

City of Greeley Stormwater Board Meeting February 3, 2021

REMOTE ZOOM MEETING:

<https://greeleygov.zoom.us/j/87604593499>

Meeting ID: 876 0459 3499



Stormwater Board Agenda

- Call to Order
- Roll Call
- Approval of Minutes
- Designation of Agenda Posting Site: www.greeleygov.com
and / or City Hall Lobby
- Terry Ranch Water Project
(Presented by Sean Chambers, Director of Water & Sewer)
- Revenue & Expenditure Update
- Cache la Poudre Risk Map
- 12th Street Outfall
- Other Projects
- Adjournment



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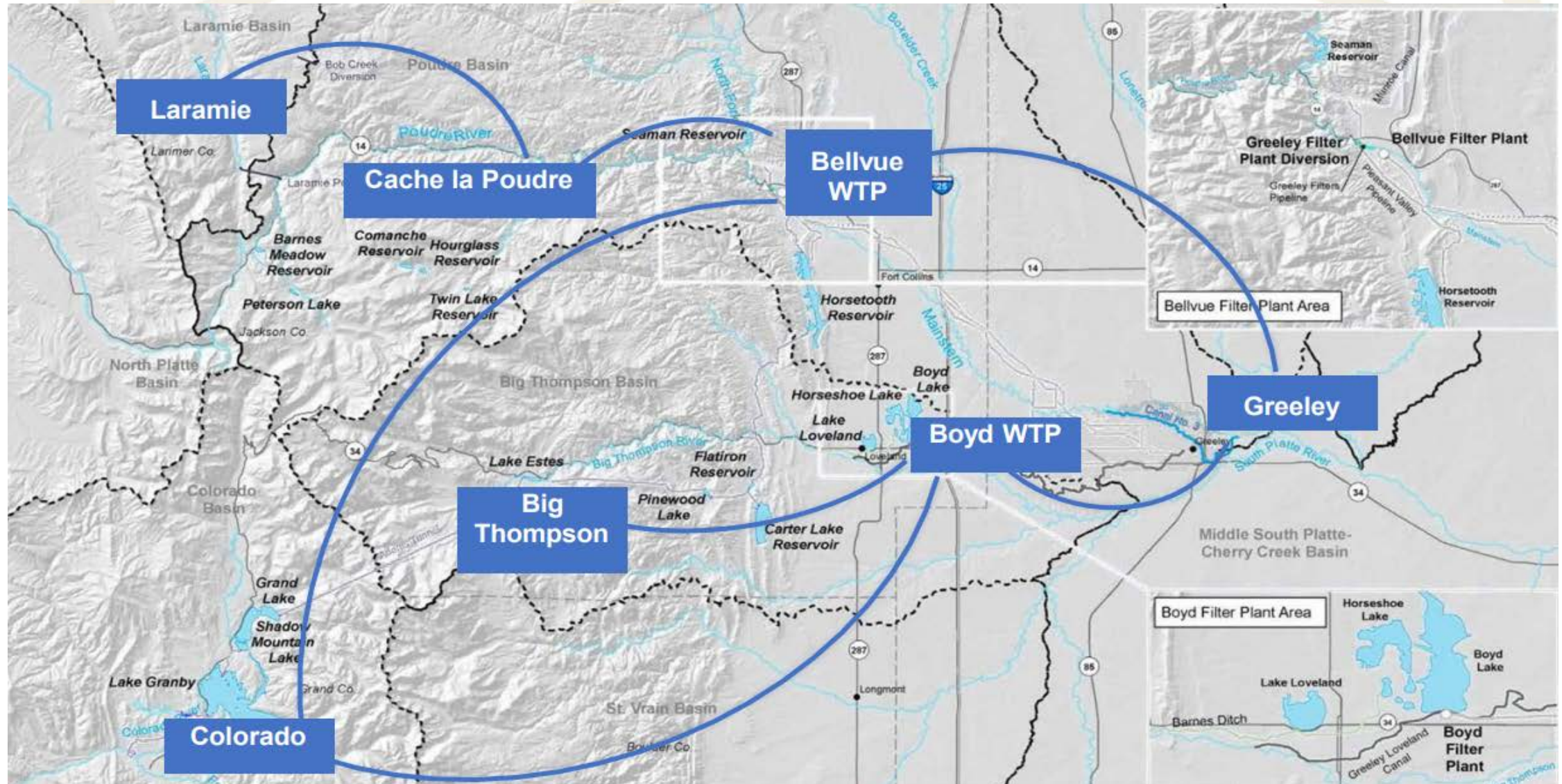
Terry Ranch Project

Stormwater Board

February 3, 2021

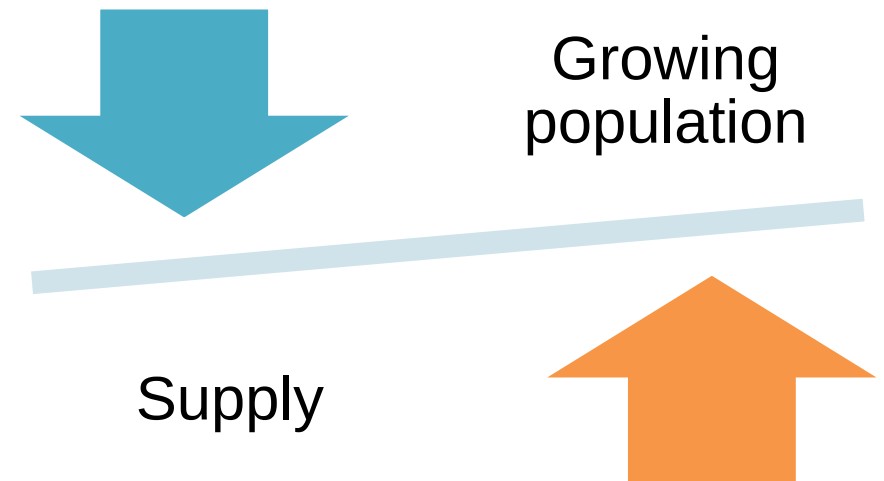


Greeley's Water Supply System



Planning for Growth

- ✓ 260,000+ people by 2065
- ✓ Current supply not enough to meet future needs
- ✓ Must develop new water sources while maintaining affordable water rates



Milton Seaman Enlargement

- ✓ Long been Greeley's preferred option to increase supply
- ✓ Requires numerous federal, state, & local permits - 15 years and \$19M
 - ✓ Significant impacts to wetlands, stream channel, and endangered species habitat
 - ✓ Inundation of Forest Service, State, Larimer County, and Fort Collins lands

**Uncertain that Greeley would receive
necessary permits**

Terry Ranch Project

- ✓ “Non-tributary Aquifer”
 - ✓ 1,200,000+ acre-feet of reusable water
 - ✓ 200 to 1,300 feet deep; unlike shallower irrigation/domestic wells common in & near Greeley
- ✓ Suitable for underground water storage
- ✓ Could meet Greeley’s water needs for generations to come



Unique Transaction

- ✓ Purchase with raw water “credits” rather than cash
 - ✓ Credits redeemable to meet Greeley’s raw water dedication
 - ✓ 1 Credit = 1 acre-foot of dedication
 - ✓ Greeley foregoes future water dedication (cash-in-lieu) revenue
- ✓ Seller assumes risk to sell Credits in the future
 - ✓ Seller is making an investment in Greeley’s future
- ✓ Greeley will solely own, control, and operate
- ✓ Seller will finance \$125 million for infrastructure



Approval Timeline

W&S Board
Approved
Master
Agreement
(Jun 2020)

Due Diligence
(Jun-Jan)

Present
Findings to
W&S Board
and City
Council
(Q1 2021)

City Council
Consider
Closing the
Purchase
(Q1 2021)

Collect Community Feedback

Diligence Investigations

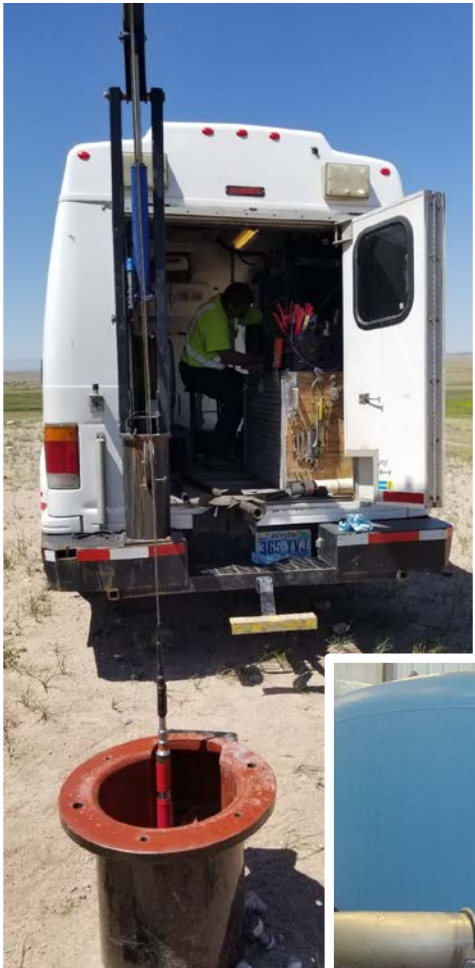
1. Environmental
2. Hydrogeology & Geochemistry
3. Water Quality
4. Water Treatment
5. Design & Cost Estimate
6. **Peer Review of Findings**



Water Quality Inspection

- ✓ Extensive study: over 7,000 data points & 575 compounds from 7 wells
- ✓ Overall water quality is excellent
- ✓ Uranium is present

Uranium can be removed by treatment



Water Treatment

- ✓ Uranium treatment is common and proven – essentially a large water softener
- ✓ Greeley currently removes uranium from water
- ✓ 30-day pilot test: uranium removed below detection

Greeley residents will not receive water with measurable uranium

Pilot Treatment Plant



Ion Exchange Columns



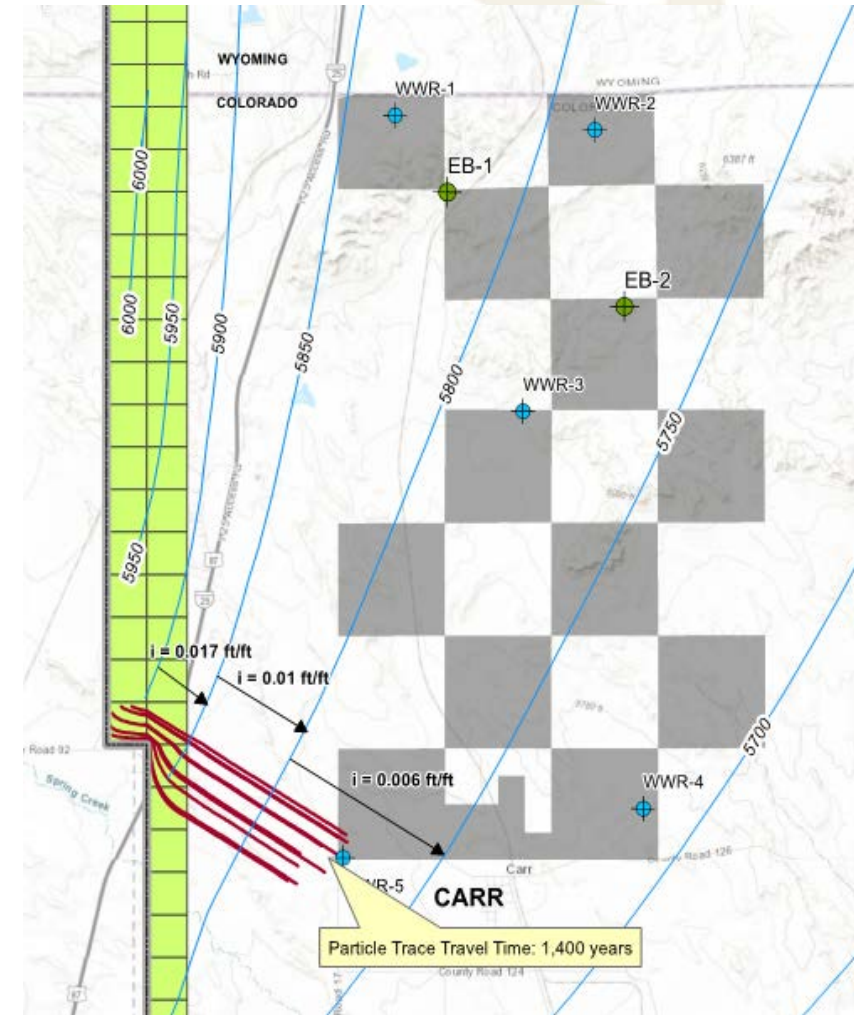
Additional Water Quality Studies

- ✓ Pilot injection test – inject, store, & recover water
 - ✓ No uranium mobilization detected
- ✓ Mixing analysis – test for pipe corrosion & metal release
 - ✓ Preliminary: water will not react with existing sources or pipes



Other Water Quality Considerations

- ✓ Risk of surface contamination is low
 - ✓ Groundwater is generally deep and isolated
 - ✓ Recharge of Terry Ranch aquifer is very slow (1,000+ years)
- ✓ Oil & Gas risk
 - ✓ No producing oil & gas wells on Terry Ranch
 - ✓ 11 exploratory bores drilled over the years; all have been abandoned



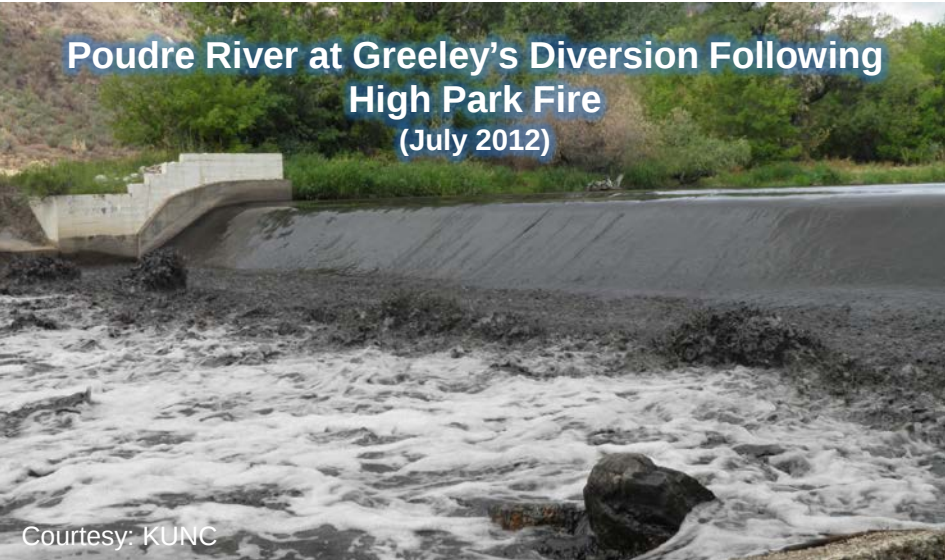
Other Water Quality Considerations

Chambers Reservoir Following Cameron Peak Fire
(October 2020)



✓ Groundwater supply & storage provides protection from surface contamination – fires, spills, etc.

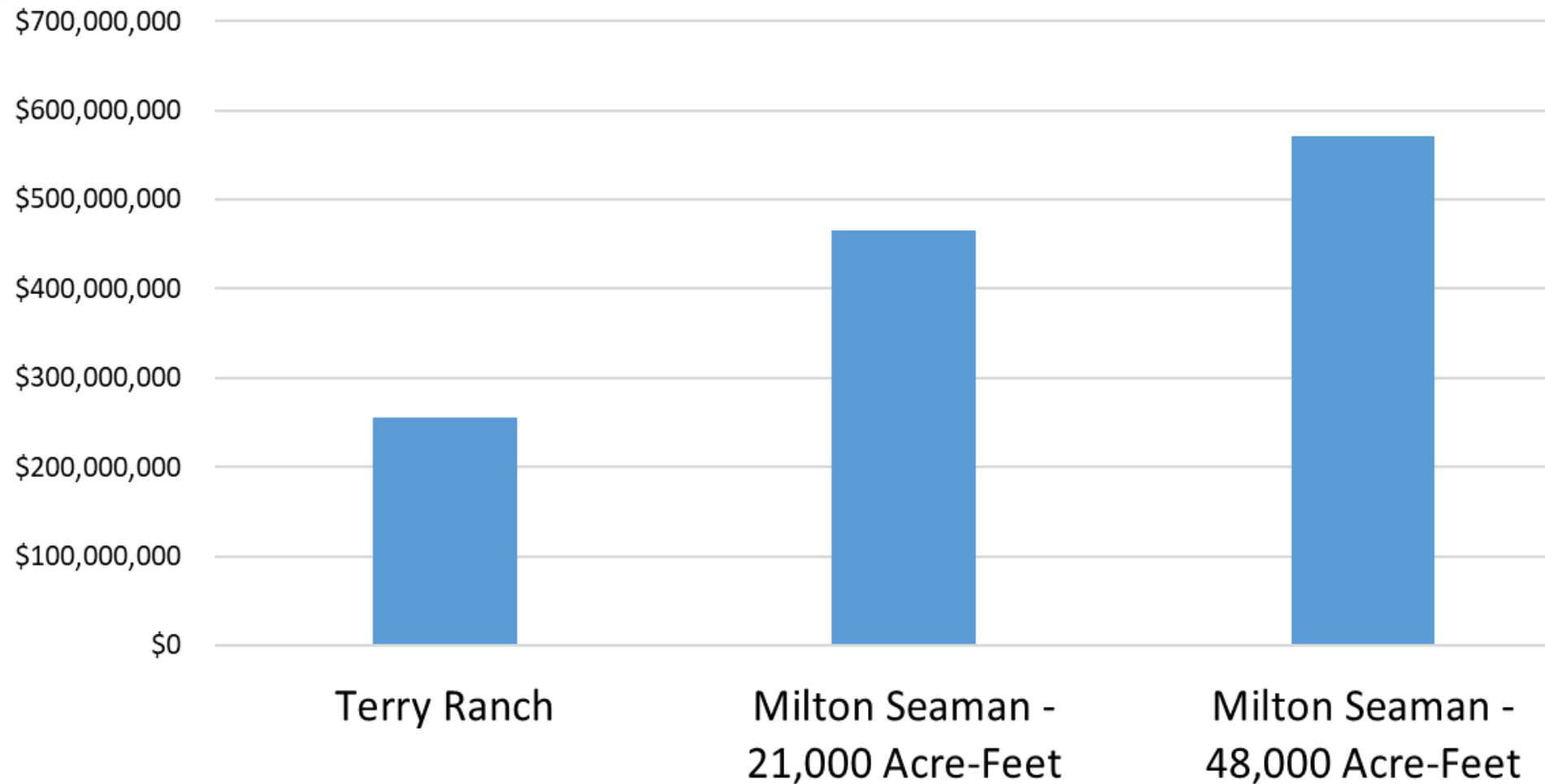
Poudre River at Greeley's Diversion Following High Park Fire
(July 2012)



✓ Groundwater supply & storage adds redundancy to surface water system

Cost Comparison

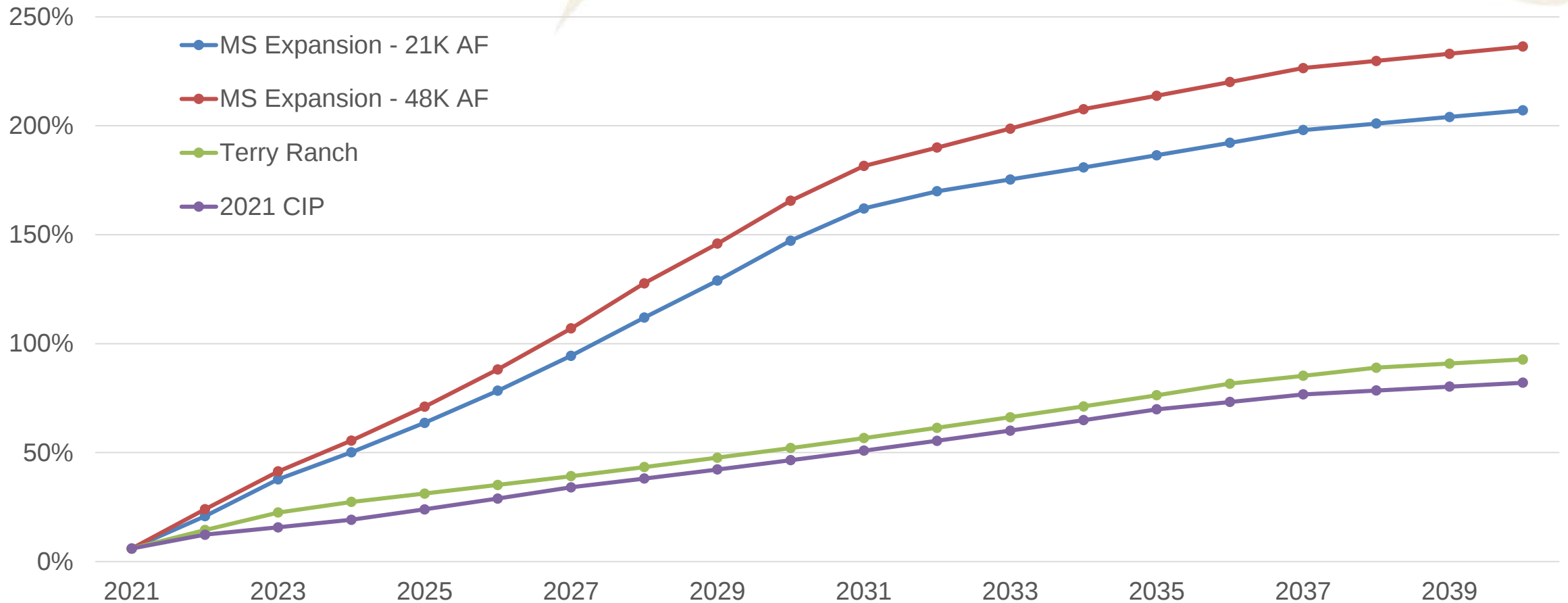
Cost to Meet 2065 Water Needs



*Costs presented as 2020 net present values using 5% construction escalation and 3% discount rate. Timeline assumed.

Rate Comparison

Cumulative Rate Impacts



Rates calculated with future, escalated project costs.

Why Terry Ranch?

- ✓ Compared to all other options: more certain, lower cost, minimal environmental impacts, fewer permits – can begin immediately
- ✓ Can be built in phases and scaled up as needed. Minimizes rate impacts
- ✓ Purchase structure reduces risk and secures third-party funding

Why Terry Ranch?

- ✓ Diversifies Greeley's water sources and provides redundancy
- ✓ Underground storage immune from drought and watershed disruptions like wildfire
- ✓ Will not dry-up any irrigated farm ground



More information at:
greeleygov.com/terryranch



Revenue to Date

Fund	Sum of Budget	Sum of YTD Receipts	Sum of Balance
411	2,958,558.00	2,830,021.88	128,536.12
412	1,811,342.00	1,717,730.79	93,611.21
413	2,062,057.00	2,031,467.77	30,589.23
Grand Total	6,831,957.00	6,579,220.44	252,736.56

Expenses to Date

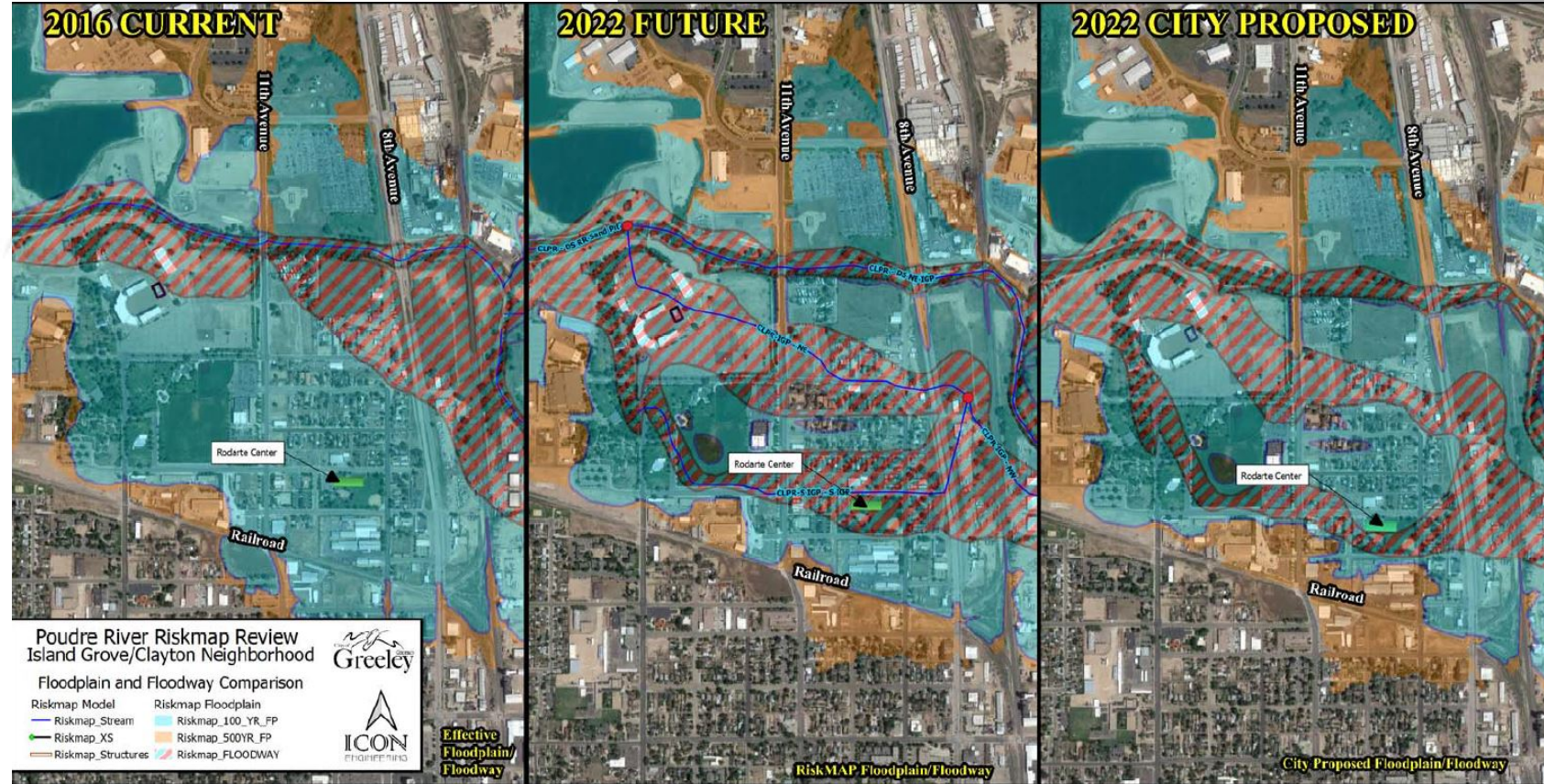
Fund	Sum of Budget	Sum of YTD Expenses	Sum of Encumbrances	Sum of Balance
411	2,894,473.00	2,550,580.14	5,689.61	338,203.25
412	2,692,278.00	2,155,760.98	405,825.24	130,691.78
413	3,017,946.00	1,323,602.50	719,192.54	975,150.96
Grand Total	8,604,697.00	6,029,943.62	1,130,707.39	1,444,045.99



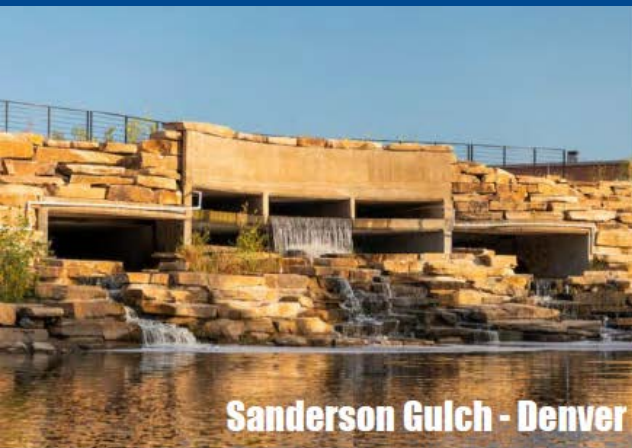
Cache la Poudre RiskMap and Floodplain

- LOMR for Island Grove to be submitted to FEMA this week
- Appeal in Poudre River Ranch Area being prepared
- Appeal period to FEMA for RiskMap ~Feb-Apr 2021
- Making recommendations for new Floodplain permits and fees
- New Floodplain Website:
www.Greeleygov.com/floodplain

ICON
ENGINEERING, INC.



City of
Greeley
Colorado

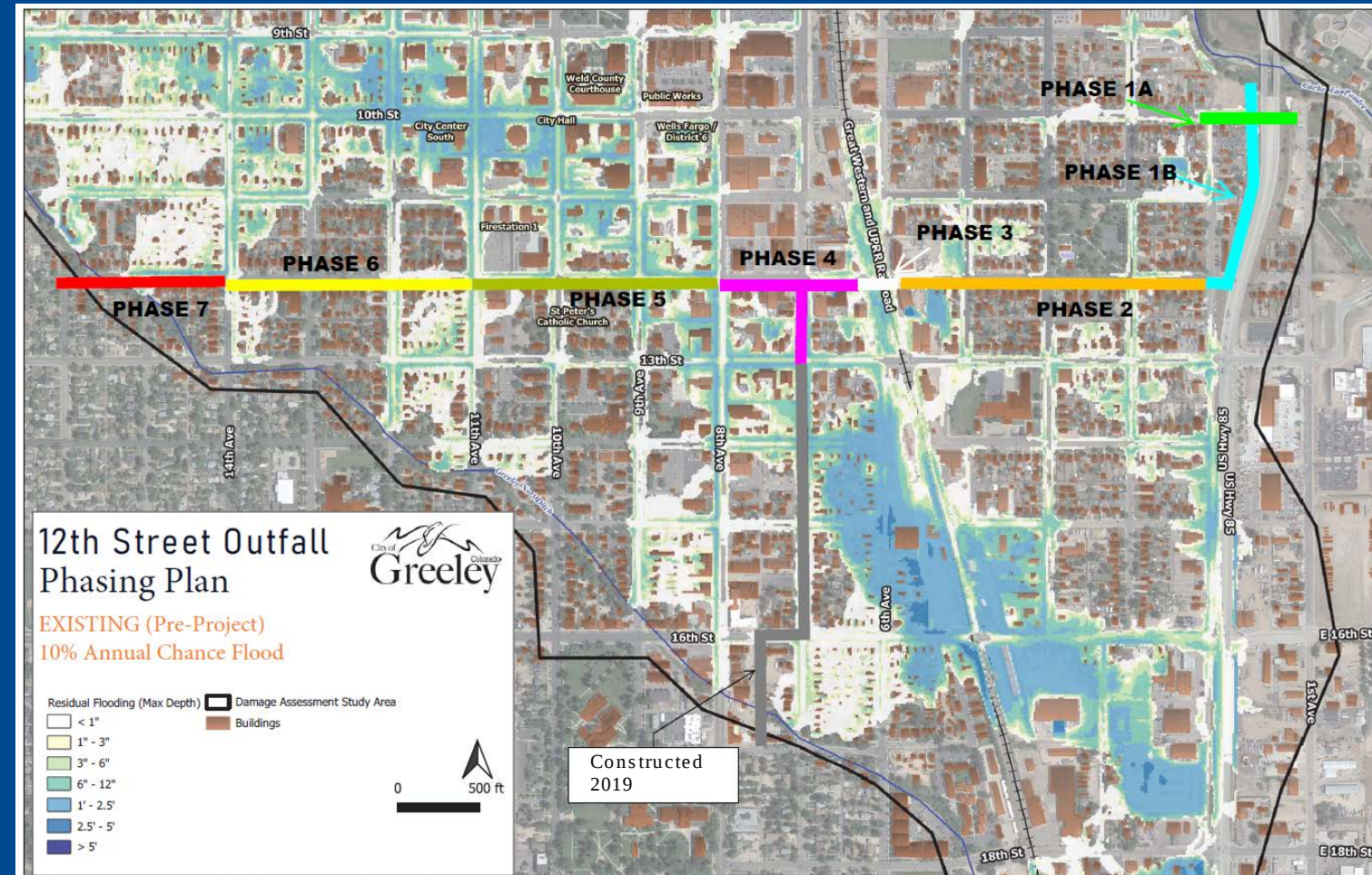


Sanderson Gulch - Denver



12th Street Outfall Project Milestones

- Phase 1A In Design
- Phase 1B – ICON Engineering hired
 - Vision Planning, Placemaking and Alternatives
 - Public Meeting – End of May 2021
 - Construction – Late 2022
- May 2021 – Notice of Award Phase 1B Design Grant



Other Projects

- 95th Avenue/Jones Ditch Culvert Replacement
 - Completed
- 2021 Keep Greeley Moving Stormwater Repairs
 - Under Review
- North Centerplace Channel
 - Notice to Proceed Given January 13
- 4th Avenue Drainage Improvements (22nd-25th Street)
 - Completed
- Allen Park Bank Stabilization
 - Completed
- River Run Water Quality Pond
 - Design to be Awarded this week
- 20th Street Culvert Replacement at 23rd Ave Ct
 - Preliminary Design
- Specs and Standards Update
 - RFP to be released this week



20th St Culvert



Allen Park



QUESTIONS?

