



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

October 31, 2019

SUBJECT: FAI Route 90/94/290 (I-90/94/270)
Project NHPP-ZYCH(319)
Section 2019-054-I
Cook County
Contract No. 62J31
Item No. 6, November 8, 2019 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised the Schedule of Prices.
2. Revised pages iii-vi of the Table of Contents to the Special Provisions
3. Revised pages 2, 54-61 & 145-150 of the Special Provisions
4. Added pages 424-429 to the Special Provisions.
5. Revised sheets 1, 5, 7-20, 27, 40-43, 56, 64, 74-76, 87-89, 91-96, 109-114, 118, 178-182, 294, 295, 297 & 298 of the Plans.
6. Added sheets 117A & 208A to the Plans

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jack A. Elston'.

Jack A. Elston, P.E.
Bureau Chief, Design and Environment

MTS

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SOILS INFORMATION

Soil boring logs and generalized soil profiles are shown in the Plans for SN 016-1827 and SN 016-1702.

The reports below are available for inspection at IDOT District 1, 201 W. Center Court, Schaumburg, Illinois.

Structure Geotechnical Report
Circle Interchange Reconstruction
Retaining Wall 38 (Proposed SN 016-1827)
F.A.I. 290 (Eisenhower Expressway)
Station 1315+37.04 to Station 1318+74.91
IDOT D-91-227-13 / PTB 163-001
Cook County, Illinois
Prepared by Wang Engineering, Inc.
Original: November 23, 2015
Revised Report: February 17, 201

Structure Geotechnical Report
Circle Interchange Reconstruction
Jackson Boulevard (F.A.U. 1422) Bridge Over
Interstate 90/94 (Kennedy Expressway)
Existing SN 016-0588, Proposed SN 016-1702
Section 2015-020B
IDOT D-91-227-13 / PTB 163-001
Cook County, Illinois
Prepared by Wang Engineering, Inc.
Original Report: January 30, 2017
Revised Report: August 3, 2017

Roadway Geotechnical Report
Jane Byrne Interchange
Reconstruction
SB I-90/94 Connecting Ramps
Advanced Contract 62J31
Section 2019-054-I
Cook County, Illinois
Prepared by Wang Engineering, Inc.
Original: October 9, 2019

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STATUS OF UTILITIES (D-1)

Effective: June 1, 2016

Utility companies and/or municipal owners located within the construction limits of this project have provided the following information in regard to their facilities and the proposed improvements. The tables below contain a description of specific conflicts to be resolved and/or facilities which will require some action on the part of the Department's contractor to proceed with work. Each table entry includes an identification of the action necessary and, if applicable, the estimated duration required for the resolution.

UTILITIES TO BE ADJUSTED

Conflicts noted below have been identified by following the suggested staging plan included in the contract. The company has been notified of all conflicts and will be required to obtain the necessary permits to complete their work; in some instances resolution will be a function of the construction staging. The responsible agency must relocate or complete new installations as noted in the action column; this work has been deemed necessary to be complete for the Department's contractor to then work in the stage under which the item has been listed.

Prior to Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	RESPONSIBLE AGENCY	ACTION
Jackson Boulevard Bridge over I-90/94	Fiber Optic	Crown Castle maintains active facilities in conduits attached to the existing bridge deck which are owned by OEMC. These conduits are in conflict with removal of the Jackson Boulevard Bridge superstructure.	Crown Castle (previously Lighttower)	Existing Crown Castle facilities will be temporarily relocated into City of Chicago facilities along Van Buren Street. The cables will be removed in 5 business days. Removal of the ducts shall be considered included in the cost of the removal of existing bridge. Facilities are anticipated to be relocated by 11/30/2020. These facilities will eventually be relocated back onto the Jackson Boulevard Bridge proposed superstructure as part of Contract 60X94.

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The following contact information is what was used during the preparation of the plans as provided by the Agency/Company responsible for resolution of the conflict.

Agency/Company Responsible to Resolve Conflict	Name of contact	Address	Phone	e-mail address
Crown Castle (previously Lightower)	John Pyka	350 N Orleans Street Suite 620 Chicago, IL 60654	312-415-8184	John.Pyka@crowncastle.com

UTILITIES TO BE WATCHED AND PROTECTED

The areas of concern noted below have been identified by following the suggested staging plan included for the contract. The information provided is not a comprehensive list of all remaining utilities, but those which during coordination were identified as ones which might require the Department's contractor to take into consideration when making the determination of the means and methods that would be required to construct the proposed improvement. In some instances the contractor will be responsible to notify the owner in advance of the work to take place so necessary staffing on the owners part can be secured.

Stage 1

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER	ACTION
SB I-90/94 Under Jackson Boulevard Bridge	Freight Tunnel	City of Chicago freight tunnels located below SB I-90/94. The tunnels were previously bulkheaded, and filled in specific locations. These tunnels run under the Jackson Boulevard Bridge. They also continue north between Quincy Street and Jackson Boulevard and within the abandoned Quincy Street right-of-way.	City of Chicago	Existing City of Chicago tunnels previously filled shall not be disturbed.

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SB I-90/94	Electric	ComEd maintains a 20 duct package crossing below SB I-90/94 within the abandoned Quincy Street existing ROW which is located between Adams Street and Jackson Boulevard.	ComEd	Existing ComEd facilities shall not be disturbed.
SB I-90/94	Gas main	Peoples Gas previously retired a 24" steel gas main crossing under SB I-90/94 just north of the Jackson Boulevard Bridge.	Peoples Gas	Existing retired gas main shall be removed by the Contractor as identified in the Plans. Remaining portions of the retired gas main shall be filled as identified in the Plans and special provisions.
Jackson Boulevard Bridge over I-90/94	Electric Roadway Lighting /	City of Chicago DOT maintains active facilities in conduits along Jackson Boulevard, but these do not cross the existing bridge.	City of Chicago DOT	Existing City of Chicago DOT facilities shall not be disturbed.
SB I-90/94	Abandoned Water Main	The 16" water main crossing under SB I-90/94 is located just south of the Jackson Boulevard Bridge. This water main was previously abandoned as part of Contract 62A75.	CDWM	Existing abandoned water main shall be removed by the Contractor where encountered.

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SB I-90/94	Fiber Optic	The 2-4" HDPE Fiber Optic Conduits w/ 3-1 1/4" Innerducts per conduit were previously abandoned as part of Contract 62A75.	Crown Castle (previously Lighttower)	Abandoned Crown Castle conduit shall be removed by the Contractor where encountered.
SB I-90/94	Water Main	The 16" water main crossing under SB I-90/94 is located south of the Jackson Boulevard Bridge and is encased in a 30" steel pipe. This water main was previously installed as part of Contract 62A75. The water main includes a riser structure immediately west of the drilled shafts of the proposed southwest wingwall of the proposed Jackson Boulevard bridge. The 16" water main exits the riser shaft to the north into Jackson Boulevard.	CDWM	Existing CDWM water main facilities shall not be disturbed.

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SB I-90/94	Water Tunnel	<p>The abandoned 5 foot brick water tunnel is located north of the Van Buren Street Bridge.</p> <p>The tunnel was previously filled and bulkheaded from Van Buren Street to the embankment along the east side of NB I-90/94.</p>	None	Existing water tunnel shall not be disturbed unless installation of proposed drainage requires partial removal.
SB I-90/94	Cable TV	<p>The conduit is located north of the Van Buren Street Bridge. The conduit was previously abandoned as part of Contract 60X99.</p>	Comcast	The abandoned conduit shall be removed by the Contractor where encountered.
SB I-90/94	Combined Sewer Siphon Pipe	<p>The existing 60" combined sewer siphon sewer pipe is located just north of the Van Buren Street Bridge.</p>	CDWM	Existing combined sewer siphon pipe shall not be disturbed. See Plans for details concerning pavement and storm sewer construction.
Van Buren Street Bridge over I-90/94	Communications	<p>OEMC maintains active communication facilities in conduits attached to the north half of the bridge structure. These conduits were installed as part of Contract 60X99.</p>	OEMC	Existing OEMC facilities shall not be disturbed.

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SB I-90/94	Water Tunnel	<p>The 8 foot water tunnel is located below the Van Buren Street Bridge.</p> <p>The tunnel was previously filled and bulkheaded within the limits of the Van Buren Street Bridge as part of Contract 60W36.</p>	CDWM	Existing CDWM water tunnel shall not be disturbed
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Stage 2 – Same as Stage 1 plus the following:

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER	ACTION

Stage 3 – Same as Stage 1 through Stage 2 plus the following:

STAGE / LOCATION	TYPE	DESCRIPTION	OWNER	ACTION

The following contact information is what was used during the preparation of the plans as provided by the owner of the facility.

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Agency/Company Responsible to Resolve Conflict	Name of contact	Address	Phone	e-mail address
ComEd	Carla Strunga	Facility Relocation Dept. 7601 S Lawndale Avenue Chicago, IL 60652	708-518-6209; 815-409-8622	Peter.Kratzer@ComEd.com Carla.Waldvogel@ComEd.com
CDWM (Water Section)	Brian McGahan (CTR Joint Venture)	CTR Joint Venture Jardine Water Purification Plant 1000 E Ohio St +51 Chicago, IL 60611	312-742-5919	Brian.McGahan@ctrwater.net
CDWM (Sewer Section)	Sid Osakada	1000 E Ohio St +51, Room 313 Chicago, IL 60611	312-744-0344	Sid.osakada@cityofchicago.org
CTA	Mike McCarthy	Chicago Transit Partners 567 W. Lake Street, 9th Floor Chicago, IL 60661	312-681-4833	mmccarthy.ctp@transitchicago.com
City of Chicago CDOT	Dan Grigas	30 N. LaSalle St. Room 400 Chicago, IL 60602	312-744-4815	Daniel.Grigas@cityofchicago.org
City of Chicago OEMC	Frank Kelly	1411 W. Madison St. Chicago, IL 60607	312-746-9238	Frank.Kelly@cityofchicago.org

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Peoples Gas	Aaron Meyer	Peoples Energy 200 E. Randolph St., 21 st FL Chicago, IL 60601	312-240-4016	aaron.meyer@peoplesgasdelivery.com
Comcast	Bob Schulter or Robert Stoll	688 Industrial Drive Elmhurst, IL 60126	(224) 229- 5861 or (224) 229- 5849	Bob_Schulter@comcast.com or Robert_Stoll@comcast.com
Lighttower Fiber Networks / Crown Castle	John Pyka	350 N Orleans Street Suite 620 Chicago, IL 60654	(312) 415- 8184	John.Pyka@crowncastle.com

The above represents the best information available to the Department and is included for the convenience of the bidder. The days required for conflict resolution should be taken into account in the bid as this information has also been factored into the timeline identified for the project when setting the completion date. The applicable portions of the Standard Specifications for Road and Bridge Construction shall apply.

Estimated duration of time provided in the action column for the first conflicts identified will begin on the date of the executed contract regardless of the status of the utility relocations. The responsible agencies will be working toward resolving subsequent conflicts in conjunction with contractor activities in the number of days noted.

The estimated relocation dates must be part of the progress schedule submitted by the contractor. A utility kickoff meeting will be scheduled between the Department, the Department's contractor and the utility companies. The Department's contractor is responsible for contacting J.U.L.I.E. prior to any and all excavation work.

Geogrid which is damaged during installation or subsequent placement of granular material, due to failure of the Contractor to comply with these provisions, shall be repaired or replaced at no additional cost to the Department, including costs of removal and replacement of the granular material. Torn geogrid may be patched in-place by cutting and placing a piece of the same geogrid over the tear. The dimensions of the patch shall be at least 2 feet larger than the largest dimension of the tear and it shall be weighted or otherwise secured to prevent the granular material from causing lap separation.

Method of Measurement. GEOTECHNICAL REINFORCEMENT will be measured in square yards for the installed surface area below the proposed pavement, barrier base, curb and gutter, or shoulder, plus as needed along the sides of the excavation. No measurement of overlapping material will be made. If more than one layer is placed due to design considerations, only one layer will be measured for payment. All excavation and placements and compaction of the AGGREGATE SUBGRADE IMPROVEMENT shall be measured and paid for separately.

Basis of Payment. The work will be paid for at the contract unit price per Square Yard for GEOTECHNICAL REINFORCEMENT.

SEWER SETTLEMENT MONITORING

Description. This work shall consist of monitoring portions of the existing 60" combined sewer siphon north of Van Buren Street for settlement during any construction within a minimum of 100' of the siphon sewer.

General Requirements. Sewer settlement monitoring shall occur at intervals no greater than 10 feet apart along the 60" combined sewer siphon. All monitoring locations shall be installed a minimum of one (1) week prior to the start of any work within 100 feet of any monitoring location. The work under this item is independent of the requirements under TELEVISION INSPECTION OF SEWER, but findings under that item may be utilized in conjunction with data produced under this work.

Submittals. The Contractor must submit a Sewer Settlement Monitoring plan to the Engineer for approval. The Plan must be approved prior to the start of construction within 100' of the 60" combined sewer siphon. The plan must include, but is not limited to the following:

- Intended monitoring techniques
- Locations of all monitoring points
- Monitoring point protection plan
- Shop drawings and product data for all materials and instruments
- Monitoring point installation plan, procedures and equipment
- Calibration reports for all survey instrumentation (reports shall be updated during construction to be no greater than 180 days old while instrumentation is in use)
- Procedure and outline for how the data will be provided to the Engineer
- Monitoring location abandonment plan
- Other pertinent data or procedures that the Contractor will use or employ

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Monitoring Requirements. The Contractor shall monitor settlement monitoring points on a daily basis during any construction activity within 50 feet of the 60" combined sewer siphon. After all pavements are complete, monitoring shall be performed on a weekly basis until construction is complete or as directed by the Engineer. Daily construction activities may proceed without monitoring if the planned construction activities are believed to have minimal chances to disturb the sewer, at the Engineer's discretion.

After initial monitoring locations have been installed and accepted, the baseline value (x,y,z coordinates) shall be recorded in logs and identified at each monitoring location. The following values are considered offsets from the baseline values. Vertical displacement shall be considered the difference between the measured elevation and the baseline elevation. Horizontal displacement shall be considered the arithmetic difference between the measured x,y coordinate and the baseline x,y coordinate.

- Threshold Value – 1/8 inches vertical
- Response Value – 3/16 inches vertical
- Shutdown Value – 1/4 inches vertical

When measurements indicate that the Threshold Value has been reached, the Engineer shall be notified. After reconfirming measurements that led to reaching the Threshold Value, the Contractor shall provide a review of the activities that transpired prior to the Threshold Value being reached. Contractor means and methods shall be reviewed to determine what changes, if any, shall be made to better control movement that may contribute to the displacement reading. Monitoring readings shall be made daily for five (5) consecutive days after the Threshold Value was reached, regardless of daily construction activities.

When measurements indicate that the Response Value has been reached, the Engineer shall be notified. After reconfirming measurements that led to reaching the Response Value, the Contractor shall provide a review of the activities that transpired prior to the Response Value being reached. The Contractor shall provide a plan to actively control ground movements and any other contributing factors to the Response Value being reached. Monitoring readings shall be made daily for five (5) consecutive days after the Response Value was reached, regardless of daily construction activities, or until measurement values below the Threshold Value are observed.

When measurements indicate that the Shutdown Value has been reached, the Engineer shall be notified and all work within 150 feet from the monitoring point that recorded the Shutdown Value must be stopped immediately. If in the Engineer's judgement, the Shutdown Value was determined to be due to an anomaly, work may resume with monitoring at the monitoring location in question occurring every hour. If the Engineer determines that the Shutdown Value was reached due to a settlement/deflection incident, all work within 150 feet from the monitoring location shall remain stopped. The Contractor shall meet with the Engineer to develop a plan of action before work can resume.

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Completion. At the completion of monitoring activities, the Contractor shall abandon all monitoring locations to the satisfaction of the Engineer and in accordance with the approved plan for abandonment.

Method of Measurement. The work under this item will not be measured separately.

Basis of Payment. This work will not be paid for directly, but shall be considered as included in the various elements of work in the area surrounding the existing 60" combined sewer siphon..

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CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

Replace the first paragraph of Article 593.01 of the Standard Specifications:

“This work shall consist of furnishing and placing controlled low-strength material (CLSM) as backfill for pipe culverts, storm sewers, structure excavation, or other excavations as specified. This work shall also consist of furnishing and placing CLSM as fill for pipe culverts and storm sewers to be abandoned as well as previously retired gas mains and plugging the pipe with Class SI concrete or brick and suitable mortar.”

Add the following to Article 1019.02 of the Standard Specifications:

“(f) Portland Cement Concrete 1020
(g) Building Bricks..... 1041”

Add the following to Article 593.03 of the Standard Specifications:

“When CLSM is used to fill pipe culverts and storm sewer to be abandoned, the possibility of undetected active connections exists. Prior to plugging the pipe, the Contractor shall field verify that there are no existing active connections draining into the pipe to be filled. The Contractor may elect at his or her own expense to televise the pipe to determine the existence and location of connections. If the field verification confirms that there are no existing active connections draining into the pipe to be filled, the Contractor shall plug the pipe with Class SI Concrete or brick and suitable mortar to the satisfaction of the Engineer. After the pipe has been plugged, the Contractor shall then fill the pipe according to Article 593.04(c) of the Standard Specifications. In the event that the Contractor identifies that the pipe to be filled has an active connection(s), the Contractor shall either re-route the existing active connection(s) or maintain the existing pipe to not block flow from the existing active connection(s) at no additional cost.”

Add the following to Article 593.04 of the Standard Specifications:

“(c) Pipes. When filling pipe culverts and storm sewers to be abandoned or previously retired gas mains, the mix shall be distributed evenly on each side of the pipe and placed in lifts. The first lift shall be placed up to one-fourth the height of the pipe and allowed to settle. After settlement of the first lift, as determined by the Engineer, the second lift shall be placed up to one-half the height of the pipe and allowed to settle. After settlement of the second lift, as determined by the Engineer, the remainder of the pipe shall be filled.”

Revise Article 593.05(b)(2) of the Standard Specifications:

“Pipes. When CLSM is specified for backfilling pipe culverts or storm sewers, the computed volume will not exceed the volume of the trench as computed by using the trench width specified in Sections 542 and 550 and the actual depth of the completed backfill above the top of the bedding materials, with a deduction for the volume of the pipe.

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When CLSM is specified for filling pipes culverts and sewers to be abandoned or previously retired gas mains, the computed volume will not exceed the volume of the pipe to be filled as computed by the measured diameter of length of pipe to be filled. The fill volume will be calculated in cubic yards. Any additional material that may be pumped into undetected connections will not be included in the computed quantities.”

Revise Article 593.06 of the Standard Specifications:

“Basis of Payment. This work will be paid for at the contract unit price per cubic yard for CONTROLLED LOW-STRENGTH MATERIAL. The unit price shall include all materials, equipment and labor required to backfill the pipe culverts, storm sewers and structures and/or to fill pipe culverts and storm sewers to be abandoned and previously retired gas mains. The unit price shall also include all materials, equipment and labor required to plug the end of the pipe prior to it being filled.”

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REMOVE ABANDONED GAS MAIN

Description. This work shall consist of the excavation, removal, satisfactory disposal, plugging and backfilling of the existing abandoned gas main at locations as shown on the Plans or as directed by the Engineer.

Construction Requirements:

Prior to any utility removal, the Contractor shall verify with the respective utility company that the subject utility structure is no longer in service. The abandoned gas main shall be removed within the limits where it conflicts with the proposed improvements, and as directed by the Engineer. The abandoned gas main that has been determined to not be affected by the proposed improvements may remain abandoned in-place. All pipes to be abandoned under this item shall have all openings sealed with a one (1) foot minimum length concrete plug.

Backfilling for Utility Removals:

Suitable excavated material from the utility removal excavation trench shall be used as backfill for the voids created by the same excavation. Excavated material from utility removal will not be allowed as backfill or embankment at other locations on the project site. Backfilling the void left by the removal operation shall be included in the cost of the item.

Method of Measurement. This work will be measured for payment in feet along the centerline of the abandoned gas main.

Basis of Payment. This work will be paid for at the contract unit price per foot for REMOVE ABANDONED GAS MAIN, which price shall include materials, equipment and labor to complete the work as described and includes excavation, removal and proper disposal of the existing abandoned gas main, plugging the ends of the sections of pipe to remain in-place and backfilling.

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REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (PROJECT SPECIFIC)

Description. This work shall consist of the removal and disposal of regulated substances according to Section 669 of the Standard Specifications as revised below.

Contract Specific Sites. The excavated soil and groundwater within the areas listed below shall be managed as either “uncontaminated soil”, hazardous waste, special waste or non-special waste. For stationing, the lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit, whichever is less.

Site 2615V2-1: ROW, I-90/I-94 between W. Adams Street and I-290, Chicago, Cook County

- Station 6220+10 to Station 6221+20 (CL Proposed Baseline SB I-90/94) 0 to 60 feet RT. The Engineer has determined this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 1316+60 to Station 1317+70 (CL Proposed Baseline Ramp SW) 0 to 35 feet LT, and 0 to 85 feet RT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminants of concern sampling parameters: Lead, and Manganese.
- Station 1317+70 to Station 1318+70 (CL Proposed Baseline Ramp SW) 0 to 5 feet LT, and 0 to 85 feet RT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 6211+50 to Station 6215+05 (CL Proposed Baseline SB I-90/94) 0 to 105 feet LT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 6215+05 to Station 6216+20 (CL Proposed Baseline SB I-90/94) 0 to 105 feet LT, and 0 to 30 feet RT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters: Benzo(a)pyrene, and Manganese.
- Station 6216+20 to Station 6217+15 (CL Proposed Baseline SB I-90/94) 0 to 105 feet LT, and 0 to 30 feet RT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(2). Contaminants of concern sampling parameter: Manganese.
- Station 6215+80 to Station 6216+80 (CL Proposed Baseline SB I-90/94) 30 to 100 feet RT. The Engineer has determined that this material meets the criteria of and shall be managed in accordance with Article 669.05(a)(4). Contaminants of concern sampling parameters: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, and Manganese.

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Work Zones

Three distinct OSHA HAZWOPER work zones (exclusion, decontamination, and support) shall apply to projects adjacent to or within sites with documented leaking underground storage tank (LUST) incidents, or sites under management in accordance with the requirements of the Site Remediation Program (SRP), Resource Conservation and Recovery Act (RCRA), or Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or as deemed necessary. For this project, the work zones apply for the following ISGS PESA Sites: **None.**

Additional information on the above sites collected during the Phase I Engineering process is available through the District's Environmental Studies Unit (DESU).

CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT ENGINEERING SERVICES

Description. This item shall consist of payment for work performed by the City of Chicago Department of Water Management (CDWM) related to engineering, leakage surveys, water quality services and other necessary items in support of this contract. These services include operations related to the construction of drilled shafts adjacent to existing water main facilities and pavement and sewer removals and proposed sewer and pavement installation adjacent to or above existing water main facilities. Water main facilities are anticipated to remain operational during construction. The City of Chicago will perform pre-construction and post-construction leakage surveys on the 16-inch water main 34 feet south of the south property line of West Jackson Boulevard.

General. It shall be the Contractor's responsibility to arrange and coordinate all required services by CDWM. All necessary field work shall be scheduled with CDWM in advance of the time period required. All work to be performed by CDWM is subject to CDWM work schedules and availability.

Construction Requirements. The Contractor shall make the following notifications for the water facility work included in this contract:

- It is required that the Force Account Construction Manager be contacted at FACM@ctrwater.net two weeks prior to the anticipated construction date so a resident engineer can be assigned to the project.

Failure to comply with these requirements may result in additional expenses to the project to verify that all work conforms to the CDWM's standards.

Added 10-31-19

Method of Payment. The Contractor will make payments to CDWM based upon the following schedule agreed to with CDWM:

- 100% of the initial estimate of costs required by CDWM. A certified check in the amount of \$7,940.00, payable to the City of Chicago, must be hand delivered to the Department of Buildings, Plumbing Permit and Plan Section, Room 906, City Hall, 121 North LaSalle Street, Chicago, Illinois 60602, with a copy of previous formal correspondence from CDWM to the Department.
- This payment shall be made to CDWM within ten (10) days of contract award using certified check. The receipt is to be provided to the Engineer for records.
- The initial estimated cost of services is an assumption subject to the receipt of the actual final costs submitted from CDWM upon completion of their work. The initial assumption identified above is for bidding purposes only.

CDWM will invoice the final amount based upon labor, material, equipment, overhead charges and other costs actually incurred.

The Contractor will be reimbursed based upon the requirements identified in Section 109.05, including administrative costs. The Contractor shall secure invoices from CDWM for work performed by CDWM. These invoices shall be submitted as documentation to the Department prior to or with any Contractor payment request for the remaining balance at the completion of work related to CDWM facilities.

For bidding purposes, this item shall be estimated as **\$8,337.00**, which includes the estimated cost from CDWM with additional administrative costs per Section 109.05.

Basis of Payment. This work will be paid for at the contract lump sum price for CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT ENGINEERING SERVICES which shall be reimbursement in full, and with administrative costs as described in Section 109.05, for services provided by CDWM.

Added 10-31-19

TRENCH DRAIN

Description: This work shall consist of furnishing and installing a trench drain system as shown in the Plans and/or directed by the Engineer. The work includes all necessary excavation, frames, grates, fittings, coupling systems, connections, concrete collars, concrete backfill, preformed joint filler, and accessories.

Materials: The trench drain shall be manufactured from polymer concrete. The polymer concrete shall be made from a composition of aggregate and polyester resin or vinylester resin and shall have the following properties when tested as specified below:

Property	Test Method	Value (Minimum)
Tensile Strength	ASTM C307	1,200 psi
Compressive Strength	ASTM C597	12,000 psi
Flexural Strength	ASTM C580	2,000 psi
Moister Absorption	ASTM C140	0.5%
Salt Proof	ASTM B117	Pass
Chemical Resistant	ASTM C267	Pass
Frost Proof	ASTM C666	Pass

Fabrication Requirements.

Access and Outlet Channels. Trench drains shall have an inside width of not less than 4 inches and not more than 8 inches and a minimum wall thickness of 3/4 inch. The interior surface of trench drains, below the level of the frame and associated connections shall be smooth. Trench drain channel sections shall be made of precast monolithic polymer concrete. There shall be no obstructions within the trench drain channel.

Each unit will feature a full radius in the trench bottom and a male to female interconnecting end profile. Units shall have cast in anchoring features on the outside wall to ensure maximum mechanical bond to the surrounding encasement material and pavement surface.

The trench drain channel system shall be designed for the hydraulic inlet capacity required and to the drainage structures discharge rate. The channel slope shall be maximized for each segment run to provide the maximum velocity when hydraulically loaded. Detailed shop drawings for the trench drain installation shall be submitted with design calculations indicating the systems hydraulic features.

Frame and Grates. Trench drain frames and grates shall be made of ductile iron conforming to Article 1006.15 of the Standard Specifications. Bolts, nuts, frame anchors and other connecting hardware shall conform to Article 1006.09 of the Standard Specifications and shall be galvanized. Furnish grates that attach into frames without rocking or movement.

Added 10-31-19

Frames, grates and covers, when installed in accordance with manufacturer's recommendations and these special provisions, shall be capable of withstanding load testing as specified in AASHTO Specification H-25 AND S-25 for Frames, Covers, Gratings, Steps, Manhole Sump and Catch Basin.

Frames shall be secured to the surrounding concrete backfill with steel anchoring rods a minimum of ¼ inch in diameter and a minimum of 6 inches in length or as shown on the plans. Alternatively, other methods of securing the frame to the concrete backfill or trench drain wall are acceptable, provided that a minimum pullout resistance of 700 lb/ft of length of trench drain frame is assured.

Grates may be either integral with the trench drain or removable. However, a minimum of 1.5 feet of removable grates shall be provided at the end points of the trench drain and at a 100 feet spacing. Removable grates shall be held in place by locking devices that are tamper resistant and provide a minimum repetitive pullout resistance of 350 lb/ft of length of trench drain grate after completion of 1000 hours of salt spray testing in accordance with ASTM Designation B117.

Grates shall have openings to accept inflow of runoff equivalent to between 30 and 70 percent of the total top surface area of the grate, with individual openings or slots having a dimension of not greater than 2 inches measured in the direction of the trench drain flow line.

CONSTRUCTION REQUIREMENTS

The trench drain system shall be installed in accordance with the manufacturer's installation instructions and drawings.

Trench drains shall be installed in a trench excavated to the lines and grades established by the Engineer. Excavate a trench that will ensure a minimum concrete thickness of 12 inches along the bottom and 12 inches along each side. Excavation shall conform to Section 202 of the Standard Specifications.

Grade and prepare a firm and uniform trench bottom throughout the entire length of the trench drain system. Remove all obstructions and debris from the trench excavation prior to backfilling.

Install the trench drain system in conformance with the line, grade and grate type as shown in the plans.

Join the precast trench drain sections according to the recommendations of the manufacturer. Furnish sections that are closely jointed and secured to prevent separation of the trench drain during backfilling.

Trench drains shall be positioned in the excavated trench so that, when finished, the surrounding concrete backfill will be a minimum of 1/8 inch and a maximum of 3/16 inch above the level of the trench drain frame. In no case shall the frame or grate of the trench drain extend above the level of the surrounding backfill.

Added 10-31-19

New trench drains shall be connected to new or existing drainage facilities as directed by the engineer. No reduction in the cross sectional area of the trench shall be permitted at the connection.

Place concrete backfill in the trench against undisturbed material at the sides and bottom of the trench in a manner that will prevent floating or shifting of the trench drain, and will prevent voids in, or segregation of the concrete. Tamp and spade to prevent honeycombing. Form the top surface to the lines shown in the plans. Remove any foreign material that falls into the trench prior to or during placement of concrete. Where necessary, earth plugs shall be constructed and compacted at the ends of the planned backfill to contain the concrete backfill within the trench. Concrete shall conform to Section 353 of the Standard Specifications.

Furnish a textured surface on the concrete that is even with the adjacent surface with a broom or burlap drag to produce a durable skid-resistant surface.

Method of Measurement: This work will be measured for payment in units of feet, from the inside wall of the structure as shown on the plans, along the center line of the channel complete in place.

Basis of Payment: This work will be paid for at the contract unit price per foot for TRENCH DRAIN.

Added 10-31-19