

# Lake 4, West Lake and A-Frame Dam Rehabilitation

## Weekly Construction Update Report

**Date:** 3/12/2020

3/2/2020 to 3/6/2020

**Location:** Boulder County Open Space west of Hygiene, CO

**Project Owners:** Boulder County and St. Vrain & Left Hand Water Conservancy District

### Construction Contractors:

Kirkland Construction (Prime Contractor)

Lobato Construction (Sub-contractor)

### Design Engineers:

Lake 4 - Engineering Analytics (EA)

West Lake and A-Frame - Applegate Group (AG);

Lake 4 Outlet Pipeline - Deere & Ault (DA)

**Weather & Site Conditions:** Cool weather some snow on ground

**Update by:** Obadiah Broughton, Boulder County

### Work in Progress/Completed

1. Lake 4 upstream embankment (Lake 3 embankment) repair and reconstruction – Clay core and zone 3 filter sand installation continued, with clay tie-in around the original slurry wall on the south and northsides of excavation. Lake 4 flood deposited sediment is being used as fill in the embankment.
1. Lake 4 flood deposited sediment removal – hauled and placed excavated material unsuitable for embankment fill into the sediment disposal area within West Lake.
2. Lake 4 downstream embankment – The outlet pipe encasement foundation concrete was poured between towers 1 and 2.
3. Lake 4 upstream embankment (Lake 3 embankment) - 579 Tons of Zone 3 sand, 305 Tons of 18" rip rap, and 153 loads of clay were imported to the site for elements of the dam reconstruction. The clay were hauled from Swede Lake to Lake 3.
4. Lake 4 Outlet Pipeline – Excavation for manhole #1 occurred in the downstream side of the West Lake Dam embankment and the pipeline was located and exposed. Excavation for manhole #4 began but was not completed.
5. A-Frame Pond - The cutoff wall foundations and sub-grade at the A-Frame Pond outlet were completed east of N.61st street and formworks including rebar were completed and are ready for concrete.
6. Continued dewatering operations to remove nuisance water in Lake 4, Lake 4 and West Lake and to drawdown the water levels in A-Frame Pond to facilitate the work.



3/3 Lake 4 - Outlet pipe encasement foundation concrete pour between towers 1 and 2.

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### Upcoming Work *(One week look ahead. Week of 3/9/2020 to 3/13/2020)*

1. Lake 4 upstream embankment/dam (Lake 3 embankment) - continue placing clay core and zoned embankment.
2. Lake 4 flood deposited sediment removal – haul and place excavated material unsuitable for embankment fill into the sediment disposal area within West Lake.
3. West Lake dam - excavation of the Foothills Ditch and the Clough and True Ditch intake and outlet structures subgrade and foundations. Complete formworks and pour concrete foundation slabs.
4. Lake 4 Outlet Pipeline – excavations of manhole #1, #2 and #4 to prep for manhole placement and to facilitate locating the existing outlet pipeline.
5. A-Frame Pond – Pour concrete for the outlet cutoff wall foundations.
6. A-Frame Pond – Begin backfill and reconstruction of the N.61<sup>st</sup> street road prism around and over the outlet box culvert.
7. Continue dewatering operations to remove nuisance water from project site.

### Additional Notes

1. Kirkland and Lobato worked on Saturday March 7<sup>th</sup>.
2. March 3<sup>rd</sup> Weekly construction process meeting was held at the jobsite trailer.
3. N. 61<sup>st</sup> and 63<sup>rd</sup> streets between SH 66 and Hygiene Rd. will be temporarily closed to thru traffic for up to two months starting as of Jan. 20.
4. Project website for updates and information:  
<https://www.bouldercounty.org/open-space/management/lake-4-west-lake-a-frame-pond/>



3/2: Lake 4 upstream embankment reconstruction – zone 1, Clay core and zone 3 filter sand installation.



3/3: Lake 4 Outlet Pipeline – Excavation for manhole #1. Outlet pipe is within the encasement on the right of the excavation.



3/4: West Lake tower and outlet encasement looking west.



3/4: Lake 4 Outlet Pipeline – Starting the excavation for manhole #4.



3/6: A-Frame: The cutoff wall foundations formworks.



3/6: A-Frame: The cutoff wall foundations formworks looking east.



Longmont, CO  
49 °F Fair

Recent Cities

Revelstoke, British Columbia, Canada (weather/ca/revelstoke/50.99,-118.19) Crested Butte, CO (weather/us/co/crested-butte/38.91,-106.97)

40.17 °N, 105.16 °W

# Longmont, CO Weather History ★ 🏠

☀️ **49° VANCE BRAND STATION** (/WEATHER/US/CO/LONGMONT/KLMO?CM\_VEN=LOCALWX\_PWSDASH) | [CHANGE](#) ✓

[HISTORY](#) (/HISTORY/DAILY/US/CO/LONGMONT/KLMO)

- [TODAY](#) (/WEATHER/US/CO/LONGMONT/KLMO)
- [HOURLY](#) (/HOURLY/US/CO/LONGMONT/KLMO)
- [10-DAY](#) (/FORECAST/US/CO/LONGMONT/KLMO)
- [CALENDAR](#) (/CALENDAR/US/CO/LONGMONT/KLMO)
- [HISTORY](#) (/HISTORY/DAILY/US/CO/LONGMONT/KLMO)
- [WUNDERMAP](#) (/WUNDERMAP?LAT=40.17&LON=-105.16)

[Daily](#) **[Weekly](#)** [Monthly](#)

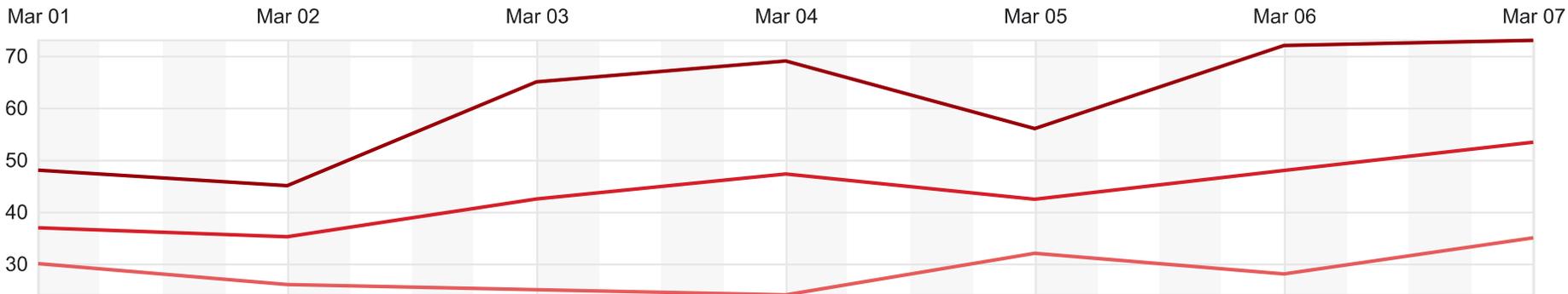
(/history/daily/us/co/longmont/klmo/date/2020-3-2) (/~~history/daily/us/co/longmont/klmo/date/2020-3-2~~) (/~~history/daily/us/co/longmont/klmo/date/2020-3-2~~) (/~~history/daily/us/co/longmont/klmo/date/2020-3-2~~)

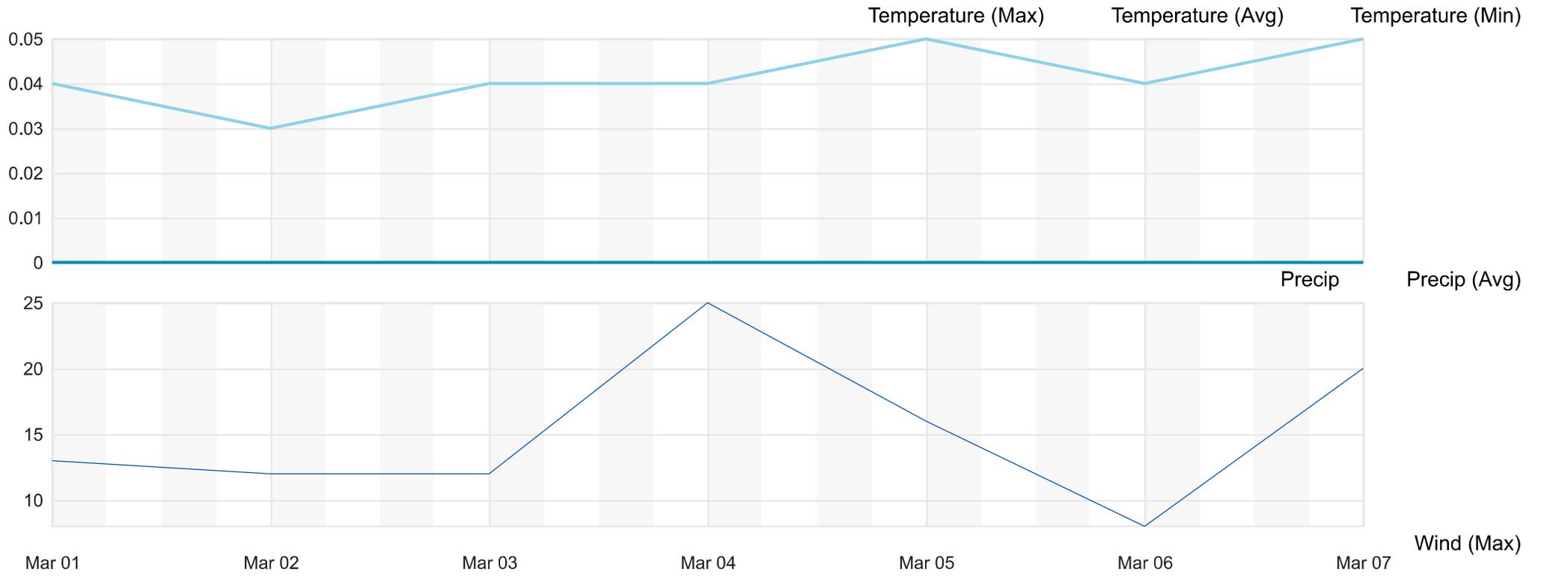
March

2

2020

[View](#)





# Summary

Temperature (° F)	Max	Average	Min	▲
Max Temperature	73	61.14	45	
Avg Temperature	53.35	43.65	35.21	
Min Temperature	35	28.57	24	
Dew Point (° F)	Max	Average	Min	▲
Dew Point	32	20.8	0	
Precipitation (Inches)	Max	Average	Min	Sum ▲

Temperature (° F)				Max	Average	Min	▲
Precipitation				0.00	0.00	0.00	0.00
Snowdepth				0.00	0.00	0.00	0.00
Wind				Max	Average	Min	▲
Wind				25	4.98	0	
Gust Wind				38	2.33	0	
Sea Level Pressure				Max	Average	Min	▲
Sea Level Pressure				25.28	24.88	0	

# Daily Observations

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)
	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Total
Mar 1	48	36.9	30	31	25.3	16	90	65.3	28	13	4.9	0	24.9	24.8	24.7	0.00
2	45	35.2	26	32	25.3	9	92	71.6	25	12	2.8	0	24.9	24.8	24.6	0.00
3	65	42.5	25	28	20.4	13	84	47.1	14	12	4.3	0	25.0	24.8	24.8	0.00
4	69	47.3	24	23	10.3	0	69	30.8	8	25	8.6	0	25.0	24.9	24.9	0.00
5	56	42.4	32	26	22.6	10	78	49.9	20	16	6.4	0	25.3	25.2	25.0	0.00
6	72	48.0	28	29	20.4	11	76	41.9	10	8	3.0	0	25.2	24.7	0.0	0.00
7	73	53.4	35	30	21.4	15	66	35.3	12	20	5.0	0	25.0	24.9	24.8	0.00