



Stantec Consulting Michigan Inc.
3754 Ranchero Drive, Ann Arbor MI 48108-2771

January 29, 2021
File: 207585015

Attention: Mr. Craig Lyon, Director of Utilities and Municipal Services
Pittsfield Charter Township
6201 West Michigan Avenue
Ann Arbor, Michigan 48108

Dear Mr. Lyon,

Reference: Proposal for Professional Engineering Services - Wastewater Collection System Improvements

Pursuant to your request, Stantec Consulting Michigan Inc. (Stantec) is pleased to present below a detailed proposal to provide engineering services related to the Pittsfield Charter Township's (Township) Wastewater Collection System (System) Improvements.

BACKGROUND AND UNDERSTANDING

As part of the Stormwater, Asset Management, and Wastewater (SAW) Grant, initiated in 2015, the Township recently completed a comprehensive Asset Management Plan (AMP) for its System. The AMP identified significant sections of the System along Michigan Avenue that require immediate attention due to condition concerns and the lack of capacity to address wet weather events. This sewer along Michigan Avenue is critical to the Township's collection system as it carries the wastewater for approximately 60% of the Township, including the entire west side, as well as much of the central commercial and light-industrial zone.

This 24-inch to 36-inch interceptor sewer was installed approximately 45 years ago and is constructed of reinforced concrete. Concrete as a pipe material is known to be susceptible to deterioration by hydrogen sulfide gas, a common product of wastewater under certain conditions. This deterioration was observed along the interceptor during the SAW inspection activities. The need for attention on this critical stretch of sewer is also reinforced by the two collapses that have occurred over the last ten years, requiring emergency action by the Township. Based on the observed condition, expansive service area, and the proximity to vital transportation corridors, it is imperative that the Township be proactive in addressing the needs of this interceptor sewer.

The Township also expressed a desire to explore the feasibility of eliminating four (4) pump stations in the System (Ashford, Meadowview, Platt, and Warner Creek), which would optimize operation, maintenance costs and labor commitments to the System. Removing pump stations and redesigning elements of the collection system to instead flow by gravity, is expected to ultimately reduce the financial burden on the Township. Gravity systems have a significantly longer service life than the mechanical components of a pump station and will require less operation and maintenance, with no electricity input and less frequent attention needed by the staff.

Considering the above, Stantec performed a preliminary evaluation of System Improvements to achieve the objectives expressed below:

- Address the corrective actions identified in the AMP;
- Optimize System design to decrease O&M; and

Reference: **Proposal for Professional Engineering Services - Wastewater Collection System Improvements**

- Explore alternative routing of gravity sewers by installing new sewers along Textile Road.

To address these objectives, while giving attention to the criticality of the sewer along Michigan Avenue and crossing under US-23, several alternatives were conceptually evaluated. The primary alternatives considered the installation of a new sewer along Michigan Avenue OR routing a new sewer down Textile Road to avoid part of the difficult Michigan Avenue corridor. Based on the conceptual evaluation, the Textile Road concept was the Township's preferred route of the new sewer that met all System objectives.

In 2019, additional geotechnical information was gathered to better inform the preliminary design alternatives due to the deep sewer sections potentially required along Michigan Avenue between Platt and Textile and along Textile Road near the Munger Road intersection. Based on this subsequent evaluation, the final recommendations for the Project include the abandonment of only three (3) pump stations (Ashford, Meadow View and Platt) along with a sewer alignment that turns north from Textile Road to Crane Road and eventually through the Township's Hickory Woods Park.

Please refer to the attached Figure No. 1 for an overall map depicting the existing System, proposed improvements (System abandonments and new System), and new proposed system layout.

In order to address the improvements to the existing System, the Township will seek to collaborate with the Michigan Department of Transportation (MDOT) and Ypsilanti Community Utilities Authority (YCUA) on the design for project components that fall within their jurisdictions and potential future projects, where deemed possible.

Stantec also understands that the Township wishes to maintain its resident's support and understanding of important infrastructure projects and municipal programs. To achieve that desire with a project of this magnitude, high exposure, and critical impact; active and consistent community outreach is highly recommended. We will work closely with the Township to implement creative community outreach techniques to encourage local participation in the planning and decision-making process to identify concerns important to the public and engage them in the early project stages. Examples of successful public involvement techniques that we have employed in the past include, but are not limited to: charettes, open houses, dedicated webpages, project newsletters, surveys, interviews and public presentations.

It is anticipated that this project will be installed in three phases over several construction seasons. However, design documents for all three phases will be developed now under one design effort. The project phases include the following:

Phase 1 – Michigan Avenue Gravity Improvements

Phase 1 of the project includes the installation of new gravity sewer specifically designed to replace the section of existing 36-inch sewer that crosses US-23 at the Michigan Avenue interchange. This work will be conducted in advance or in coordination with the upcoming efforts by the Michigan Department of Transportation (MDOT) to reconstruct this interchange and Michigan Avenue approximately between Platt Road and Carpenter Road.

Please refer to attached Figure No. 2 for a depiction of the proposed Phase 1 improvements which are anticipated to include:

- Abandon the following existing system components:

Reference: Proposal for Professional Engineering Services - Wastewater Collection System Improvements

- Three (3) Pump Stations (PS) and all associated force mains / gravity mains (Ashford, Meadow View, and Platt).
- 36-inch gravity sewer along Michigan Avenue under US-23 between Carpenter and Wellesley Lane.
- 18-inch and 27-inch gravity sewer along Michigan Avenue from the Warner Creek PS connection to Platt Road.
- 8-inch gravity sewer along Textile between Meadowview PS and the Roberto Clemente School building (to be serviced by new 36-inch sewer).
- 8-inch force main from Meadow View PS to the discharge point near Sorrel Court.
- 6-inch force main from Ashford PS to the discharge point in Munger Road.
- Install new gravity sewer:
 - 10-inch along Michigan Avenue between Wellesley Lane and Textile Road (reverse direction).
 - 18-inch along Platt Road from Platt PS to Michigan Avenue.
 - 30-inch sewer along Michigan Avenue from the existing Warner Creek PS connection to Platt Road.
 - 36-inch sewer along Michigan Avenue between Platt and Textile Roads.
 - 36-inch sewer along Textile Road from Michigan Avenue to Crane Road.
 - 36-inch sewer along Crane Road to Hickory Woods Park and east through the Park to Munger Road.
 - 36-inch along Munger Road from Hickory Woods Park to the Ypsilanti Community Utilities Authority (YCUA) connection near Morgan Road. As this section of sewer will be transferred to YCUA upon completion, it may be constructed as a YCUA project.
- Rehabilitate existing gravity sewer along Michigan Avenue by Cured-in-Place Pipe:
 - 24-inch and 36-inch along Michigan Avenue between Carpenter and Munger.

Phase 2 – Michigan Avenue Sewer Rehabilitation East of Carpenter Road

Phase 2 of the project includes the rehabilitation approximately 7,440 feet of existing 24-inch and 36-inch gravity located along the south side of Michigan Avenue between Carpenter Road and Munger Road. sewer specifically designed to replace the section of existing 36-inch sewer that crosses US-23 at the. This work is outside of the scope of MDOT's work and may be performed following their proposed construction. Carpenter Road. Please refer to attached Figure No. 3 for a depiction of the proposed Phase 2 improvements.

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Phase 3 – Warner Creek PS Improvements and Extension of Michigan Avenue Sewer Replacement

Phase 3 of the project includes the potential relocation of the Warner Creek PS and extension of the Michigan Avenue Sewer Replacement to the west of where Phase 1 ended to the two force main discharge locations near Warner Road. This work is outside of the scope of MDOT's work and may be performed following their proposed construction. Carpenter Road.

Please refer to attached Figure No. 4 for a depiction of the proposed Phase 3 improvements which are anticipated to include:

- Evaluate relocation of the Warner Creek PS for facilitate maintenance and system operations. If the selected location requires improvements within the scope of MDOT's project, those improvements will be incorporated into Phase 1 of the Project. Potential locations for evaluation include:
 - The north side of Michigan Avenue across from the Sauk Trail intersection.
 - The triangular property located between Platt Road, Textile Road and Michigan Avenue.
 - The property located immediately east of Pittsfield Township Hall along Platt Road
 - Remaining in its current location within the Warner Creek Subdivision.
- Replace twin 18-inch gravity sewers along Michigan Avenue with a new 30-inch sewer from the existing Warner Creek PS discharge to the existing force main discharge points near Warner Road.

SCOPE OF WORK

Below please find a detailed work plan that addresses the project understanding described above.

Detailed Scope of Work

- Task 1: Preliminary Engineering
- Task 2: Detailed Design, Final Plans, and Contract Documents Preparation
- Task 3: Bidding Assistance
- Task 4: Public Engagement

To expand on the general approach described above, please find below our detailed work plan for each task to address the Township's needs.

Prior to starting this project, Stantec will initiate a formal project kick-off meeting with the Township to confirm the project understanding and scope.

Task 1: Preliminary Engineering

Under this phase of work, Stantec will identify all critical aspects of the project that will be necessary to allow for a streamlined and efficient design process. Specific work tasks include:

Reference: Proposal for Professional Engineering Services - Wastewater Collection System Improvements

- Attend project kick-off meeting with the Township to discuss final project scope and schedule.
- Perform a site reconnaissance to establish a clear understanding of field conditions in the project area.
- Perform final hydraulic modeling to confirm required pipe capacity to meet future Township needs.
- Review available background information from all pertinent sources including the YCUA, MDOT, Washtenaw County Road Commission (WCRC), etc.
- Contact and coordinate with franchise utility companies to obtain information for gas, electric, phone, cable, etc.
- Perform full topographic survey along the proposed sewer alignments. Utilize MDOT provided survey information where available.
- Develop concepts for construction methodologies where open cut construction is not practical.
- Provide preliminary horizontal layouts for review by the Township, WCRC, and MDOT to initiate agency coordination at any early stage of the project. Confirmation of the horizontal layout by all agencies at this stage of work that will provide for an efficient detailed design.
- Perform wetland delineation along sewer routes, where deemed warranted.
- Set-up and coordinate meetings with YCUA, MDOT, and WCRC, to discuss project design, approach, responsibilities, timelines, collaborations, funding, etc.
- Coordinate and attend Part 41 pre-planning meeting with Environment, Great Lakes & Energy (EGLE) District office to discuss and confirm modeling requirements.
- Perform limited hydraulic modeling to refine the existing model based on feedback from EGLE during the initial Part 41 meeting.
- Evaluate and recommend pipe materials.
- Develop and summarize basis of design for the project.
- Perform geotechnical exploration of the project area by obtaining soil borings along the proposed sewer routes.
- Review the Geotechnical Consultant's Geotechnical Data Report (GDR) and summarize findings and data for use in trenchless design to be contained in a Geotechnical Interpretative Report (GIR).
- Confirm Right-of-Way limits along the project routes.
- Update the Conceptual Engineer's Opinion of Probable Construction Cost based on the findings of this preliminary engineering phase of work.
- Attend regular monthly design review meetings with the Township.
- Provide bi-weekly project updates to the Township.

Reference: **Proposal for Professional Engineering Services - Wastewater Collection System Improvements**

Task 2: Detailed Design, Final Plans and Contract Documents

In this phase of work, detailed construction plans and specifications will be prepared. A detailed scope for this phase of work is as follows:

- Perform additional supplemental topographic survey as needed for the detailed stage of design.
- Prepare 60% plan and profile sheets for the proposed work consistent with Township, County and YCUA, MDOT, and EGLE standards for agency review and approval.
- Develop proposed dewatering plan based on the available geotechnical information for submission to EGLE under their Part 327 regulations.
- Include necessary Township, MDOT, and County standard detail sheets, as well as prepare any specialized details for the project.
- Review and develop traffic control plans (where needed).
- Finalize design plans for all system components.
- Develop easement sketches and descriptions (Exhibits) for Township use.
- Prepare 90% Contract Documents, including the necessary bidding documents and detailed specifications for the project, for Township and regulatory review and approval.
- Prepare final bid set documents.
- Prepare and submit a Part 41 Permit for Wastewater Systems application and submit to YCUA and EGLE. Included with the Part 41 Permit will be the basis of design.
- Prepare and submit regulatory permits for this project including WCRC, EGLE Joint Permit, Washtenaw County Drain Commission (WCDC), MDOT, Franchise Utility crossings, etc.
- Set-up design coordination workshops with YCUA and MDOT.
- Attend regular monthly design review meetings with the Township.
- Provide bi-weekly project updates to the Township.

Prepare an updated Engineer's Opinion of Probable Construction Cost for the project at the permitting and bidding stages of the project.

Task 3: Bidding Assistance

Under this phase Stantec will provide bidding assistance for the project. This proposal only includes bidding assistance for Phase 1 of the project including the following specific tasks:

- Distribute electronic bidding documents (plans and specifications) to interested bidders and plan houses.
- Coordinate and facilitate one (1) pre-bid meeting.

Reference: **Proposal for Professional Engineering Services - Wastewater Collection System Improvements**

- Review bid questions, prepare and distribute addenda.
- Attend public bid opening at the Township offices.
- Review bids and present to the Township a review letter summarizing all bids.

Task 4: Public Engagement Assistance

The objective of this public engagement effort is to assist the Township staff to introduce the project to the public and the Township Board and assure continuous engagement of all stakeholders throughout the planning, design and construction process. This will include broad discussions of the project justification, routing, and conceptual costs. Under this task Stantec will conduct public engagement activities in two (2) phases:

- Organize and attend a working session with the Township Board to present project overview.
- Provide the Township staff with Monthly project update reports for a standing line-item on Township Board meeting agendas.
- Work closely with the Township staff on setting up and regularly updating a project webpage on the Township's website.
- Announce and host a "Project Introduction Open House" at a community space open to the public to introduce the residents to the project and solicit feedback. This may include a survey of attendees to quantify public support.
- Announce and host a Town Hall/Open House public meeting at the 90% design stage at a community space open to the public to share progress and solicit input on the project design. Feedback will be recorded and implemented, to the extent possible, while still achieving the goals of the project.
- Board Presentation (Pre-Bid) – presentation of project status and Pre-Bid design plans at a regularly scheduled Board Meeting.

PROJECT ASSUMPTIONS

The following are major project assumptions associated with our project scope of work:

- The intent of Stantec's proposal is to design the entire project. Construction may be completed in phases as funding allows. This proposal only includes bidding efforts for Phase 1 of the project.
- Project flows are developed based on the Capacity Study by Stantec in 2018 and the 2019 Conceptual Plan Modeling Update.
- EGLE permitting will have a limited hydraulic modeling requirement (~40 maximum number hours of model refinement).
- EGLE permitting will not require additional flow metering or model calibration.

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- Open cut construction will be viable throughout the project, with the exception of major road crossings that will be constructed by Bore and Jack. Detailed trenchless methodology analysis has not been included in the project fee. Should the geotechnical conditions require alternative trenchless installation methods, additional analysis will be required.
- Part 327 Water Withdrawal Regulations can be satisfied based on standard geotechnical information available. Drawdown tests or other methods of calculating dewatering requirements have not been included.
- The selected alternative and overall project phasing will be in general conformance with the attached Figures and attached schedule.
- Stantec will retain a geotechnical consultant to perform geotechnical investigation at all sites. Preliminary geotechnical plan includes:
 - One (1) soil boring every 500 feet along the gravity sewer lines with additional soil borings where bore and jack construction methods require added detail.
 - Approximately 70 borings, ranging between 15-60 feet in depth.
- Approximately 5,400 feet of sewer along Munger Road will be require coordination with YCUA as it will be owned and operated by YCUA following completion of the project.
- Approximately 9,100 feet of proposed sewer and 6,700 feet of sewer rehabilitation along Michigan Avenue will require coordination with MDOT as it falls within their right-of-way.
- Stantec will prepare up to ten (10) permanent or temporary construction easements.
- Any fees related to securing regulatory permitting/approvals will be paid by the Township and are not included in the design fees.
- Construction phase services are not included in this proposal.
- Monthly design meetings were assumed and will include three (3) major design workshops with the Township at 30%, 60%, and 90% design.
- Two (2) design workshops were assumed with MDOT and YCUA at 30% and 60% design. An initial coordination meeting with MDOT and YCUA was also assumed.
- Up to three (3) separate phases of bid set documents may be required.
- Review and feedback will be provided in a timely manner by the Township and regulatory agencies.
- Permit Applications will be processed and approved within 90 days of submittal of the permit application.
- Deliverables to the Township will include the 30%, 60%, 90%, and bidding sets (including related permitting applications).

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PROJECT SCHEDULE

Stantec will endeavour to complete the design and have the project ready for bidding on or before December 2021. Please see attached project Roadmap (which assumes authorization no later than January 2021).

It is anticipated that construction will begin in April 2022 and be completed in the Summer of 2023.

PROJECT BUDGET

We propose to complete the preliminary engineering, design and plan preparation phases of the work on a time and material basis for a not-to-exceed fee of \$1,716,900.

Task 1	Preliminary Engineering	\$984,570
Task 2	Detailed Design, Plan Preparation and Contract Documents	\$660,130
Task 3	Bidding Assistance	\$38,660
Task 4	Assist the Township in Public Outreach	\$33,540
TOTAL NOT-TO-EXCEED FEE		\$1,716,900

The not-to-exceed budget amount stated above includes all fees for the work described in this proposal, including reimbursable charges such as charges for sub-consultants and other specialized services described above.

Please note that Stantec reserves the right to transfer budget between tasks outlined in the scope of work due to the possible occurrence of overlapping tasks, but will not exceed the total amount stated above.

Please note that this work would be conducted under the General Engineering Services Agreement that has been previously executed between the Township and Stantec Consulting Michigan Inc.

If the above proposal meets your approval, please sign this proposal letter and return a copy to our office.

Reference: Proposal for Professional Engineering Services - Wastewater Collection System Improvements

We appreciate this opportunity to provide professional services to the Township. If you have any questions regarding the above information, please do not hesitate to contact us.

Regards,

Stantec Consulting Michigan Inc.



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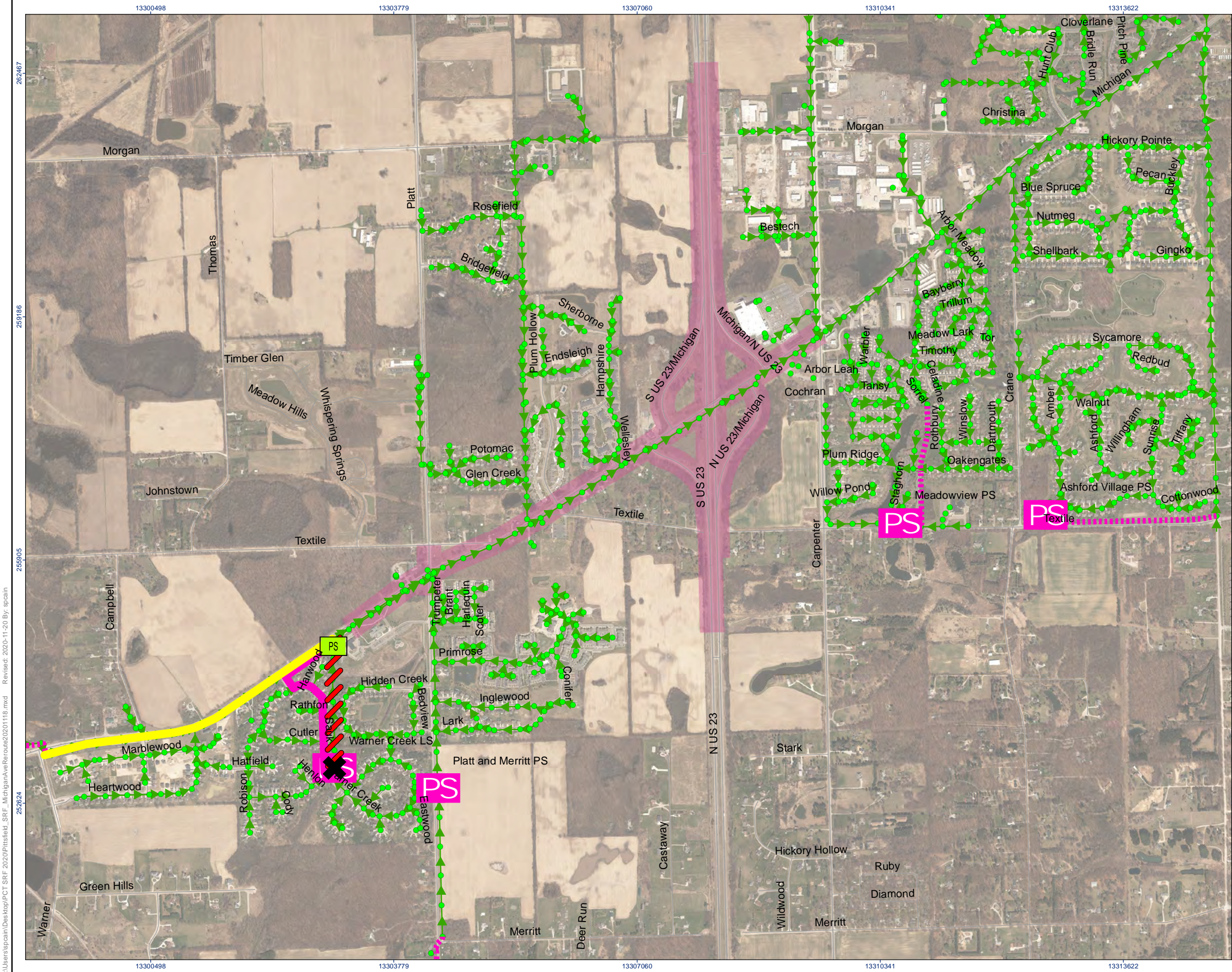
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Attachments: Project Figures 1, 2, 3 & 4
Organization Chart
Project Schedule

ACKNOWLEDGED AND ACCEPTED:

PITTSFIELD CHARTER TOWNSHIP

Name of Signer:
Title of Signer:





Stantec

PS

Existing Pump Station

Existing Force Main

➤

Existing Gravity Sewer

●

Existing Manholes

MDOT Project Limits

PS

Proposed PS

✕

Abandon Pump Station

Abandon Sewer

Proposed Gravity Sewer

Proposed Sewer Redirect

Proposed CIPP Lining

N



010002000

Feet

(At original document size of 11x17)

1:16,000

Notes

1. Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl

2. Data Sources:

3. Background:

Project Location

Pittsfield Charter Township

Washtenaw County Michigan

Prepared by SNC on 2020-11-20

TR by

IR Review by

Client/Project

Pittsfield Charter Township

Michigan Ave. Sewer Improvements

Figure No.

4

Title

Phase 3