Waitsfield Wastewater Planning Project

Update

Waitsfield Selectboard Meeting

Tuesday, May 30, 2023

- **Chach Curtis**, Wastewater Engineering & Technical Team, *Waitsfield Selectboard*
- **Annie Decker-Dell'Isola**, Wastewater Project Coordination Team, *Waitsfield Town Administrator*
- **Joshua Schwartz**, Wastewater Project Coordination Team Lead, *MRVPD Executive Director*

TOWN OF WAITSFIELD

MAD RIVER VALLEY PLANNING DISTRICT
Fayston • Waitsfield • Warren

5/30 Wastewater Update Overview

1. **Project Background**
   - Why wastewater?
   - Project goals
   - Project timeline
   - Phase 1A: Feasibility Study
   - Phase 1B: Preliminary Engineering Report
   - Planning Project Structure
2. **Findings**
   - Study Area
   - Identified needs & demand
   - Alternatives analysis
   - Recommended alternatives
3. **Funding**
   - Funding Strategy
   - Next Steps
     - Design Funding
     - Upcoming Meetings
4. **Questions / Discussion**

Why wastewater?

- The Waitsfield Town Plan includes a number of policies related to the development of alternative wastewater solutions in Waitsfield, especially in the town centers (Waitsfield Village & Irasville).

- These policies include those aimed at protecting the valley's natural resources (ground and surface water protection), supporting existing economic development/housing needs, and accommodating future growth.

Why wastewater?

Waitsfield Town Plan Policies *(December 18, 2017)*

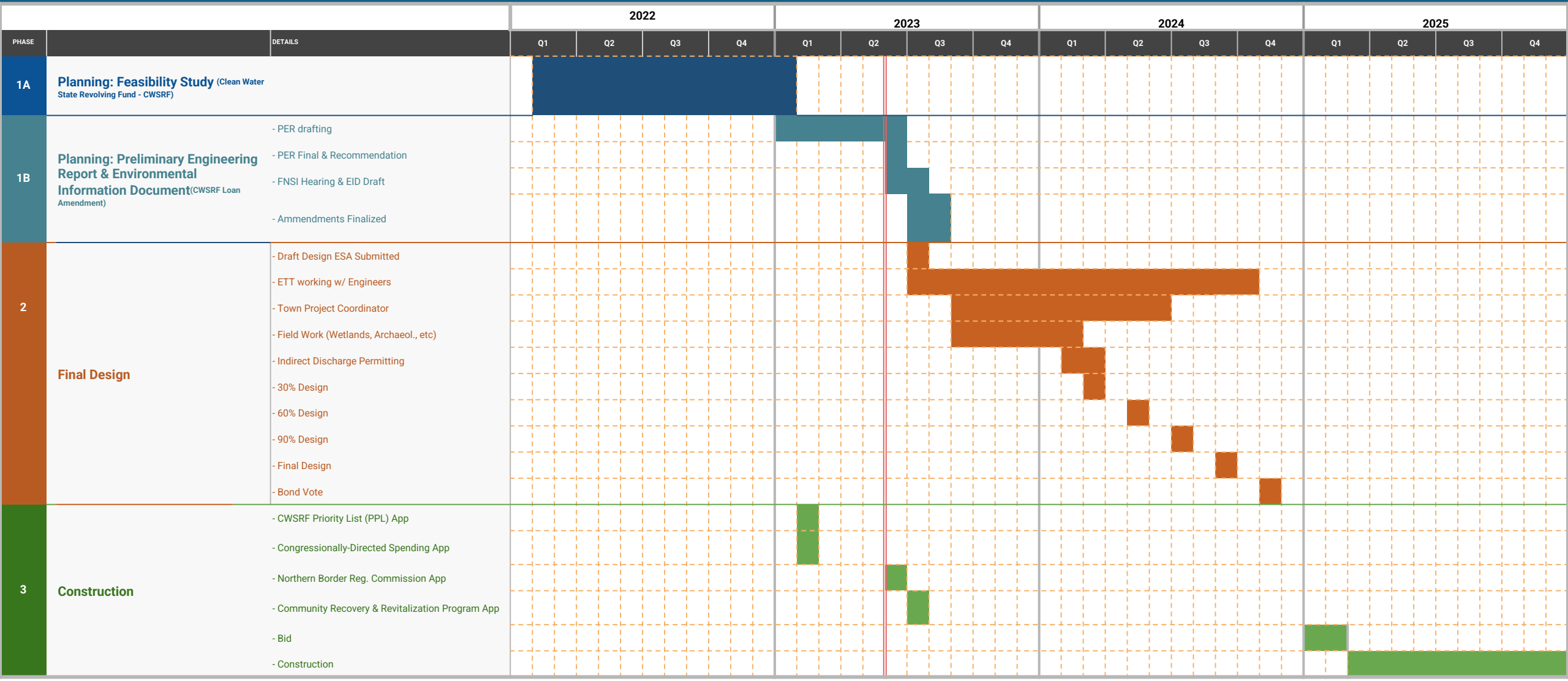
- Natural Resources (11.L-22)
  - "Support the establishment of municipal water and the further investigation of wastewater options to serve designated growth centers as a means of avoiding contamination of ground and surface waters."
- Facilities and Services (7.K-7)
  - "Develop municipal wastewater systems to serve the Town center areas of Irasville and Waitsfield Village, in order to meet current needs as well as allow for additional growth in residential and commercial properties."
- Housing (4.G-18)
  - "Investigate and support development of wastewater resources in town centers."
- Economic Development (5.I-2.i)
  - "Support the creation and construction of wastewater resources in our Town center."

Project Goals

- In the Fall of 2021 and Winter of 2022, the Planning Commission & Water Commission, with support and direction from the Selectboard, pursued state funding for a Wastewater Feasibility Study. The goal of the study was to “Study potential centralized and decentralized wastewater solutions and expansion in both directions of the Town’s water supply.”

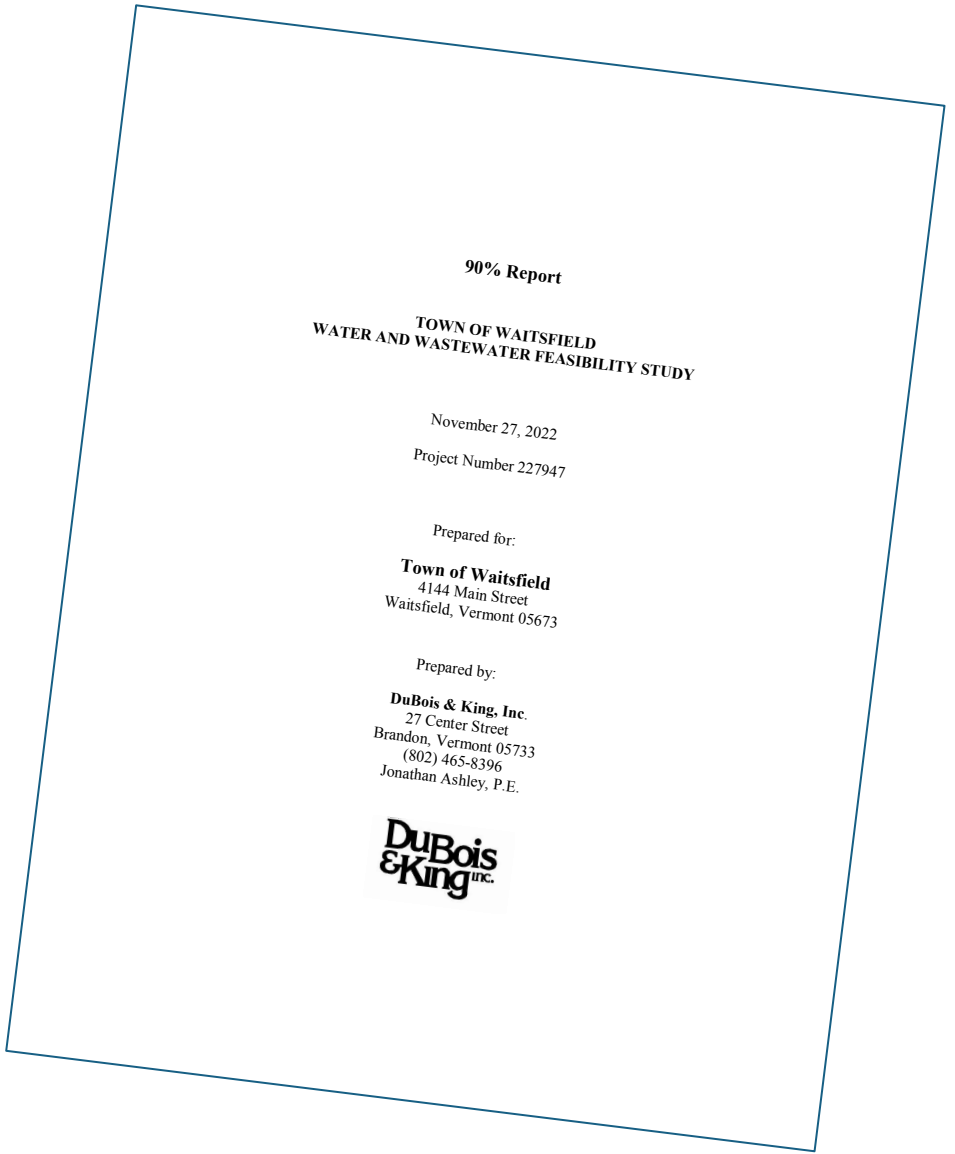
- Dubois & King was selected as the project engineer and the 2022 Engineering Services Agreement identifies the following tasks:
  - Evaluate the need for and feasibility of providing wastewater service and water service to the communities in the study area
  - Evaluate the age and location of existing wastewater systems within the study area to determine existing needs
  - Evaluate the environmental constraints within the study area that might impact replacement of existing systems or installation of new systems
  - Evaluate soil suitability for existing system replacement and installation of new systems
  - Consider the impacts of existing and new systems on wetlands and important habitat within the study area
  - Complete a needs analysis based on theses facts
  - Develop potential alternatives for wastewater disposal in the study area

Project Timeline



Phase 1A: Feasibility Study

- **Water & Wastewater Feasibility Study Committee (WWFSC) (Feb. ‘22 – Jan. ’23)**
  - Members from the Selectboard, Planning Commission, & Water Commission worked with the project engineer (Dubois & King)
  - Explored options for infrastructure improvements, wastewater solutions, and potential expansion of water service connections for Irasville and Waitsfield Village.



90% Report

TOWN OF WAITSFIELD
WATER AND WASTEWATER FEASIBILITY STUDY

November 27, 2022

Project Number 227947

Prepared for:

Town of Waitsfield
4144 Main Street
Waitsfield, Vermont 05673

Prepared by:

DuBois & King, Inc.
27 Center Street
Brandon, Vermont 05733
(802) 465-8396
Jonathan Ashley, P.E.

DuBois & King inc.

Phase 1B: Preliminary Engineering Report

- **Feb ‘23 – June ’23 (final 6/9)**
- **Analysis of the Selectboard’s selected scenarios to further define preferred solutions, feasibility, and costs**
- **Signed & amended an Engineering Services Agreement (ESA) with DuBois & King**
- **Received a (forgivable) loan amendment from Clean Water State Revolving Fund (CWSRF)**

Planning Project Structure

Project Coordination Team (PCT)

- Joshua Schwartz (lead)
- Annie Decker-Dell'Isola
- JB Weir

Engineering/Technical Team (ETT)

- Bob Cook
- Chach Curtis
- Robin Morris
- Jon Ashley
- Joshua Schwartz

Funding Team (FT)

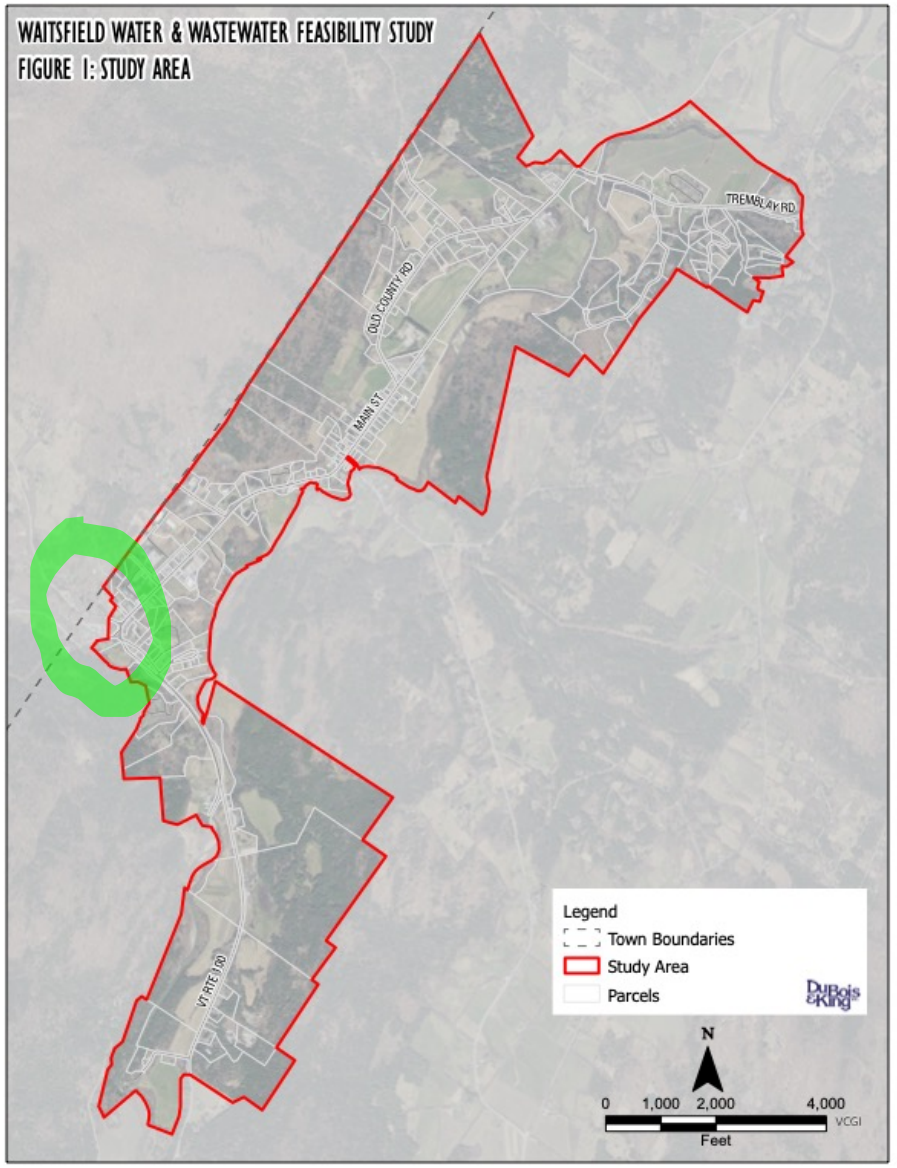
- JB Weir (lead)
- Randy Brittingham
- Joshua Schwartz
- Jon Ashley

Public Outreach Team (POT)

- Annie Decker-Dell'Isola (lead)
- Joshua Schwartz
- Chach Curtis

Project Study Area

- **Study Area**
  - At the outset of the project, the Town identified the boundary of the study area, which includes Irasville and Waitsfield Village, as well as area to the north (to the gravel pit) and to the south (to the “Munn” site)
  - Proposed amendment to Study Area as part of PER to include all of Irasville



Project Findings & Recommendation

- **Needs Analysis**
- **Alternatives Analysis**
- **Recommended Alternative**
  - **Proposed Service Area**
  - **Village Water**
  - **Village Wastewater**
- **Probable Cost**

128 Parcels with existing wastewater systems in Irasville & Waitsfield Village (the villages)

102,506 gallons per day (gpd) of existing wastewater flows in the villages

75% % of the total study area's existing wastewater demand in the villages

Wastewater Needs Analysis:
Health, Sanitation, & Security

- Functioning wastewater disposal is critical to public health and environmental health
- The Town's village centers are geographically constrained by the Mad River, it's associated floodplain, and wetlands.
- "Development of a village wastewater system, particularly for management of wastewater from small village lots, would provide protection for water quality in the Mad River."

64% existing leachfields in the villages that are lot constrained

27% existing leachfields in the villages that are in the floodplain or river corridor

26% existing leachfields in the villages that are located within well shields

Wastewater Needs Analysis: Aging Infrastructure

- The EPA finds that the average lifespan of a septic system is 15 to 40 years.
- The project engineer estimates that the cost to replace a septic system ranges from an average of $12,500 in areas with well suited soils and no other constraints, and up to $50,000 to $60,000 in areas with poor soil or more environmental constraints

43%

Systems in the villages near or have exceeded their usable life (>30 years)

74%

Percentage of parcels in the Village Residential District with older septic systems that will reach their expected lifespan in the next 20 years

Wastewater Needs Analysis: Reasonable Growth

- A new wastewater system would ideally not only accommodate existing uses, but also add capacity for growth
- Future wastewater design flows were estimated based on an assumption of evenly-distributed population growth at an average annual rate of 1% over 20 years
- In addition, added residential growth was estimated at a total of 14,000 gpd (~66 new housing units) over the next 20 years
  - This is <14% of the MRV housing market's total current and future housing need. (2020 Housing Demand and Market Analysis)

35%

Projected total future demand (2043) over current demand

Alternatives Analysis

The Feasibility Study (December 2022) included a review of eight potential scenarios for proceeding with wastewater disposal. The Selectboard chose to proceed with exploring Scenario 5B and Scenario 2 in more detail in the PER.

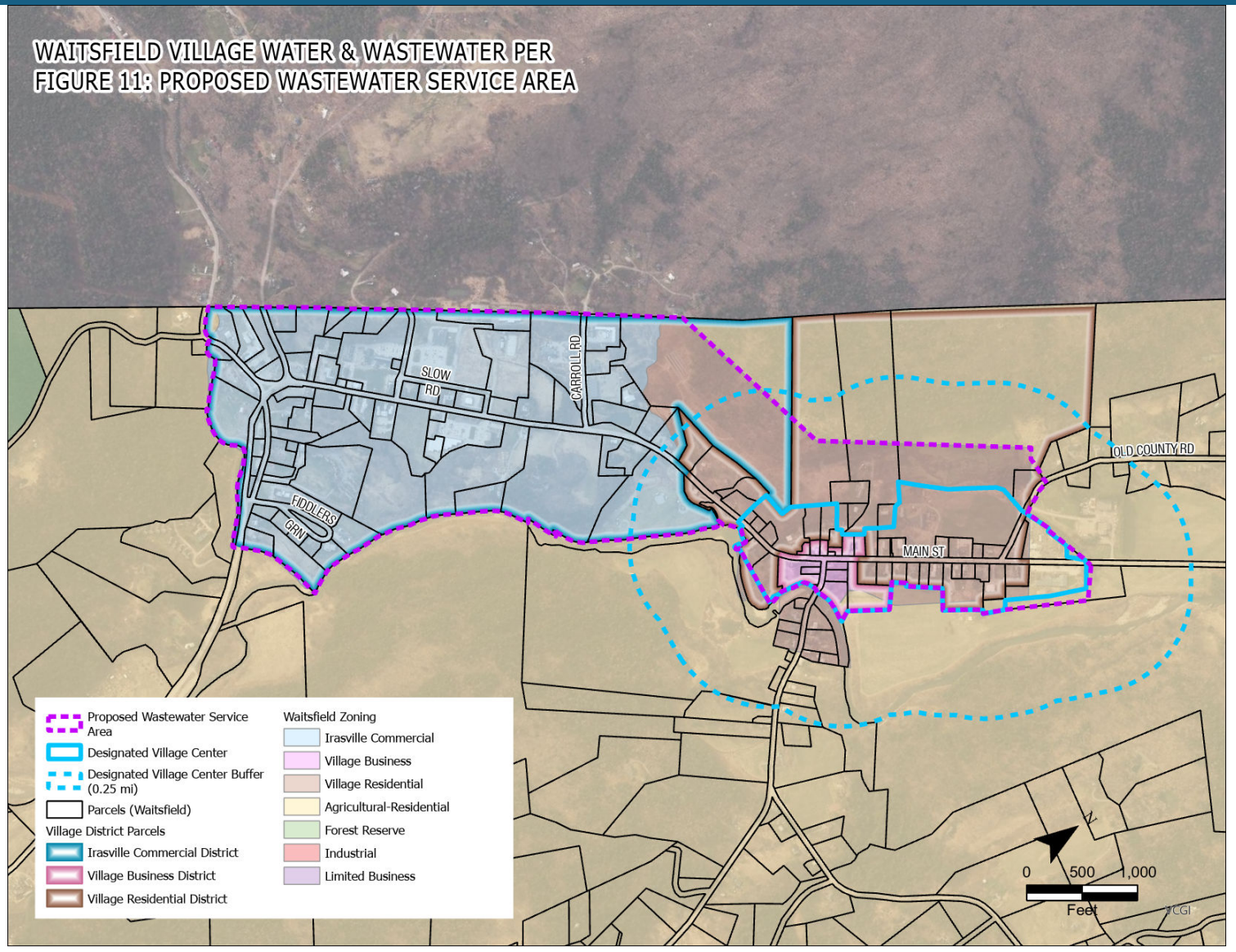
Scenario 2, "Connect Remaining Properties with Private Wells in the Irasville and Waitsfield Village Districts to the Water System" This alternative would remove the well isolation zones on existing lots within the villages, freeing up well-suited soils for in-ground wastewater disposal systems.

Scenario 5B "Clustered Community Waster System," develop the Munn Site treatment and disposal system and another new treatment and disposal facility in the north

Recommended Alternative: Service Area

Dubois & King recommends the service area include the village zones identified in the Waitsfield Town Plan:

- Irasville Commercial District
- Village Business District
- Village Residential District
- ACCD Designated Village Center



Recommended Alternative: Village Water

- Dubois & King recommends that properties connect to the water system on a voluntary basis.
- The engineer evaluated potential federal funding sources and determined that federal funding is not practical given requirements and limited grants and subsidies.

Recommended Alternative: Village Wastewater

- Dubois & King recommends that the Munn site is the preferred primary treatment and disposal site. An additional northern disposal site was evaluated and ultimately eliminated due to capacity and capital cost challenges.
- A tertiary system at the Munn site is recommended
- Based on the needs analysis, the following have been identified as the priorities for current and future wastewater capacity of the Munn site:
  1. Existing properties with leachfields that are 40 or more years old;
  2. Existing properties with leachfields that are located in a mapped floodplain;
  3. Existing properties with leachfields that are located in the River Corridor;
  4. Existing properties with leachfields that are located within well shields for existing private and public drinking water wells; and
  5. Capacity to accommodate connections for future housing development and economic activity.

Recommended Alternative: Village Wastewater

- Available disposal capacity of Munn site (after infiltration): ~84,000 gpd
- Wastewater demand of all existing village parcels: ~100,000 gpd
- Wastewater demand of identified priorities: ~65,000 gallons per day (gpd)
- Capacity available for additional demand: ~19,000 gpd
  - For example, 19,000 gpd = 35 one bedroom + 35 two bedroom + 8% increase of existing commercial wastewater flow

Recommended Alternative: Village Wastewater

"These priorities offer the most potential benefit in terms of water quality protection for the Mad River, other streams, and wetlands; drinking water and overall human health protection; offset of the economic hardships of replacing failing and low-functioning septic systems; and addressing the community's need for future housing development and economic activity."

Recommended Alternative: Opinion of Probable Cost

- The PER includes preliminary engineering design for the recommended alternative, including connections, the conveyance pipe, treatment and disposal, a project schedule, necessary permits, and a total project cost estimate.
- The estimated total project cost for the recommended alternative (tertiary treatment at the Munn site) is $15,657,700.
- The estimated total project cost to connect all existing eligible users to the water system is $1,071,800.

Funding Strategy

- Significant grants and subsidies are needed to provide affordable user rates. It is recommended that the Town pursue federal funding opportunities with the potential to provide grants and subsidies.
- The Town has a goal to fund as much of the project as possible with available grants and subsidies.
- The project team's goal is to find a mix of grants and loan funding to result in a user rate comparable to the Waitsfield Water System.
- To date, all project funding has been forgivable loans through the Clean Water State Revolving Fund.
  - $199,418 has been loaned to date, which is 45% under budget

Funding Strategy

- The Funding Team is actively pursuing the following funding opportunities:
  - $10.4 million through Senator Sander's FY23 Congressional Discretionary Spending
  - $3.0 million through the Northern Borders Regional Commission Catalyst Program
  - ~$125,000 CWSRF Phase II Design subsidy

- Other potential sources:
  - Village Water Wastewater Initiative (ARPA) ($TBD)
  - Loans and grants through USDA ($TBD)
  - Construction loans and grants through CWSRF ($TBD)
  - ACCD Community Revitalization & Recovery Program ($TBD)

Next Steps: Design Funding

- The estimated cost of Phase 2 Final Design based on the draft PER is $709,300.
- D&K recommends three phases for Final Design:
  - 30%: $213,000
  - 60%: $213,000
  - 90% + Final Design: $283,300
- The Project Team recommends applying for the available CWSRF subsidy for Step 2 Design in FY24 (July 1, 2023), potentially up to $125,000
  - It's possible this subsidy would be available again in FY25 (July 1, 2024) at the same amount
- The Project Team and Selectboard will need to determine how to fund each phase of design based on the funding avenues available at that time

Next Steps: Upcoming Meetings

- June 2nd
  - NBRC Application Deadline
- June 5th
  - Selectboard to review final PER draft and act on Engineering Technical Team recommendation
- June 9th
  - Final PER due to Town
- June 26th
  - Selectboard review and authorize submittal of CWSRF Step 2 Final Design Funding and updated Engineering Services Agreement with D&K for 30% Design
- June 30th
  - CWSRF Step 2 Design application deadline

- TBD: Finding of No Significant Impact Hearing (FNSI)

Questions / Discussion

The Project Team and engineering will be available to answer any questions the Selectboard or community might have.