



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

September 11, 2017

SUBJECT: FAI Route 90/94/290 (I-90/94/290)  
Project NHPP-000V(123)  
Section 2016-066T  
Cook County  
Contract No. 62D78  
Item No. 8, September 22, 2017 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 ii & iii of the Table of Contents to the Special Provisions
3. Revised pages 62, 65-67, 75-77, 116-123 and 129 of the Special Provisions
4. Revised sheets 1, 2, 5-9, 27, 29-33, 38, 39, 44, 47, 52A, 52B, 52D & 56-58 of the Plans
5. Added sheet 58A to the Plans
6. Added a SGR Memo to the Additional Information directory on the Web Site

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,

Maureen M. Addis, P.E.  
Engineer of Design and Environment

A handwritten signature in black ink, appearing to read 'Ted B. Walschleger' followed by a small 'P.E.' to the right.

By: Ted B. Walschleger, P. E.  
Engineer of Project Management

cc: John Fortmann, Region 1, District 1; Tim Kell; D. Carl Puzey; Estimates

MS/ck

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

62D78

State Job # - C-91-101-17

Project Number

Route

County Name - COOK- -

NHPP-000V/123/

FAI 90/94

Code - 31 - -

\*REVISED: SEPTEMBER 06, 2017

FAI 290

District - 1 - -

Section Number - 2016-066T

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0320075	GRND ELEV MONITORING	L SUM	1.000				
X0320200	SLOPE INCLNOMETER MMA	EACH	8.000				
X0327267	SLOPE INCLINOMETER	EACH	4.000				
X0327357	CONSTRN VBRN MONITRNG	L SUM	1.000				
X0327616	MAINT ITS DURG CONSTR	CAL MO	4.000				
X0327645	TEMP SOIL RET SYS SPL	SQ FT	16,146.000				
X0327980	PAVMT MRKG REM WTR BL	SQ FT	2,254.000				
X0900045	TEMPORARY PUMP SYSTEM	CAL DA	100.000				
X1200028	REM TEMP BULKHEAD	EACH	2.000				
X1200112	RCP ELBOW 78 INCHES	EACH	2.000				
X1300001	SS CLEANED 84	FOOT	867.000				
X1300002	SS CLEANED 78	FOOT	2,096.000				
X1400249	LUM UNDRPASS LED TY C	EACH	2.000				
X5538700	SS CLEANED 42	FOOT	50.000				
X6370250	C BAR VAR X-SEC 42HT	FOOT	49.000				

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X6430120	REM IMP ATTEN NO SALV	EACH	1.000				
X7011015	TR C-PROT EXPRESSWAYS	L SUM	1.000				
X7013820	TR CONT SURVEIL EXPWY	CAL DA	100.000				
X7015005	CHANGEABLE MESSAGE SN	CAL DA	100.000				
X7035104	TEMP EPOXY PVT MK L4	FOOT	5,326.000				
X7035108	TEMP EPOXY PVT MK L8	FOOT	728.000				
X7035112	TEMP EPOXY PVT MK L12	FOOT	101.000				
X7040125	PIN TEMP CONC BARRIER	EACH	372.000				
X7040650	REM TEMP CONC BARRIER	FOOT	75.000				
X8100863	INTERCEPT EX CONDUIT	EACH	2.000				
X8130115	DRILL EX JUNCTION BOX	EACH	2.000				
X8730312	EC C LEAD 18 4C TW SH	FOOT	112.000				
X8850109	PREF INDUCTION LOOP	FOOT	100.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018500	DRAINAGE STR CLEANED	EACH	6.000				

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Z0018913	DRILL-GROUT #8 T-BAR	EACH	184.000				
Z0019600	DUST CONTROL WATERING	UNIT	5.000				
Z0030850	TEMP INFO SIGNING	SQ FT	46.000				
Z0037300	PAVT GROOVING	SQ YD	490.000				
Z0062456	TEMP PAVEMENT	SQ YD	577.000				
Z0076600	TRAINEES	HOUR	500.000		0.800		400.000
Z0076604	TRAINEES TPG	HOUR	500.000		15.000		7,500.000
20200100	EARTH EXCAVATION	CU YD	800.000				
20800150	TRENCH BACKFILL	CU YD	1,602.100				
21001000	GEOTECH FAB F/GR STAB	SQ YD	1,067.000				
21301072	EXPLOR TRENCH 72	FOOT	100.000				
28000510	INLET FILTERS	EACH	6.000				
30300124	AGG SUBGRADE IMPR 24	SQ YD	1,067.000				
31101200	SUB GRAN MAT B 4	SQ YD	577.000				
31102100	SUB GRAN MAT C 4	SQ YD	27.000				

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FAI 290

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31200800	STAB SUBBASE CAMII 4	SQ YD	490.000				
42000521	PCC PVT 11 JOINTED	SQ YD	490.000				
42001300	PROTECTIVE COAT	SQ YD	1,171.000				
44000100	PAVEMENT REM	SQ YD	1,094.000				
50800205	REINF BARS, EPOXY CTD	POUND	190.000				
54248510	CONCRETE COLLAR	CU YD	2.200				
550A1130	STORM SEW CL A 4 78	FOOT	295.000				
55100500	STORM SEWER REM 12	FOOT	41.000				
59300100	CONTR LOW-STRENG MATL	CU YD	1,091.000				
60255500	MAN ADJUST	EACH	1.000				
60500050	REMOV CATCH BAS	EACH	2.000				
63700175	CONC BAR 1F 42HT	FOOT	49.000				
63700805	CONC BAR TRANS	FOOT	10.000				
63700900	CONC BARRIER BASE	FOOT	108.000				
64300260	IMP ATTEN FRD NAR TL3	EACH	1.000				

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FAI 290

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
66900200	NON SPL WASTE DISPOSL	CU YD	1,400.000				
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000				
66900530	SOIL DISPOSAL ANALY	EACH	1.000				
67100100	MOBILIZATION	L SUM	1.000				
70300240	TEMP PVT MK LINE 6	FOOT	1,550.000				
70400100	TEMP CONC BARRIER	FOOT	200.000				
70400600	REL TEMP CONC BAR SO	FOOT	1,350.000				
70600332	IMP ATTN REL FRN TL3	EACH	3.000				
72000200	SIGN PANEL T2	SQ FT	34.000				
72400320	REMOV SIGN PANEL T2	SQ FT	20.000				
72800100	TELES STL SIN SUPPORT	FOOT	12.000				
73100100	BASE TEL STL SIN SUPP	EACH	1.000				
78200011	BARR WALL REF TYPE C	EACH	136.000				
81028200	UNDRGRD C GALVS 2	FOOT	15.000				
81100320	CON AT ST 1 PVC GS	FOOT	30.000				

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81300220	JUN BX SS AS 6X6X4	EACH	2.000				
81702110	EC C XLP USE 1C 10	FOOT	90.000				
89502300	REM ELCBL FR CON	FOOT	448.000				

**CONTRACT NUMBER**

**62D78**

**THIS IS THE TOTAL BID**

**\$ \_\_\_\_\_**

**NOTES:**

- 1. Each PAY ITEM should have a UNIT PRICE and a TOTAL PRICE.**
- 2. The UNIT PRICE shall govern if no TOTAL PRICE is shown or if there is a discrepancy between the product of the UNIT PRICE multiplied by the QUANTITY.**
- 3. If a UNIT PRICE is omitted, the TOTAL PRICE will be divided by the QUANTITY in order to establish a UNIT PRICE.**
- 4. A bid may be declared UNACCEPTABLE if neither a unit price nor a total price is shown.**



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Basis of Payment. The application of water as a dust suppression agent will be paid for at the contract unit price per unit for DUST CONTROL WATERING.

All other dust control measures, along with preparation of the DCP, will not be paid for directly but shall be considered as included in the various items involved and no additional compensation will be allowed.

## **NOISE COMPLIANCE**

Description. This work shall be according to Article 107.35 of the Standard Specifications, with the following additions:

All Work requiring lane closures and lane restrictions under KEEPING THE EXPRESSWAY OPEN TO TRAFFIC special provision shall follow the requirements described herein. Unless specifically approved in writing by the Engineer, no work that could be considered a noise nuisance, including but not limited to demolition activities and the installation of all items required under TEMPORARY SOIL RETENTION SYSTEM (SPECIAL), shall be performed during the period of 10 p.m. to 7 a.m.

When the Contractor requests to modify or deviate from the requirements of Article 107.35, the Contractor shall identify the intended construction activities, utilize noise mitigation techniques and identify the anticipated duration that noise levels will be elevated. Vehicle noise, including horns, back up warning signals and other abrupt noises shall be minimized

The Engineer may elect to shut down any nuisance activity that was not previously approved or does not meet the Contractor obligations identified in the approval request.

Basis of Payment. This work will not be paid for separately. All obligations described herein are included in associated pay items. No extension of the completion date, waiver of penalties or claims shall arise from any Contractor activity shut down enacted due to deficiencies described herein.

## TEMPORARY PUMPING SYSTEM

Description. Temporary pumping shall be performed on two separate storm sewers previously installed that connect to the proposed storm sewer under this contract. The temporary pumping shall be utilized to either drain the existing sewer on a routine basis or as necessary in order to perform Work under CLEANING EXISTING DRAINAGE STRUCTURES AND SEWERS and/or REMOVE TEMPORARY BULKHEAD.

Construction Requirements. The 78" storm sewer to the west of Sta. 1845+57.70, previously installed by others, receives surface drainage from previously constructed pavement. Until the 78" storm sewer installed under this Contract is active and connected to existing downstream storm sewers, with all bulkheads removed, the existing storm sewer requires outlet pumping. The pumping shall remove storm water to the satisfaction of the Engineer from the existing 78" storm sewer on the upstream side of the existing bulkhead and discharge to a receiving IDOT storm sewer structure that flows to an existing IDOT pump station. Water levels within the storm sewer shall be maintained a minimum of 2' below the crown of the pipe at the downstream manhole west of the proposed storm sewer.

Pumping within the 78" storm sewer to the west is anticipated to be discharged out of the sewer at the existing manhole at STA. 1848+88.07 ±, 5.7' LT ±. The flows should then be routed to either the existing main drain to a manhole at STA. 1845+06.84, 37.6' LT ± or to the manhole on the 78" sewer immediately east of the proposed sewer at 1842+36.62, 22.9' LT ±. The Contractor may elect to proposed additional discharge or routing locations

The existing temporary bulkhead located at 1845+57.70 could retain up to +/- 7.13' of water against the bulkhead (assumed 78" storm sewer is full to crown of pipe at upstream location). Prior to the completion of excavation to expose the bulkhead, the water shall be pumped out to allow the removal of the temporary bulkhead and all efforts to complete the connection of the proposed storm sewer to the existing storm sewer. The temporary pumping shall continue to keep water from entering the proposed storm sewer until all connections are completed.

The existing temporary bulkhead located at 1842+47.80 is at the upstream end of existing 78", 84" and 42" storm sewers installed by others that makes a connection into the existing IDOT I-290 main drain storm sewer. Due to the configuration of the connection into the existing main drain, there will always be a minimum of +/- 1.62' of water against the bulkhead, with the water level higher as dictated by pumping operations at IDOT Pump Station No. 5. Prior to the completion of excavation to expose the bulkhead, the water shall be pumped out to allow the removal of the temporary bulkhead and all efforts to complete the connection of the proposed storm sewer to the existing storm sewer. The temporary pumping shall continue to keep water from entering the proposed storm sewer until all connections are completed.

This item only includes costs associated with the pumping of the existing storm sewers described and does not include dewatering of excavations, structures or proposed storm sewers or the pumping of groundwater.

The work of this item includes all materials, tools, labor and equipment required to provide set-up, operate up to 24 hours per day and as needed, monitor and maintain pumps, all temporary hoses and pipes, permitting, temporary connections to the existing sewer system, provide ramps over temporary hoses and pipes or temporary lines to facilitate vehicular and construction traffic, provide temporary dams and weirs and the removal of the pumping system when it is no longer needed, filter systems, disposal and testing of water (if applicable). The Contractor shall provide an appropriately sized centrifugal pump depending on the anticipated conditions, timeframe for proposed work requiring the removal of storm water and to maintain appropriate water levels. The Contractor shall provide sufficient signs and barricades to allow adjacent contractor personnel or equipment access around the pumping equipment and pipes which shall be included in the cost of this pay item.

Back-up power and pumping capacity shall be available on site at all times to provide a redundant system in the event of failure of the primary system. The cost of providing this redundant capability shall be included in the unit price for this work.

During rain events, additional water will enter the storm sewers and the Contractor must be prepared to accept and pump the additional flows as necessary. No open pumping within State right-of-way will be permitted. The storm water output must be discharged via pumping through pipelines and the Contractor must submit a bypass plan to the Engineer for approval. The Contractor must remove any temporary dams or bulkheads utilized for the pumping operation after the completion of the work as approved by the Engineer.

Existing sewers and sewer structures not shown to be replaced or relocated which are damaged in the course of the work must be repaired at the Contractor's expense.

Method of Measurement. This item will be measured per Calendar Day for each day the pumping system is set-up and operated, when requested by the Engineer or in preparation for work under other items.

Basis of Payment. This work will be paid for at the contract price per calendar day for TEMPORARY PUMPING SYSTEM, which shall be payment in full for all materials, pumps, equipment, hoses, connectors, fuel, tools, traffic control, and labor to furnish, monitor and maintain an efficient pumping system to meet the requirements described herein.

## **STORM SEWERS**

Add the following to Article 550.04 to the Standard Specifications for Road and Bridge Construction:

“TEMPORARY SOIL RETENTION SYSTEM (SPECIAL) shall define all limits of excavation for the installation of the proposed storm sewer, including elbows. All excavation within the soil retention system is included within STORM SEWERS and will not be measured separately. Excavation within the temporary soil retention system shall include all required excavation in order to install elements of the TEMPORARY SOIL RETENTION SYSTEM (SPECIAL), including, but not limited to, steel sheet piling, wales, struts, bracing, concrete slabs and other necessary features as identified by the special provisions or Engineer. Additional excavation required by the Contractor’s means and methods to make connections to existing storm sewer will not be measured separately.

No aggregate, bedding or foundation except the concrete slab to be installed as part of TEMPORARY SOIL RETENTION SYSTEM (SPECIAL) will be required.”

Add the following to Article 550.06 to the Standard Specifications for Road and Bridge Construction:

“Due to the placement of a concrete slab at the bottom of the sewer trench within TEMPORARY SOIL RETENTION SYSTEM (SPECIAL), the Contractor shall provide details and procedures for the desired method to stabilize pipe segments prior to backfilling operations. The Contractor shall provide a submittal of the method, details and procedures for Engineer approval prior to the start of pipe placement.”

Add the following to Article 550.07 of the Standard Specifications for Road and Bridge Construction:

“All backfill for the sewer, elbows and sewer trench from the top of the concrete slab to an elevation one (1) foot above the centerline of the Level 2 wale shall follow the CONTROLLED LOW STRENGTH MATERIAL special provision. The backfill material between the top of controlled low strength material and the bottom of the proposed aggregate subgrade shall consist of trench backfill material. Backfill methods 2 and 3 will not be allowed. The Contractor shall propose methods for mechanical compaction of trench backfill within the areas of the steel sheet piling, wales, bracing, struts and other components of the temporary soil retention system to remain.”

Revised 9-11-17

## **SLOPE INCLINOMETER**

Description. This work shall consist of installing and maintaining slope inclinometer casings to obtain measurements of lateral movements of foundation and retained soils during the construction of temporary soil retention system elements and associated excavations for the installation of the 78" storm sewer. Slope inclinometer casing locations, elevations, and periods of monitoring for each device shall be submitted for approval by the Engineer. The slope inclinometers are intended to be installed as close to the storm sewer excavation as feasible along the north side of the proposed storm sewer unless directed to be installed elsewhere by the Engineer.

In addition to the proposed slope inclinometers to be installed, up to eight (8) slope inclinometers previously installed under a separate contract will be maintained and monitored under this Work. These slope inclinometers are located to the north of Retaining Wall #6 (SN 016-1725).

Equipment. The slope inclinometer casing is comprised of nominal 2.75-inch diameter PVC casing with a coupling system that produces strong, flush joints that won't pull apart, twist out of alignment, or break if subjected to bending. The casing joints shall be equipped with o-ring seals and shall not leak or break under the pressure of grout. The casing joints shall be able to withstand 1,200 pounds of tension, 20-foot-pounds of torque, and a bending moment of 120 foot-pounds, and a pressure of 160 pounds per square inch (psi).

The inside of the casing shall have spiral-free, machine broached grooves spaced at 90 degrees that are continuously aligned along the full length of the casing. The grooves shall be of sufficient depth, width, and consistency to provide repeatable positioning of the inclinometer probe used to measure lateral movement of the casing at various depths.

The casing shall be capped top and bottom. A lockable, protective cover shall be installed at the ground surface to protect the inclinometer casing. At inclinometer locations with construction traffic, the Contractor shall provide protective equipment to ensure that the inclinometer locations are not disturbed. All protective equipment and procedures shall be approved by the Engineer prior to inclinometer installation. The Engineer is not responsible for inaccurate or failed readings due to damage caused by Contractor operations.

Construction Requirements. The inclinometer borehole shall be drilled from the top of existing grade elevation to a minimum of 5 feet into the bedrock with a minimum nominal inside diameter of 4.0 inches. The inclinometer casing shall be installed in the borehole with the guide grooves aligned parallel and perpendicular to the excavation face. The casing sections shall be assembled at the borehole. Use pipe clamps to hold the casing at the borehole collar while adding the next section of casing. Do not pre-connect the entire length of casing and drop into the hole, as this can result in damage to the casing.

Casing will float in a water-filled borehole, so the casing shall be filled with water to install it down hole. When grout is pumped into the hole, however, the casing will again begin to float. Hold the casing in place by using a casing anchor or lowering a steel pipe to the bottom of the casing. Do not force or hold the casing collar down using the drill rig or other top-down method, or the casing is likely to be compressed and lose its straightness.

Revised 9-11-17

Grouting shall be performed using a mixer, grout pump, and a pipe or hose for delivering the grout. Grout shall not be mixed by hand, and the water pump on the drill rig shall not be used to deliver the grout. A properly mixed grout shall be free of lumps and thin enough to pump but thick enough to set in a reasonable length of time. If the grout is too watery, it will shrink excessively, leaving the upper portion of the borehole un-grouted.

Grout mixes are provided in the following tables for hard to medium stiff soils and for soft soils. Mix the cement with water first. Then mix in the bentonite. Adjust the amount of bentonite to produce a grout with the consistency of heavy cream. The mix for hard to medium stiff soils has a 28-day compressive strength of about 100 psi, similar to hard clay. The mix for soft soils has a 28-day compressive strength of about 4 psi, similar to very soft clay.

Bentonite-Cement Grout for Hard to Medium Stiff Soils		
Materials	Weight	Ratio by Weight
Portland Cement	94 lb (1 bag)	1
Bentonite	25 lb (as required)	0.3
Water	30 gallons	2.5

Bentonite-Cement Grout for Soft Soils		
Materials	Weight	Ratio by Weight
Portland Cement	94 lb (1 bag)	1
Bentonite	39 lb (as required)	0.4
Water	75 gallons	6.6

The grout can be installed by either pre-grouting the hole or using an external grout pipe. In pre-grouting, the grout is pumped into the hole first, the grout pipe retrieved, and then the inclinometer casing lowered into the hole. Keep the casing filled with water to counteract buoyancy and grout pressure. Lower a steel pipe to the bottom of the casing to counteract buoyancy, allow the grout to set, top off the borehole with grout, and install the protective cover. When using an external grout pipe, first lower the inclinometer casing to the specified depth, then lower the grout pipe to the bottom of the hole and pump in grout. Add water into the casing to match the grout level. Take measures to counteract buoyancy but do not force the inclinometer casing down from the top, let the grout set with inclinometer casing anchored from the bottom, and install the protective cover.

Where practical, the protective cover shall have an approximate 2.5-foot stickup beyond the highest ground level during construction and be lockable. The top of the inclinometer casing must extend 1 to 2 inches above the protective cover when the cover is opened, so that a pulley system can be installed on the casing when taking measurements with the inclinometer probe. At inclinometer locations where a stickup is not practical, the Contractor shall provide an alternative installation that will ensure that the protective cover and casing remains operational throughout the time periods when measurements are required. All protective equipment and procedures shall be approved by the Engineer prior to inclinometer installation. The Engineer is not responsible for inaccurate or failed readings due to damage caused by Contractor operations.



**Inclinometer Measurements and Records:** The contractor will make and record all observations and measurements required to determine ground movements between the start of excavation and the completion of backfilling. Inclinometer probe measurements are made by lowering the inclinometer probe to the bottom of the casing and then slowly raising the probe by recording measurements every two feet up the casing. The inclinometers previously installed by others shall follow the same measurement and recording requirements as those installed under this Contract.

A baseline set of readings will be taken no less than one week before the beginning of sewer excavation, to be used as a reference to determine ground movements. The baseline set will consist of the average of three sets of readings. Each set of readings will consist of inclinometer probe measurements made in the direction of anticipated ground movement (0 degrees) and measurements made in the opposite direction (180 degrees).

The Contractor will take a minimum of two readings each day (preferable one in the morning and one at the end of working day) from the start of temporary soil retention system installation until the excavation is sufficiently backfilled and all temporary items have been removed. The Contractor will make all records of slope inclinometer measurements readily available to the Engineer.

The Contractor shall control the work in such a manner that cumulative movements do not exceed the design maximum outward deflection of 1.00 inch for the temporary soil retention system installed under STORM SEWER and 0.25 inch outward or downward movement of the adjacent buildings. If measured ground movements in slope inclinometers begin to accelerate between readings, work shall be immediately suspended and the Engineer must be informed immediately.

After the excavation has been sufficiently backfilled, at all locations unaffected by continuing construction, the monitoring shall continue weekly until pavement and barrier wall improvements are complete, or until directed to stop monitoring by the Engineer. After all monitoring at an inclinometer location has been completed, and at the direction of the Engineer, all caps shall be removed and the casings shall be grouted to final ground surface prior to restoration, including the casings installed by others.

Method of Measurement. SLOPE INCLINOMETER will be measured for payment for each slope inclinometer installed, maintained, monitored per this special provision and abandoned as described. For slope inclinometers previously installed by others, SLOPE INCLINOMETER MAINTAIN, MONITOR AND ABANDON will be measured for payment for each slope inclinometer that is maintained and monitored per this special provision and abandoned as described.

Basis of Payment: The contract unit price shall include all effects, impacts, and cumulative impacts of possible restraints inherent in the use of these devices upon the rate of construction. No additional compensation will be made for any impact, cumulative impacts, inefficiency, or any costs incurred as a result of compliance with this requirement. This work will be paid for at the contract unit price per each for SLOPE INCLINOMETER installed under this contract and each for SLOPE INCLINOMETER MAINTAIN, MONITOR AND ABANDON previously installed by others.

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### **WORK ITEMS INCLUDED IN THE COST OF ANOTHER BID ITEM**

1. All sawcutting required, whether or not specified on the plans, shall be included in the cost of the adjacent removal pay items. No additional compensation shall be allowed.
2. Abandoned underground utilities that conflict with construction shall be disposed of outside the limits of the right-of-way according to Article 202.03 of the standard specifications and as directed by the engineer. This work will not be paid for separately but will be included in the cost of earth excavation.
3. The concrete slab at the bottom of the sewer trench and the test holes for locating the ends of the existing storm sewer will not be paid for separately but will be included in the cost of the TEMPORARY SOIL RETENTION SYSTEM (SPECIAL).

### **CONTROLLED LOW-STRENGTH MATERIAL**

This work shall be according to Section 593 of the Standard Specifications except for the following:

Mix may not be placed in a single lift. All requirements of Paragraph (b) of Article 593.04 shall be followed.

No additional backfill material or any equipment may be placed on the controlled low-strength material until adequate cure time has passed and sufficient strength has been reached. Additional backfill shall be placed after approval by the Engineer.

#### Method of Measurement.

Replace Article 593.05 (b)(2) with the following:

“Pipe Culverts and Storm Sewers. Controlled low-strength material is required to be placed for backfilling the storm sewer. The computed volume will not exceed the volume of the trench as computed by using the width defined in the Plans and the actual depth of the completed controlled low-strength material above the top of the concrete slab placed under TEMPORARY SOIL RETENTION SYSTEM (SPECIAL) to the limits defined under STORM SEWERS, unless modified by the Engineer, with a deduction for the volume of the pipe.”

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## **TEMPORARY SOIL RETENTION SYSTEM (SPECIAL)**

Description: This item shall consist of furnishing all labor, equipment and materials, including but not limited to steel sheet piling, wales, struts, test holes, concrete slab, as necessary for the construction of the soil retention system per the dimensions and details shown in the contract plans. This work shall be done in accordance with Section 522 of the Standard Specifications, as described herein, as detailed in the plans and as directed by the Engineer.

At the end of the contract, the Contractor shall cut a portion of sheet piling at the elevations shown in the plans to allow for the future pavement construction leaving the remainder of the soil retention system in place.

Submittals: The Contractor shall submit shop drawings showing all details, dimensions, construction sequence, intended equipment, placement of the equipment behind and within the soil retention system, and any other information pertinent to the proposed work. Shop drawings shall be prepared according to Article 1042.03(b) of the Standard Specifications.

The Contractor shall provide details and computations, prepared and sealed by an Illinois Licensed Structural Engineer, for the opening in the sheet piling and soil support system for the proposed 78" diameter sewer pipe connection to the existing storm sewer pipe and removal of existing bulkheads.

All submittals shall be submitted to the Engineer for review and approval no later than 45 days prior to construction of the soil retention system. The approval will not relieve the Contractor of responsibility for the safety of the excavation and structural adequacy of adjacent properties. Approval shall be contingent upon acceptance by all involved utilities and/or railroads.

Construction Requirements: The contract plans identify the approximate location of the existing sewer pipe and existing bulkheads based upon available information from the existing sewer installation. Prior to commencing the work, the Contractor shall field verify the existing information and accurately locate the ends of the existing sewer pipe so that sheet piling can be installed precisely at the ends of the existing pipe without damaging the existing pipe. The Contractor shall perform a minimum of two test holes, no more than 6" diameter, at the East and West ends of the proposed work to locate the ends of the existing sewer pipe and existing bulkheads. Test hole drilling shall be progressed carefully so as not to damage the existing sewer pipe. In lieu of utilizing drilling, the Contractor may propose an alternative method to accurately identify and locate the ends of the existing sewer pipe. The alternative method shall be submitted to the Engineer for approval.

After successfully identifying the ends of the existing sewer and existing bulkheads, the Contractor shall provide the submittal, for the Engineer's approval, indicating the intended methods and equipment necessary to precisely install sheet piling at the ends of the existing pipe without damaging the existing sewer pipe. The submittal shall include the location of the existing sewer pipe ends. Any damage to the existing sewer pipe shall be repaired by the Contractor at no additional cost to the Department.

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The Contractor shall install the sheet piling to the tip elevation(s) specified on the plans. Sheet piling shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of sheet piling shall be submitted to the Engineer for approval prior to their use. If vibratory equipment is utilized, the Contractor shall also submit documentation regarding the operating noise levels and operating vibration characteristics of the equipment proposed. The approval of the equipment and procedure by the Engineer does not guarantee the performance in the field of the equipment will be acceptable. If in the judgment of the Engineer, the noise and/or vibration effects exceed established requirements, then the Contractor must halt production and find a remedy suitable to the Engineer. Threshold values for vibration monitoring are included in the special provision "CONSTRUCTION VIBRATION MONITORING". The costs incurred for finding suitable equipment and procedures shall be the responsibility of the Contractor at no additional cost to the Department.

Excavation shall not begin until all sheet piling is in place. The Contractor shall install all wales and struts prior to the excavation proceeding beyond 2'-0" below the centerline of each wale level specified on the plans. No excavation below the bottom of the concrete slab/trench elevation is allowed. The concrete slab shall be constructed at the bottom of the trench between the sheet piling. The concrete slab construction shall be in accordance with Section 503 of the Standard Specifications. The Contractor shall evaluate the geometry of the proposed 78" diameter sewer pipe and set the top of the concrete slab elevation accordingly.

The Contractor shall cut an opening in the sheet piling and install the necessary soil support system as per the approved shop drawing details for the removal of existing bulkheads and for the proposed 78" diameter sewer pipe connection to the existing storm sewer pipe.

The Contractor is responsible for safety during construction. The Contractor shall provide fall protection, access and barricading in accordance with the applicable OSHA guidelines as required during the construction and as deemed necessary by the Engineer. The Contractor shall ensure that sheet piling, wales and struts are properly installed prior to entering the excavation area. Construction equipment and/or material shall not be supported from any elements of the soil retention system.

Limited groundwater elevation data is available in the boring logs. The groundwater level shall be maintained at or below the excavation elevation at all times. If a dewatering system is necessary, and as required by the Engineer, the Contractor is responsible for developing, installing, maintaining and monitoring the dewatering system and verifying that the groundwater level behind the shoring walls has been lowered to the excavation level.

The Temporary Soil Retention System (Special) is designed to support a maximum live load surcharge of 550 psf. Any storage of construction equipment and/or material behind the soil retention system is not allowed. The Contractor shall consider this information prior to selecting equipment, and the means and methods for the construction. If necessary and as required by the Engineer, the Contractor shall provide matting to evenly distribute the construction loading behind the soil retention system. Finding suitable equipment and procedures shall be the responsibility of the Contractor at no additional cost to the Department.

All structural steel shall be fabricated and erected in accordance with Section 505 of the Standard Specifications. All material shall be in good condition and shall be free of any structural defects, damage, rust, holes or bends of any kind. If the Contractor elects to utilize used material, the Contractor shall provide certification to the Engineer that the material meets the design requirements. All field welding shall be performed by a certified welder and shall be in accordance with Article 505.04(q) of the Standard Specifications.

The Contractor shall not make any modifications to the Temporary Soil Retention System (Special) details as shown on the contract plans. If any modifications are desired, the Contractor shall submit details and computations, prepared and sealed by an Illinois Licensed Structural Engineer, to the Engineer for review and approval prior to performing any work or ordering material. The Contractor shall design the soil retention system such that at any location the maximum total lateral deflection of the soil retention system shall not exceed 0.8 inches and the maximum anticipated ground movement at the adjacent properties shall not exceed 0.25 inches. The Engineer's approval will not relieve the Contractor of responsibility for the structural adequacy of adjacent properties and safety.

Method of Measurement: The Temporary Soil Retention System (Special) furnished and installed will be measured for payment in place, in square feet. The area measured shall be the minimum of vertical exposed surface area envelope of the excavation trench supported by the temporary soil retention system.

The extension of sheet piling above the existing ground and the embedment of sheet piling below the bottom of trench elevation as shown on the contract plans will not be measured for payment.

The concrete slab at the bottom of the trench will not be measured for the payment.

Removal and disposal of portions of the sheet piling will not be measured for the payment.

Basis of Payment: This work will be paid for at the contract unit price per square foot for TEMPORARY SOIL RETENTION SYSTEM (SPECIAL) and includes all steel sheet piling, wales, struts, test holes, concrete slab, fall protection system, installation and maintenance of dewatering system, shop drawings submittals, design and construction of the opening in the sheet piling and all required work as described herein.

Excavation within the proposed soil retention system shall be paid for within STORM SEWERS.

CLSM backfill will be paid for as CONTROLLED LOW-STRENGTH MATERIAL.

Trench Backfill will be paid for according to Article 208.04.

Removal of the existing bulkheads will be paid for as REMOVE TEMPORARY BULKHEAD.

Ground Elevation Monitoring and Construction Vibration Monitoring will be paid for separately.

Obstruction mitigation will be paid according to Section 109.04 of Standard Specifications.

## **REMOVE IMPACT ATTENUATORS, NO SALVAGE**

Description. This work shall consist of removing existing impact attenuators at locations as specified in the Plans.

Construction Requirement. When the Engineer determines the existing impact attenuators are no longer required, the installation shall be dismantled and removed with all hardware becoming the property of the Contractor.

When impact attenuators have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar with only enough water to permit placement. Consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement and Basis of Payment. This work will be measured for payment at the contract unit price per each for REMOVE IMPACT ATTENUATORS, NO SALVAGE, where each is defined as one complete installation.

## **REMOVE TEMPORARY CONCRETE BARRIER**

Description. This work shall consist of removing existing precast temporary concrete barriers, including all fixtures attached to the temporary concrete barrier, installed in previous contracts by others at locations as specified in the Plans. The temporary concrete barrier previously installed by others is considered state owned.

Construction Requirement. When the Engineer determines the existing precast temporary concrete barriers are no longer required, the installation shall be dismantled with all hardware becoming the property of the Contractor.

When the existing precast temporary concrete barriers have been anchored to the pavement, the anchor holes shall be repaired with rapid set mortar with only enough water to permit placement. Consolidation by rodding shall be used and the material shall be struck-off flush.

Method of Measurement. This work will be measured for payment in feet (meters) in place along the centerline of the barrier.

Basis of Payment. This work will be paid for at the contract unit price per foot (meter) for REMOVE TEMPORARY CONCRETE BARRIER for the removal of temporary concrete barrier previously installed by others and considered state owned.

No payment will be made for the removal of temporary concrete barrier supplied and installed under this Contract.

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**ADJUSTING FRAMES AND GRATES (BDE)**

Effective: April 1, 2017

Add the following to Article 602.02 of the Standard Specifications:

- “(s) High Density Expanded Polystyrene Adjusting Rings  
with Polyurea Coating (Note 4) ..... 1043.04
- (t) Expanded Polypropylene (EPP) Adjusting Rings (Note 5) ..... 1043.05

Note 4. High density expanded polystyrene adjusting rings with polyurea coating shall meet the design load requirements of AASHTO HS20/25. The rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). They shall be installed and sealed underneath the frames according to the manufacturer’s specifications.

Note 5. Riser rings fabricated from EPP may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 6 in. (150 mm). An adhesive meeting ASTM C 920, Type S, Grade N5, Class 25 shall be used with EPP adjustment rings. The top ring of the adjustment stack shall be a finish ring with grooves on the lower surface and flat upper surface. The joints between all manhole adjustment rings and the frame and cover shall be sealed using the approved adhesive. In lieu of the use of an adhesive, an internal or external mechanical frame-chimney seal may be used for watertight installation. EPP adjustment rings shall not be used with heat shrinkable infiltration barriers.”

Add the following to Section 1043 of the Standard Specifications:

**“1043.04 High Density Expanded Polystyrene Adjusting Rings with Polyurea Coating.** High density expanded polystyrene adjustment rings with polyurea coating shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges (AASHTO M306 HS-25). The raw material suppliers shall provide certifications of quality or testing using the following ASTM standards, and upon request, certify that only virgin material was used in the manufacturing of the expanded polystyrene rings.

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Where: TE = Duration of approved time extension in calendar days.  
% = Percent maintenance for the traffic control, % (see table below).  
CUP = Contract unit price for the traffic control pay item in place during the delay.  
OCT = Original contract time in calendar days.

Original Contract Amount	Percent Maintenance
Up to \$2,000,000	65%
\$2,000,000 to \$10,000,000	75%
\$10,000,000 to \$20,000,000	85%
Over \$20,000,000	90%

When an ETCP adjustment is paid under this provision, an adjusted unit price as provided for in Article 701.20(a) for increase or decrease in the value of work by more than ten percent will not be paid.

Upon payment for a contract delay under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision."

#### **COMPLETION DATE (VIA CALENDAR DAYS) PLUS WORKING DAYS**

Effective: April 1, 2008

The Contractor shall complete all work on or before the completion date of this contract which will be based upon 100 calendar days. After the completion date, an additional 10 working days will be allowed to complete Clean up and punch list items established by the Engineer.

The completion date will be determined by adding the specified number of calendar days to the date the Contractor begins work, or to the date ten days after execution of the contract, whichever is the earlier, unless a delayed start is granted by the Engineer.

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