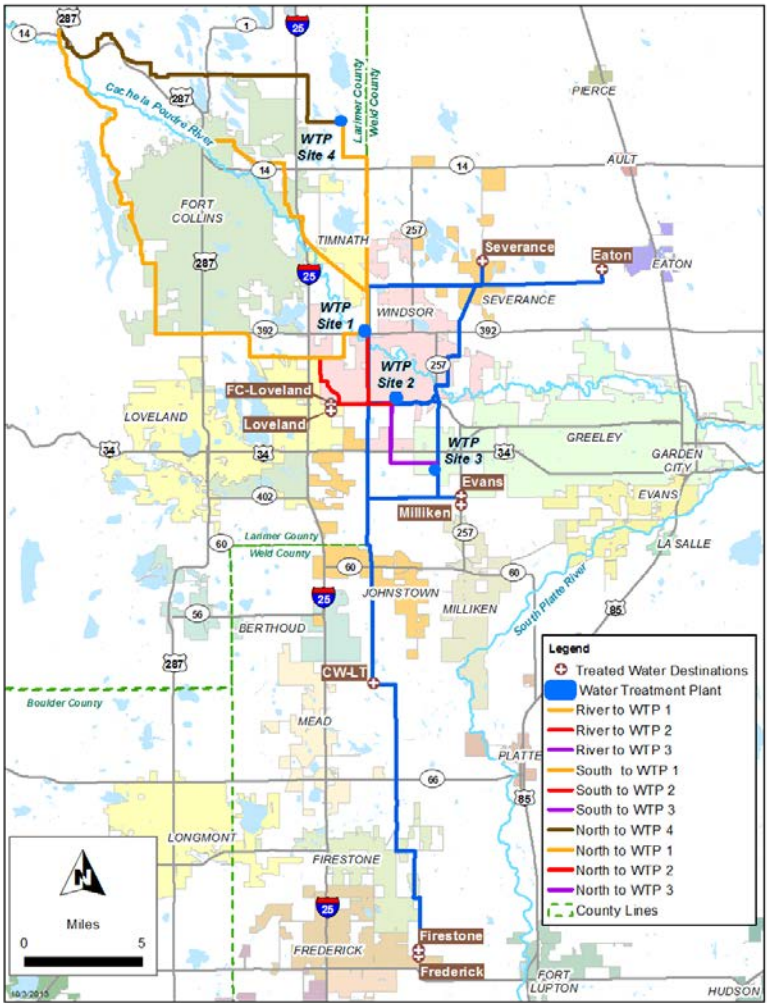
*2 minute video of NISP project:*
http://www.northernwater.org/WaterProjects/WhatIsNisp.aspx

In April 2016, NISP participants announced a new plan for moving 14,000 of its 40,000 acre-feet of water. That water would be released into the Poudre River from Glade Reservoir and would travel through Fort Collins and be picked up and put in a pipeline that could travel east to the main NISP water delivery pipeline, assumed to run north-south in County Line Road.

## REGIONAL WATER TREATMENT PLANT

As previously stated, Windsor's raw water is treated by agreement with three entities at treatment facilities they own. In 2013, Windsor collaborated with the following ten municipalities and water districts in a study of the feasibility of constructing a regional water treatment and transmission system ($RT^2$ Study): Loveland, Severance, Eaton, Evans, Milliken, Firestone, Frederick, Fort Collins-Loveland Water District, Little Thompson Water District, and Central Weld County Water District.

The study area, various water treatment plant locations and pipeline route scenarios are shown on the map below. The study analysis of costs for combinations of three water demand scenarios, treatment plant locations and pipeline routes indicates the least life-cycle cost would be with a treatment plant at Site 4, about 2 miles north of Highway 14 and 1 mile west of the Larimer-Weld County Line, with raw water provided through a pipeline from the NISP-proposed Glade Reservoir around the north end of Fort Collins. Treated water would leave the plant at Site 4 in a pipeline that runs south along County Line Road with branch pipelines to the participants along the way.




Shortly after completion of the RT$^2$ Study, Windsor organized a series of meetings with some of the entities in northern Colorado, including two water districts that didn't participate in the RT$^2$ Study, to gauge their interest and need for expanded water treatment. An attorney presented information about forming a water treatment authority at one of the meetings.

The group then evolved down to mainly Windsor, Severance, Eaton and the North Weld County Water District and in September 2015 led to another study by the original author of the RT$^2$ Study that looked closely at the existing and future Soldier Canyon Treatment Plant capacity and water transmission lines from the plant. It concluded that the plant must be expanded from 45 MGD to 60 MGD in 2020 and with another expansion in 2030, along with expansion of the transmission lines, the system can be adequate through 2050. That conclusion is valid as along as sufficient raw

water can be delivered to Soldier Canyon Treatment Plant. It is expected that discussions focused on how to use NISP raw water will continue with that group in 2017.

Interest in regional water treatment cooperation seems to be gaining more interest. For example, the City of Loveland has organized a meeting with Windsor, Fort Collins, Greeley, Fort Collins-Loveland Water District and Little Thompson Water District on August 1, 2016.

# TOWN OF WINDSOR POTABLE WATER MASTER PLAN

**November 2009**

clearWATERsolutions
water rights • planning • engineering

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# EXECUTIVE SUMMARY

The Town of Windsor is a growing Front Range community with a current population of 18,700 people. The Town's 2006 Comprehensive Plan shows a final build-out population of 102,321 people. The Town Board, guided by Windsor Vision 2025, is committed to providing a safe, vibrant and diversified environment where one can be proud to call home. Windsor has experienced tremendous growth over the last decade and will continue to attract new people to its wonderful community. Like other Colorado Front Range municipalities, Windsor is faced with the challenges of meeting water demands associated with this large anticipated growth. It is important that while the Town encourages growth, growth pays its own way. Ensuring that current Windsor residents are not subsidizing growth is an important piece of this plan.

Currently, the Town relies on the Colorado Big Thompson (CBT) project for all of its raw water. Being solely reliant on CBT makes Windsor "one-dimensional" with its water portfolio. The Town has taken a positive step with this Potable Water Master Plan and should be commended for its proactiveness and foresight.

**Water Master Plan Objective**

The goal of this Potable Water Master Plan is to provide the Town's decision makers with the information and education needed to make sound decisions associated with its water portfolio to best position the Town for its future. This Potable Water Master Plan is not designed to be strict and narrow, but flexible with the ability to evolve and adjust as the Town grows. This plan was developed to give Windsor a framework on how to move forward… a starting point. Because this plan is flexible, the key is to start. The Town will have the opportunity to adapt policies as it grows.

This plan was designed to work in conjunction with the Town's other master planning efforts. More specifically, this Potable Water Master Plan supports:

- 2002 Water Master Plan
- 2006 Comprehensive Plan
- 2008 Water Conservation Plan

This plan evaluates projected demands through build-out and identifies new sources of water to meet those demands. The demands included in this plan were developed consistent with the Land Use plan outlined in the 2006 Comprehensive Plan. Further, being reliant on water acquisition alone is not sufficient. This Potable Water Master Plan also relies on water savings through

conservation measures and programs outlined in the Town's 2008 Water Conservation Plan.

**Key Findings and Recommendations**

1. **Alter water dedication calculations**. When computing water dedication requirements, the Town should use a 60% quota vs. a 70% quota and include both the 17% surcharge from its water providers and the 9% Town distribution system loss. If the contracts with the water providers are ever renegotiated to reduce the surcharge or the Town's system loss is improved, this calculation can be adjusted.

2. **Shift water dedication policy from 100% CBT dedication to 50% water dedication and 50% cash-in-lieu (CIL) from 2010 through 2015**. This dedication policy will allow the Town to continue to collect sufficient water supplies to meet growth while generating revenue to pay for NISP and other water acquisition. The policy should remain flexible to allow some developers to dedicate 100% water or 100% CIL. However, Town staff must carefully monitor this ratio to ensure water shortages are not created through insufficient water dedication as the Town is collecting CIL. This policy should be implemented in 2010 for the next six years.

3. **Evaluate CIL price each year**. The Town should evaluate its CIL price each year. The CIL price should be set near the price of CBT. Since allowing CIL typically makes it easier for the developer, the CIL price can be higher than the market value of CBT for this convenience. We recommend an initial CIL of $15,000 per ac-ft. This is equivalent to one unit of CBT at $9,000 divided by a 60% quota.

4. **Maintain participation in NISP at 3,300 ac-ft**. Because NISP is still an inexpensive water source compared to other water rights on a per ac-ft basis, we recommend the Town stay at its current participation of 3,300 ac-ft.

5. **Initiate discussion with Windy Gap participants**. There may be existing Windy Gap participants that are looking to reduce their level of participation. Windsor should begin discussions with these entities to see if there is an opportunity to join as a participant of this project. Windy Gap water would work very well for Windsor, particularly since this water is reusable. Windy Gap effluent generated at Windsor's WWTP is fully consumable and thus can be applied to the Town's well augmentation needs.

6. **Focus on water acquisition before raw water storage (before treatment)**. With limited financial resources, the Town should focus on water acquisition before water storage. The water rights the Town currently owns and the recommended future water supplies have a storage component that will benefit

the Town without the need for its own raw water storage. If an opportunity arises for potable water storage, this can be evaluated on a case-by-case basis.

7. **Begin accepting WSSC water for water dedication**. Of the water rights we evaluated, WSSC is the cheapest water right on a per ac-ft basis. This is of high water quality and is treatable by NWCWD. WSSC shares have a trans-mountain component that is fully consumable. WWTP effluent generated from use of this reusable component can be applied to well augmentation. Due to the complexity of the return flow requirements, these shares should be evaluated on a case-by-case basis.

8. **Aggressively pursue new NPIC shares**. Because the Town likely cannot acquire enough WSSC and Windy Gap water to fully meet its build-out demand and due to the fact that the Town cannot purchase CBT on the open market, Windsor should actively purchase NPIC shares whenever deals become available and the financial resources allow.

9. **Budget funds to actively acquire new water**. The Town has proactively budgeted funds to acquire water supplies as good deals become available. The Town should continue this practice.

10. **Budget funds for water conservation**. A key component of Windsor's long term plan includes water conservation. The Town invested resources to complete the 2008 Water Conservation Plan, which now qualifies the Town for water conservation implementation grants. The Town has applied for one grant and should continue to identify opportunities to obtain funding and conserve water.

11. **Initiate adding the future NWCWD Tap to Windsor's system**. The Town is reaching its delivery limits each year through its existing contracts with its water providers. The Town should initiate the process to add the second water tap with NWCWD immediately. Ideally, new development would drive the need for this connection. However, the amount of water provided by NWCWD is scheduled to decrease from 1,387 ac-ft to 1,129 ac-ft on January 1, 2013. Because of this and the Town already approach its limits, the Town should immediately begin negotiation with NWCWD either to extend the higher delivery amount beyond this date and/or add the second water tap. Windsor could outline a repayment plan should the need for the tap precede development in that area.

12. **Explore potential agreement with NWCWD to change WSSC shares and replace return flow obligations**. Because the WSSC system is so expansive, the requirements for return flows is quite complex. Windsor should complete an agreement with NWCWD detailing an arrangement if NWCWD were to change Windsor's future WSSC shares along with their ownership through Water Court and replace the return flows obligations.

13. **Connect the Greeley master meter to Windsor's SCADA system**. Due to large system charges from Greeley if Windsor exceeds its delivery limit, this meter should be connect to SCADA to allow Public Works to monitor and manage flows through this meter effectively.

14. **Follow communication protocol between departments to manage quantity of water ordered from wholesale providers**. Town staff should follow the protocol represented in the flow chart in Figure 10.1 to ensure water orders are managed effectively and limits are not exceeded.

15. **Continue CBT carryover and rent additional supplies in the summer or fall if there is excess**. The Town should continue participating in the CBT carryover program. The Town should carryover its full entitlement each year to safeguard against and extended drought. If the Town has carried over CBT and, based on adequate weather conditions it has excess water, then the Town can rent out its surplus CBT supplies to recover the money spent on the Carryover Program. This is a low or no-cost insurance policy for the Town to protect itself from an unforeseen drought.

## Target Water Portfolio

**Table ES.1 – Target Water Portfolio**

| Water Supply | Target Ownership |
|---|---|
| CBT or NPIC | 6043 CBT units |
| NISP | 3300 ac-ft |
| WSSC/Windy Gap/Other Supplies | 7998 ac-ft |

## Water Master Plan Update

As Windsor grows and acquires the recommended new water supplies, this progress can be monitored and the plan revised as necessary. Water supplies that are available today may not be in the future, so the Town will need to proactively adjust as we move forward.

**FUTURE TOWN BOARD MEETINGS**

Work Sessions & Regular Meetings will be held in the Board Chambers unless otherwise noted.

| | |
|---|---|
| July 4, 2016<br>6:00 p.m. | Town Board Work Session - cancelled |
| July 11, 2016<br>5:30 p.m./1st floor conference room | Board/Manager/Attorney Monthly Meeting |
| July 11, 2016<br>7:00 p.m. | Town Board Meeting<br>Kern Board Meeting |
| July 18, 2016<br>6:00 p.m. | Town Board Work Session<br>Update from Xcel |
| July 25, 2016<br>6:00 p.m. | Town Board Work Session |
| July 25, 2016<br>7:00 p.m. | Town Board Meeting<br>Update from PVREA |
| August 1, 2016<br>6:00 p.m. | Town Board Work Session |
| August 8, 2016<br>5:30 p.m./1st floor conference room | Board/Manager/Attorney Monthly Meeting |
| August 8, 2016<br>7:00 p.m. | Town Board Meeting |
| August 15, 2016<br>6:00 p.m. | Town Board Work Session<br>Revenue and CIP discussion |
| August 22, 2016<br>6:00 p.m. | Town Board Work Session |
| August 22, 2016<br>7:00 p.m. | Town Board Meeting |
| August 29, 2016 | Fifth Monday |

## Additional Events

| | |
|---|---|
| June 21-24, 2016 | Colorado Municipal League Annual Conference – Vail; attending – Melendez, Baker, Morgan, Bennett, Rennemeyer, Boudreau |
| June 29, 2016 | Strategic Planning Meeting – Embassy Suites |

## Future Work Session Topics

Water Rights Dedication Policy
Broadband discussion – session at CML Annual Conference