WASTEWATER SYSTEM IMPROVEMENTS

CITY OF THOMPSON FALLS COUNCIL MEETING

February 12, 2018

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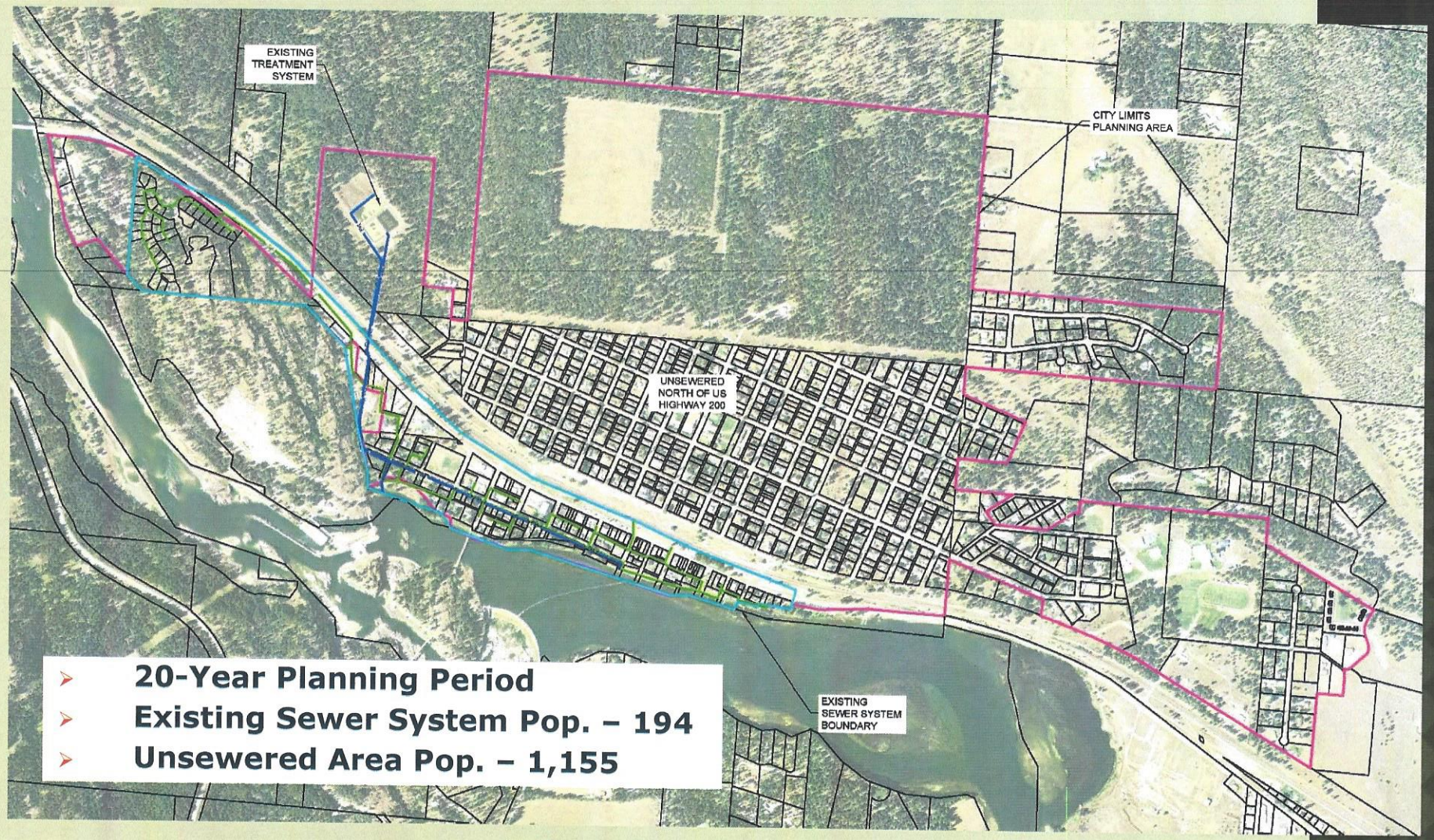
GreatWest engineering

PRELIMINARY ENGINEERING REPORT

- **What is a PER**
  - Technical report required by funding agencies to qualify for grant and loan funds
  - Analysis of existing system
  - Problem definition
  - Alternative evaluation and selection of preferred alternative
  - Cost estimates and funding scenarios
  - Implementation schedule
  - Public comment

PLANNING AREA



- 20-Year Planning Period
- Existing Sewer System Pop. – 194
- Unsewered Area Pop. – 1,155

EVALUATION OF EXISTING SYSTEM

- **Treatment**
  - Surface Water Discharge covered by General Permit
  - Limits

Treatment Upgrade Driver

TBEL Group A – NSS Technology Based Effluent Limits			
Parameter	Units	Average Monthly	Average Weekly
BOD5	mg/L	30	45
	% removal	85	NA
TSS	mg/L	30	45
	% removal	85	NA
pH	SU	6.0-9.0	

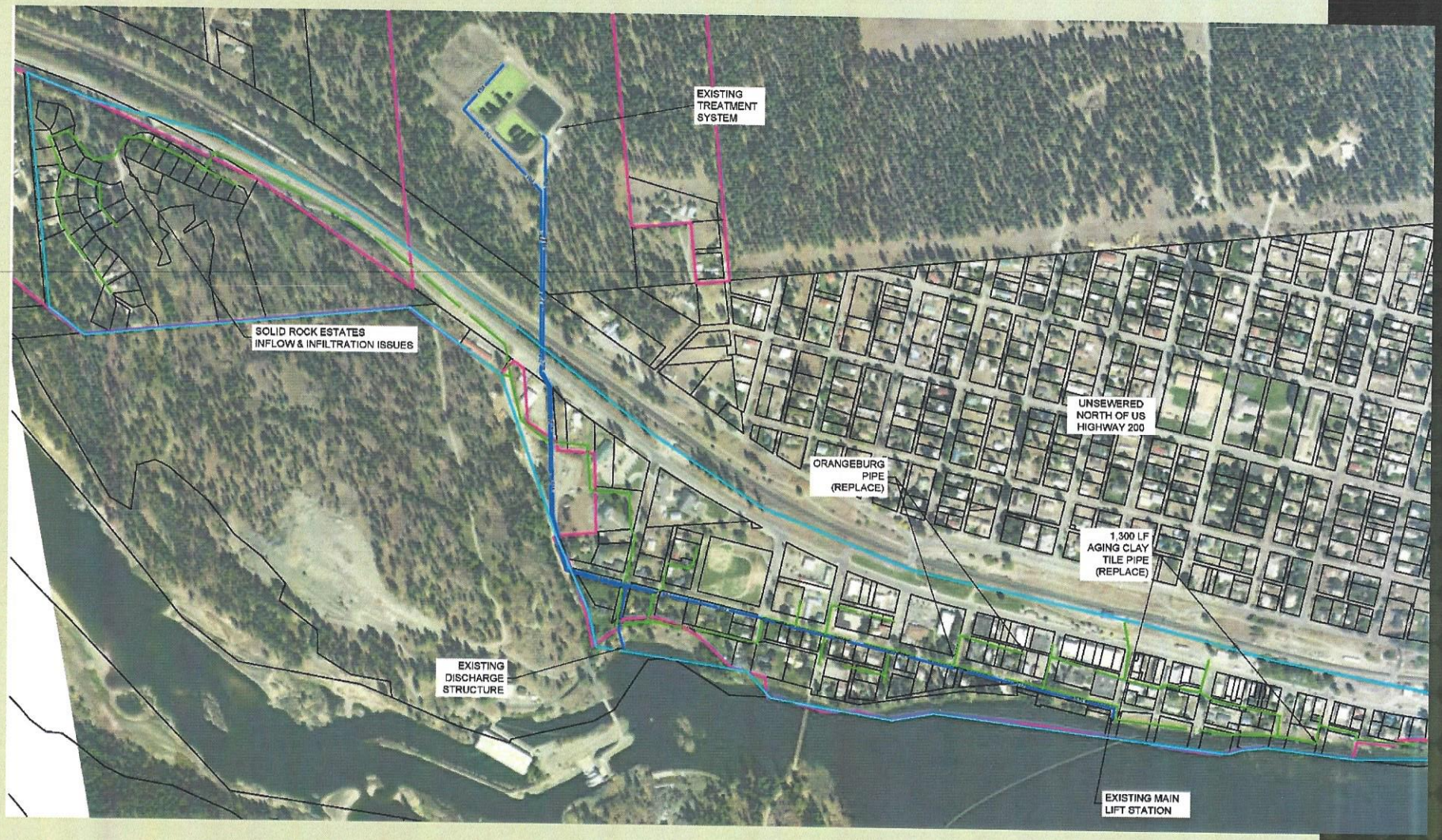
Facility – Specific Mass-based Limits			
Parameter	Units	Average Monthly	Average Weekly
BOD5	lbs/day	22	53
TSS	lbs/day	35	53

Final Water Quality Based Effluent Limits (WQBEL)				
Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
Ecoli summer (April 1 – Oct 31)	cfu/100 mL	126	242	-
Ecoli winter (Nov 1 – March 31)	cfu/100 mL	630	1,260	-
Total Residual Chlorine	mg/L	0.011	-	0.019

PROBLEM DEFINITION

- **Collection system**
  - Replace Sections of Aging Pipe
  - Reduce Inflow & Infiltration
  - Expand to Un-Sewered Area of City
- **Lift stations and Forcemain**
  - Replace Forcemain to Treatment Site
- **Treatment**
  - Headworks
  - Sludge
  - Improvements for Planning Period Flow

EVALUATION OF EXISTING SYSTEM



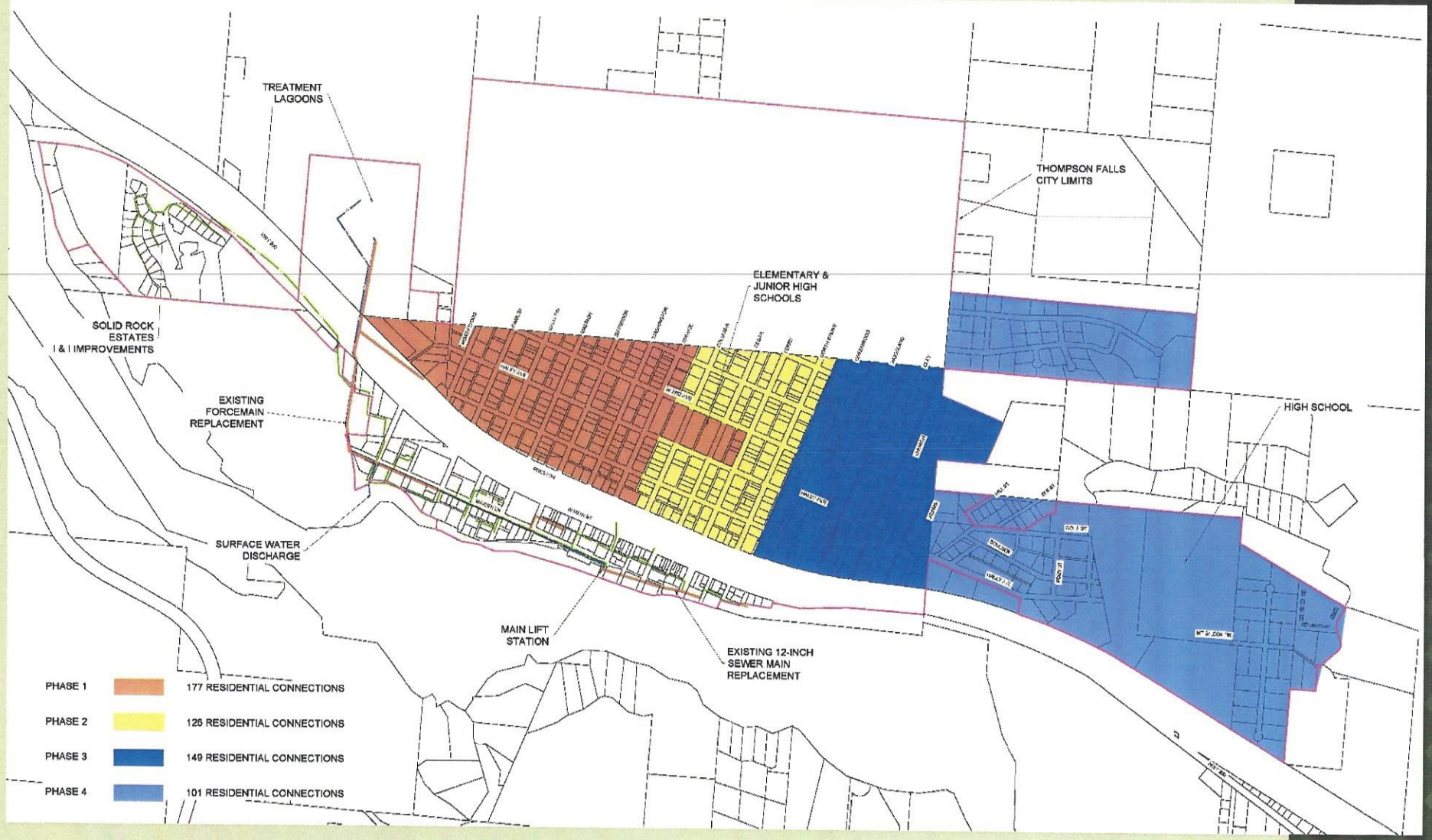
ALTERNATIVE ANALYSIS

- **Collection alternatives estimated costs**
  - No Action
  - Separate Forcemain: $19,328,000
  - Gravity to Main Lift Station: $19,389,000

- **Treatment Upgrades**
  - No Action
  - Storage & Irrigation: $6,798,000
  - LEMNA: $4,462,000
  - SAGR: $5,919,000

- **Phase Improvements**
  - **Phase 1 Project – Collection**
    - **Estimated Cost: $6,680,000**

COLLECTION SYSTEM EXPANSION ALTERNATIVES ANALYSIS



Phase 5 Treatment

TREATMENT ALTERNATIVES ANALYSIS

- **LEMNA – Phase 2 or 3**

PROJECT FUNDING SCENARIOS

- **Phase 1 Project – Collection**

Funding	Scenario 1 25% RD Grant	Scenario 2 75% RD Grant
Project Cost	$ 6,680.000	$ 6,680.000
Source		
TSEP Grant	$ 750,000	$ 750,000
DNRC Grant	$ 125,000	$ 125,000
CDBG Grant	$ 450,000	$ 450,000
RD Grant	$ 1,338,750	$ 4,016,250
RD Loan	$ 4,016,250	$ 1,338,750
Sewer Rate Summary		
Total Sewer Bill Est. $/EDU/Month	$ 68.13	$ 45.06

WHERE WE GO FROM HERE

Rural Development Acceptance of the PER	January 2018
Decision to Pursue Grants	February 2018
Public Meeting	March 2018
Public Comment	March - April 2018
Submit MT Grant Applications	May 2018
Design	July 2019
Advertise and Bid Project	Jan 2020
Construction – Phase 1	April 2020
Complete Phase 1 Construction	December 2020