

CAPITAL PROJECTS UPDATE: APRIL 2025



Settle down.

PRESENTATION OUTLINE

- South Ruckle Construction Update
- Freshet Update
- FMP Costs to Date
- FMP Capital Plan
- Other Major Capital Projects Update
- Valley Heights Electrical Design and Procurement
- East Zone Reservoir Design Update



STATUS UPDATE BY WORK PACKAGE

WP3, South Ruckle Dike and Drainage Network

- A. Construction started March 17th
- B. Working with Interfor and Grand Forks Railway regarding north end dike tie-in
- C. Removing concrete and obstructions
- D. Stripping and clearing dike footprint
- E. Excavating drainage trench
- F. Sheet-pile install completed March 25th
- G. Hauling and placing dike fill materials
- H. Communicating with impacted and neighboring property owners



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - KICKOFF SITE WALK



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - STRIPPING AND CLEARING



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WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - WETLAND ISOLATION



WP3 – SOUTH RUCKLE DIKE AND DRAINAGE – SHEET-PILE DELIVERY
MARCH 18TH



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - SHEET-PILE



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - SHEET-PILE





WP3 – SOUTH RUCKLE DIKE AND DRAINAGE – SHEET-PILE COMPLETE
MARCH 25TH (7 DAYS OF PILING)



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - DIKE CONSTRUCTION



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - TREE REMOVAL





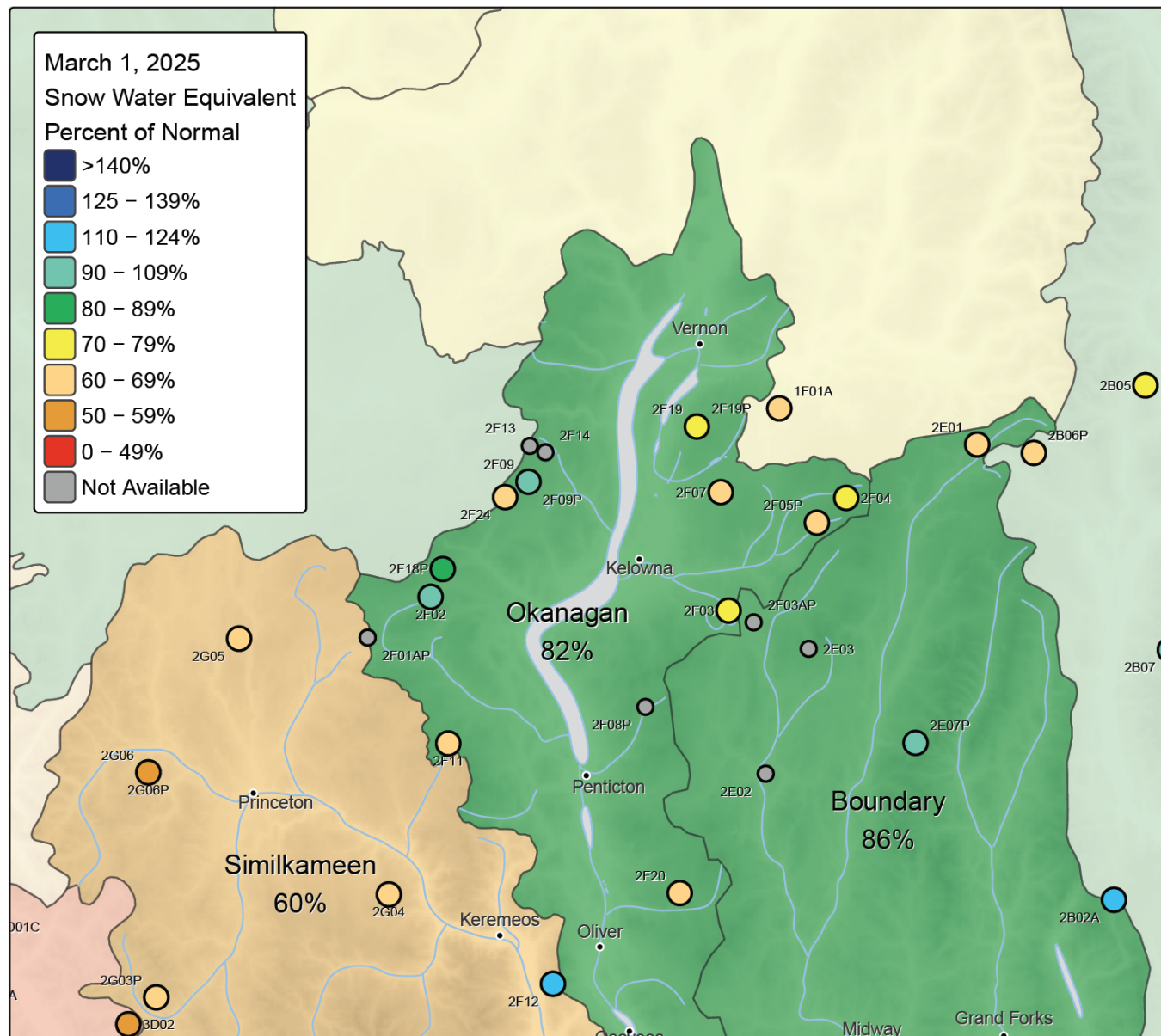
WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - TREE REMOVAL



WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - TREE REMOVAL



South Interior Snow Station Map – Percent of Normal



“High Resolution Maps” at <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/river-forecast-centre/snow-survey-water-supply-bulletin>

Snow Water Equivalent (SWE) for Greyback Reservoir (2F08P)

Owned by: Ministry of Environment | Year established: 2016

Elevation: 1550 m | Okanagan Snow Basin

Latest Value: 195-mm on Apr 04, 2025

Percentile: 50

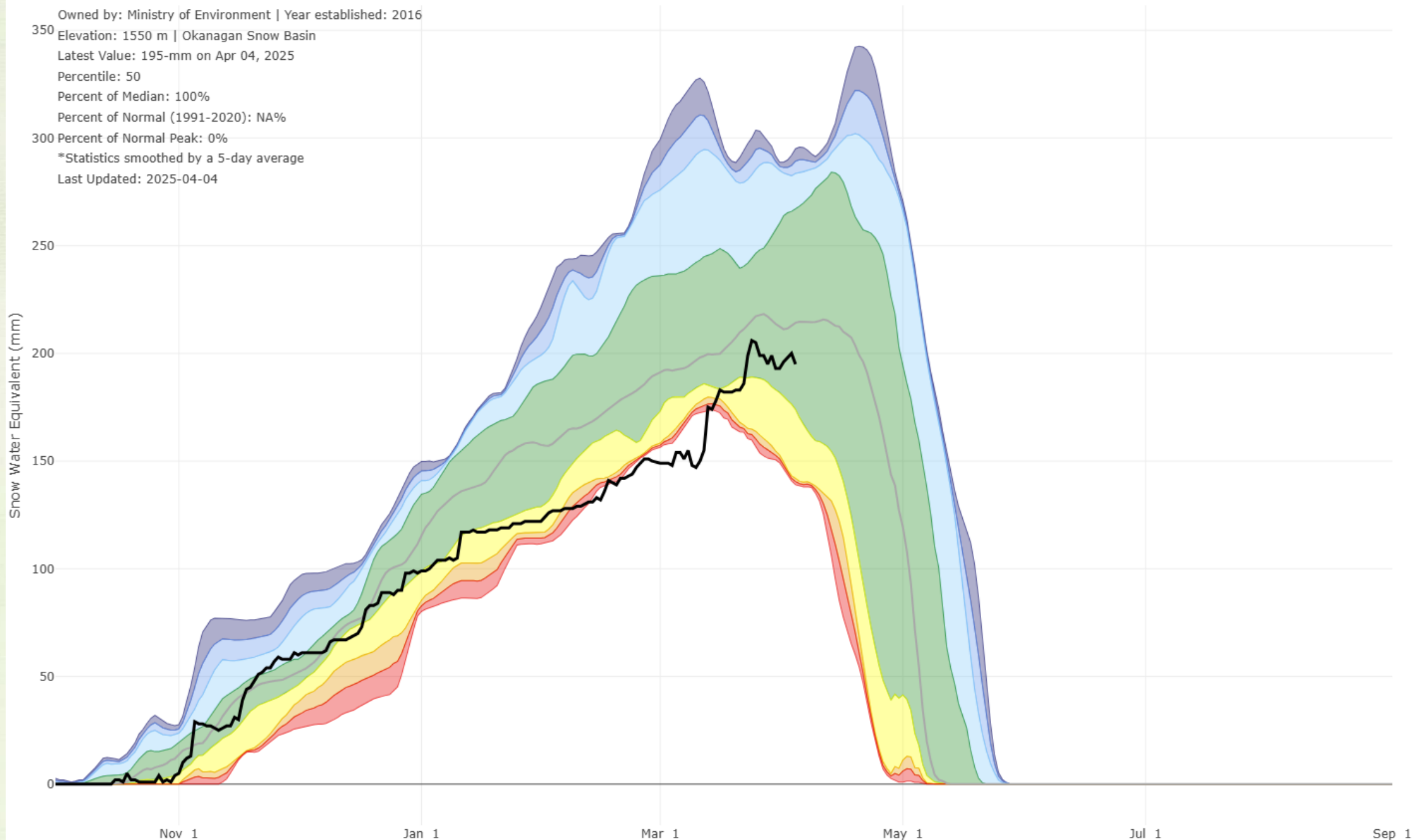
Percent of Median: 100%

Percent of Normal (1991-2020): NA%

Percent of Normal Peak: 0%

*Statistics smoothed by a 5-day average

Last Updated: 2025-04-04



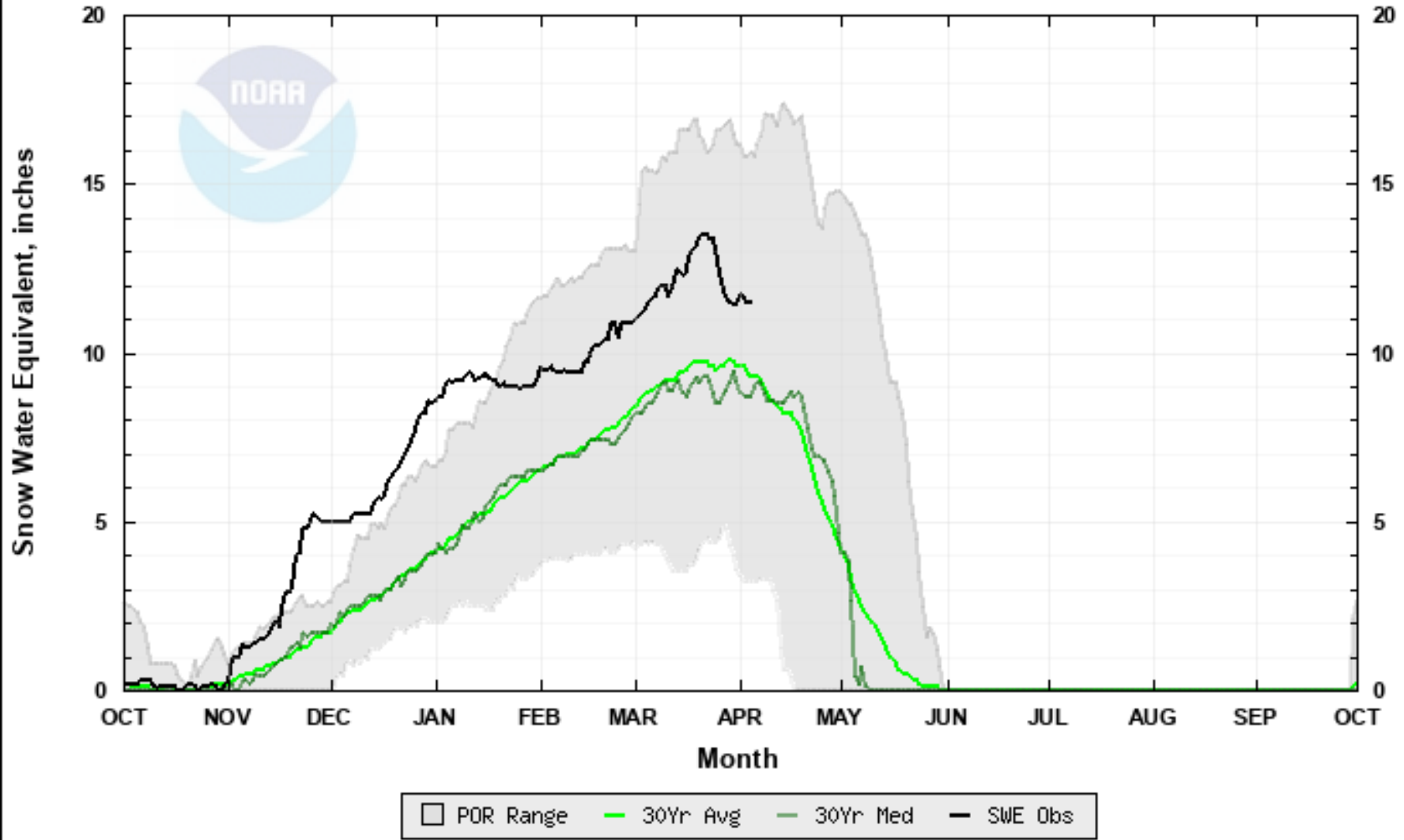
Interactive at https://bcrcf.env.gov.bc.ca/Real-time_Data/ASP_daily_interactive/ASWE/interactive_plots/ASWE_2F08P.html

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Snow Water Equivalent

SENTINEL BUTTE SNOTEL

Water Year 2025 - Elevation 4920 feet



Plot Created: 04/04/2025 1:27pm PDT

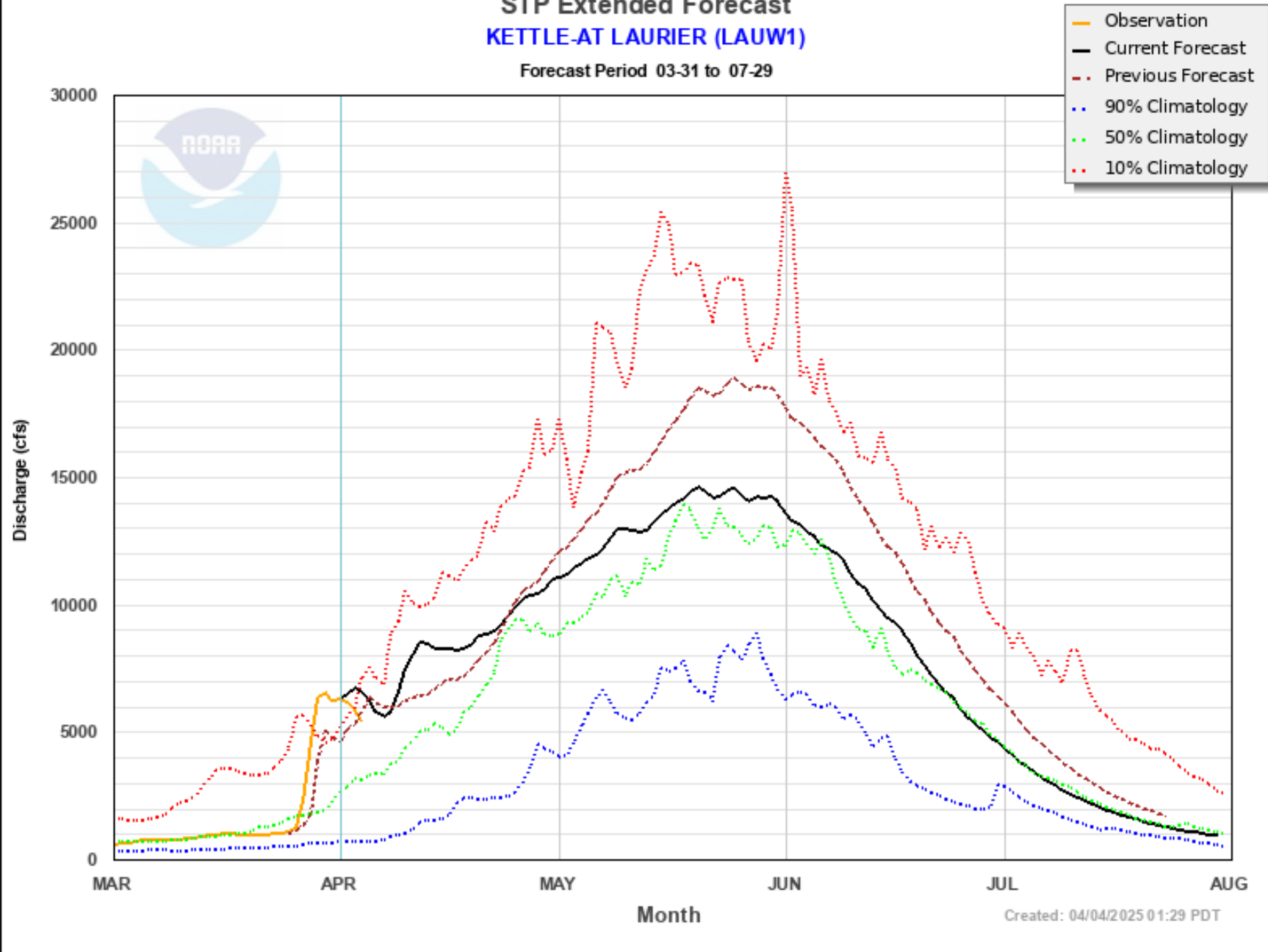
Observations Provided by NRCS



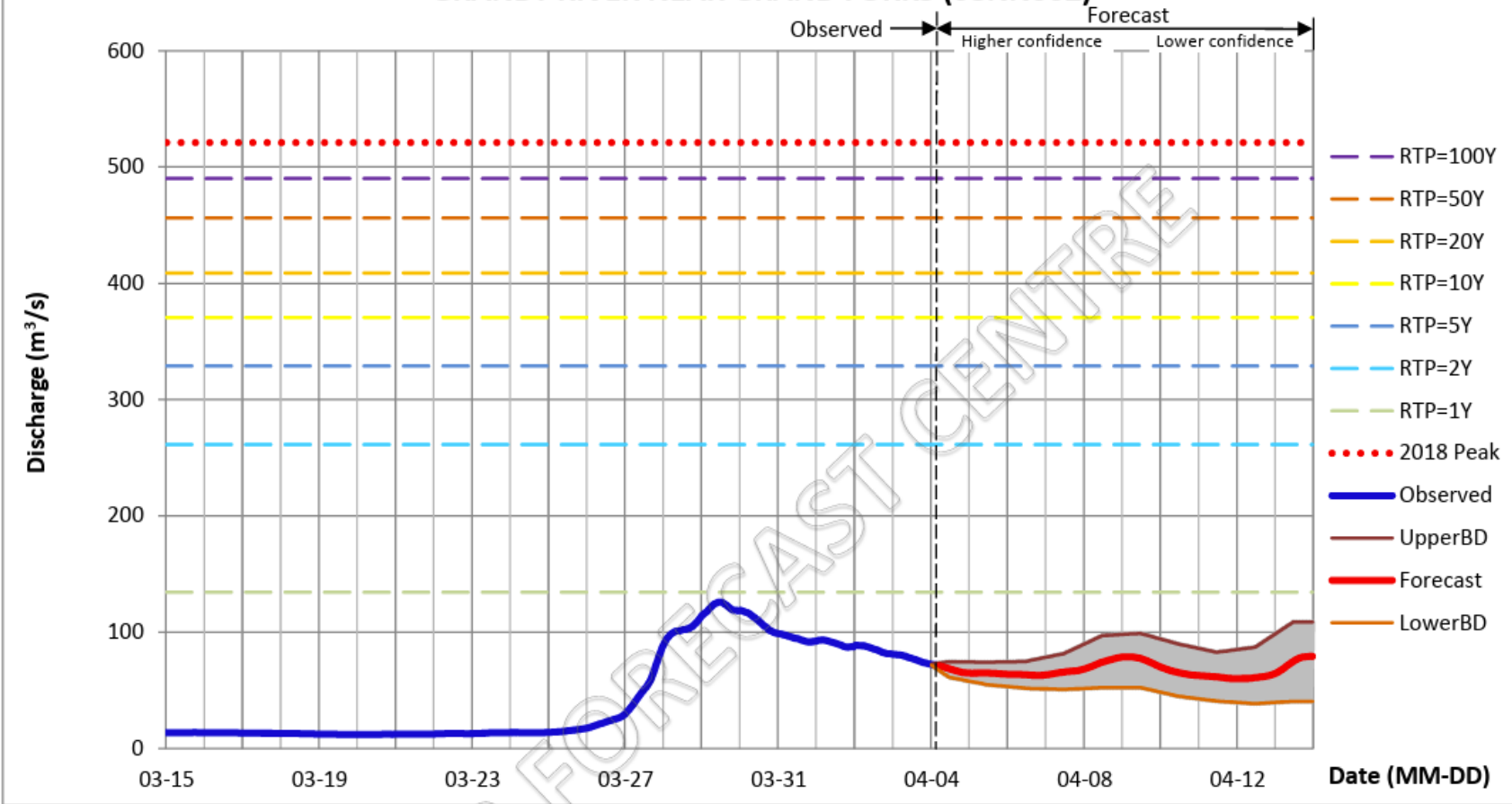
<https://www.nwrfc.noaa.gov/snow/snowplot.cgi?SENW1>

STP Extended Forecast KETTLE-AT LAURIER (LAUW1)

Forecast Period 03-31 to 07-29



GRANBY RIVER NEAR GRAND FORKS (08NN002)



Reading at 06 AM (m³/s)	Forecast Daily Discharge (m³/s): AVERAGE									
	UPPER BOUND									
	LOWER BOUND									
Fri	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
2025-04-04	2025-04-04	2025-04-05	2025-04-06	2025-04-07	2025-04-08	2025-04-09	2025-04-10	2025-04-11	2025-04-12	2025-04-13
71.0	74.5	74.0	74.8	81.5	96.9	98.9	89.7	82.6	87.0	108.7
	67.3	64.5	63.3	65.6	73.9	76.1	65.5	61.3	61.2	73.9
	61.2	54.8	51.8	50.7	52.3	52.4	44.9	40.7	38.6	40.5

RTP=1Y	RTP=2Y	RTP=5Y	RTP=10Y	RTP=20Y	RTP=50Y	RTP=100Y	2018 Peak
134.3	261.3	328.9	370.6	408.9	456.2	490.1	521.0

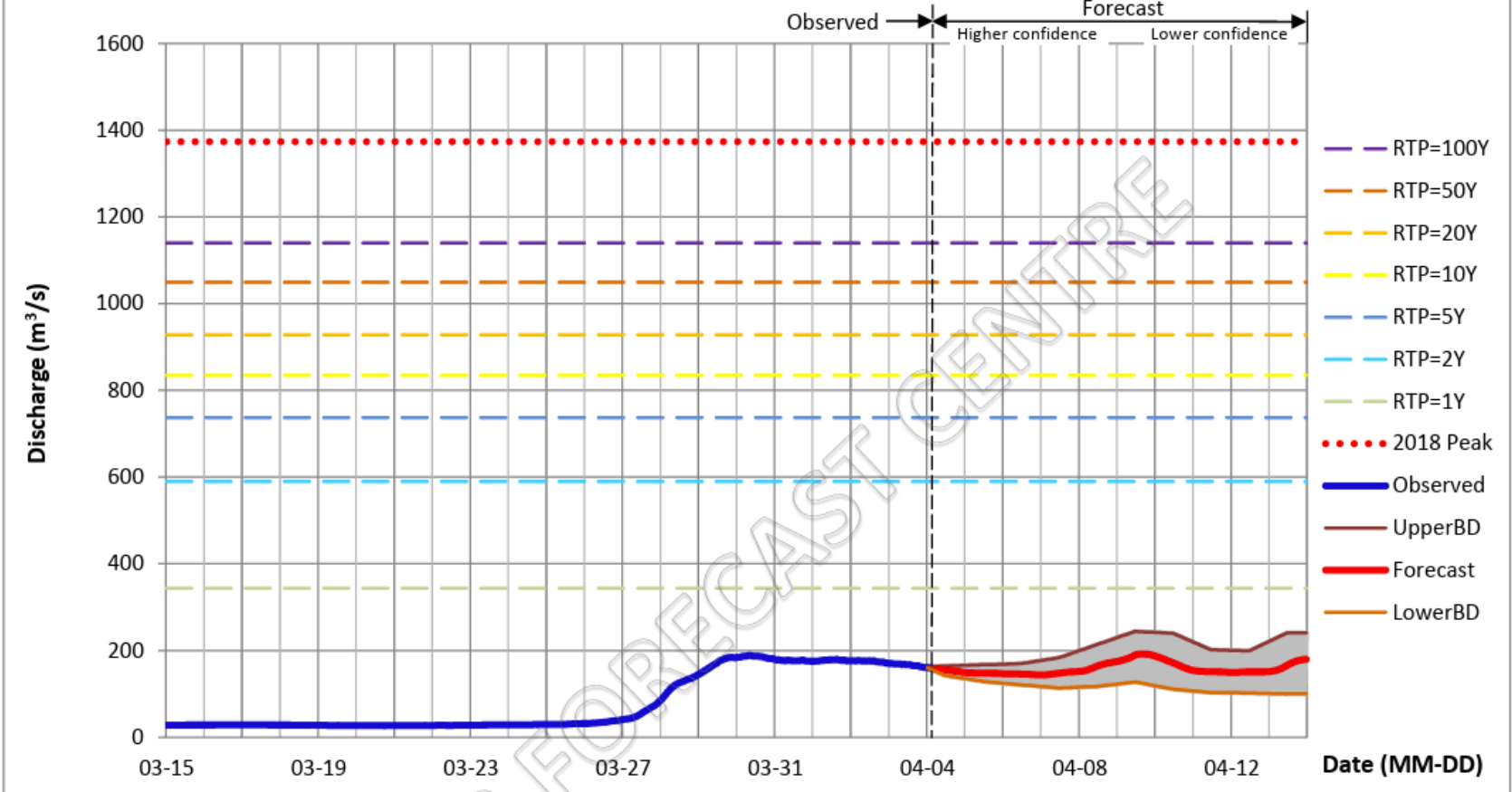
Color Scheme for Return Periods:



<https://bcrfc.env.gov.bc.ca/freshet/clever/08NN002.PDF>

(m³/s)

KETTLE RIVER NEAR LAURIER WA (USGS 12404500) (124045U)



Reading at 07 AM (m³/s)	Forecast Daily Discharge (m³/s): AVERAGE									
	UPPER BOUND					LOWER BOUND				
Fri	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
2025-04-04	2025-04-04	2025-04-05	2025-04-06	2025-04-07	2025-04-08	2025-04-09	2025-04-10	2025-04-11	2025-04-12	2025-04-13
157.4	164.3	167.0	169.6	183.2	213.6	244.0	239.6	201.4	199.1	240.8
	153.5	147.9	145.3	147.7	163.3	186.0	170.4	151.2	150.3	166.1
	142.6	128.9	120.9	113.6	117.3	127.5	110.9	103.2	101.9	100.1

Color Scheme for Return Periods:	RTP=1Y	RTP=2Y	RTP=5Y	RTP=10Y	RTP=20Y	RTP=50Y	RTP=100Y	2018 Peak
	343.6	589.8	737.1	834.5	928.0	1049.1	1139.8	1373.4

Color Scheme for Return Periods:

(m³/s)



<https://bcrfc.env.gov.bc.ca/freshet/clever/124045U.PDF>

River Forecast Information Sources

- Summary information at Regional District of Kootenay Boundary
 - [Current Freshet Conditions](#) resource page
 - [BoundaryFreshetDashboard.pdf](#) updated weekly or more as freshet progresses
- Snowpack
 - Area summary showing at “High Resolution Maps” at <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/river-forecast-centre/snow-survey-water-supply-bulletin>
 - Map: [Snow Survey Stations Interactive Map](#)
 - Grano Creek (up Christian Valley)
 - [Snow.2E07P.Automated Snow Weather Station Graph.Automated Snow Weather Station Graph.2025040207500178.PDF](#) or interactive at [Daily SWE 2E07P](#)
 - US Sno-Tel [Snow Station Information - GRANO CREEK](#)
 - Greyback Reservoir (headwaters of Penticton Creek northwest of Carmi)
[Snow.2F08P.Automated Snow Weather Station Graph.Automated Snow Weather Station Graph.2025040207400700.PDF](#); interactive at [Daily SWE 2F08P](#)
 - Sentinel Butte (south of border, upstream of Grand Forks)
 - US Sno-Tel nwrfc.noaa.gov/snow/snowplot.cgi?SENW1
 - Satellite + modelling estimates of snow cover basin wide [NOHRSC Interactive Snow Information](#)

River

- 120 day river forecast (Laurier, downstream)
 - US NOAA [Extended 45 to 120 Day Forecast](#) - model updated weekly and tracking against river flows; provides typical low (10%), median and high (90%) flows.
- Short term forecast and current flows
 - Ferry (Washington downstream of Midway)
 - BC CLEVER [124015U.PDF](#)
 - interactive current flow [124015U KETTLE RIVER NEAR FERRY, WA \(USGS 12401500\) - Seven-Day Flow](#)
 - US - [Northwest River Forecast Center](#) and click on Ferry station, text here: [KETTLE--NEAR FERRY \(FRYW1\) -- Text Summary Page](#)
 - Intl border (upstream of Grand Forks)
 - CLEVER [08NN02R.PDF](#) - estimated model station
 - Granby River (up Riverside Drive)
 - CLEVER [08NN002.PDF](#)
 - Interactive current flow [08NN002 GRANBY RIVER AT GRAND FORKS - Seven-Day Flow](#)
 - Laurier (downstream of Christina Lake)
 - CLEVER [124045U.PDF](#)
 - interactive current flow [124045U KETTLE RIVER NEAR LAURIER, WA \(USGS 12404500\) - Seven-Day Flow](#)
 - US - [Northwest River Forecast Center](#) and click on Laurier station, text here: [KETTLE--AT LAURIER \(LAUW1\) -- Text Summary Page](#)



WP3 PERMITTING UPDATE

Permit Name	South Ruckle Dike (North of 63 rd Ave)	South Ruckle Dike (South of 63 rd Ave)
Heritage Inspection Permit (HIP)	In Hand	In Hand
Archeological Impact Assessment (AIA)	Complete	Initial assessment complete. Construction phase monitoring required.
Site Alteration Permit (SAP)	Confirmed as Not Required	Not Required unless a discovery is made
Dike Maintenance Act Permit (DMA)	Complete	First Nations consultation completed. Formal application submitted (preliminary)
Letter of Advice (LOA) from Fisheries	Received. Extended to 2026.	On hold pending final design
Fish Act Authorization (FAA)	Not Required	Assumed not required
Fish Collection Permit	Not Required	Assumed not required
Species at Risk Act (SARA) Permit	Covered by LOA	Awaiting LOA. On hold pending final design
Water Sustainability Act (WSA) Permission	S11 not required for dike. Confirmed also not required for outfalls.	S11 not expected to be required. Pending final design
License of Occupation (LOO)	No longer the preferred mechanism by Province for dikes	No longer the preferred mechanism by Province for dikes
Statutory Right-Of-Way over Crown Land	In Hand	In Hand
Interfor, Grand Forks Rail, TSBC, Rail tie-in Approval	Complete	Not required

FLOOD MITIGATION PROGRAM COSTS TO DATE

Scope	Actuals to Feb 28th, 2024
WP1 - Downtown	\$ 23,386,475
Riverside Drive Stormwater Interceptor	\$ 4,742,080
WP2 a&b - North Ruckle	\$ 8,400,452
WP2c - Rockwool	\$ 5,006,060
WP3 – South Ruckle	\$ 1,097,146
WP 5 - Johnson Flats	\$ 1,850,019
WP 6 – Rural Erosion (Phase 1), by RDKB	\$ 384,591
WP 7 - Floodplain Restoration	\$ 2,108,037
Haz-mat Assessments	\$ 70,311
Demolition	\$ 1,326,080
Capital Projects Subtotal	\$ 48,371,252
Property (land)	\$ 6,662,181
Property (improvements)	\$ 7,392,035
Add. City Contributions (LAP)	\$ 3,466,064
Property Subtotal	\$ 17,520,280
Additional City Contributions (non-LAP)	\$ 1,302,112
Grand Total	\$ 67,193,644



CURRENT FLOOD MITIGATION CAPITAL PLAN

2024+ Capital Plan

Project	Scope	April 2024 Reforecast (BAC)	Actual Costs (AC) to Feb 28th, 2025	Estimate to Complete (ETC)	Estimate at Completion (EAC) = AC + ETC	Variance at Completion (VAC) = BAC - EAC	Percent Complete
WP1	Program Wide Schematic Design; Downtown Dikes and Pump Stations	\$ 23,591,822	\$ 23,386,475	\$ 205,346	\$ 23,591,822	\$ -	99.1%
WP1	Riverside Drive Stormwater Interceptor	\$ 4,761,540	\$ 4,742,080	\$ 19,461	\$ 4,761,540	\$ -	99.6%
WP2 a&b	North Ruckle Trail Dike	\$ 8,439,271	\$ 8,400,452	\$ 38,819	\$ 8,439,271	\$ -	99.5%
WP2c	Rockwool Trail Dike	\$ 5,683,726	\$ 5,006,060	\$ 411,055	\$ 5,417,115	\$ 266,611	92.4%
WP3	South Ruckle Dike and Drainage Network	\$ 5,509,846	\$ 1,097,146	\$ 4,412,700	\$ 5,509,846	\$ -	19.9%
WP5	Johnson Flats Erosion Protection	\$ 1,850,019	\$ 1,850,019	\$ -	\$ 1,850,019	\$ -	100.0%
WP6	Rural Erosion Protection (Phase 1), by RDKB	\$ 814,992	\$ 384,591	\$ 430,401	\$ 814,992	\$ -	47.2%
WP7	Floodplain Naturalization and Habitat Offsetting	\$ 2,130,999	\$ 2,108,037	\$ 22,962	\$ 2,130,999	\$ -	98.9%
All	Haz-mat Assessments	\$ 70,311	\$ 70,311	\$ -	\$ 70,311	\$ -	100.0%
All	Demolition	\$ 1,328,080	\$ 1,326,080	\$ -	\$ 1,326,080	\$ 2,000	100.0%
	Totals	\$ 54,180,607	\$ 48,371,252	\$ 5,540,743	\$ 53,911,995	\$ 268,611	89.7%



UPDATE ON OTHER MAJOR CAPITAL PROJECTS (NON FMP)

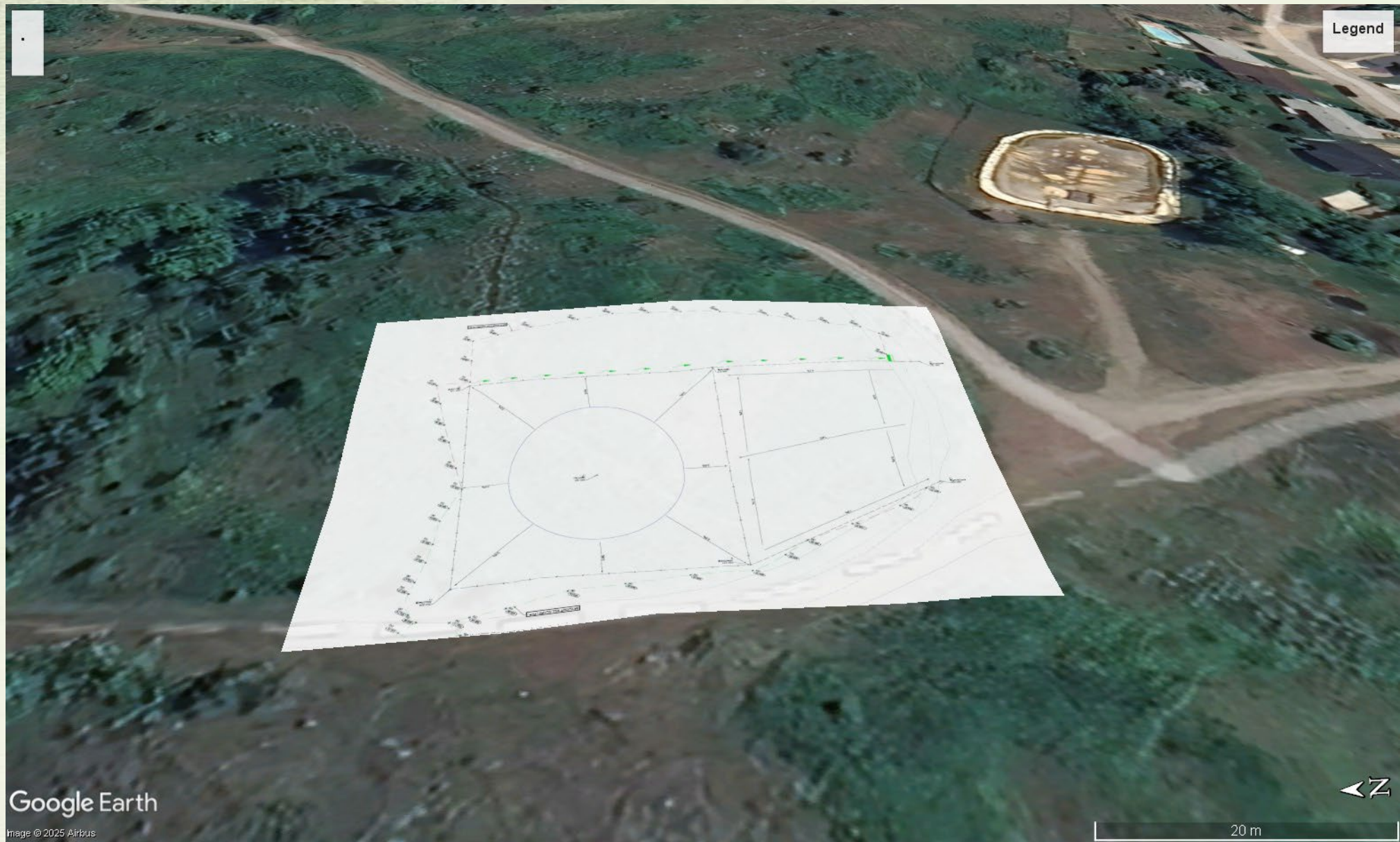
Project	Status	Next Update	Remarks
Valley Heights Electrical	Contractor procurement x2	May 2025	Detailed design complete. Purchase of owner supplied materials complete. Open house held; engagement ongoing
East Zone Water Reservoir	Design and tank procurement	May 2025	Detailed design underway, including for well improvements. RFP under development for procurement of tank. Open house held; engagement ongoing
Sewer Modeling	RFP Development	May 2025	RFP for consultant under development.
68th Ave Trunk Sewer	Pending	Summer 2025	On hold pending further sewer modeling. West End developments proceeding.
Downtown Stormwater	Planning	June 2025	To be revisited in 2026 per Council's strategic plan. Staff engaging with funders regarding scope options.
Utility Upgrades - Central Ave	Planning. Advocating with Province.	June 2025	Details outlined in Council's 2025 / 26 strategic plan.



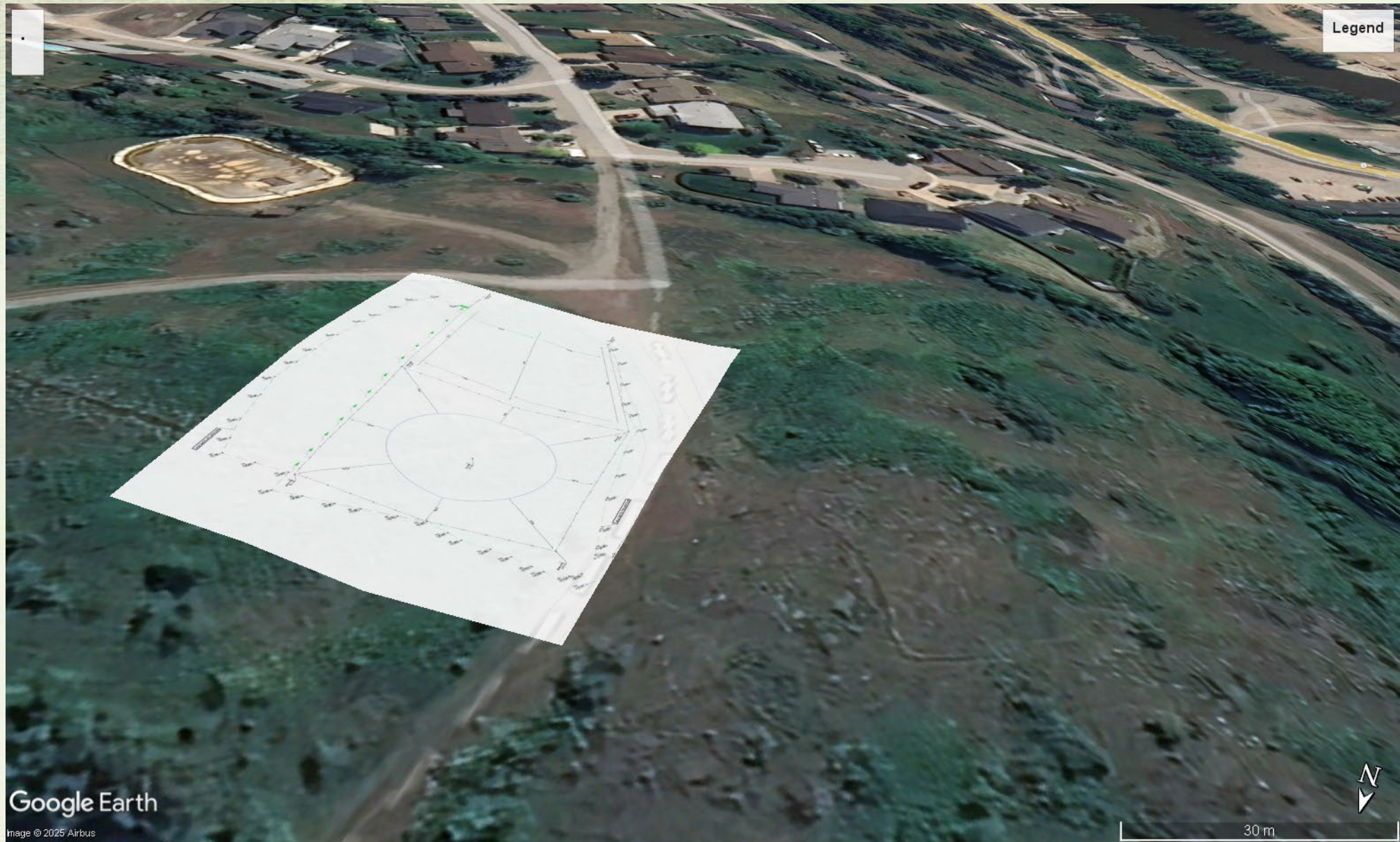
VALLEY HEIGHTS ELECTRICAL MATERIAL PROCUREMENT



EAST ZONE RESERVOIR LOCATION (APPROX.)



EAST ZONE
RESERVOIR
LOCATION
(APPROX.)



Google Earth
Image © 2025 Airbus

EAST ZONE
RESERVOIR
LOCATION
(APPROX.)





THANK YOU