Progress Report

Project: Lummi Island Scenic Estates Community Club

Wilson Project Number: 2022-120

Service Dates: Through 11/30/2023

LISECC Staff/Board Responsibilities:

Responsibility	Timeline
Assist in sketching in approximate locations of buried water and drain pipes that were not located for topographic survey	Desired in January 2024
Review BABA waiver request form, determine certifying official	As soon as feasible, within 1-2 weeks
Nick to provide raw and filtered DOC sample results subsequent to 10/6	As soon as feasible, within 1-2 weeks
Allison / LISECC staff to provide updated survey depicting Dogwood Terrace easements to property owners to confirm their concurrence	Within ~1 month
Nick to provide contact info for the people at the Dam Safety Office so Brian can start coordinating about our plans for the new raw water pipe crossing the dam	As soon as feasible, within 1-2 weeks

SMALL WATER SYSTEM MANAGEMENT PLAN ASSISTANCE

All Tasks: no change from previous progress report.

PRE-DESIGN

Complete

PRELIMINARY ENGINEERING REPORT

- Project Report that will be submitted to DOH is being refined to better detail raw water pumping system design, potential GAC system design.
- Brian has access to RD Apply application and associated ePER, and will be progressing with filling out relevant sections of the application.

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ENVIRONMENTAL REPORT

- No work on this phase yet – will begin on this soon now that a recommended project alternative scope has been settled and the project extents are known and can be assessed with respect to environmental considerations. Additional topographic survey will assist in this effort.

USDA-RD LOAN APPLICATION

- Brian, Melanie, Allison, and Jim met with USDA-RD representatives on 8/23 to discuss the project and logistics of loan application.
- Application is underway. Jim told USDA-RD we will likely be submitting application soon.

USDA-RD LOAN IMPLEMENTATION

Task 1. Coordinate Attorney review of construction contract:

- Will complete after loan application has been submitted and construction contract documents are complete and approved by DOH and LISECC board (final task of this contract).

TOPOGRAPHICAL SURVEY COORDINATION & BASE DRAWING

Task 1. Coordination with Jepson & Associates:

- Jepson provided pdf of draft topographic survey on 12/4/2023. Brian's only feedback/question is regarding vertical datum. Jepson to provide CAD digital data for topo survey to provide basemap for creation of the 60% design plans.

Task 2. Data Integration and Drafting to reference survey basemap:

- Will integrate CAD data once it is provided

PERMITTING

- SEPA checklist draft has been completed. Needs some refining as design proceeds.
- Updated 11/8: Preapplication packet: Pre-app meeting where we discussed all WC permitting required for the project occurred on 10/3. Pre-app findings were provided by County on 10/25. Wilson reviewing findings.
- We will need CAD of topo survey as a basemap for design drawings before we can proceed with most of the detailed Whatcom County permits that will be required. Topo survey will provide certainty with regard to property and easement boundaries and need Dogwood Terrance roadway and existing utilities in basemap to work out all permitting logistics.
- Started coordination with Ecology regarding changes to backwash discharge and whether changes will be needed to backwash discharge permit.

PREPARE CONSTRUCTION DOCUMENTS

Task 1. Design - selecting and sizing equipment (pumping systems, membrane package plant, ancillary components):

- Updated 12/1: We have a working model of the equipment and piping inside the new water treatment plant building. Will continue to update and refine as design proceeds. The major recent modification is that we have determined that the building needs to be sized to allow for potential Granular Activated Carbon (GAC) treatment downstream of the membranes to reduce dissolved organic material that can be a disinfection by-product pre-cursor. This building expansion is being detailed (with associated costs).
- With direction on duplex raw water pump system, fully redundant membrane skids, each 100 gpm, and Contact Time piping direction, we are proceeding with sizing these components.
    - Per previous progress report, 2 membrane treatment skids (full redundancy).
    - New hang-up is BABA (build America, buy America) requirement associated with USDA-RD funding. WesTech said they cannot provide a BABA-compliant treatment system.
        - Brian has been coordinating with USDA-RD and their BABA consultant – USDA-RD state engineer reported on 11/30 that their consultant was unable to find any membrane manufacturers that are BABA-compliant. Therefore we are to submit official waiver request form.
    - Added 11/8: Raw water pumping system design concept is under discussion. Two concepts that include suspending the new pumping system from the new dock were provided, and a third option with a stationary skid installed along the lake bottom with an elevated intake was provided. We are leaning toward the stationary skid concept, but this is another topic that requires further design, cost estimating, and discussion with LISECC in the near future.
- Updated 11/8: Organics treatment:
    - DOH questioned if Granular Activated Carbon (GAC) could be needed for organic Disinfection By-Product (DBP)-precursor removal.
        - Design team is coordinating with WesTech regarding expected DOC removal with coagulant. WesTech sent a proposal for jar/benchtop testing to determine expected % removal, but indicated that achieving the same % removal as the existing treatment plant is unlikely with coagulant and membranes alone. Cost is $7500 plus freight costs.
            - Waiting to work out BABA issue, also see below item on existing DOC sampling, then will discuss with DOH and make decision on proceeding with proposal or not.
        - GAC would add significant expense to the project, both capital (need bigger building), and operational (GAC material replacement is frequent and relatively high cost).
        - Nick also collected raw and filtered DOC samples from current filtration operations to quantify current organics removal. This will provide the baseline understanding of removal and associated DBP measurements and will help inform targets for organics removal in new water treatment plant. Initial lab results were provided on 10/6, but Nick pointed out that the results are from a time period of unusual operations with the media filter. Pre- and post- filter DOC will continue to be collected bi-weekly to further assess %DOC removal with existing filter.

Task 2. Geotechnical Report for Building Foundation Design:

- Geotechnical report is complete. Updated 12/11: Geotechnical engineer indicated that they can review our design for stormwater dispersion (required with larger building and exceeding new impervious threshold as discussed below) and provide any recommendations with respect to dispersion. Initial discussions indicate dispersion, directed away from the steep slope, would likely be feasible.

Task 3. Stormwater Memo documenting no need for Stormwater Report:

- Updated 11/8: Initial equipment layout models indicate that the building area may need to be increased from 20'x30' to approximately 24'x42', which will increase new impervious area to 2,108 square feet. This exceeds the 2,000 square foot threshold where stormwater design and permitting become more involved than currently scoped in design contract. Likely will require a stormwater report (roughly $5,000 in engineering costs) and dispersion infrastructure on the order of $10,000 during construction.

Task 4. Construction Stormwater Pollution Prevention Plan:

- Will include in 60% design.

Task 5. 30% Plans and Construction Cost Estimate:

- 30% Design Plans and associated Construction Cost Estimate have been completed and provided to LISECC for review and comment. August 10 received feedback from water treatment committee. Currently incorporating that feedback.
    - Biggest focus is on preliminary design of raw water pumping system. Brian provided rough alternatives concepts and comparison to Nick/Allison on 10/2. Continuing to refine design concepts (as further discussed above).
    - Will provide detailed cost estimate of construction administration tasks and costs in the near future per request from 30% design meeting.

Task 6. 60% Plans and further progress of plans, estimate, and specifications: Progressing from 30% design to 60% design currently. Need CAD of additional topo survey for 60% design plans.

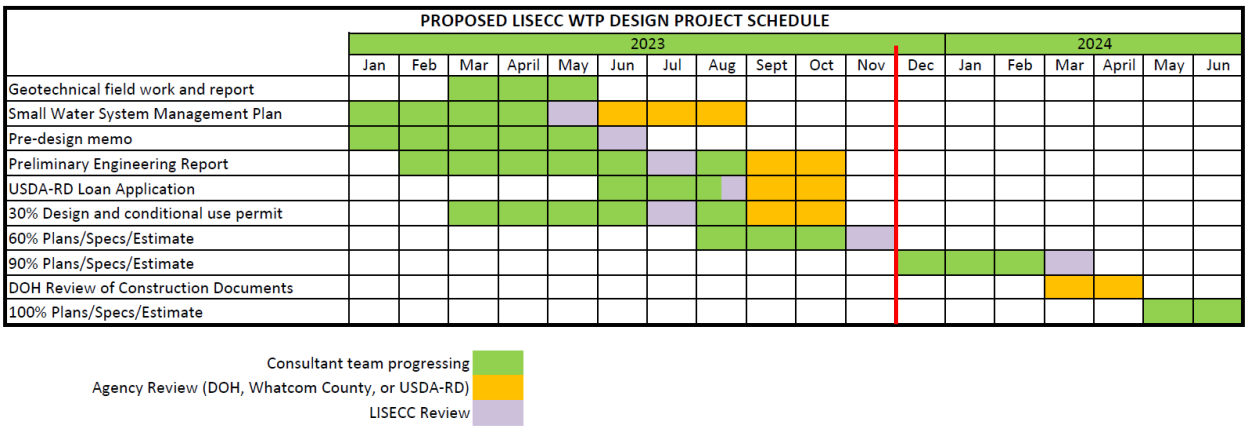
Electrical Engineering Design.

- Electrical engineer provided 30% design construction cost estimate and is working on plans that will be included in the 60% design set.

Structural Engineering.

- Initial discussions of building design.

OVERALL SCHEDULE STATUS:



Note that schedule is showing we are behind on preliminary engineering report, loan application. We recognize this and will work to complete these items in a timely manner, but as design has progressed, we think that having the design and estimated construction costs better refined by being further along with design will be beneficial for the loan application (less uncertainty in costs). Applications are accepted on a rolling basis, so submitting this in the coming months should be fine.

Also note that progress on 60% plans/specs/estimate is delayed based on supplementary topographic survey information delay.

POTENTIAL ISSUES / CONCERNS:

- Need to confirm with land owner that everyone agrees about extents of easement and site access for proposed WTP facility. Allison has been having ongoing conversations with land owner, and can continue those conversations with preliminary building and access site plan. Update 12/11: pdf of topo survey provided depicts easements. Allison / LISECC staff should probably provide updated survey to land owners to confirm their concurrence with what is being shown.
- Flagged potential concern about building footprint increasing and exceeding impervious area threshold where stormwater design would become more in-depth.
- Flagged concern about needing CAD of additional topo survey to complete 60% design plans.
- Flagged concern about potential GAC treatment.
- Flagged concern about membrane manufacturers being able to meet BABA requirements.