



Board of Aldermen Request for Action

MEETING DATE: 2/7/2023

DEPARTMENT: Public Works – Wastewater

AGENDA ITEM: Resolution 1176 – Authorization No. 98 - Owens Branch Sanitary Sewer Main

REQUESTED BOARD ACTION:

A motion to approve Resolution 1176, authorizing and directing the mayor to execute Authorization No. 98 with HDR Engineering, Inc. for engineering design of the Owens Branch Sanitary Sewer.

SUMMARY:

A long-term goal of the City of Smithville is to more efficiently serve the community's wastewater collection needs and provide additional capacity to facilitate growth opportunities. The most efficient method to convey wastewater is through the strategic implementation of gravity sewers to serve the north and south portions of the City. These interceptors are long term solutions that should be constructed in phases as growth and development are proposed. Three interceptor sewers are recommended for the ultimate build-out of the City based on the watersheds. The Owens Branch Interceptor will serve the area north of the Little Platte River.

This first phase of the Owens branch interceptor will extend from the wastewater plant to north of KK Highway with an estimated cost of \$3.9 million.

PREVIOUS ACTION:

Wastewater Master Plan adoption Res 880, 2/10/2021.

POLICY ISSUE:

Infrastructure Maintenance and growth.

FINANCIAL CONSIDERATIONS:

The 2023 Capital Improvement Plan for the Combined Water and Wastewater system includes this project.

ATTACHMENTS:

- | | |
|--|--|
| <input type="checkbox"/> Ordinance | <input checked="" type="checkbox"/> Contract |
| <input checked="" type="checkbox"/> Resolution | <input type="checkbox"/> Plans |
| <input type="checkbox"/> Staff Report | <input type="checkbox"/> Minutes |
| <input type="checkbox"/> Other: | |

RESOLUTION 1176

A RESOLUTION AUTHORIZING AND DIRECTING THE MAYOR TO EXECUTE AUTHORIZATION NO. 98 WITH HDR ENGINEERING, INC. FOR ENGINEERING SERVICES FOR OWENS BRANCH SANITARY SEWER IMPROVEMENTS

WHEREAS, the City maintains a Wastewater Treatment plant for processing the community's sanitary sewage; and

WHEREAS, a long-term goal of the City is to more efficiently serve the community's wastewater collection needs and provide additional capacity to facilitate growth opportunities; and

WHEREAS, the most efficient method to convey wastewater is through the strategic implementation of gravity sewers; and

WHEREAS, the Owens Branch Interceptor will serve the area north of the Little Platte River; and

WHEREAS, HDR Engineering Inc. has submitted Authorization No. 98 to complete the engineering design and specifications for the Owens Branch Interceptor in an amount of \$315,500.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ALDERMEN OF
THE CITY OF SMITHVILLE, MISSOURI:**

THAT the Mayor is hereby authorized to execute Authorization No. 98 with HDR Engineering, Inc. to complete the engineering design and specifications for the Owens Branch Interceptor in an amount of \$315,500.

PASSED AND ADOPTED by the Board of Aldermen and **APPROVED** by the Mayor of the City of Smithville, Missouri, the 7th day of February, 2023

Damien Boley, Mayor

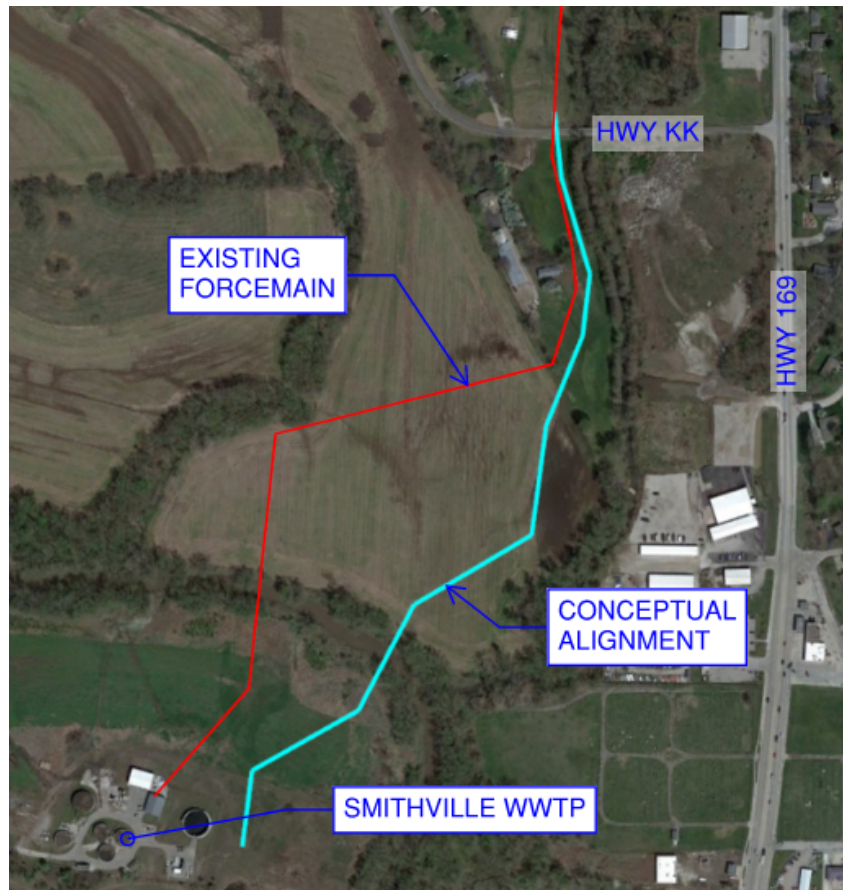
ATTEST:

Linda Drummond, City Clerk

AUTHORIZATION No. 98
TO
AGREEMENT BETWEEN
CITY OF SMITHVILLE, MISSOURI
AND
HDR ENGINEERING, INC. (FORMALLY E.T. ARCHER CORPORATION)
FOR
PROFESSIONAL ENGINEERING SERVICES

OWEN'S BRANCH SANITARY SEWER IMPROVEMENTS – PHASE 1

In accordance with Section 1.A. of the December 18, 2003 Agreement, ENGINEER is hereby authorized to assist the City with the topographic survey, environmental permitting, design, preparation of construction documents, bidding assistance, and construction administration for approximately 2,800 linear feet of 30-inch sanitary sewer gravity line. This line will extend from a manhole just east of the Influent Pump Station at the Smithville WWTP northward under the Little Platte River. In this first phase of the Owens Branch Extension, the line will terminate just north of Highway KK by connecting to the existing force main as shown below. The existing force main from this manhole to the WWTP will be abandoned in place.



The Scope of Services will more specifically include the following project improvements & tasks.

SCOPE OF SERVICES

Task 1. Topographic Survey

1. Project research, preparation, and management - Research and compile relevant previous topographic surveys and background data and incorporated into this project.
2. Safety plan coordination and review
3. Control and benchmark survey - Establish and/or identify survey control points and project benchmarks.
4. Topographic Survey - Obtain topographic survey within the project boundary including apparent visible features and the Little Platte River bottom utilizing sonar equipment.
5. Utility Coordination/meetings - Coordination with utilities for locates and survey of utilities.
6. Boundary Survey - Develop property boundary survey from right of way to right of way and/or building faces. Research existing property lines based on County deeds and tax mapping.
7. Base mapping – Convert topographic field survey information into AutoCAD Civil 3D format.
8. Easement descriptions - Obtain Guaranteed Title Reports (GTR), create easement descriptions and exhibits for up to 4 properties.
9. Easement staking for acquisitions – HDR will provide staking for the proposed easements to define the project for property owners, appraisers, and the City.

Task 1 Deliverables: Easement descriptions and staking

Task 2. Environmental Permitting

1. Waters of the U.S. Determinations – Document Clean Water Act potential jurisdictional waters (wetlands and streams) and submit for jurisdictional determination. Determine the type, size and location of jurisdictional waters impacted by the project. Conduct wetland and stream channel delineations by two experienced wetland scientists. Delineate in accordance with the USACE 1987 wetland delineation manual and Midwest regional supplemental delineation manual. Provide jurisdictional assessment per pre-2015 USACE Rapanos Guidance. Photo documentation will be provided to include a photo log and corresponding description of each photo. Prepare a written determination/delineation report consisting of an introduction/project overview, methods, results and discussion, and temporary and permanent impacts. Wetland and waters of the U.S. data sheets will be prepared, as well as project location map, NWI and soils mapping information, photo log, wetland/pond/stream channel delineation boundary map, and project engineering plans. Develop wetland and/or stream crossing restoration plans for USACE submittal.
2. 404/401 Nationwide Permit PCN – Prepare Preconstruction Notification (PCN) letter form to USACE and supplemental attachments, brief discussion of avoidance and minimization, brief proposal to purchase credit in existing wetland and/or stream mitigation banks (only if required), agency coordination documentation as necessary, and project engineering figures. Include in PCN an engineer's estimate of volume and surface area of fill placed in wetlands or other waters of the U.S. and linear feet of stream channel impacted. The surface area estimate will also include consideration for grading limits within wetlands beyond the proposed fill area, as this can be considered wetlands impacts.

3. T & E Bat Species Habitat Assessment – Conduct IPaC online review and Section 7 ESA review and informal consult. Conduct general desktop and field habitat assessment, to include memo. Coordinate with USACE on City’s commitment to avoid potential roost tree and tree clearing in general relative to active and inactive bat seasons. Obtain, if possible, a “may effect - not likely to adversely affect” determination through USACE and USFWS coordination. Conduct (as needed meeting) with USFWS.
4. Section 106 SHPO Coordination - Pull SHPO records and prepare SHPO review letter. Conduct field archaeology survey for Section 106 compliance. Prepare survey report.
5. Stormwater Permitting – Coordinate and prepare land disturbance erosion & sediment control (E&S) plans, NPDES stormwater permit NOI application, and stormwater pollution prevention plan (SWPPP).
6. Floodplain Permit – Review available background materials. Request available FEMA models and documentation. Conduct hydraulic analysis. Coordination with sanitary sewer design features. Develop floodplain technical memorandum. Prepare and submit floodplain development permit application and no-rise certificate (as applicable).

Task 2 Deliverables – Wetland and waters report, 404 application, Archaeology survey report, NPDES stormwater permit application, floodplain development permit

Task 3. Preliminary Design

1. Internal Safety Plan and PARR QA/QC Review – Internal Safety Plan and perform project approach and resource review.
2. Conceptual Plan and Profile to 188th Street – HDR will design the conceptual Owen's Branch sewer line plan and profile (full build out) utilizing available GIS data. The City will provide necessary contour data. The conceptual full-build-out plan and profiles will provide required depth of future phases and necessary depth and location for coordination with potential developments upstream. This alignment will be approximately 22,000 LF and will require 18 plan sheets.
3. Alignment walkthrough - HDR will provide conceptual alignment and conduct a walkthrough of the project with the City. This will confirm the proper alignment for the topographic survey and design.
4. Utility Coordination – HDR will initiate conversations with utilities about the project with the conceptual alignment. HDR will determine if utility improvements are intended in the project vicinity.
5. Preliminary Engineering Report – HDR will prepare a preliminary engineering report to be reviewed by the City.
6. Geotechnical investigations - HDR will retain a subconsultant to perform 8 soil bores (25’ minimum depth) at proposed manhole locations to determine bed rock and groundwater conditions. Six (6) of the soil bores will be until auger refusal. The remaining two (2) bores will be at the edges of the Little Platte River and will in full depth rock cores. HDR will provide staking for the geotechnical bore locations.
7. Preliminary plans – HDR will develop preliminary design plans for the sewer alignment under the direction of City Staff. The Preliminary Design Plans will be based on the topographic survey developed in Task 1. These plans will include title sheet, sewer line plan and profiles, and standard details.

8. Technical specifications - HDR will prepare preliminary technical specifications for sewer line construction.
9. Preliminary cost estimate - HDR will prepare a preliminary itemized opinion of probable construction costs.
10. Internal QC review - HDR will perform an internal quality control review on the preliminary plans, project manual, and cost estimate.
11. Client Meeting (1 included) - HDR will attend one meeting with the City to review the preliminary documents.
12. Easement exhibits to City – HDR will prepare easement exhibits and descriptions for the City.
13. Project Management – Perform project management, invoicing, scheduling, and cost control for the project.

Task 3 Deliverables: Conceptual sewer line plan and profiles, Preliminary Engineering Report, Preliminary Plans, Preliminary Technical Specification, easement exhibits, and Geotechnical Report.

Task 4. Final Design

1. Utility Coordination – HDR will continue conversations with utilities about the project with the preliminary design plans created. HDR will determine if improvements are intended in the project vicinity.
2. Final plans – HDR will develop final design plans for the sewer line under the direction of City Staff. These plans will include title sheet, sewer line plan and profiles, layout and survey control, erosion control, traffic control, restoration plans, and standard details.
3. Technical and project specifications - HDR will finalize the project manual and project specific technical specifications.
4. Cost estimate – HDR will prepare a final itemized opinion of probable construction costs.
5. Internal QC review - HDR will perform an internal quality control review on the final plans, project manual, and cost estimate.
6. Engineering Report – HDR will prepare a final engineering report to be sent to Missouri Department of Natural Resources (MDNR) for review.
7. Construction permit to MDNR – HDR will submit a sewer line construction permit to MDNR.
8. Client Meeting (1 included) - HDR will attend one meeting with the City to review the final documents.
9. Project Management – Perform project management, invoicing, scheduling, and cost control for the project.

Task 3 Deliverables: Engineering report, Construction plans and specifications, Construction cost estimate.

Task 5. Bidding Phase

1. Prepare bid package - HDR will assist Owner in advertising by submitting electronic copies of the bidding documents to Drexel Technologies, Inc. Plan Room.
2. Pre-bid conference - HDR will assist the City in conducting a pre-bid conference.
3. Bidder's questions – HDR will address bidders questions.

4. Prepare addenda – HDR will issue up to two (2) addenda to clarify, correct, or modify the Bidding Documents.
5. Bid Opening – HDR will attend the bid opening, prepare Bid tabulations, and assist Owner in evaluating Bids or proposals and provide a bid award recommendation to the City
6. Bid award – After Acceptance from the City, HDR will notify the contractor of the bid award and notice to proceed and create conformed to bid drawings and Project Manual.

Task 4 Deliverables: Project advertisement, bid tab and recommendation, and conformed to bid Contract Documents

Task 6. Construction Phase

1. Pre-construction conference – HDR shall prepare an agenda and participate in a pre-construction conference prior to commencement of Work at the Site.
2. Submittal Reviews – HDR shall review up to twenty (20) Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto.
3. Address RFI's - HDR shall issue up to five (5) necessary clarifications and interpretations of the Contract Documents to the orderly completion of Contractor's work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. Engineer may issue Field Orders authorizing minor variations in the Work from the requirements of the Contract Documents.
4. Issue Change Orders - HDR shall recommend Change Orders and Work Change Directives to Owner, and prepare up to three (3) Change Orders/Work Change Directives.
5. Review payment applications - Based on HDR's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation, HDR will recommend the amount the Contractor be paid on up to five (5) applications. Such recommendations of payment will be in writing and will constitute from information provided to HDR that the Contractor's Work has progressed to the point indicated, the quality of such Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion and to the results of subsequent tests called for in the Contract Documents), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is HDR's responsibility to observe Contractor's Work. In the case of unit price work, HDR's recommendations of payment will include final determinations of quantities and classifications of Contractor's Work (subject to subsequent adjustments allowed by the Contract Documents).
6. Monthly progress meetings - HDR shall attend up to five (5) construction progress meetings with Owner and Contractor.
7. Engineer site visits - In connection with observations of Contractor's Work while it is in progress and coordination with City Staff, HDR may make up to three (3) visits to the

Site to observe as an experienced and qualified design professional the progress and quality of Contractor's executed Work. Such visits and observations by HDR are not intended to be exhaustive or to extend to each aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to HDR in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on HDR's exercise of professional judgment as assisted by the Resident Project Representative. HDR will check with City Staff documentation. Based on information obtained during such visits and observations, HDR will determine in general if the Work is proceeding in accordance with the Contract Documents, and HDR shall keep Owner informed of the progress of the Work.

8. Substantial completion walk through and punch list - HDR shall conduct a substantial completion walk through to determine if the completed Work of Contractor is acceptable. HDR will provide a punch list of items needed for the contractor to meet substation completion if necessary.
9. Final walk through and documentation - HDR shall conduct a final walk through to determine if the completed Work of Contractor is acceptable so that HDR may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, HDR shall also provide a notice that the Work is acceptable to HDR's knowledge and information, and based on the extent of the services provided by HDR under this Agreement.
10. Record drawing completion - HDR shall prepare a set of construction record drawings based upon records kept by Contractor and City's Resident Project Representative during Construction. These drawings will be provided to the Owner in electronic PDF format.
11. Project Management – Perform project management, invoicing, scheduling, and cost control for the project.

Task 5 Deliverables: Submittal reviews, change orders, pay app reviews, substantial completion punch list, final completion documentation, and record drawings

Project Assumption

1. The City will coordinate with owners of private property to provide access for consultant's and subconsultant's staff.
2. HDR will provide easement conveyance documents to the City. The City will negotiate and obtain the easements and appraisals as needed.
3. The City will provide construction observation and will review results of testing during construction.
4. The project will only be bid one time.
5. There will be no fee for the City issued floodplain development permit.
6. Potential for temporary and minor permanent impacts to jurisdictional waters and federally threatened and endangered species (T&E) habitat is acknowledged in the development of this scope of work that would require delineation and PCN to the USACE and are covered under NWP#58. Tree clearing restrictions for T&E bat species are anticipated. No mitigation banking, in-lieu fee, or mitigation site development costs

are provided in this scope of services. Plans will address temporary environmental resource damages to streams, riparian areas and wetlands.

7. A Phase 1 Archaeology survey will cover the requirements for SHPO correspondence. No Phase 2 archival or related mitigation services/consulting will be provided.
8. No mitigation services for bat habitat are provided. Should a “likely to adversely affect” result from initial review, HDR can provide further habitat surveys as additional services.
9. The floodplain permit process does not anticipate needing to obtain a CLOMR from FEMA.

Project Schedule

02/08/23	Anticipated Notice to Proceed
04/14/23	Conceptual Plan and Profile
03/21/23	Alignment Walkthrough
06/09/23	Preliminary Plans to the City
08/04/23	Construction permit to MDNR
09/15/23	Final Plans to the City
10/04/23	Issue for Bid
10/25/23	Bid Opening
08/2024	Construction Substantial Completion (240 days for construction)

FEE

The CITY shall compensate ENGINEER for the Owens Branch Sanitary Sewer Improvements Phase 1 in an amount not to exceed \$315,500.00

This AUTHORIZATION shall be binding on the parties hereto only after it has been duly executed and approved by the CITY and ENGINEER.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this AGREEMENT in duplicate on the respective dates indicated below.

CITY: SMITHVILLE, MISSOURI

By: _____

Damien Boley

Type or Print Name

Title Mayor

Date February, 7, 2023

ENGINEER: HDR Engineering, Inc.

By: _____

Cory Imhoff, P.E.

Type or Print Name

Title Sr. Vice President

Date _____