

Background

The City of Gahanna (City) is contracting with AECOM Technical Services, Inc. (AECOM) for professional engineering services for the design of the West Gahanna Sanitary Improvements Project (Project).

As the result of a study done under a separate contract, by others, the Preferred Alternative is the construction of a relief sewer to the Big Walnut Trunk Sewer (BWN) via a new connection point that will convey excess wet weather flows in the trunk sewer and reduce WIBs. The Preferred Alternative consists of approximately 4,000 LF of 12-inch sanitary relief sewer between Coronation Avenue and Agler Road and approximately 4,500 LF of 18-inch sanitary sewer relief sewer from Agler Road directly to the BWN along Agler Road and West Johnstown Road. The Preferred Alternative includes two relief connections to the existing system – one on the existing 15-inch sewer at Coronation Avenue and one on the existing 15-inch sewer at Agler Road.

As part of the Project, other utilities impacted by the sewer alignment will be improved. Additionally, roundabouts on West Johnstown Road at James Road and Olde Ridenour Road shall be included.

As part of the Project, AECOM will evaluate the Preferred Alternative against one additional alternate prior to selecting the Selected Alternative for full design. **Services under Phase II will be part of a future modification and are shaded for clarity.**

SCOPE OF SERVICES

- 1) Review Existing Data
 - a) Obtain GIS info and record plans from Gahanna
 - b) Review Phase 1, 2, and 3 reports, including models and CCTV data
 - c) Review related traffic studies
 - d) Review survey data for West Johnstown Road corridor used as basis of concept roadway plans prepared by others
 - e) Collect existing data, including FEMA mapping, NWI inventory.
 - f) Identify data gaps that will need to be investigated prior to Scope Item 2. Assume that ten (10) sanitary or storm manholes will require elevation confirmation.

- 2) Select Sanitary Sewer Alternative Alignment
 - a) Validate existing models provided by the City or by others.
 - b) Review previous preferred alignment results
 - c) Review potential new alternative (McCutcheon route instead of Regents route) results and coordinate with City of Columbus on feasibility.
 - d) Review potential maximum buildout options with the City of Gahanna in a workshop to verify sizing of proposed relief sewers are adequate for future conditions.
 - e) Compare hydraulics and costs and review with City of Gahanna and determine Selected Alternative to base data collection and design around.
 - f) Prepare a technical memorandum summarizing the alternatives and results.
 - g) Assume that alternative selection is for sanitary relief only. Water main upgrades along the selected alternative corridor will be assumed to be required regardless of the alternative selected.

3) Roadway Concept Confirmation

- a) Update concept plans from roadway work along West Johnstown Road to identify costs, impacts (ROW, utilities, traffic), etc. to develop budget and schedule.
- b) Prepare a technical memorandum summarizing the alternatives and results.

4) Field Survey

- a) A survey base map will be produced via field methods. The survey data would be collected utilizing intelligent coding to help expedite the survey base mapping and ensure a more accurate and detailed design. SUE Level B utility markings, top of castings, and inverts of structures would be incorporated into the survey to accurately delineate the existing utility infrastructure. A comprehensive survey base map will be developed from topographic survey, the collection of underground utilities, road right of way, and property information.
- b) Survey limits are assumed to be:
 - i) Right-of-way width plus 25' each side or to the frontage of structures for Selected Alternative routing (except West Johnstown Road)
 - ii) 150' wide corridor or to face of building along West Johnstown Rd from Goshen Ln to Big Walnut Creek.
 - iii) 120' wide corridor or to face of building along James Rd from West Johnstown Rd to River Dr.
 - iv) Survey of City parcel south of Veterans Park and North of VFW
- c) Subsurface Utility Locating (SUE) Level A locates shall be utilized for critical utility crossings. An assumption of ten (10) SUE Level A data points is included in the scope.

5) Geotechnical Data Collection

- a) Scope includes a total of twenty-five (25) borings – twelve (12) borings for the sanitary improvements extended to an average depth of 25 feet each below the existing ground surface, and thirteen (13) borings for the roadway improvements – spaced at a maximum of 400 feet, and extended to a depth of ten (10) feet each.
- b) Standard penetration testing (SPT) and split spoon sampling will be performed at 2.5-foot intervals to the boring termination depths.
- c) Based on a review of ODNR well logs in the area, shale bedrock is present at depths ranging from 50 to 100 feet, with some locations encountering shale as shallow as 15 to 20 feet. Where auger or sampler refusal on bedrock is encountered above the proposed boring depth, a minimum of 5 feet of rock coring will be performed to verify the presence and condition of the bedrock.
- d) Groundwater will be measured during and at the completion of drilling.
- e) The borings will be backfilled with a mixture of soil cuttings generated from the drilling operations and bentonite hole plug.
- f) Boring locations will be marked in the field using white paint on pavement and/or wood lath with white flagging.
- g) Ohio Utilities Protection Service will be contacted a minimum of 48 hours prior to drilling. Given the nature of the site and our past experience, a private utility locator will be utilized to clear the borings, for the safety of our crews and the protection of local facilities.

- h) Traffic will be maintained through lane and shoulder closures using signs, cones and flaggers, as needed.
- i) Laboratory testing will be performed to classify the soils and determine the support capabilities.
- j) A report will be provided, to include the following:
 - i) Boring location plan
 - ii) Boring logs
 - iii) Laboratory test results
 - iv) Summary of soil conditions and characteristics, including unit weight, lateral earth pressure coefficients and shear strength
 - v) Recommendations for pipe bedding and considerations for directional drilling including any boring / receiving pits, where applicable
 - vi) Pavement subgrade including recommended CBR value and stabilization recommendations in accordance with the ODOT Geotechnical Design Manual.
 - vii) Construction considerations, including fill specifications, excavation methods and ground support requirements
 - viii) Groundwater considerations and the need for groundwater control

6) Storm Sewer Analysis

- a) Validate the level of service provided by existing storm sewers along the selected sanitary sewer alternative alignment.
- b) Perform a storm sewer study for the west side of the City (from the Big Walnut to 270) to identify area of inundation. Improvements that will require construction outside of the directly impacted areas identified in Tasks 2 and 3 will not be included in design. Storm sewer improvements for design will consist of only directly impacted infrastructure.
- c) Results of the storm sewer modeling and recommendations specific to the West Gahanna project as well as the west side of the City will be submitted in a technical memorandum, including the model itself.

7) Environmental Study

- a) **Cultural Resources Coordination.** Complete and submit a Section 106 Project Summary Form (PSF) to the Ohio History Connection (OHC), which serves as the State Historic Preservation Office (SHPO) to determine their interest in requiring additional studies for the project. The OHC has 30 days to respond. If the OHC does not request additional investigation efforts, consultation with the OHC for the project will be considered complete.
- b) **Preliminary Jurisdictional Waters Delineation (PJWD).** Delineate the approximate location, boundaries, and areal extent of jurisdictional Waters of the United States (WOTUS) and Waters of the State (Ohio). The study area is assumed to be the right-of-way with an additional 20 feet on either side (one side if the pipe alignment is known). The PJWD will be conducted in general accordance with the Routine On-Site Determination method described in the Corps of Engineers Wetland Delineation Manual published by the United States Army Corp of Engineers (USACE) in 1987, and the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual. Identified resources will be assessed using methodology developed by Ohio Environmental Protection Agency (Ohio EPA). A federal listed species review will be

completed using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) Tool. An Ohio Department of Natural Resources (ODNR) Environmental Review will be used to determine if threatened and endangered (T&E) species may be affected by the project. This information will assist in the completion of the PJWD. A report will be prepared to summarize the procedures and results of the delineation and assessment. The report will include mapping of identified streams, wetlands, and other water bodies. Electronic files (shapefiles, DWGs, DGNs, etc.) of delineated resources can also be provided, if requested at the time of the report submittal.

- c) **Regulated Materials Review (RMR) Screening.** Follow the Ohio Department of Transportation (ODOT) process and format for review of the corridor for RMR concerns.
- 8) **Public Engagement** - Lead public engagement efforts for Residential-Focused Engagement and Traffic-Impact-Focused Engagement Plan, coordinated with Gahanna’s Marketing and Communications Department.
- a) **Traffic-Impact-Focused Engagement (Phase I):** Recognizing the importance of public input in traffic-related projects, our approach will ensure transparency and meaningful community involvement:
 - i) General project management and kick-off session
 - ii) Stakeholder Coordination: Engaging with local businesses, schools, and residents to understand concerns regarding traffic impact.
 - iii) Public Outreach and Communication: Developing messaging that explains project objectives and potential benefits. Creating graphics and informational materials for distribution.
 - iv) Community/Public Meetings and Digital Engagement: Hosting up to two (2) public meetings sessions to discuss anticipated traffic changes, potential mitigation strategies, and address concerns. Offering an online survey to capture feedback from those unable to attend meetings.
 - v) Feedback Compilation and Reporting: Summarizing community concerns and recommendations in a final report. Providing insights that will guide decision-making and project adjustments.
 - b) **Residential-Focused Engagement (Phase II):** Our team will collaborate with the City of Gahanna staff to implement an engagement strategy that is both tailored to residents and meets the needs of the City of Gahanna. This will include:
 - i) General project management
 - ii) Communication and Engagement Strategy: Outlining communication and engagement objectives, outreach and engagement methods and key messages.
 - iii) Public Outreach Materials: Developing messaging, visuals, and materials for public engagement events, fliers, mailers, fact sheets and FAQs for social media and the city’s website.
 - iv) Stakeholder and Resident Engagement: Initial outreach via mailings to residents in the service areas, including a letter/fact sheet and a questionnaire accessible via mail or QR code. Hosting up to two (2) public meetings (in-person and/or virtual) to inform residents about the City’s policy and gather input. Conducting one-on-one or small group interviews with affected property owners for additional insights.

- v) Public Feedback Analysis: Compiling meeting summaries, survey responses, and key takeaways into a final engagement report. Using the data to assist in ranking and prioritizing service areas.

9) Sanitary Sewer Design

- a) Phase I design includes up to 4,500 feet of relief sewer by connecting either at Agler Road or West Johnstown Road.
- b) Phase II will involve the redirection or relief of flow near the intersection of Coronation and Regents utilizing an additional 5,500 feet of piping (route to be determined during Preliminary Design)

10) Water Main Design

- a) Phase I will include replacement and abandonment of up to 4,500 feet impacted waterline from the Phase I Sanitary Sewer Design which will include the Asbestos Cement pipe in West Johnstown Road.
- b) Phase II will include an additional 4,500 feet of waterline replacement associated with the Phase II Sanitary Sewer Design.
- c) A PTI is not required for replacement water main per OAC Rule 3745-91-02 provided 1) the main size is not increased by more than 4 inches in diameter, 2) sanitary isolation requirements are maintained as required by Ten States Standards, 3) the pipe replacements is not in an area of known water or soil contamination and 4) the replacements are included as part of an annual project summary that is submitted to the district office on or before January 15 and signed by a P.E.

11) Roadway Design Associated with Sanitary Sewer Alignment (Phase II)

- a) Scope is based on the current preferred alignment along Regents/Imperial. Excludes major roadway reconstruction along Agler Rd and Stygler Rd.
- b) Assumes full reconstruction utilizing existing alignment, profile, and cross section
- c) Roadway reconstruction may require stormwater BMPs. On-site green infrastructure (rain gardens, pervious pavers or sidewalks, etc.), buried BMP systems, or other methods will be studied and designed, if necessary.
- d) Assumes new sidewalks, curb ramps, replace drives to 1 foot behind walk, add new street trees.
- e) Evaluate street lighting improvements. Design of street lighting improvements is not part of this project and is assumed to require utility coordination.

12) West Johnstown Design (Phase I)

- a) Widening and reconstruction of West Johnstown Rd from west of Sandra Court to east terminus, including roundabouts at Ridenour Rd and James Rd intersections. Includes extension of sidewalk/SUP east to Big Walnut Trail.
- b) Reconstruction of James Rd south of West Johnstown Rd for south leg of new roundabout.
- c) Early coordination with Columbia Gas to ensure that potential roundabout will not be impacted.

- d) Design will utilize curb and gutter, sidewalk on north, SUP on south, replacement/lowering of 16" AC water main (see Item 10). New storm sewer (see Item 6).
 - e) Design lengthening of existing box culvert east of Sandra Ct.
 - f) Evaluation of stormwater BMPs either within roadway corridor via green infrastructure or buried systems, or on city-owned property on the west side of Big Walnut Creek.
 - g) Evaluate street lighting improvements. Design of street lighting improvements is not part of this project and is assumed to require utility coordination.
 - h) Evaluate street trees/landscaping goals. Design of street trees/landscaping improvements are not included in this scope.
 - i) Evaluate feasibility of burying existing overhead utilities along the south side of West Johnstown Road. Design of burying overhead utilities are not included in this scope.
- 13) Easements – Permanent right of way takes and temporary construction easements, along with water and sewer easements, are anticipated. Exhibits and descriptions will be pre-approved by the City and prepared by a Professional Surveyor.
- a) Phase I: Anticipate 41 permanent right of way takes and 25 temporary construction easements for the West Johnstown Road improvements.
 - b) Phase II: Water and sewer easements will be prepared on an as needed basis. Along the sewer corridor, up to one-hundred (100) temporary construction easements may be needed at every property owner where the street is being rebuilt. An allowance will be in place for these easements.
 - c) Set pins after construction for permanent right of way takes.
 - d) Assist the City with easement negotiations.
- 14) Maintenance of Traffic (MOT) Design
- a) Phase I - Provide MOT plans as required for the Selected Alternative, including the West Johnstown Road work.
 - b) Phase II - Provide MOT plans as required for the Selected Alternative associated with the Phase II Sanitary Sewer Design.
- 15) Sustainability Study
- a) An allowance is included to review potential sustainability opportunities along the impacted Project Area. This may include, but not be limited to:
 - i) Stormwater BMPs
 - ii) Permeable Pavers (streets or walkways)
 - iii) Additional tree plantings
 - iv) Infiltration wells
 - v) Increased recycled content
 - vi) Local sourcing of materials
 - vii) Carbon reduction strategies
 - viii) High efficiency lighting
- 16) Funding Research.
- a) Research and assess potential funding options for project components including roundabout, roadway reconstruction, sanitary relief sewer, water mains, and lead service

lateral lines. The scope shall include an examination of funding options and submittal deadlines for grants, matching funds, and/or zero or low-interest loans currently available. Funding opportunities shall be identified and evaluated in summary format and presented to the City of Gahanna. An allowance will be included for funding submittal preparation and submission once funding source(s) are identified and selected.

17) Utility Coordination and Relocation Review.

- a) Coordinate project design plans with utility companies. Research utility easements. Identify utility impacts and design schedule to inform relocation plans. Identify and help coordinate joint users sequencing. Review utility relocation plans, convert & send basemaps, resolve conflicts between relocation plans and project plans, assist utility companies with approvals. Including meetings, follow ups, reminders, coordination meetings with City.

18) Design Submittals

- a) 30% Design Submittal. Develop and submit 30% design plans (PDF only) and specifications (table of contents only). Plans to include general sheets, preliminary plan/profile sheets, and Engineer's Estimate of Probable Construction Cost (EOPCC). Assume 30 days for City Review Time.
- b) 60% Design Submittal. Develop and submit 60% design plans (PDF only) and specifications (table of contents only). Plans to include general sheets, preliminary plan/profile sheets, and Engineer's Estimate of Probable Construction Cost (EOPCC). Assume 30 days for City Review Time.
- c) 90% Design Submittal. Address City comments on 50% design and submit 90% plans (PDF only), full specifications, and updated EOPCC. Assume 30 days for City Review Time.
- d) Ohio EPA Permitting. A PTI submittal and NOI submittal will be made at the 90% stage. The PTI fee will be paid out of this contract and reimbursed by the City.
- e) 100% Design Submittal. Address City comments on 90% design and submit 100% plans (PDF only), full specifications, and updated EOPCC.

19) Bidding Services

- a) Assist the City with preparing bid package.
- b) Pre-Bid Meeting
- c) Respond to questions and issued addenda
- d) Prepare recommendation letter.
- e) Prepare IFC Drawings incorporating all addenda for selected Contractor.
- f) It is assumed that bidding services for each phase will occur during different periods of time.

20) Engineering Services During Construction

- a) An allowance will be provided for submittals, RFIs, questions, plan interpretations for Phase I and Phase II. The allowance will be part of the modification with Phase II.

21) As-Built Drawings

- a) Upon completion of construction of each Phase, AECOM will utilize as-built information (red lines, Contractor survey) to prepare an as-built set of drawings as well as a CAD file for input into the City's GIS system. As-Built Drawings for the entire project will be authorized as part of Phase II.

22) Schedule and Meetings

- a) Monthly Progress Meetings
- b) Sanitary Sewer Alignment/Roadway Concept Meeting: 120 calendar days after NTP
- c) Phase I Submittals
 - i) 30% Design Submittal: 210 calendar days after NTP
 - ii) 30% Design Submittal Review Meeting: 240 calendar days after NTP
 - iii) 50% Design Submittal: 330 calendar days after NTP
 - iv) 50% Design Submittal Review Meeting: 360 calendar days after NTP
 - v) 90% Design Submittal: 450 calendar days after NTP
 - vi) 90% Design Submittal Review Meeting: 480 calendar days after NTP
 - vii) 100% Design Submittal: 580 calendar days after NTP
- d) Phase II Submittals – To be determined with Phase II modification.

23) Assumptions

- a) Except for the West Johnstown Road work, storm sewer design resulting from the storm sewer study is not included. If additional storm sewer work is determined to be necessary, this will be included in Phase II.
- b) Regardless of alignment, project will be bid in two phases, with Phase I being the West Johnstown Road portion of the design and anything south of Agler Road and Phase II being anything north (and including Agler Road). Agler Road timing may change based on Columbia Gas project. Schedule assumes that both phases will be submitted simultaneously
- c) Full-time inspection during Construction is assumed to be by others but can be provided under a future modification.

- 24) Compensation – Compensation shall be on a time and material basis based on the employee cost rate and a multiplier of 3.00 at a not-to-exceed as shown on Attachment 1. Note that only Phase I is included in Attachment 1.

West Gahanna - Attachment 1

| ACTIVITY | | Prelim + Phase I |
|----------|--|---------------------|
| | PROJECT TASK | |
| 1.0 | Review Existing Data | \$ 22,180 |
| 2.0 | Select Sanitary Sewer Alignment | \$ 53,160 |
| 3.0 | Roadway Concept Confirmation | \$ 52,820 |
| 4.0 | Field Survey | \$ 173,240 |
| 5.0 | Geotechnical Data Collection | \$ 143,276 |
| 6.0 | Storm Sewer Analysis | \$ 191,460 |
| 7.0 | Environmental Study | \$ 23,779 |
| 8.0 | Public Engagement | \$ 70,728 |
| 9.0 | Sanitary Sewer Design | \$ 62,436 |
| 10.0 | Water Main Design | \$ 85,656 |
| 11.0 | Roadway Design - Sanitary Sewer | |
| 12.0 | West Johnstown Road Design | \$ 550,040 |
| 13.0 | Easements | |
| 13.01 | Easement Development - Phase II Sewer Alignment | |
| 13.02 | Easement Development - Johnstown/Phase I | \$ 112,000 |
| 13.03 | Easement Negotiations - Phase II Sewer Alignment | |
| 13.03 | Easement Negotiations - Johnstown/Phase I | \$ 290,000 |
| | Task Subtotal | |
| 14.0 | MOT Design | \$ 11,440 |
| 15.0 | Sustainability Study (Allowance) | \$ 65,360 |
| 16.0 | Funding Research | \$ 21,800 |
| 17.0 | Utility Coordination and Relocation | \$ 11,800 |
| 18.0 | Design Submittals | \$ 44,868 |
| 19.0 | Bidding Services | \$ 14,144 |
| 20.0 | Engineering Services During Construction (Allowance) | |
| 21.0 | As-Built Drawings | |
| 22.0 | Project Management, Meetings | \$ 65,632 |
| | TOTAL | \$ 2,065,819 |