UTILITIES COMMITTEE MINUTES
NOVEMBER 3, 2021

The Utilities Committee meeting was held on November 3, 2021 at North Royalton City Hall, 14600 State Road. The meeting was called to order at 6:22 p.m.

PRESENT: **Committee Members:** Chair Joanne Krejci, Vice Chair Jeremy Dietrich, Mike Wos; **Council**: Paul Marnecheck, Jessica Fenos, Vince Weimer, Linda Barath; **Administration**: Mayor Larry Antoskiewicz, Law Director Thomas Kelly, City Engineer Justin Haselton, Wastewater Superintendent Mark Smith; **Other**: Vern Blaze.

APPROVAL OF MINUTES
Approval of October 5, 2021 Committee minutes. Moved by Ms. Krejci, seconded by Mr. Dietrich. Vote: Yeas: 3 Nays: 0 **Motion carried.**

UNFINISHED BUSINESS

1. Inflow/Infiltration of Storm Water (I & I)

Mr. Smith reported that there were no I & I repairs, however, they had three septic conversions that were converted from septic to sanitary; which were on roads Edgerton, Boston and Bennett. There were three cappings, which were on Wallings and Albion Road, both being elementary schools, as well as Maplegrove Avenue; part of regional sewer.

2. Ohio EPA (WW Treatment Plant B conversion)

Mr. Smith had provided a handout, which entailed what design engineers have put into two stages. This was part of the design that would be presented to Council to give approval to begin the project. He had wanted this on the agenda for tonight, however, he did not obtain the paperwork and the figures needed until today. Everyone would have a chance to review it before the next Council meeting.

Ms. Krejci raised question pertaining to stage 1 and funding. Mr. Smith indicated this would be for the design, in which the grand total for the design portion, would be $3.7m. We did obtain a grant for $250,000. Ms. Krejci asked if there was anything that needed done with regard to procedures, being that this is the last Committee meeting of the year. Mayor Antoskiewicz advised that it would be put that on the agenda for the next Council meeting.

Mr. Marnecheck offered to add this to the Finance Committee if need be. Mayor Antoskiewicz indicated that they would like to get the design going as soon as possible, and reiterated that Mr. Smith would have liked for this to be on the agenda for tonight but was as unable. The Mayor wanted to consider the time frame that this would take; roughly eight months before being able to take it out to bid. Ms. Krejci just wanted to ensure that we were not going to delay anything with regard to legislation.

3. Street Light on York Road

Mayor Antoskiewicz would try to obtain some information since Mr. Jordan was absent.

NEW BUSINESS

No new business.

ADJOURNMENT
Moved by Ms. Krejci seconded by Mr. Wos **to adjourn the November 3, 2021, meeting**. Yeas: 3. Nays: 0. **Motion carried**. **Meeting adjourned at 6:25 p.m.**

EXHIBIT A
Project Description
City of North Royalton
Plant B Pump Station Conversion and Sewer Conveyance Design
October 28, 2021

GENERAL DESCRIPTION FOR SCOPE OF WORK:

The improvement project engineering task consists of work performed in multiple stages.

- Stage 1 design work is detailed below and includes (a) wet weather evaluation and basis of design report (b) design of a pump station to divert flow from Wastewater Treatment Plant (WWTP) B to WWTP A, (c) design of forcemain and gravity sanitary sewers d) design of two equalization (EQ) tanks at Plant A.
- Stage 2 work has not been fully defined and is dependent on the Stage 1 outcomes. Therefore, an allowance has been included for Stage 2 work. The allowance for Stage 2 was established with the following tentative design items (a) wet weather operational strategy development assistance, (b) NPDES Permit Modification application, (c) rehabilitation and demolition of existing Plant B selected structures and equipment under the City's guidance and (d) conversion of available tanks at Plant B to equalization tanks.
- Flood Control Design is also included as an allowance. Plant A is subject to historic flooding. A flood control design allowance has been included for study, flood modeling, flood control design and floodway/floodplain permitting assistance.

For construction bidding purpose, Stage 1 design will be arranged as: Stage 1 Project A – pump station and EQ basin; and Stage 1 Project B – forcemain and gravity sanitary sewer. Stage 2 and flood control are assumed to be separate construction contracts.

STAGE 1 WORK

Field Investigations

1. Topographic and boundary survey to collect surface data and buried utilities as reported by OUPS field markings across the entire work area at the two WWTPs and project corridor.
2. Geotechnical Investigation for development of a geotechnical investigation report to define:
    a. Structural design considerations and anticipated ground conditions for Plant B Pump Station
    b. Structural design considerations and anticipated ground conditions for Plant A Equalization Tanks
    c. Structural design consideration and anticipated ground conditions for forcemain and gravity sewers.
3. Hazardous Materials Investigation field testing for the presence of hazardous materials in the areas of work, limited to lead-based paint and asbestos testing of

buildings/structures where modifications are proposed. It is currently assumed soils/groundwater testing is not required for the presence of hazardous materials.

4. Environmental Investigation to satisfy WPCLF funding requirements including the presence of wetlands/streams that may require 401/404 permitting in addition to a Phase I Environmental Site Assessment and historic structure evaluation.
5. CCTV and clean the interceptor from first MH north of turnpike to the plant.
6. Conduct metering in the interceptor (two meters up to four months) to confirm capacity and ability to manage additional anticipated flows from the forcemain and gravity sewers.

Basis of Design Report

1. The Basis of Design Reports (BODRs) will incorporate technical memoranda, studies, and field investigation work to clarify design scope elements of the detailed design. Two BODRs will be developed for work proposed at the two WWTPs and for the pipeline work to convey flow, respectively.
2. Wet Weather Study
    a. Perform a wet weather study to evaluate operations and capacity of both WWTPs to facilitate the design of a new pump station and storage requirements through flow equalization as needed for each facility.
    b. The study will also investigate grit removal and other operational challenges identified by operating staff during the project kickoff.
    c. Recommendations from the study will be incorporated into a Basis of Design Report to establish design parameters for both phases of the design work.
3. Technical Memoranda
    a. Gravity Sewers & Forcemain TM: Identify approximate routing and tie in. Confirm hydraulics and surge analysis findings.
    b. Plant B Pump Station TM: Evaluate and recommend dry/wet pit design versus submersible. Building layout, need for screening, pump type, number and sizing.
    c. Plant B Future Modifications TM: Identify future modifications needs for rehabilitation to tanks for equalization tanks, recommended modifications to existing structures to be used by the city for new use.
    d. SCADA TM: Identify communication/SCADA ductbank at plant A, SCADA improvements associated with Plant B pump station.

Plant B Pump Station Design:

1. The proposed pump station facility (assume 2.5 MGD, 3 to 4 pumps with variable frequency drives) is anticipated to be located on the WWTP B property and composed of a wet well and dry pit. The building is anticipated to be a single-story masonry structure with brick finish wall construction to be roughly 500 to 600 sf max. The pump station is anticipated to be a trench style wet well with dry pit submersible configuration.
2. Determine the pump design criteria and sewer capacity. Perform a surge analysis for the pump station/forcemain.
3. Develop the programming requirements to size the building square footage. Backup power generation will be from the existing permanent on-site generator, additionally

the pump station will be designed with an outlet to plug in a portable generator with receptacle to match the existing fleet.
4. The building will not require a restroom or offices spaces.
5. Review of alternative building layouts with the City and BC for maintenance and access to the pump station. Assume 3 building layouts max.
6. Develop the building mechanical requirements for heating and ventilation.
7. Develop the building electrical requirements.

Plant A Improvements:

1. Design improvements for two (2) additional Equalization Tanks (size each to match storage volume and general configuration) of the existing EQ tank and to be located North and adjacent to the existing tank.
    a. Drainage and transfer of new EQ tanks will be accomplished similar to the existing EQ tank.
    b. Grading will provide for stormwater runoff around the new EQ tanks.
    c. No retaining structure will be required to accommodate regrading of the slope.
    d. Modifications, if needed, to the tanks for wet weather operation will be designed under Phase 2.
2. Design for the removal and salvage of the existing screw pumps. Design for additional submersible pump to provide redundancy for the existing pump. Pump capacity will be identical to existing, piped and valved into the existing line for back-up purposes. Replace existing submersible pump discharge piping in kind.
3. Design for an interior roof over the electrical room in the Filter Building to replace the temporary roofing material (anticipate design for a waterproof membrane on top of existing roof and sealing of penetrations). No HVAC or electrical relocation is required for the roof replacement.
4. Design for the replacement of a communication duct bank for the SCADA system routing between the Administration building, garage, Filter Building and the Operations Building. Replacement will include all new conduit, wire, cabling, fiber and duct bank to keep existing on line until new is installed.
5. Design for removal of the existing Ashbrook Filter press (for salvage) and removal of all equipment, piping, electrical, and controls associated with that building.
6. Design for a fire suppression system in the existing garage west of the Administration Building.
7. Design for an enclosure to the existing MCCs in the Filter Press building and associated HVAC for that enclosed area.
8. Design for installation of the piping and water canons for the existing aeration tanks, the existing equalization tank the two new equalization tanks. (6 total tanks with XX total cannons are assumed)
9. Design replacement of the existing HVAC unit on the Control Building with a rooftop unit.

Forcemain and Sewer Design:

1. The proposed forcemain (12” per previous report) starts at the proposed pump station at WWTP B extending west along West Sprague Rd, then south along Abbey near

Harbour Light Drive to the beginning of the gravity sewer. The gravity sewer continues south along Abbey Road to north to I-80 then extending east to an existing trunk sewer that flows to WWTP A under I-80.

2. Evaluate a new gravity sewer extension north of the turnpike for a potential future development site between W 130th Street and Abbey Road.
3. Evaluate and make a recommendation on size of gravity sewer and forcemain. Evaluate pipe material selections and develop horizontal alignment alternatives within the street rights-of-way.
4. Develop potential construction methods for the forcemain and gravity sewer including trenchless technologies to optimize the design.
5. Identify utility conflicts or other issues such as bridge or culvert crossing impacting the alignments.
6. Consider Maintenance of Traffic (MOT) and other impacts on the construction.
7. Determine hydraulic design of the forcemain, gravity sewers and pump station. Utilizing the existing trunk sewer under I-80 is planned in routing the sewer to Plant A. The flow monitoring conducted during the field investigations will be used in conjunction with hydraulic model projections to confirm available capacity downstream of the new tie-in. No design services have been provided for jack and bore under I-80 for a new line to Plant A.

STAGE 2 DESIGNALLOWANCE

Stage 2 of the project involves the necessary work to finalize decommissioning of Plant B. This includes operational assistance with the new pump station and equalization, permit modification, rehabilitation and decommissioning of Plant B, and additional Plant A improvements

Wet Weather Operational Strategy Development Assistance

1. Assist the City establish the wet weather operational strategy to optimize the treatment efficiency and storage utilization.

NPDES Permit Modification Application

1. Assist the City apply for NPDES Permit Modification to remove the existing discharge permit for Plant B. The application will be prepared within six (6) months of the start of the pump station operation.

Rehabilitation and Decommissioning of Plant B:

1. Design following improvements:
    a. Demolition of selected structures, if any, under the City's guidance
    b. Rehabilitation of selected structures under the City's guidance.
    c. Site restoration.
    d. Evaluate and design for building wall structural/arch repair, tuckpointing of structures to remain.
2. Design for conversion of selected tanks to equalization basins.

3. Design for removal and salvage of the existing screw pumps.
4. Removal of fine screen and relocation to Plant A at the Headworks to replace the existing bar screen at Plant A.

FLOOD CONTROL DESIGN ALLOWANCE

Plant A has historic flooding issues. The Flood Control Design Allowance will include study and analysis of flooding potential, assessment of current flooding risk using computer modeling and design of flood control improvements. The design is anticipated to result in a separate construction contract from the other work described in this scope of work.

Assumptions:

1. City will provide all the necessary plant operating data.
2. City will provide as-built drawings of the collection system, WWTP A and WWTP B to facilitate the design.
3. City will provide their current front-end documents for the project specifications, including all bid documents required for bidding. It is our understanding that the City utilizes EJCDC C-700 Standard General Conditions of the Construction Contract. Any fees or licenses associated with the use of this document are paid and managed by the City of North Royalton and BC will not be responsible or required to pay any fees associated with the use of this document. Any forms or documents which require changes to make them specific to this process will be provided in their original format (word, excel, etc.) so that they can be modified without the need to recreate the document.
4. City will pay for all permit fees to the appropriate agencies. BC will breakout process costs for determination of NOI and PTI fees. 401/404 permitting will not be required for wetlands or stream crossings.
5. City will negotiate and obtain all required easements for land acquisition.
6. Existing utility transformer and/or service at Plant B and Plant B have sufficient capacity to carry all new loads associated with the new equipment as described in this scope of work and will not be replaced or increase. No coordination with utility provider is anticipated.
7. Typical electrical schematic diagrams will be provided. They will include the control logic to function as required but will not include detailed diagrams with terminal numbers, wire numbers, nameplate schedules, etc.
8. Electrical Arc Flash and Coordination Studies/Recommendations are not included in this Scope of Work but can be added if deemed beneficial to the project.
9. SCADA and/or control system programming and integration (commissioning and testing), phone and communication services are not included in this scope of work and are to be completed by Wiring Unlimited.

Breakdown of Stage 1 for each component of work outlined above

Phase 100 - Preliminary Design

Task 100: Project Management
Subtask 101: Project Coordination
Subtask 102: Meetings

Subtask 103: Site Visits
Task 110: Field Investigations
Subtask 111: Survey
Subtask 112: Geotechnical Investigation
Subtask 113: Hazardous Materials Report
Subtask 114: Environmental Investigations
Subtask 115: Gravity Sewer Inspection
Subtask 116: Flow monitoring
Task 120: Technical Memoranda
Subtask 121: Wet Weather Operation Plan TM
Subtask 122: Gravity Sewers & Forcemain TM
Subtask 123: Plant B Pump Station TM
Subtask 124: Plant B Future Modifications TM
Subtask 125: SCADA TM
Task 130: Basis of Design Report
Task 140: Preliminary Design Workshop
Task 150: Preliminary Permitting

Phase 200 – Detailed Design
Task 200: Project Management
Subtask 201: Project Coordination
Subtask 202: Meetings
Subtask 203: Site Visits
Task 210: 50% Plant A and B Improvements Design
Task 220: 50% Gravity Sewer & Forcemain Design
Task 230: 100% Plant A and B Improvements Design
Task 240: 100% Gravity Sewer & Forcemain Design
Task 250: Design Workshops
Task 260: Permitting
Subtask 261: Permit-to-Install (PTI) Permit Application
Subtask 262: Notice of Intent (NOI) General Stormwater Permit
Subtask 263: WPCLF Funding Support

Phase 300 - Bidding
Task 310: Bid Document Assembly
Task 320: Pre-Bid Meeting and Addenda
Task 330: Bid Analysis and Recommendation

Phase 400 – Construction Administration
Task 410: Submittals
Task 420: Contractor Questions / RFIs
Task 430: Change Orders
Task 440: RE Services
Task 450: Start-up Services
Task 460: O&M's and Record Drawings

Task 470: Meetings

STAGE 1 SCOPE OF WORK

The following scope of work summarizes the objectives, activities and deliverables associated with each task to be performed by the project team

Phase 100- Preliminary Design

Task 100 - Project Management

The project management task for preliminary design includes the following items:

- Project coordination between field crews, design team and stakeholders
- Monthly progress meetings
- Site visits for field verification and coordination of design elements
- Development of a project management plan and health and safety plan
- Design schedule
- Invoicing and monthly progress reviews

Task 110 – Field Investigations

Field investigations include the following items:

- Topographic and Boundary Survey
- Geotechnical Investigation and Report
- Hazardous Materials Testing and Report
- Environmental Investigations

Task 120 – Technical Memoranda

Tech Memos as identified in the scope above will be prepared outlining existing conditions and basis for proposed improvements for design of replacement or new construction. List of anticipated TMs:

1. Wet Weather Operations Plan
2. Gravity Sewer and Forcemain Routing
3. Plant B Pump Station Design Alternatives (includes Surge Analysis)
4. Plant B Future Modifications
5. SCADA

Task 130 – Basis of Design Report

A BODR will be developed for plant improvements at each of the facilities and a separate report for the linear work. The BODR will incorporate technical memoranda and documents the following items:

- Applicable Code and design criteria by discipline
- Site/Civil Requirements
- Structural Requirements
- Geotechnical Report

- Architectural, HVAC and Plumbing
- Instrumentation and Control
- Permitting Requirements

Task 140 – Preliminary Design Workshop
Conduct a preliminary design workshop to discuss technical memoranda recommendations and preliminary design features for plant operations preferences and requirements.

Task 150 – Preliminary Permitting
Review and establish permitting needs for the project and funding sources.

Task 160 – Engineer's Opinion of Probable Construction Cost (EOPCC)
Prepare a Class 5 Construction Cost Estimate in accordance with the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice 18R-97.

Phase 200 – Detailed Design

Task 200 - Project Management
The project management task for preliminary design includes the following items:

- Project coordination between design team and stakeholders
- Monthly progress meetings
- Site visits for field verification and coordination of design elements
- Design schedule
- Invoicing and monthly progress reviews

Task 210 – 50% Plant A and B Improvements Design

- Complete 50% Drawings for City review.
- Complete list of anticipated specifications and develop preliminary specifications for all major equipment.
- Prepare a Class 3 Construction Cost Estimate in accordance with the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice 18R-97.

Task 220 –50% Gravity Sewer & Forcemain Design

- Complete 50% Drawings for City review.
- Prepare a Class 3 Construction Cost Estimate in accordance with the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice 18R-97.

Task 230 – 100% Plant A and B Improvements Design

- Complete 100% Drawings for City review.
- Prepare a Class 1 Construction Cost Estimate in accordance with the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice 18R-97.
- Assist City of North Royalton with OWDA loan application.

- Assist City of North Royalton with Notice of Commencement for Advertising.
- Complete all specifications.
- Complete PTI for submittal to OEPA.

Task 240 – 100% Gravity Sewer & Forcemain Design

- Complete 100% Drawings for City review.
- Prepare a Class 1 Construction Cost Estimate in accordance with the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice 18R-97.
- Complete all specifications.
- Complete PTI for submittal to OEPA.

Task 250 –Design Workshops

Prepare for and participate in Constructability Review workshop to evaluate construction procedures and preliminary sequencing of work.

Task 260 – Permitting

Review and establish permitting needs for the project and funding sources.

- Permit-to-Install (PTI) Permit Application
- Notice of Intent (NOI) General Stormwater Permit
- WPCLF Funding Support

Phase 300 - Bidding

Task 310 - Bid Documents

Compile plans and specification for printing and delivery to interested parties (up to 25 copies, 11”x17” drawings for each contract). Prepare legal notice and participate in prebid meeting for each contract.

Task 320 - Addendums

Take contractors questions, develop responses to questions and assemble addendums to answer questions. Assume two (2) addenda for each contract. Assume a 30-day bid period.

Task 330 - Bid Analysis

Evaluate three lowest bids received for each contract for conformance with bid documents. Check references and make a recommendation of award to the City.

Phase 400 – Construction Administration

Task 410 - Submittals

Maintain project files of approved submittals for each contract.

Review detailed construction shop drawings and other information submitted by the Contractors for compliance with the design concept and the requirements of the Contract Documents. Such data shall be recommended for approval, returned for revision, rejected,

or noted as information only. Assume up to 100 shop drawings (70 for plant improvement contract and 30 for pipeline project), a total of ten (10) re-submittals have been assumed.

Task 420 - Contractor questions / RFIs
Prepare responses to Requests for Information (RFIs). Assume up to 20 RFIs for each contract.

Consider and evaluate the Contractors' suggestions for modifications to the respective contract documents and report recommendations to the Construction Supervisor. Assume up to 5 suggestions for modifications for each contract.

Task 430 - Change Orders
Assist in the preparation of and administration of work authorizations and claims. Assume up to five (5) work authorizations and one (1) claim for each contract.

Task 440 - RE Services
Provide for one (1) year Resident Engineering services, 50% full time equivalent for each contract for a total of 2,080 hours.

Task 450 - Start-up Services
Oversee the Contractor's startup for the pump station and forcemain/gravity sewer.

Task 460 - O&M's and Record Drawings
Review Contractor's as-built red line drawings for accuracy and completeness. Compile record drawings from reviewed set in hard copy/electronic format from contractor.

Review Contractors'/Vendors' O&M training outlines and materials and recommend changes as needed.

Task 470 – Meetings
Participate in a Pre-Construction Meeting.

Participate in up to twelve (12) onsite meetings for each contract (24 total) with the Contractor as part of the RE Services.

Deliverables:

1. Basis of Design Report Report (BODR)
2. Drawings (see Attached Table)
3. Specifications
4. PTI Permit Application

Proposed Fee

The proposed fee for the work described above is presented in Table 1.