CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

CONSTRUCTION ACTIVITIES STRATEGY

The following information is being submitted, by the City of Cahokia Heights (City) to Illinois EPA (IEPA), to outline the Project implementation strategy to achieve the planned construction activities outputs to be funded by the grant (21WWCTIRR), and designed to achieve the following:

- Rehabilitation and/or restoration of approximately 35 lift stations
- Rehabilitation and/or restoration of approximately 5,800 linear feet (LF) of impaired sewer line
    - Approximately 1500 LF of pipe repair
    - Approximately 5,800 LF of cured-in-place pipe (CIPP) liner
- CIPP or slip-lining of approximately 3,500 LF of the main sewer trunkline

The City submitted a list of projects, including project type and the specific locations as part of the 9/30/2021 Notice of Funding Opportunity (NOFO) Project Details Narrative application. Illinois EPA had tentatively accepted those NOFO project locations as the locations of where the construction activities would be completed using the grant funds. The application lists the above activities (lift station rehab/restoration, sewer repair, and main trunk CIPP) including the original locations, type of work, and cost summary, which are attached as appendices A, B, and C. The City will continue to use these lists as the projects to implement, unless changes in scope occur which would cause a shift in priority, location, type, or other variation. Any such changes would be reviewed and approved by IEPA prior to making the change

STRATEGIES AND PRIORITIES

The Strategy to achieve the above outputs are detailed below.

The lift stations and sewer breaks to be rehabilitated, repaired, or restored under this grant were selected according to the following priority basis, ranked from highest priority to lowest:

1. Lift stations or sewer breaks located in proximity to, or associated with, known sanitary sewer overflow (SSO) incidents
2. Lift stations or sewer breaks being bypassed due to severe disrepair or non-function
3. Lift stations or sewer breaks located in the deepest parts (lowest influent elevation) of the City system, reflecting the greatest potential for infiltration of groundwater

4. Lift Stations or sewer breaks located on the sections of the City system with the greatest amount of tributary flow (such as those on large diameter influent pipes)
5. Lift stations or sewer breaks located in areas with the greatest potential for surface disruption, such as beneath major roadways, railroads, adjacent to schools, hospitals, or other such infrastructure and safety concerns

In utilizing the above priorities, the following goals will be achieved to the maximum extent possible:

- Support the elimination of SSOs
- Reduce or eliminate system surcharging
- Eliminate wastewater service backups
- Reduce O&M costs
- Increase reliability and continuity of wastewater service

The City is in the process of implementing investigative measures and corrective actions as part of a Administrative Order on Consent (AOC) with the USEPA Region V – Enforcement and Compliance Assurance Division, that also emphasizes the above priorities, and so is consistent with the goals of this grant. The causes of the occurrence of SSO's, system surcharging, and service backups is under investigation, as part of the AOC, but from ongoing inspection, maintenance, and repair activities prior to and outside the scope of this grant, the City has identified the main causes of these incidents as:

- Malfunctioning or non-functional lift stations, sewer failures, and associated by-pass pumping operations
- Infiltration and Inflow (I/I) sources into the sanitary sewer system, such as
    - surface water flooding from adjacent area runoff,
    - poorly graded and overgrown ditches and culverts,
    - abandoned houses and properties, and associated broken drains, cleanouts. etc.
    - illegal sewer tap ins from yard drains, downspouts, etc.
    - seasonal high groundwater levels infiltrating clean water into old leaking pipes and structures
- Backups and surcharging of the system from downstream sewer issues in the adjacent City of East St. Louis system to the north

The city sewer system contains 69 lift stations in total, with approximately 59 of those needing some form of repair, rehab, or replacement. This IEPA grant will fund work to ~~fix~~ repair approximately 35 of those lift stations, with the priorities of where to apply the grant funds following the protocols outlined above. Additional state and federal funds have been applied for and scheduled to come through in 2023 and beyond to address the funding shortfall.

There are at present 22 known sewer failures in the City system. This grant will take care of repair and restoration work at approximately all of these locations. In addition, as part of these sewer repair projects, cleaning, televising, and CIPP of adjacent sewers will be accomplished after the repairs are made, to approximately 5,800 LF of sewer line.

The final part of the construction activity funded by this grant will be the cleaning, televising, and CIPP lining of approximately 3,500 LF of the main trunkline of the sewer system. The trunkline is the main pipeline carrying sewer flows through the City and down to the southern tip of the City, from where it is

then pumped north into the American Bottoms Regional Wastewater Treatment Plant, in adjacent Sauget, IL. Along the way, the trunkline collects all the tributary sewer flows from neighborhoods and businesses throughout the City, sort of like an interstate highway for sewers. As such, the trunkline must be deep enough and large enough to collect all these tributary flows. It is therefore a very important component of the City sewer system, and one that, because of its size, depth, amount of flow, and location along main streets and highways, is the most problematic and expensive to repair, should failures occur along its length. Completing CIPP work to this trunkline will help prevent future failure incidents, and will also act as a preventative measure against infiltration of groundwater into the system, from the deep elevations at which the trunkline exists.

The trunkline runs for a total of about 41,000 LF from end to end through the City. As mentioned above, this grant will fund the CIPP work to line approximately 3,500 LF of it. The remainder will be funded through various state and federal sources, including the US Army Corps of Engineers (USACE) project.which will fund approximately 18,000 LF of the line adjacent to this grant project.

The only part of the system issues not to be addressed by this grant are the backups and surcharges associated with downstream issues in the City of East St. Louis sewer system. These issues will be addressed by the construction of an interceptor sewer to intercept lines currently flowing into East St. Louis from the northern part of the City of Cahokia Heights and redirect those flows southward into the newly restored main trunkline flowing south. This interceptor sewer will be funded by other state and federal sources outside the scope of this grant.

CONSTRUCTION ACTIVITIES PROCUREMENT PROCEDURES and OTHER STATUTORY COMPLIANCE

All contracted services, construction, and equipment purchased with funds provided under the grant will conform and comply with all applicable local, state, and federal laws and regulations, including, but not necessarily limited to, the following, which are all listed in the grant terms as requirements of the City to properly receive and manage the funds under the grant. As such, the City's Finance Department will oversee and be responsible for compliance with these terms throughout the grant period. In addition, the Contractor will be subject to any of these specific terms applicable to their work and control, as well as the standard terms contained in the Instructions for Bidders, and the Construction Agreement, examples of which are included as Appendix E:

- Illinois Works Jobs Program Act, Illinois Works Apprenticeship Initiative, 30 ILCS 559/20-25
- Internal Revenue Code – 26 USC 1
- Illinois Income Tax Act – 35 ILCS 5
- Federal Funding Accountability and Transparency Act of 2006 (P.L. 109-282)
- Uniform Administrative Requirements, Cost Principles, and Audit Requirements, 2 CFR Part 200
- 44 Ill. Admin. Code 7000.40(c)(1)(A)
- 44 Ill. Admin Code 7000.30
- Illinois State Collection Act of 1986. 30 ILCS 210; 44 Ill. Admin. Code 7000.450(c)
- 44 Ill. Admin Code 7000.440(b)(2)

- Cash Management Improvement Act of 1990, 31 USC 6501; 2 CFR 200.305; Ill. Admin. Code 7000.120
- Modifications – 2 CFR 200.308
- Interest – 2 CFR 200.305(b)(8), (9)
- Certification – 2 CFR 200.415
- Indirect Costs – 44 Ill. Admin. Code 7000.420(e)
- Accounting – 2 CFR 200.305(b)(7)(i) and 30 ILCS 708/520; 2 CFR 200.302
- Internal Control – 2 CFR 200.303
- Cash Management – 2 CFR 200.305
- Profit – 2 CFR 200.400(g); 30 ILCS 708/60(a)(7)
- Bribery – 30 ILCS 500/50-5
- Bid Rigging – Criminal Code of 1961; 72- ILCS 5/33E-3, or 30 ILCS 5/33E-4
- Debt to State – 30 ILCS 500/50-11
- International Boycott – U.S. Export Administration Act of 1979, or U.S. Dept. of Commerce Act 15 CFR Parts 730-774
- Dues and Fees – 775 ILCS 25/1
- Pro-Children Act – 20 USC 7181-7184
- Drug Free Work Place – 30 ILCS 580/3
- Motor Voter Law – 52 USC 20501
- Clean Air Act – 42 USC 7401
- Clean Water Act – 33 USC 1251
- Debarment – 2 CFR 200.205(a); 30 ILCS 708/25(6)(G)
- Non-Procurement Debarment and Suspension – 2 CFR Part 180 and Part 376, Subpart C
- Prevailing Wage Act – 820 ILCS 130/0.01
- Health Insurance Portability and Accountability Act – Public Law No. 104-191, 45 CFR Parts 160, 162, 164; Social Security Act 42 USC 1320d-2 through 1320d-7
- Criminal Convictions – 30 ILCS 500/50-10.5
- Forced Labor Act – 30 ILCS 583
- Illinois Use Tax – 30 ILCS 500/50-12
- Environmental Protection Act – 30 ILCS 500/50-14
- Child Labor Act – 30 ILCS 584
- Illinois Human Rights Act – 775 ILCS 5/1-101
- Public Works Employment Discrimination Act – 775 ILCS 10/1
- U.S. Civil Rights Act of 1964 – 42 USC 2000a-2000h-6
- Section 504 of the Rehabilitation Act of 1973 – 29 USC 794
- Americans with Disabilities Act of 1990 – 42 USC 12101
- Age Discrimination Act – 42 USC 6101
- Lobbying – 31 USC 1352; 2 CFR 200.450; Executive Order No. 1 (2007) (EO 1-2007); 2 CFR 200, 31 USC 1352
- Records – 2 CFR 200.334, 44 Ill Admin. Code 7000.430(a)(b); 2 CFR 200.337; 2 CFR 200 329; 200.332
- Financial Reporting – 2 CFR 200.208; 30 ILCS 708.125; 2 CFR 200.344; 44 Ill. Admin. Code 7000.440(b)

- Performance Reporting – 2 CFR 200.208; 2 CFR 200.344; Ill. Admin. Code 7000.440(b)(1); 2 CFR 200.329(b) (c); 2 CFR 200.301; 200.210
- Audit – Single Audit Act of 1996 31 YSC 7501-7507; 2 CFR Part 200 Subpart F; 30 ILCS 708/65(c); 44 Ill. Admin. Code 7000.90; 2 CFR 200.501; 44 ILL. Admin. Code 7000.90(h)(2)and GATA Manual
- Equipment Purchases – 2 CFR 200.439; 2 CFR 200.310-316; 2 CFR 200.317-326
- Domestic Preference – 2 CFR 200.322
- Insurance – 2 CFR 200.310
- Gift Ban – State Officials and Employees Ethics Act 5 ILCS 430/10-10 and Executive Order 15-09

An example of typical Standard Specifications front-end documents that would be utilized for bidding and award for the construction work under the grant are included as Appendix D. These specifications would be the same front-end documents regardless of the type of project (lift station, sewer repair, or CIPP). The difference would be in the detailed specifications for the specific type of construction material and method. The specs can be modified as needed to incorporate any grant term-specific requirements or statements that may be required by IEPA review.

Specifications for equipment purchases would be developed from supplier sources and industry standards and subject to competitive bidding.

PRE-CONSTRUCTION ACTIVITIES IMPLEMENTATION #2

Prior to construction, the City and Hurst-Rosche will:

#3 #4

1. confer and agree monthly and/or more often as needed for emergency situations (new failures, SSO's etc.) on latest priorities for construction projects within the grant envelope,
2. send an updated list of these locations to the IEPA for concurrence and approval.
3. Once IEPA approves, construction activity will commence

#5

Project details, including locations, identifiers, project numbers, etc., will be submitted on the Construction Activities forms for approval to Illinois EPA, ~~and then~~ design work ~~would be performed to~~ take the project(s) to bidding. A ~~project sign design would be part of this submittal~~. This design work would be funded by the up-front payment request from the grant, including securing any necessary IEPA permits for the work. Included in the bid phase would be Hurst-Rosche conducting a pre-bid conference and, as bids are received, the results ~~could~~ be submitted, along with a bid tabulation and recommendation to IEPA for approval of award.

Documentation with the as defined in Item 3 of Exhibit E of the grant agreement to

Once award is made to the successful bidding contractor, Hurst-Rosche would perform Construction Administration services, including:

- Review contract submittals, such as insurance certificates, subcontractor lists, schedules, and other similar materials, for compliance with procurement specs
- Conduct a pre-construction conference with the Contractor and owner (the City)to review the project work scope, execution requirements, (such as technical submittals, schedule, material deliveries, etc.), payment documents and procedures, contract closeout requirements

- Conduct a community outreach meeting in association with the outreach consultant, Baxton & Associates, to inform the public about the details of the project
- Stake right of way and control points prior to start of construction
- Stake the location of the project sign, for erection by the contractor prior to the start of work
- Provide periodic and regular observation of construction activity, and administration of said activity, including progress reports to whom?
- Attend weekly and monthly progress meetings with the Contractor and City to review work progress, submittals, etc.
- Review shop drawings submitted by the Contractor
- Prepare change orders, if necessary, for approval by IEPA and issuance by the City
- Inspect materials and review material certifications furnished by the Contractor.
- Maintain progress and other project records, and review and recommend monthly pay request and final pay request due the ContractorReview final submittals, including lien waivers, as-builts, warranties, etc
- Conduct project closeout and submittals of any needed documentation to IEPA (such as as-built plans, final pay requests, warranties, Owner's manuals, etc.)

Construction Activities Documentation Form - Part 2

#6

POTENTIAL CHANGES IN SCOPE

If, in the implementation of the above construction activities, it becomes necessary or prudent to alter the scope of work to include other or additional areas of work, those areas will be selected using the same priorities and ranking as those listed above. An example of this would be to utilize moneys from this grant to fulfill local match requirements for a pending federal grant request through the US Army Corps of Engineers to perform CIPP work on the largest, deepest and most downstream portions of the City's main trunkline, if such a request were to be granted.

Of course, no changes to the stated scope of work in this grant would be implemented without prior approval from the IEPA.

#7

The approval process for changes in scope would involve:

- For a change order to a project under construction
  - submittal of a change order request by the Contractor
  - review of request and recommendation for approval (or denial) by Hurst-Rosche to City
  - approval (or denial) of change order request by City
  - submittal of change order (if approved) to IEPA for review and approval
  - issuance of change order to contractor upon IEPA approval
- For a change of scope of the grant (such as new location, new technology, or other change)

email

#8

- submittal of change request and justification by Hurst-Rosche and City to IEPA
- review of request and decision by IEPA
- communication of change in grant scope to community via outreach program

Should it be necessary to pause or halt contract work while in progress due to changed or unforeseen conditions, any associated cost or schedule impacts (such as demobilization and remobilization, overhead, etc) would be included in the change order costs.

#9

UP-FRONT PAYMENT REQUEST

The up-front payment, as allowable in the grant agreement, will be used to advance and fund the activities under 1) the Outreach Program Strategies, 2) the Construction Activity Strategies, outlined in Items 2 and 3 of Exhibit E of the agreement, as well as 3) to fund the purchase of important sewer collection and transport system operations and investigative equipment for the City. Under these categories of activity, the initial activities at the beginning of the project will be designated for funding through the up-front payment, as detailed below, and as shown on the attached payment schedule.

#10

Up-front Payment for Outreach Program Strategy

These would include the initial activities under the contract and plan with Baxton & Associates, to perform the outreach program, including:

- Develop and publish a website devoted to the project
- Assembling an outreach team
- Utilizing various communication tools to interface with community members
- Schedule and conduct quarterly meetings with the community
- Publish notices of important activities how/where?
- Update the plan as indicated by community feedback

what plan?

Up-front Payment for Construction Activities Strategy

These would include the:

- Consultant Costs for engineering for design, contract administration, and construction services for the construction work, including:
  - Design of each pump station rehab/replacement (approx. 35 locations)
  - Design of sewer repair locations (approx. 22 locations ~ 15,000 LF)
  - Design of CIPP lining of trunkline (1 location, approx. 3,500 LF)
- Construction Costs including:
  - Ping Pong Lift Stations (N 82nd St and Bluff Ave, and Belleview Ave)
  - Lazarcheff/Parklane/Kenneth St. Sewer Breaks
  - Howell Ave./Ellen St. (430 Range) Sewer Breaks

At the Ping Pong location, design work has been done completed, bids have been taken, and an award and agreement simply await funding through the grant so construction can commence.

At the other two locations, design and bid documents would need to be created by Hurst-Rosche, with bids, award, and construction to follow.

Up-front Payment for Equipment Purchases

- CAT FWD Backhoe w/ B8S Hammer Attachment or equal (to be deferred until later, during the cost reimbursement part of the grant period)
- Flygt 6" Portable Suction Trash Pump (2) or equal
- Trojan C1000 Sewer Inspection Camera System or equal

The backhoe and hammer attachment will be used by the City to make emergency repairs to sewer lines and lift stations, including demolition of pavements, excavation of soils, pipes and structures, and backfill installation to locations and features not covered by the IEPA grant.

The portable trash pump will be used by the City for bypass operations of ailed lift stations or sewer breaks as needed.

The sewer inspection camera system will be used by the City as an investigative measure to determine the condition of sewer lines on an ongoing operation and maintenance basis, As required by the USEPA consent order.

APPENDICES

A – Location Map of Projects and Project List

B – Scope of Work for Projects

C – Cost Estimates

D – Typical Bid and Contract Award Specifications (Front End Documents)

E – Risk Plan

F – Assumption Log

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

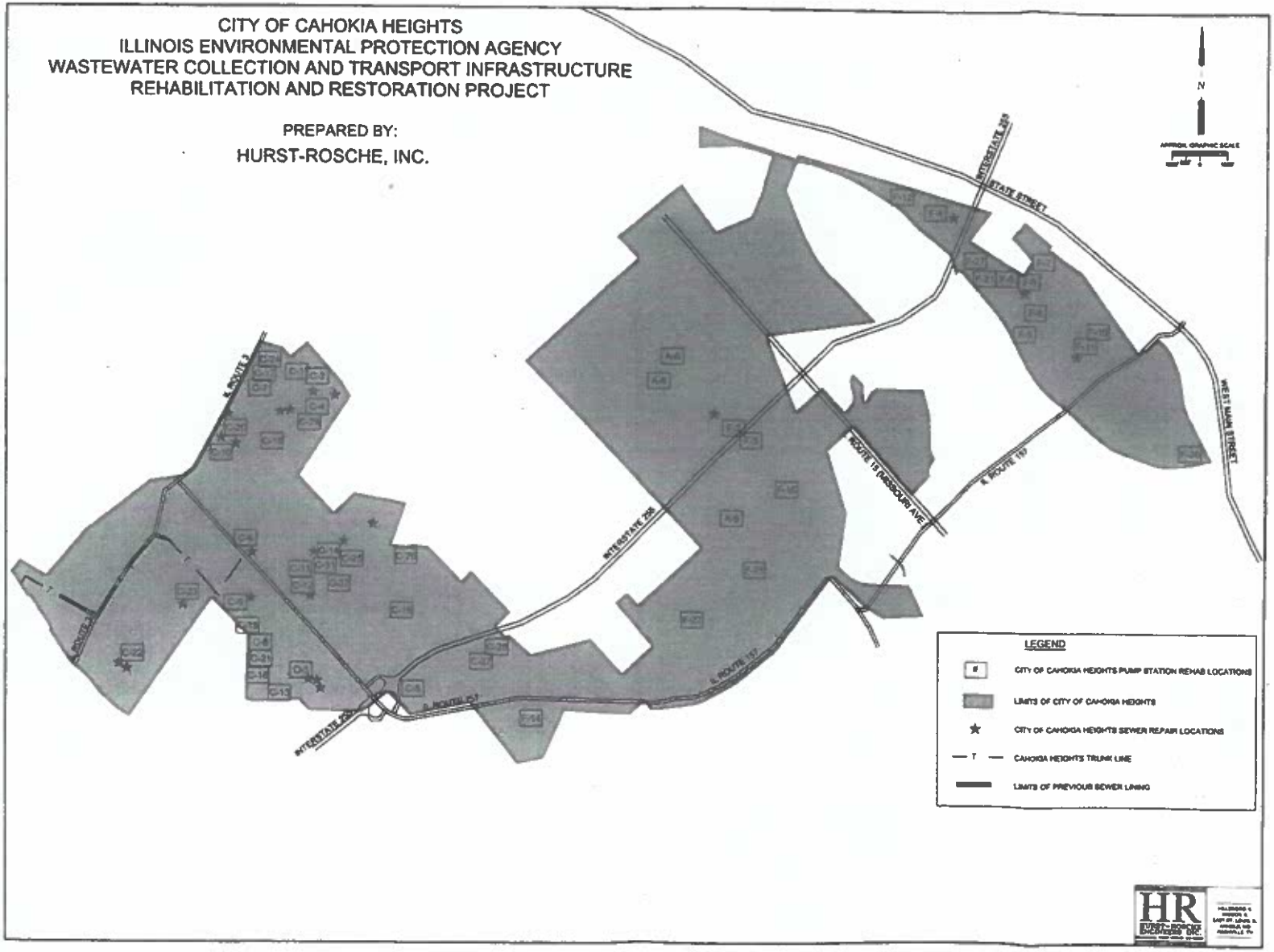
REHABILITATION AND RESTORATION PROJECT

APPENDIX A

LOCATION MAP

CITY OF CAHOKIA HEIGHTS
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE
REHABILITATION AND RESTORATION PROJECT

PREPARED BY:
HURST-ROSCHE, INC.



CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

APPENDIX B

SCOPE OF WORK

#12

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

define which work is being done by City versus Contractor

SCOPE OF WORK FOR PROJECTS

PUMP/LIFT STATIONS REPAIR AND REHABILITATION PROJECTS:

The pump/lift station work can be grouped into the following categories of work, depending on the condition of the existing station:

- Minor Rehab (guide rails, float switches, control panel repairs, etc.)
- Partial Rehab (pump, control panel, guide rails, float switches, electrical, etc.)
- Full Rehab (pumps, control panel, valves, guide rails, float switches, electrical, etc.)
- Major Rehab (wetwell, valve vault, pumps, control panel, valves, electrical, fencing, etc.)
- Extensive Rehab (wetwells, valve vaults, pumps, control panels, valves, electrical, force main, etc.)

Within the above categories, the following work items can be expected to be required in some form, depending on the location and category of rehab:

- Mobilization
- Traffic Control & Protection
- Care-of-Flow
- Clearing
- Install Dewatering Wells
- Trench Backfill
- Clean & Televise Existing 8" Sewer
- Clean & Televise New 8" Sewer
- Clean & Televise Existing 10" Sewer
- Clean & Televise New 10" Sewer
- Install 8" CIPP Liner
- Install 10" CIPP Liner
- Clean Interior of Wet Well
- Install New Valve Vault
- Install New Pumps
- Install New Guide Rails
- Install New Piping
- Install New Valves
- Install New Control Panel
- Install New Level Sensors
- Install New Electrical Service
- Install New Fencing
- Other

SEWER REPAIR PROJECTS:

These sewer repair projects are fairly consistent from location to location in terms of scope, and can be expected to include the following work items:

- Mobilization
- Traffic Control & Protection
- Clearing
- Dewatering
- Care-of-Flow
- Remove & Replace Manholes
- Remove & Replace 8" Sanitary Sewer
- Remove & Replace 10" Sanitary Sewer
- Connect to Existing Sewer
- Re-establish Service Connections
- Trench Backfill
- Clean & Televise Existing 8" Sewer
- Clean & Televise New 8" Sewer
- Clean & Televise Existing 10" Sewer
- Clean & Televise New 10" Sewer
- Install 8" CIPP Liner
- Install 10" CIPP Liner
- Concrete Curb & Gutter
- Concrete Driveway
- HMA Pavement
- Concrete Sidewalk
- Fencing
- Seed & Mulch
- Other

remove underline

TRUNKLINE CIPP PROJECT:

- The trunkline project can be expected to consist of the following work items:
- Mobilization
- Traffic Control & Protection
- Care-of-Flow
- Clean & Televise Existing 24" Sewer
- Clean & Televise New 24" Sewer
- Clean & Televise Existing 30" Sewer
- Clean & Televise New 30" Sewer
- Install 24" CIPP Liner
- Install 30" CIPP Liner

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

APPENDIX C

COST ESTIMATES

City of Cahokia Heights
Illinois Environmental Protection Agency
Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration Project
HR 860-1981

Cost Summary

No.	Description	Total
1	Sewer Repairs	$ 1,667,200.00
2	Pump Station Rehabilitations	$ 5,984,000.00
3	Cured-In-Place Pipe (CIPP) Liner	$ 712,300.00
4	Engineering Cost (15%)	$ 1,254,525.00
5	Operation & Maintenance Equipment	$ 250,000.00

NOTES:

i. CIPP refers to "Cured In Place Pipe", aka "sliplining" or "trenchless pipelining"

ii. For breakdown of total costs and unit prices, see Detailed Cost Estimate sheets

iii. Detailed Cost Estimates noted herein from September 2020 have been adjusted to reflect cost increases by 3% overall and are reflected in the totals listed on this sheet

City of Cahokia Heights
Illinois Environmental Protection Agency
Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration Project
HR 860-1981

Pump Station Rehabilitation Costs

No.	Pump Station Rehabilitations	Total	Rehab Type
1	Market Avenue Pump Station Rehabilitation (No. A-6)	$ 100,000.00	3
2	43rd & Tudor Pump Station Rehabilitation (No. A-8)	$ 100,000.00	3
3	56th & Russell Pump Station Rehabilitation (No. A-9)	$ 100,000.00	3
4	100 Block of Judith Lane Pump Station Rehabilitation (No. C-1)	$ 65,000.00	2
5	215 Judith Lane Pump Station Rehabilitation (No. C-2)	$ 100,000.00	3
6	Blue Water Lane Pump Station Rehabilitation (No. C-3)	$ 15,000.00	1
7	Bruce Street Pump Station Rehabilitation (No. C-4)	$ 100,000.00	3
8	Carol Road Pump Station Rehabilitation (No. C-5)	$ 75,000.00	2
9	Cooper Drive Pump Station Rehabilitation (No. C-6)	$ 100,000.00	3
10	Credit Union Pump Station Rehabilitation (No. C-7)	$ 100,000.00	3
11	DePaul Pump Station Rehabilitation (No. C-8)	$ 150,000.00	4
12	Donald Street Pump Station Rehabilitation (No. C-9)	$ 80,000.00	2
13	Edgar Street Pump Station Rehabilitation (No. C-10)	$ 60,000.00	2
14	Ellen & Richard Pump Station Rehabilitation (No. C-11)	$ 100,000.00	3
15	Hutchins Street Pump Station Rehabilitation (No. C-12)	$ 100,000.00	3
16	King Court Pump Station Rehabilitation (No. C-13)	$ 20,000.00	1
17	La Salle Drive Pump Station Rehabilitation (No. C-14)	$ 100,000.00	3
18	Miskell Boulevard Pump Station Rehabilitation (No. C-15)	$ 50,000.00	2
19	Paris Pump Station Rehabilitation (No. C-16)	$ 15,000.00	1
20	Quickway Pump Station Rehabilitation (No. C-17)	$ 40,000.00	2
21	Relber Station Pump Station Rehabilitation (No. C-18)	$ 30,000.00	1
22	Shack Pump Station Rehabilitation (No. C-19)	$ 100,000.00	3
23	Singer Pump Station Rehabilitation (No. C-20)	$ 100,000.00	3
24	St. Christopher & Andrews Pump Station Rehabilitation (No. C-21)	$ 80,000.00	2
25	St. Margaret Drive Pump Station Rehabilitation (No. C-22)	$ 50,000.00	2
26	St. Monica Pump Station Rehabilitation (No. C-23)	$ 150,000.00	4
27	State Lottery Pump Station Rehabilitation (No. C-24)	$ 100,000.00	3
28	Station 2 Pump Station Rehabilitation (No. C-25)	$ 75,000.00	2
29	Station 3 (Diversion) Pump Station Rehabilitation (No. C-26)	$ 50,000.00	2
30	Station 5 (Front) Pump Station Rehabilitation (No. C-27)	$ 30,000.00	1
31	Station 5A (Rear) Pump Station Rehabilitation (No. C-28)	$ 20,000.00	1
32	VFW Pump Station Rehabilitation (No. C-29)	$ 25,000.00	1
33	Williams & Ellen Pump Station Rehabilitation (No. C-31)	$ 100,000.00	3
34	Williams & Kay Pump Station Rehabilitation (No. C-32)	$ 30,000.00	1
35	51st & Market Pump Station Rehabilitation (No. F-2)	$ 150,000.00	4
36	53rd & Market Pump Station Rehabilitation (No. F-3)	$ 10,000.00	1
37	63rd & Laura Pump Station Rehabilitation (No. F-4)	$ 150,000.00	4
38	71st & Ames Pump Station Rehabilitation (No. F-5)	$ 150,000.00	4
39	73rd & Oakland Pump Station Rehabilitation (No.F-6)	$ 150,000.00	4
40	73rd Street Pump Station Rehabilitation (No. F-7)	$ 150,000.00	4

41	75th & Clinton Pump Station Rehabilitation (No. F-8)	$	150,000.00	4
42	75th & Pershing Pump Station Rehabilitation (No. F-9)	$	150,000.00	4
43	82nd & Belleview Pump Station Rehabilitation (No. F-10)	$	150,000.00	4
44	82nd & Bluff Pump Station Rehabilitation (No. F-11)	$	150,000.00	4
45	Beachland Pump Station Rehabilitation (No. F-12)	$	150,000.00	4
46	Bridgedale Pump Station Rehabilitation (No. F-14)	$	150,000.00	4
47	City Hall (Rear) Pump Station Rehabilitation (No. F16)	$	50,000.00	2
48	Lake Drive Pill Box Pump Station Rehabilitation (No. F-21)	$	150,000.00	4
49	Lauralee & Violet Pump Station Rehabilitation (No. F-22) **	$	860,000.00	5
50	Church Road Pump Station Rehabilitation (No. F-25)	$	10,000.00	1
51	Superior Pump Station Rehabilitation (No. F-26)	$	100,000.00	3
52	Willie Holmes Pill Box Pump Station Rehabilitation (No. F-27)	$	100,000.00	3
	SUBTOTAL OPINION OF PROBABLE CONSTRUCTION COST	$	5,440,000.00	
	CONTINGENCY (10%)	$	544,000.00	
	TOTAL OPINION OF PROBABLE CONSTRUCTION COST	$	5,984,000.00	

** Includes a new pump station & force main on Renois Lane (see attached detailed cost estimate)

Rehab Type:

1 Minor Rehab (guide rails, float switches, control panel repairs, etc.)
2 Partial Rehab (pump, control panel, guide rails, float switches, electrical, etc.)
3 Full Rehab (pumps, control panel, valves, guide rails, float switches, electrical, etc.)
4 Major Rehab (wetwell, valve vault, pumps, control panel, valves, electrical, fencing, etc.)
5 Extensive Rehab (wetwells, valve vaults, pumps, control panels, valves, electrical, force main, etc.)

NOTE:

Other than details stated above, no "standard" unit pricing can be applied to the pump station rehab work due to the large variation on scope and detail of the projected repairs

City of Cahokia Heights
Illinois Environmental Protection Agency
Wastewater Collection and Transport Infrastructure Rehabilitation and Restoration Project
HR 860-1981

Sewer Repair Costs

No	Sewer Repairs	Total	Pipe Size	Repair Length	CIPP Length
1	REDACTED	$ 56,900.00	8"	30'	300'
2	REDACTED (Rear Easement)	$ 60,100.00	8"	30'	350'
3	REDACTED	$ 80,700.00	8"	60'	450'
4		$ 51,400.00	8"	20'	170'
5		$ 42,000.00	8"	20'	80'
6		$ 107,800.00	8"	80'	300'
7		$ 56,500.00	8"	30'	320'
8	REDACTED (Side Easement)	$ 81,400.00	8"	40'	660'
9	REDACTED	$ 59,300.00	8"	20'	360'
10	St. Henry Drive @ St. Margaret Drive	$ 60,500.00	8"	20'	400'
11	REDACTED	$ 61,400.00	8"	30'	400'
12		$ 121,400.00	8"	70'	800'
13	3807 Mississippi Avenue	$ 56,600.00	10"	30'	330'
14	Cooper Drive Manhole	$ 64,400.00	30"	20'	180'
15	REDACTED	$ 61,800.00	8"	40'	360'
16		$ 61,800.00	15"	10'	330'
17		$ 55,500.00	8"	30'	330'
18		$ 140,900.00	8"	160'	520'
19		$ 92,200.00	8"	20'	700'
20		$ 54,900.00	8"	20'	400'
21	327 N. 63rd Street	$ 43,200.00	8"	20'	165'
22	REDACTED	$ 44,900.00	8"	20'	185'
	SUBTOTAL OPINION OF PROBABLE CONSTRUCTION COST	$ 1,515,600.00			
	CONTINGENCY (10%)	$ 151,600.00			
	TOTAL OPINION OF PROBABLE CONSTRUCTION COST	$ 1,667,200.00			

HR HURST-ROSCHE, INC.

PROJECT	Southern American Bottoms	09/28/21
CLIENT	Cured-In-Place Pipe (CIPP) Liner	
LOCATION	Main Trunk Line South of Camp Jackson Road	
PROJ. NO.	HR 260-1430	

OPINION OF PROBABLE CONSTRUCTION COST

Item	Description	Quantity	Unit	Unit Price	Total
GENERAL WORK					
1	Mobilization	1	LS	$ 10,000.00	$ 10,000.00
2	Traffic Control & Protection	1	LS	$ 5,000.00	$ 5,000.00
3	Clearing	0	LS	$ 1,500.00	$ -
4	Dewatering	0	EA	$ 10,000.00	$ -
5	Care-of-Flow	1	LS	$ 20,000.00	$ 20,000.00
6	Remove & Replace Manholes	0	EA	$ 3,000.00	$ -
7	Remove & Replace 8" Sanitary Sewer	0	LF	$ 250.00	$ -
8	Remove & Replace 10" Sanitary Sewer	0	LF	$ 300.00	$ -
9	Connect to Existing Sewer	0	EA	$ 500.00	$ -
10	Re-establish Service Connections	0	EA	$ 750.00	$ -
11	Trench Backfill	0	CY	$ 35.00	$ -
12	Clean & Televise Existing 24" Sewer	0	LF	$ 30.00	$ -
13	Clean & Televise New 24" Sewer	0	LF	$ 25.00	$ -
14	Clean & Televise Existing 30" Sewer	5,000	LF	$ 32.50	$ 162,500.00
15	Clean & Televise New 30" Sewer	0	LF	$ 27.50	$ -
16	Install 24" CIPP Liner	0	LF	$ 80.00	$ -
17	Install 30" CIPP Liner	5,000	LF	$ 90.00	$ 450,000.00
18	Concrete Curb & Gutter	0	LF	$ 75.00	$ -
19	Concrete Driveway	0	SY	$ 90.00	$ -
20	HMA Pavement	0	SY	$ 140.00	$ -
21	Concrete Sidewalk	0	SF	$ 12.00	$ -
22	Fencing	0	LF	$ 20.00	$ -
23	Seed & Mulch	0	LS	$ 500.00	$ -
24	Other	0	LS	$ -	$ -
	SUBTOTAL OPINION OF PROBABLE CONSTRUCTION COST				$ 647,500.00
	CONTINGENCY (10%)				$ 64,800.00
	TOTAL OPINION OF PROBABLE CONSTRUCTION COST				$ 712,300.00

#11 Provide address or lat/long for start and end points

HR HURST-ROSCHE, INC.

PROJECT	WWCT Infrastructure R&R
CLIENT	Operation & Maintenance Equipment
LOCATION	City of Cahokia Heights
PROJ. NO.	HR 860-1981

09/28/21

OPERATION & MAINTENANCE EQUIPMENT COST

Item	Description	Quantity	Unit	Unit Price	Total
GENERAL					
1	FWD Backhoe w/ Concrete Breaker	1	LS	$ 150,000.00	$ 150,000.00
2	6" Portable Trash Pump	2	LS	$ 40,000.00	$ 80,000.00
3	Sewer Inspection Camera System	1	LS	$ 20,000.00	$ 20,000.00
	SUBTOTAL OPINION OF EQUIPMENT COST:				$ 250,000.00

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

APPENDIX D

TYPICAL PROECT SPECIFICATIONS

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

APPENDIX E

RISK PLAN

The following have been identified as risks to a successful project completion under the IEPA grant, along with how these risks will be mitigated. See attached spreadsheet.

CITY OF CAHOKIA HEIGHTS, IL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE
REHABILITATION AND RESTORATION PROJECT

RISK	RESPONSE AND MITIGATION ACTIONS
Lack of competitive bids	pre-bid program to include contractor solicitation to encourage participation
	via advertisements in industry trade publications and contractor bulletins, phone calls, meetings, etc
Cost escalations above estimates	build contingencies into estimates and expedite designs and awards asap
Changes in scope and cost	thorough field investigations and surveys to produce complete plans
	active construction adminstration to anticipate issues and review progress weekly
	contract administration by engineer to review changes and make recommendations to City and IEPA
Delays in equipment deliveries	build contingencies into estimates and expedite designs, awards, shop drawing review, and other approvals asap
Performance or quality issues	active construction adminstration to anticipate issues and review progress weekly
	corrective actions required of contractors as needed
	warranties requried for material and workmanship
	lien waivers required for all contractors and suppliers prior to payment for work
	performance and payment bonds required of contractors

CITY OF CAHOKIA HEIGHTS, IL

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE

REHABILITATION AND RESTORATION PROJECT

APPENDIX F

ASSUMPTION LOG

The following are the design assumptions used by the City's consultant to assemble the grant application and implementation plan for successful project completion under the IEPA grant. See attached spreadsheet.

CITY OF CAHOKIA HEIGHTS, IL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
WASTEWATER COLLECTION AND TRANSPORT INFRASTRUCTURE
REHABILITATION AND RESTORATION PROJECT

ASSUMPTION LOG

1	Lift Stations rehab and sewer repairs to be accomplished using Standard Specifications for Water and Sewer Main Construction in Illinois as a baselinealong with the Standard Specifications for Road and Bridge Construction in Illinois
2	Conventional construction materials and methods are to be used
3	New lift stations to utilize submersible pumps and external valve vaults, with flow metering option
4	Sewer repairs to also include cleaning, televising and CIPP of adjacent sewer reaches
5	Excavations for sewer repairs or new structures will require dewatering wells for groundwater
6	Multiple contractors and contracts will be required simultaneously to complete scope of grant on time
7	Enough qualified contractors are available to ensure competitive bidding
8	IEPA construction & operating permits for new lift stations, etc. are approved in 60 days or less
9	Project funding is available to support the project timeline
10	Material & equipment fabrication & deliveries are sufficient to support the project schedule