Wastewater System Improvements

City of Thompson Falls
Public Meeting

3.9.2020

Carrie Gardner, PE

GreatWest engineering

WHY ARE WE HERE

- City has identified system needs
  - Wastewater System Preliminary Engineering Report (PER) **Update**
  - Environmental Assessment
  - YOUR INPUT

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
    - Selection of preferred alternative
  - Cost estimates and funding scenarios
  - Implementation schedule
  - Public Comment

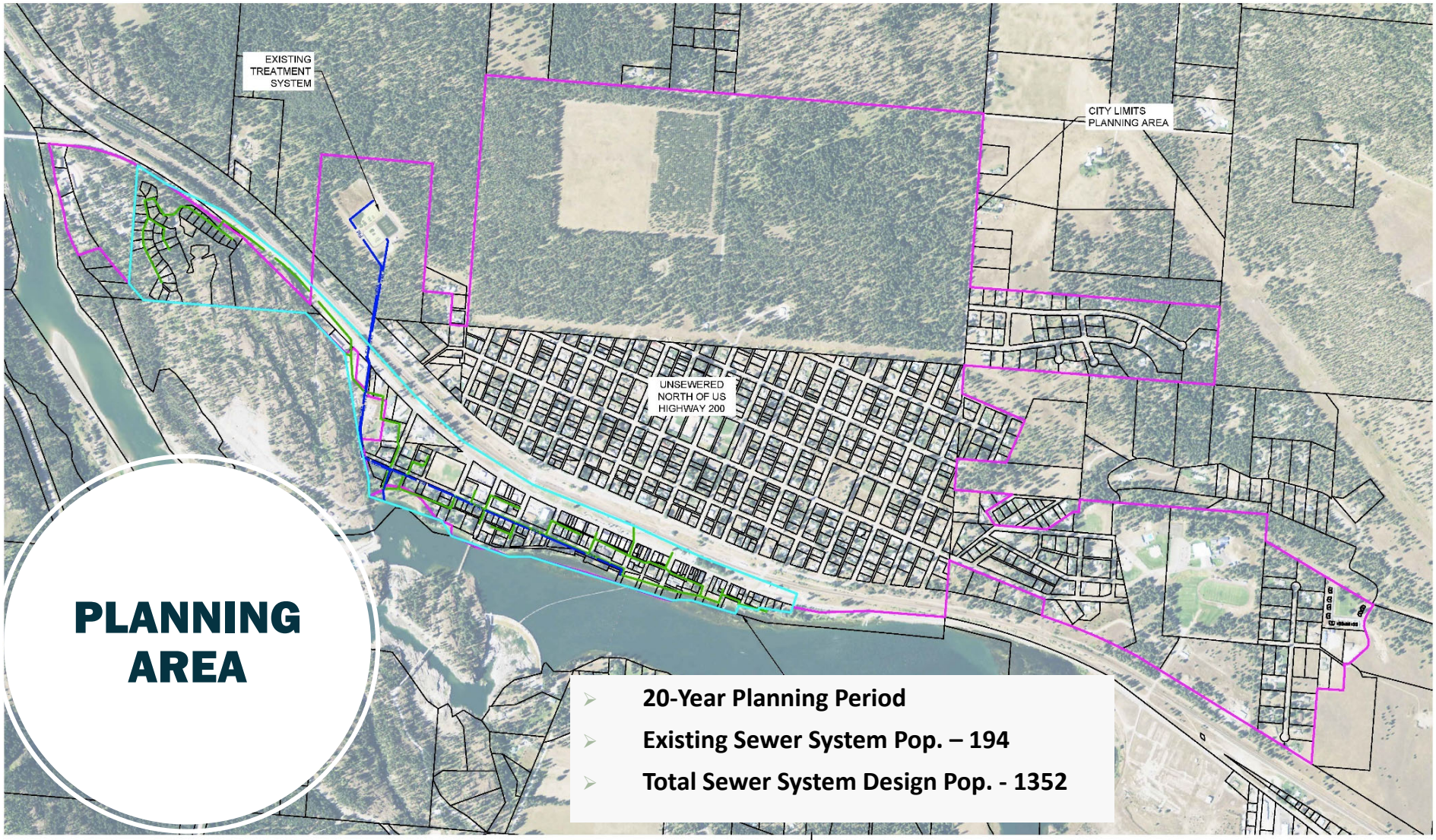

EXISTING TREATMENT SYSTEM
CITY LIMITS PLANNING AREA
UNSEWERED NORTH OF US HIGHWAY 200
PLANNING AREA
20-Year Planning Period
Existing Sewer System Pop. – 194
Total Sewer System Design Pop. - 1352

Figure X

PROBLEM DEFINITION

- **COLLECTION SYSTEM**
  - Replace Sections of Aging Pipe [Ph. 1 & 2]
  - Reduce Inflow & Infiltration [Ph. 1 & 2]
  - Expand to Un-Sewered Area of City
    - 4-Phased approach
- **Lift stations and Forcemain**
  - Replace forcemain to treatment site
  - New lift station and pumps
- **Treatment**
  - Headworks
  - Sludge
  - Improvements for Planning Period Flow

SELECTION OF PREFFERED ALTERNATIVE

- RANKING CRITERIA
  - Life cycle cost analysis
  - Operation & maintenance considerations
  - Permitting issues
  - Social impacts
  - Environmental impacts
  - Public health and safety
  - Land acquisition

EVALUATION OF EXISTING SYSTEM

- Historic and projected flow rates

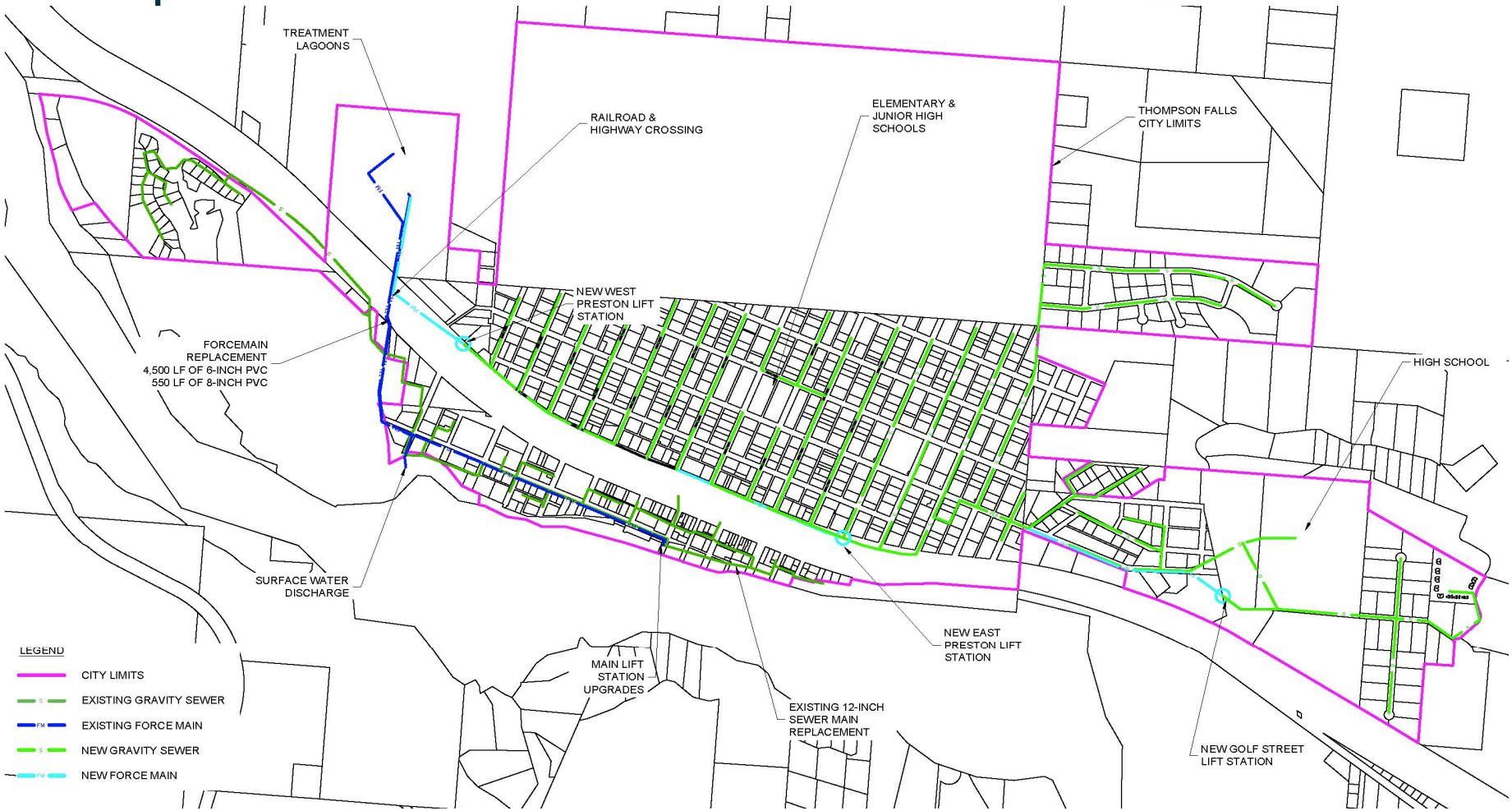
Year		Average Day (gpd)	Peak Day (gpd)	Peak Hour (gpd)	Peak Hour (gpm)
Current	Residential & Non-Residential	**35,300**	70,600	146,495	101.7
20-Year Planning Period (Phase 1-4)	Residential	141,315	387,472	719,052	499
	Non-Residential	17,121			
	Total	**193,736**			

ALTERNATIVE ANALYSIS

- **COLLECTION SYSTEM**
  - No Action
  - Separate Forcemain
  - Gravity to Main Lift Station
- **TREATMENT UPGRADES**
  - No Action
  - Storage & Irrigation
  - Complete/Partial Mix Covered Lagoons
  - SAGR
- **Phase 1 & 2 Improvements (Construct 2020/2021)**
  - Existing System Improvements
  - Treatment Improvements
  - Collection System Expansion [Wood St to Grove St.]

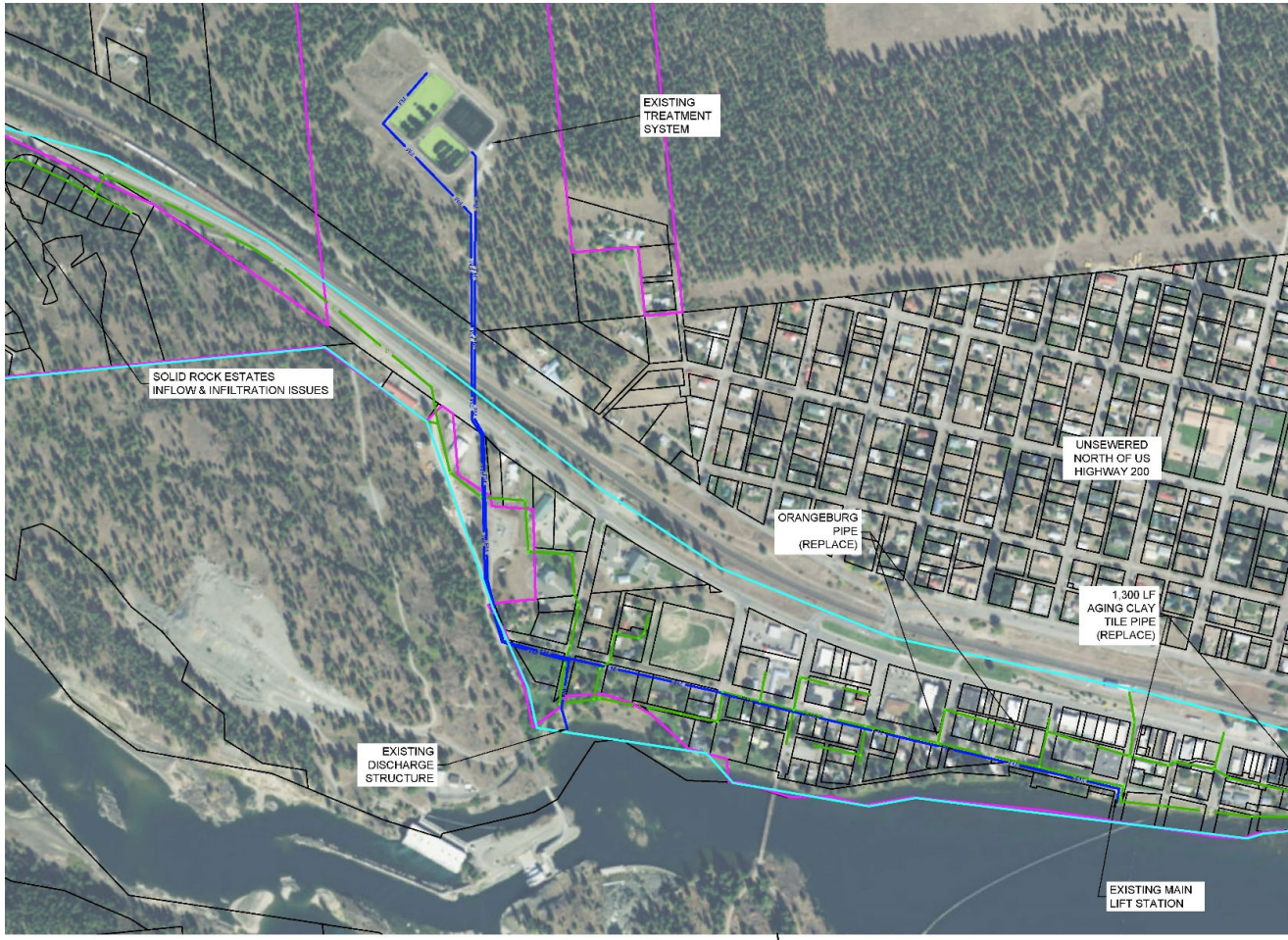
COLLECTION SYSTEM EXPANSION

- Separate Forcemain to Treatment Site



EVALUATION OF EXISTING SYSTEM

- Currently funded Phase 1 & 2 include existing system improvements



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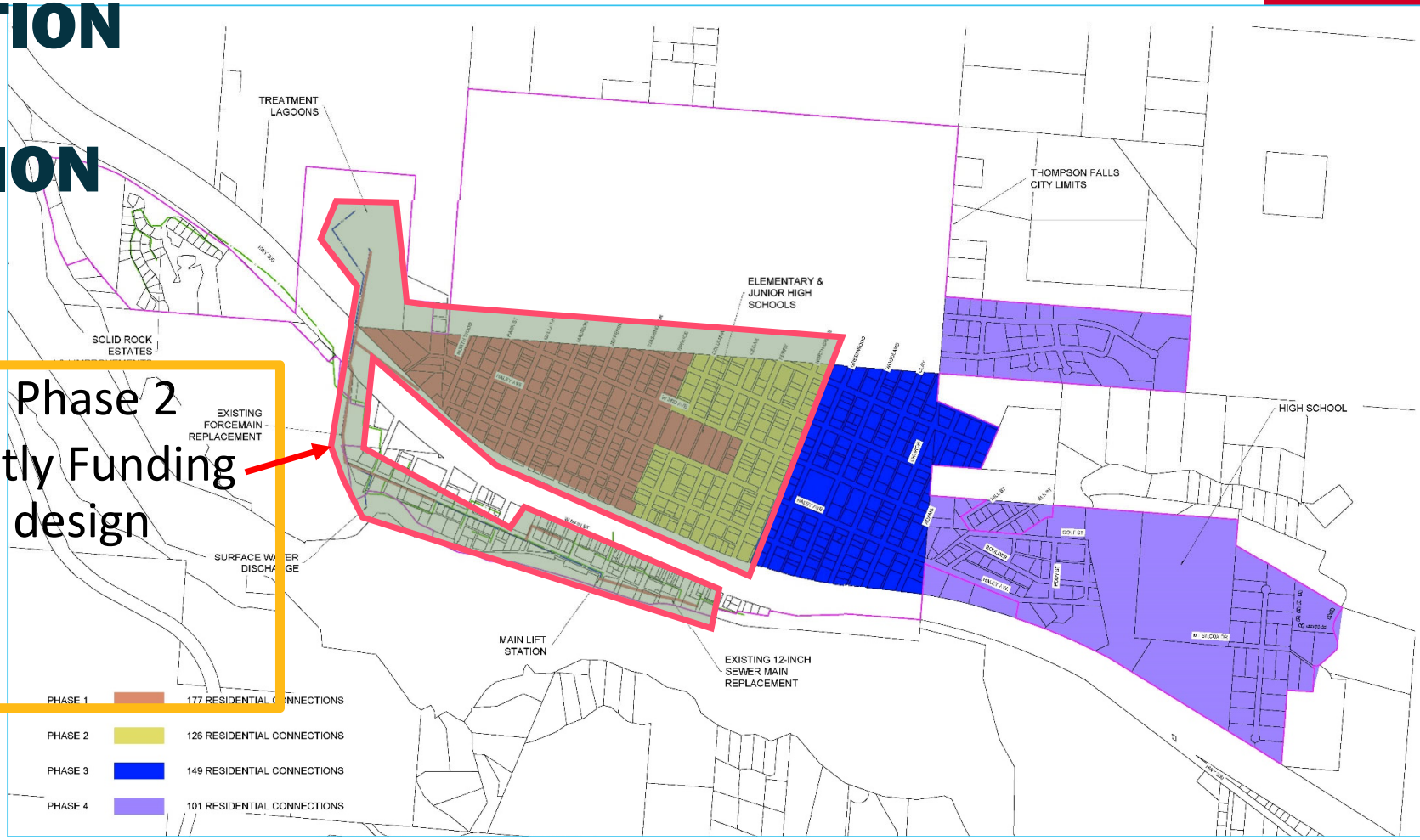
COLLECTION SYSTEM EXPANSION

- Phase 1 & Phase 2
  - Currently Funding in final design
- Phase 3
- Phase 4

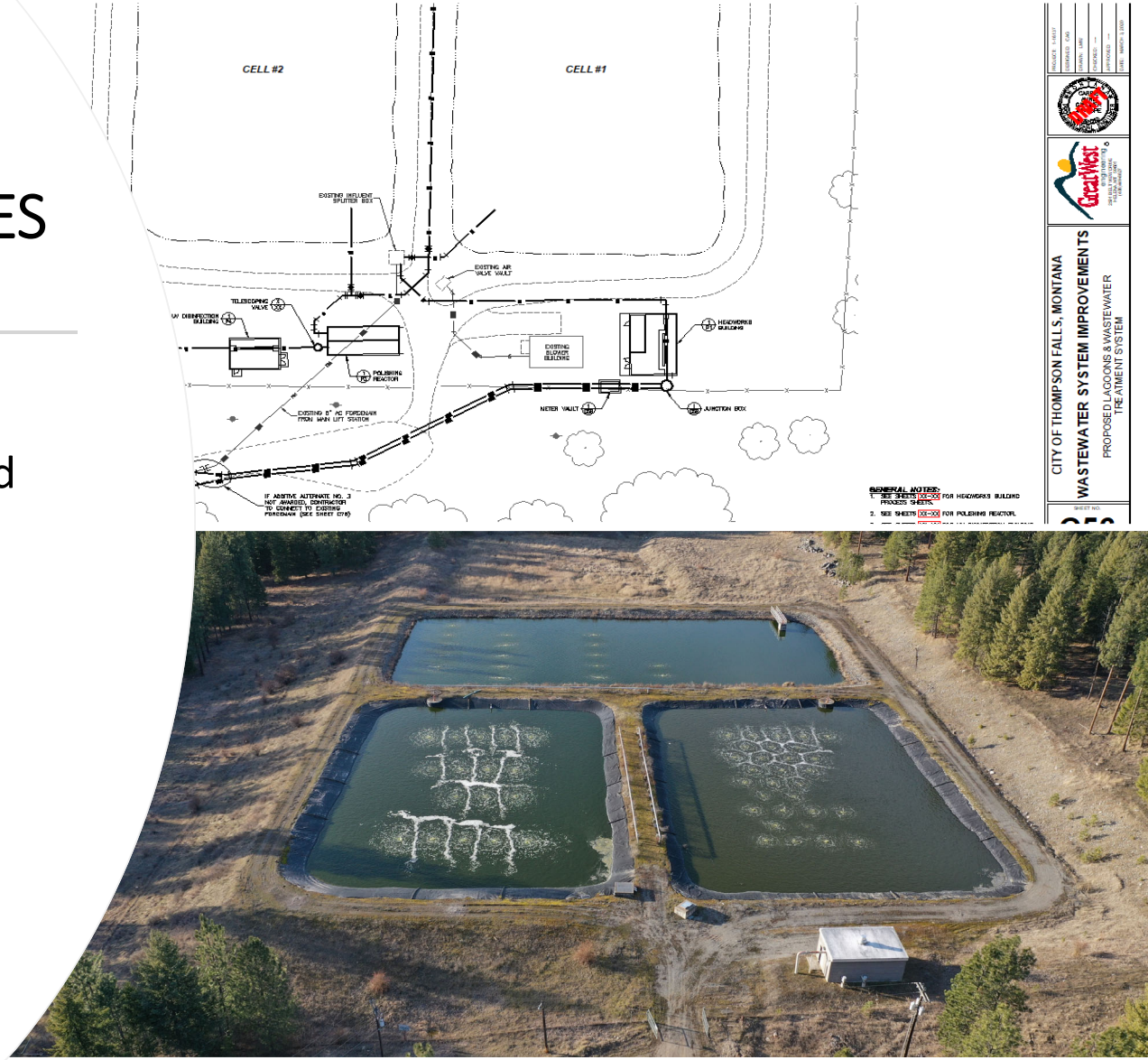


ALTERNATIVE ANALYSIS

- **Collection alternative estimated costs:**
  - Phase 3 - $4,600,000 - $6,000,000
  - Phase 4 - $5,700,000 - $7,000,000
- **Treatment Improvements:**
  - Completed during current design/construction project (2020/2021)

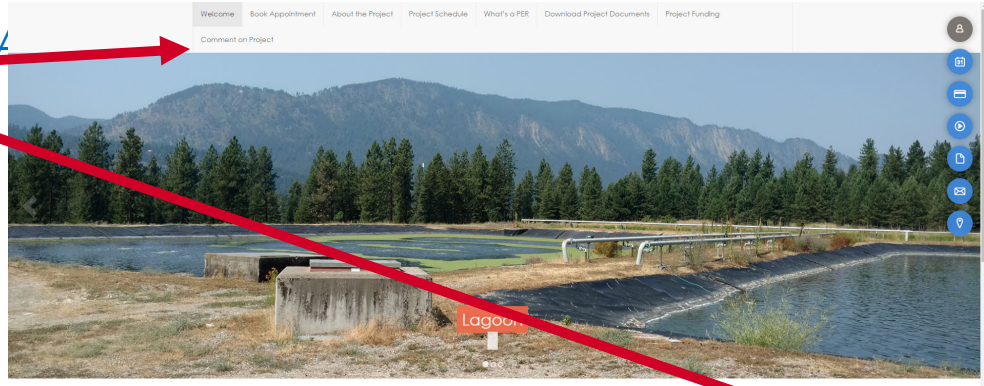
TREATMENT ALTERNATIVES

- Treatment
  - Complete/Partial Mix Covered Lagoon System + Polishing Reactor
    - Enhanced Lagoon System
      - Continue to discharge 100% of effluent
    - UV Disinfection
    - Capacity for Phases 1-4



ENVIRONMENTAL ASSESSMENT

- **What is an Environmental Assessment?**
  - Public Document Analyzing the Complexity & Seriousness of Environmental Issues
  - Draft EA has been started
    - All recommended State and Federal Agencies that have been contacted
      - Some responses have been received
    - Public Comments
      - http://thompsonfallsinfrastructure.com/



Thompson Falls Infrastructure

ENVIRONMENTAL ASSESSMENT

- **To date, no comments have been of significant impact**
- **Decision:**
  - Environmental Assessment Draft will be completed prior to finalizing the PER Update

PROJECT FUNDING STRATEGY

- Phase 1 & 2 – FUNDED
- Phase 3 & 4

TSEP

[Treasure State Endowment Program]

DNRC

(Department of Natural Resources & Conservation

CDBG

[Community Development Block Grant]

SRF

[State Revolving Fund]

RD

[U.S. Department of Agriculture Rural Development]

PROJECT FUNDING STRATEGY

Target Rate Analysis for Grant Eligibility

Medium Household Income (MHI) Based on 2015 American Community Survey		= $30,595
Department of Commerce Target Rate Threshold		
	Water Systems	= 1.4% of MHI
	Sewer Systems	= 0.9% of MHI
	Combined Rate	= 2.3% of MHI
	Thompson Falls Combined Target Rate	= $58.64/month
Low & Moderate Income (LMI) Based on 2010 American Community Survey		= 65.88%

Where To Go From Here?

• Rural Development Acceptance of the PER Update	May-June 2020
• Pursue Grants	May 2020
• Public Meeting	March & April 2020
• Public Comment	March – April 2020
• Submit MT Grant Applications	May 2020
• Design	July 2021
• Advertise and Bid Project	February 2022
• Construction – Phase 3	May 2022
• Complete Phase 3 Construction	December 2022

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