

ADDENDUM No. 1**RELOCATE TAXIWAY A – PHASE 1 CONSTRUCTION****April 13, 2023**

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated March 27, 2023.

General Items

- A) **Contractor Question Log**
 - a. Refer to attached Question and Answer log
- B) **Plan Holder List**
 - a. A list of current plan holders from Rapids Reproductions is attached.
- C) **Prebid Presentation**
 - a. Refer to attached Prebid meeting PowerPoint presentation.

Notices

- A) **Instructions to Bidders**
 - a. ADD the following to Article 12.02:

Bidders may, at their option, use a computerized bid form of their own for calculation purposes only. Such form shall be of no less detail than the bid form included in these specifications, and shall, as a minimum, include item number, item description, estimated quantity, units, unit prices, and total. All item numbers, description, quantities, and units shall be identical to the specification bid form, and the Bidder's form (if used) shall be subject to the same rules and restrictions as the specification bid form (i.e., unit prices take precedence over item totals, as one example).

Should the Bidder elect to use his own computerized form for calculation purposes, both the computerized form and the Proposal Form provided with the specifications shall be submitted. The Bidder shall transfer the base bid total to the proper blank on the Proposal Form, acknowledge addenda and sign the Proposal Form before submitting the bid package.

 - b. Instructions to Bidders is not being reissued with this addition.

Bid Forms

- A) **Proposal**
 - a. REVISE Storm Sewer Pipe bid items.
 - b. ADD bid item for Engineer/RPR Field Office
 - c. Proposal Form is reissued with this change, see attached. The attached Addendum 1 proposal form sheets shall replace the originals and be used for submitting proposals.

Contract Forms**A) Performance/Payment/Maintenance Bonds**

- a. REMOVED Maintenance Bond requirement from the project.
- b. REVISED Performance and Payment Bonds. These bond forms are now on separate forms.
- c. Performance Bond and Payment Bond Forms have been reissued with this change, see attached.

Specifications**A) Section C-105 – Mobilization**

- a. REVISE C-105 specification to include the Engineering/RPR Field Office.
- b. Specification C-105 is reissued with this change, see attached.

B) Section D-701 – Pipe for Storm Drains and Culverts

- a. REVISE 'D-701-2.2 Pipe' section for storm sewer pipe material requirements. Reinforced Concrete Pipe or Polypropelene Dual Wall Pipe shall be allowed provided they meet the requirements of D-701 and the requirements of the plans.
- b. Specification D-701 is reissued with this change, see attached.

Plans**A) Drawing C.01**

- a. REVISE Bid Item and Quantity to reflect the proposal bid item and quantity changes.
- b. See attached for reissued sheet.

B) Drawings C.02 and C.03

- a. REVISE estimate reference information for the Borrow Excavation, Storm Sewer Pipe, and Engineer/RPR Field Office.
- b. See attached for reissued sheets.

C) Drawing M.01

- a. REMOVED the RCP text from within pipes P-1 and P-2.
- b. See attached for reissued sheet.

D) Drawings M.04

- a. REVISED Storm Sewer Note No. 2.
- b. See attached for reissued sheet.

END OF ADDENDUM

No:	Plan / Spec Item	Question	Response
ADDENDUM #1 QUESTIONS			
1.	Instructions to Bidders	Are computer generated proposals acceptable?	<i>Additional requirements were added to Article 12.02 of the Instructions to Bidders should a bidder want to use a computerized bid form.</i>
2.	P-307	Do I have to batch P-307 on airport property?	<i>No, provided that the mixing and hauling of the CTPB complies with sections 307-4.5 Mixing and 307-4.6 Hauling.</i>
3.	P-152	Who is responsible for the soil density testing for the contractor furnished borrow material?	<p>There will be both Quality Control (Contractor) and Quality Assurance (Owner/Engineer) density testing associated with the imported borrow material that will be installed per the P-152 specification. The testing frequency requirements listed in the P-152 specification will be followed by Quality Assurance and acceptance is determined by the tests taking by the Quality Assurance density tests. The C-100 specification, Contractor Quality Control Program, outlines the contractor's requirements for quality control. Below is a snip from C-100 for QC testing plan requirements (which applies to all construction items that require material testing).</p> <p>100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.</p>
4.	P-152	Should I have my borrow material tested and approved before the bid?	The engineer will not be certifying contractor borrow sources during bidding. Inherently bidders will be taking on some risk at time of bidding that their borrow source will meet the specified material requirements. The estimate reference note indicates that the contractor shall provide the RPR (engineer) access to the borrow material for certification prior to installation.

5	P-152/D-701	Is rock blasting allowed?	Yes, blasting is permitted. See P-152 2.1a for more information.
6	D-701	Is Polypropylene pipe allowed for storm sewer pipe? The current plan just references reinforced concrete pipe.	Yes, Polypropylene Dual Wall Pipe and Fittings per ASTM F2881 are included within specification section D-701. Additional notes regarding this will also be added to plan revisions within Addendum 1.

Dubuque Regional Airport # 23D001.01 - Relocate Taxiway A - Phase 1 Construction

Demolition and construction of taxiway pavement with associated grading, drainage, airfield electrical installation, and other related site work. Approximate quantities include 25,000 CY of contractor supplied borrow, 7,500 CY of on-site grading, 6,300 SY of concrete pavement section, 7,000 LF of compression seals, 1,000 LF of storm sewer, and 10 acres of seeding. The Engineer's opinion of probable construction cost is \$2,750,000 and \$3,250,000.

Plan Holders

Date	Company	Contact	Bid Categories
3/30/23 9:44 am	ADB SAFEGATE 977 GAHANNA PARKWAY COLUMBUS, OH 43230	Jason Watson Bid Manager Tel: 6145738366 Fax: 614-864-2069 jason.watson@adbsafegate.com	Supplier
4/11/23 10:18 am	BARD Materials 801 Kerper Ct Dubuque, IA 52001	Steve Kluesner Area Manager Tel: 563-583-6494 stevek@bardmaterials.com	Supplier
3/29/23 1:35 pm	Boomerang 12536 Buffalo Rd. Anamosa, 52205	Dawn King Estimating Assistant Tel: 319-462-4435 Fax: 319-462-2599 bids@boomerangcorp.com	General/Prime
3/31/23 10:13 am	CJ Moyna & Sons, Inc. 24412 Hwy 13 Elkader, 52043	Ryan Kipp Estimator Tel: (563) 245-1442 Fax: (563) 245-1443 rkipp@cjmoyna.com	General/Prime
3/30/23 10:05 pm	Connolly Excavating Inc 23709 N Cascade Rd Cascade, IA 52033	Jake Connolly Tel: 5635139772 cei.excavating.inc@gmail.com	Excavating/Site Work
4/10/23 9:24 am	Construction Materials 345 49th Ave. Dr. SW Cedar Rapids, 52404	Casey Koppes Estimator Tel: 319-366-6446 Fax: 319-366-1712 ckoppes@constructionmaterialsinc.com	Supplier

Date	Company	Contact	Bid Categories
3/30/23 8:28 am	County Materials Corp 270 Izaak Walton Rd Iowa City, IA 52246	Tara O'Donnell Drafter Tel: 319-358-6960 tara.odonnell@countymaterials.com	Supplier
3/30/23 12:41 am	Dodge Data Analytics 2860 S Stage Hwy 161 Ste 160 #501 Grand Prairie, TX	Jayalakshmi L Tel: 4133767032 jayalakshmil@construction.com	General/Prime Other
4/4/23 10:42 am	Eastern Iowa Excavating & Concrete, LLC 121 Nixon St SE PO Box 189 Cascade, 52033	Lynne White Tel: 563-852-5120 Fax: 563-852-6020 office@easterniowaexcavating.com	General/Prime
4/10/23 11:46 am	Fahrner Asphalt Sealers, LLC 7680 Commerce Park Section C Dubuque, IA 52002	SHANNON COLLINS A/R / CONTRACT MGMT Tel: 715-341-2868 Fax: 715-341-1054 shannon.collins@fahrnerasphalt.com	Painting
4/3/23 4:23 pm	FLYNN COMPANY INC 800 JULIEN DUBUQUE D P.O. BOX 327 DUBUQUE, IA 52003	Royce Kies Estimator Tel: 5635565334 Fax: 563-556-5068 royce@flynncoinc.com	General/Prime
3/29/23 1:54 pm	Foth Infrastructure 411 6th Ave SE Suite 400 Cedar Rapids, IA 52401	Ryan Turner Civil Engineer Tel: 5156647576 ryan.turner@foth.com	Architect/Engineer
4/13/23 3:56 pm	Gansen Excavating 12198 Skyline Rd. Dubuque, IA 52003	Teresa Gansen Office Manager Tel: 563-556-0083 gansen@gansenexcavating.com	
4/3/23 9:48 am	Gansen Excavating 12198 Skyline Rd. Dubuque, IA 52003	Bob Baumhover Tel: 5632130964 bob@gansenexcavating.com	General/Prime
4/13/23 3:56 pm	Germaine Electric 10819 Wood Gate Dr Dubuque, IA 52003	Jason Germaine Tel: 563-583-8835 Fax: 563-583-8835 jason@germaineelectric.com	

Date	Company	Contact	Bid Categories
3/30/23 3:49 pm	Hughey and Phillips, LLC 4201 NW 124th Ave Coral Springs, FL 33065	Bruce Miller Sales Manager Tel: 954-658-2659 bmiller@hugheyandphillips.com	Electrical
4/3/23 10:04 am	Interstate Sealant & Concrete 540 W24211 Rockwood Way Waukesha, WI 53189	Jeff Sment Tel: 262-547-6316 Fax: 262-547-6844 sleppert@interstatesealant.com	Other
4/3/23 1:19 pm	Iowa Concrete Paving Association 360 SE Delaware Ave Ankeny, 50021	Rachel Bangs Administrative Specialist Tel: 515-963-0606 Fax: 515-963-4010 icpa@concretestate.org	Other
4/6/23 11:50 am	J&R Supply, Inc. 220 Frentress Lake Rd East Dubuque, IL 61025	Mike Schroeder Estimator Tel: 5635901476 m3277m3277@gmail.com	Supplier
3/30/23 8:46 am	JB Holland Construction Inc. 2092 State Hwy 9 Decorah, IA 52101	Garrett Grabau Tel: 563-382-2901 Fax: 563-382-2902 ggrabau@jhc.biz	Excavating/Site Work Other
3/30/23 2:42 pm	Kueter Construction 2528 Willow Brook Dr Dubuque, IA 52002	Chris Kueter Tel: 563-590-9027 chriskueter5@gmail.com	Excavating/Site Work
3/29/23 4:23 pm	Lejas Corporation 6202 S Maple Avenue Suite 127 Tempe, AZ 85283	Randy Ringleb President Tel: 480-775-1152 Fax: 480-775-1153 ringleb@lejascorp.com	General/Prime
3/29/23 1:27 pm	Lovewell Fencing, Inc. 21060 Holden Drive Davenport, IA 52806	Chelsea Wagschal Tel: 563-391-7025 bids@lovewellfence.com	Fencing
3/29/23 8:55 pm	Master Builders of Iowa 221 Park Street Des Moines, IA 50309	Cindy Adams Project Information Specialist Tel: 515-288-7339 Fax: 515-288-8718 mbiplanroom-dsm@mbionline.com	Planroom

Date	Company	Contact	Bid Categories
4/3/23 4:00 pm	McDermott Excavating 11672 Airborne Rd Dubuque, IA 52003	Jason McDermott Supervisor Tel: 563-583-4633 Fax: 563-583-5858 jmcdermott@mcdermottexcavating.com	Excavating/Site Work
3/29/23 5:08 pm	McDermott Excavating 11672 Airborne Rd Dubuque, IA 52003	Kevin Donovan Superintendent Tel: 563-583-4633 Fax: 563-583-5858 kevin.donovan@mcdermottexcavating.com	General/Prime
3/30/23 10:23 am	Midwest Concrete Inc 16869 Navarre ct Peosta, 52068	Ryan Coates Tel: 563-845-0947 x Fax: 563-583-1007 office@midwest-concrete.net	General/Prime
3/30/23 8:01 am	Minnesota Builders Exchange 1123 Glenwood Minneapolis, MN 55405	Jeff Boelter Tel: 612-381-2620 mbex1123@gmail.com	Planroom
4/3/23 12:26 pm	National Sealant & Concrete LLC 2118 W Frontier Rd. Abrams, WI 54101	Robert Wesner Tel: 920-588-7649 Fax: 920-694-6054 rwersnernsc@gmail.com	Concrete
3/30/23 4:17 pm	Omaha Builders Exchange 4159 S. 94th St Omaha, NE 68127	Lisa Shockey Tel: 402-991-6906 Fax: 402-884-7055 lisa.shockey@omahaplanroom.com	Planroom
4/12/23 8:52 am	Origin Design 137 Main St. Dubuque, IA 52001	Steve Fuerst Survey Specialist Tel: 563-556-2464 Fax: 563-556-7811 s.fuerst@iiwengr.com	Surveying
4/3/23 1:11 pm	Paulson Electric 685 Century Dr Dubuque, IA 52001	Jamie Schrobilgen Tel: 5635993073 Fax: 563-588-1827 jschrobilgen@paulsonelectric.com	Electrical
4/11/23 1:21 pm	Pirc-Tobin Construction 2660 Old Quaas Road Alburnett, 52202	Charles Arnold Tel: (319) 842-2130 Fax: (319) 842-2131 bids@pircotbin.com	General/Prime

Date	Company	Contact	Bid Categories
3/29/23 2:33 pm	Point Builders 4900 Bowling St. SW, Suite 100 Cedar Rapids, IA 52404	Staci Stoll Tel: 319-540-1926 Fax: 319-297-6028 sstoll@pointbuilders.com	General/Prime
3/29/23 10:53 am	Rapids Reproductions, Inc. 6015 Huntington Court NE Cedar Rapids, IA 52402	John Martin Tel: 319-364-2473 Fax: 319-364-2645 johnm@rapidsrepro.com	
4/10/23 9:41 am	RB Electric P O Box 707 Dubuque, IA 52002	Kim Kern Tel: 563-580-2531 kim@rb-elec.com	Electrical
3/30/23 2:14 pm	Rittmer Inc. 2464 330th ave DeWitt, IA 52742	William Bauman Estimator Tel: 5634689298 Fax: 563-659-2900 baumanivbj@rittmerinc.com	Excavating/Site Work
4/13/23 3:56 pm	River City Paving 3747 Contractors Ct Dubuque, IA 52001	Tom Mercer Tel: 608-568-3840 Fax: 608-568-3472 tom.mercer@rivercity-stone.com	
3/30/23 1:25 pm	Safety Equipment Leasing Co. d/b/a SELCO, Inc. 15 South Main Street Dubuque, IA 52003	Clark Wolff Tel: 563-556-2434 Fax: 563-556-2436 selcoinc@mchsi.com	Traffic Controls
4/3/23 9:56 am	Steger Const Inc. 3297 Vine Rd Dyersville, IA 52040	Nick Zitelman Tel: 5638757876 Fax: 5638752404 zitelman3@gmail.com	Excavating/Site Work
4/10/23 2:27 pm	Stevens Erosion Control Inc 5275 Oak Crest Hill Road PO Box 98 Hills, IA 52235	Jerod Wooster Tel: 3194800318 Fax: 309-679-4991 jerod.wooster@stevenserision.com	Landscape
3/29/23 3:58 pm	The La Crosse Builders Exchange 709 Gillette Street La Crosse, WI 54603	Christine Schurhammer Construction Reporter Tel: 6087811819 Fax: 608-781-1819 planroom@laxbx.com	Planroom

Date	Company	Contact	Bid Categories
3/30/23 8:32 am	Tri-City Electric 6225 N. Brady Street Davenport, 52806	Estimating Department Estimating Coordinator Tel: 563-322-7181 Fax: 563-322-1643 bid@tricityelectric.com	Electrical
3/29/23 1:19 pm	Tschiggfrie Excavating Co 425 Julien Dubuque Drive Dubuque, 52003	Estimating Dept General Contractor Tel: 563-557-7450 Fax: 563-557-7585 quotes@tschiggfrie.net	General/Prime
3/30/23 10:09 am	Voltmer Electric Incorporated 1732 Old Stage Rd PO Box 200 Decorah, 52101	Dewey Herman Tel: 563-382-9214 Fax: 563-382-5923 dewey@voltmerelectric.com	Electrical

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Relocate Taxiway A – Phase 1 Construction
FAA AIP No. 3-19-0028-078

Pre-Bid Meeting

Dubuque Regional Airport
April 10, 2023




1

Welcome and Introductions

- Todd Dalsing – Airport Director
- Dan Klaas – Assistant Airport Director
- Cheryl Sheldon – Airport Accountant
- Ryan Turner – Foth Project Civil Engineer
- Adam Wilhelm – Foth Client Director
- Matthew Huinker – Foth Civil Engineer

1 Page 2 **Foth**

2

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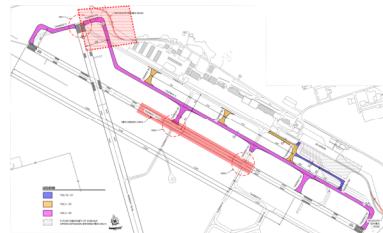
General Project Overview

1 Page 3 **Foth**

3

Taxiway A Program Overview

- Phase 1 of Multiphase Taxiway Relocation Program



1 Page 4 **Foth**

4

Scope of Project

- Fall 2023 Construction
 - Contractor Supplied Borrow Embankment Construction
 - Initial Storm Sewer Installation and Outlet Construction
 - Relocate Airport Perimeter Road
 - Alliant Energy Primary Electric Relocation
- 2024 Construction
 - Remove Existing Taxiway Pavement
 - Complete Storm Sewer Installation
 - Final Earthwork
 - Taxiway PCC Construction
 - Taxiway Edge Lighting, Signage, and Pavement Markings



5

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Bidding Information

1 Page 6 **Foth**

6

Bidding Schedule

- Pre-Bid Meeting – Monday, April 10th at 10:00 am
- Last Day for Questions – Friday, April 14th at 5:00 pm
- Bids Due – Wednesday, April 19th prior to 11:00 am
- Owner may hold the awarded bid up to 100 calendar days from date of receipt of bids before executing the contract.

1 Page 7 

7

Bidding Requirements

- All included in Specification Manual*
- Standard Form of Bid (unit price contract) – pg 25
- Identity of Subcontractors – pg 35
- DBE Utilization Statement (1.20% goal) – pg 37
- DBE Letter of Intent (one for each DBE firm) – pg 39
 - Good Faith Efforts must be submitted if not able to achieve the project goal.*
- Buy American Certification – pg 43
 - Waiver requests shall be submitted after the bid if not able to meet 100%.
- Bid Bond (Separate Envelope) – pg 45

* Page Numbers Refer to PDF of the Manual

1 Page 8 

8

DBE Information

- Only DBE's currently on the Iowa DOT DBE Directory qualify
- From Supplementary Provision A – Federal Provisions – pg 134
- Good Faith Efforts if not meeting DBE goal of 1.20%
 - Offering assistance in areas of interpreting plans and preparing proposals;
 - Response to requests from any small businesses submitting quotes, concerning quantities, overtime, project scheduling, etc.;
 - Making portions of the work available for DBE subcontracting;
 - Evidence of negotiations with DBE firms;
 - DBE quotes obtained and non-DBE quotes used;
 - Reason agreements were not reached;
 - Follow-up after initial solicitations;
 - Efforts to assist in obtaining bonding, lines of credit, or insurance; and
 - Efforts to assist in obtaining equipment, supplies, and materials.
 - Pro forma mailings to DBEs requesting bids are not alone sufficient to satisfy good faith efforts.*
- Counting DBE Participation
 - DBE Manufacturer, Trucker, Contractor = 100%
 - DBE Supplier = 60%

1 Page 9 

9

Davis Bacon Wage Rates

- Required for all contractors / subcontractors working on-site.
- Page 143 of project manual

1 Page 10 

10

Construction Schedule



1 Page 11 

11

Construction Schedule

- Award of Contract anticipated end of July 2023
- Calendar Day and Completion Date Contract
 - Phase 1 – Complete by November 18, 2023
 - Phase 2 – Late start date of April 15, 2024. 7 calendar day completion.
 - Phase 3 – Begins following completion of Phase 2. 50 calendar day completion.
 - Phase 4 – Concurrent with Phase 3. Completed by August 12, 2024.
 - Liquidated Damages:

Schedule	Liquidated Damages Cost	Allowed Construction Time
Phase 1	\$1,000 per Calendar Day	November 18, 2023 Completion
Final Completion	\$1,500 per Calendar Day	August 12, 2024 Completion

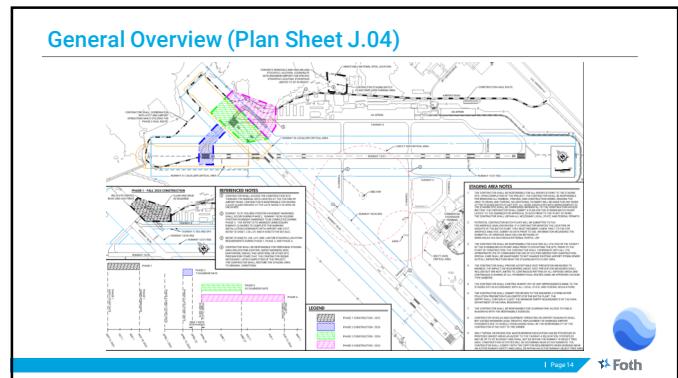
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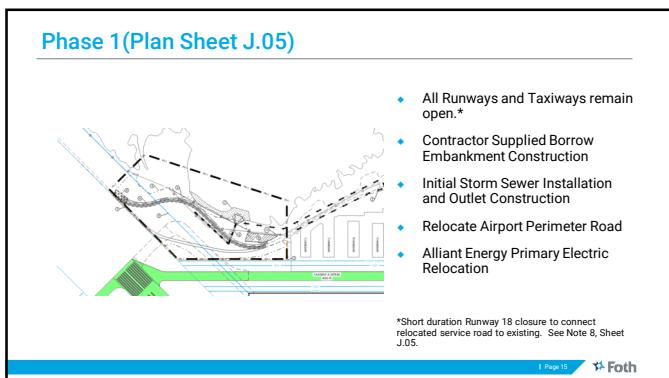
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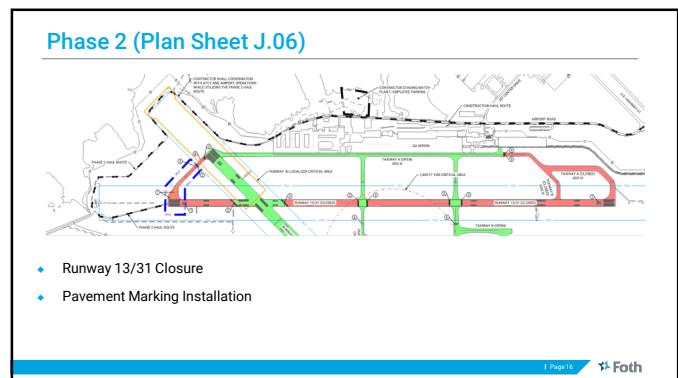
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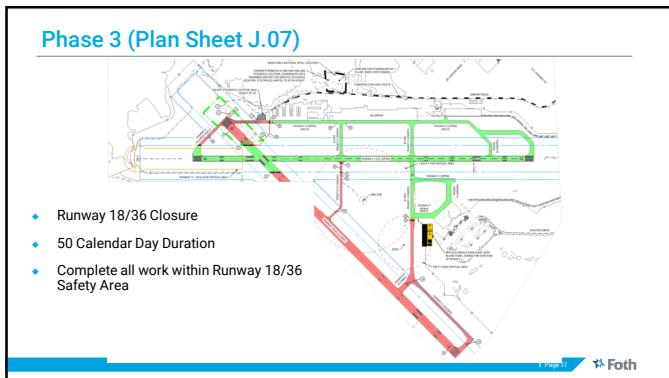
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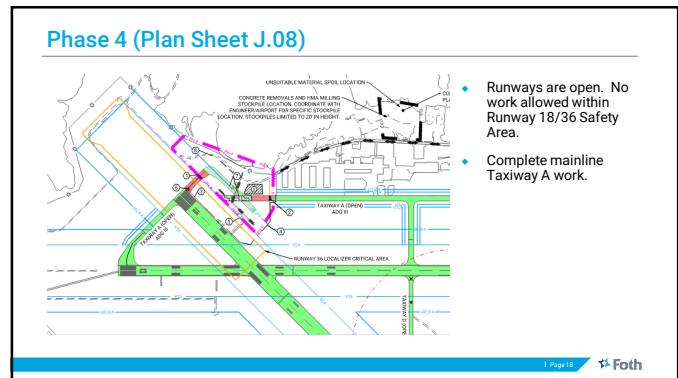
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16



17



18



Airport Safety and Security Considerations

I Page 19 

19

Airport Safety and Security

- Contractor will be required to Obtain Badges by completing Security Threat Assessment.
- Contractor shall provide all traffic control as shown on the plans including 'Lighted X's'.
- DBQ Operations Staff to escort contractor into the Secured AOA and Open Pavement on the Airfield during placement of traffic control and closure of pavement. Once traffic control is in place and taxiway is closed the Contractor will be allowed unescorted access within the work area.
- Coordination with Airport. Coordinate with FAA when working on PAPI re-feed.
- Airport Security Requirements – See Attachment 4 of the Supplementary Provisions.
- Construction Safety and Phasing Plan – See Attachment 3 of the Supplementary Provisions.
- Contractor to Submit Safety Plan Compliance Document

I Page 20 

20



Project Specific Design and Construction Information

I Page 21 

21

Design Components – Plans and Spec.

- FAA standard specifications.
- Approx. 23,000 CY of Borrow Excavation – SUDAS 2010 'Select Subgrade'.
- Rock Excavation Anticipated
- Pavement Section – 13.5" P-501, 6" P-307, 6" P-209, 8" P-154.
- Outlet Protection – Tied Concrete Block Mat
- Electrical Scope – FAA L-series specification. (Taxiway Edge Lights and Signage)
- Temporary and Final Stabilization
- Contractor Quality Control Program – C-100 specification
 - Pay Item – Quality is more than test results.
 - QC/QA workshop prior to construction. Separate from preconstruction meeting.

I Page 22 

22



Addendum 1

I Page 23 

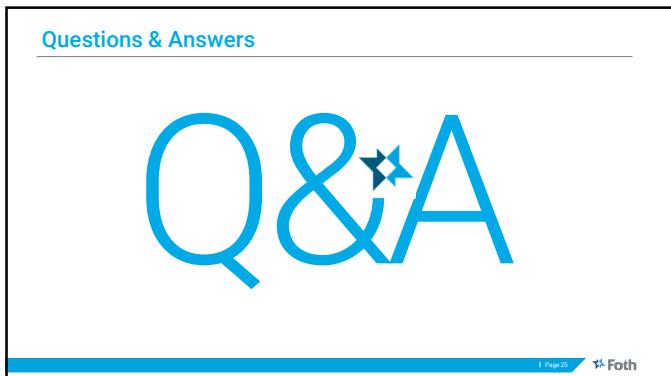
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Addendum 1 & Final Thoughts

- Will be issued on Tuesday, April 11.
 - Issued through Rapids Reproductions
 - Pre-bid meeting minutes.
 - Contractor Questions to Date
 - Possible revision to performance, payment, and maintenance bond form.
- Rapids Reproductions for current Plan Holders List.

I Page 24 

24



25

PROPOSAL FORM

(Addendum 1)

AIP Project: 3-19-0028-078

TO: The Dubuque Airport Commission
 11000 Airport Road
 Dubuque, Iowa 52003

The undersigned, in compliance with the request for bids for construction of the following Project:

Relocate Taxiway A – Phase 1 Construction

hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for construction of the Project in accordance with the project manual, project drawings and issued Addenda within the specified time of performance for the following prices:

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	EXTENSION
1	AIRFIELD PAVEMENT REMOVAL, VARIABLE DEPTH HMA (2-6 INCH) ON 9 INCH PCC	3,520	SY		
2	EXISTING SERVICE ROAD REMOVAL, VARIABLE DEPTH (4-5 INCH) GRAVEL/HMA MILLINGS	1,326	SY		
3	FULL DEPTH SAW CUTTING	270	LF		
4	DRAINAGE PIPE REMOVAL, LESS THAN 24 INCH DIA.	495	LF		
5	DRAINAGE STRUCTURE REMOVAL	3	EA		
6	PAINT REMOVAL	5,581	SF		
7	CLEARING AND GRUBBING	1	LS		
8	UNCLASSIFIED EXCAVATION	7,203	CY		
9	BORROW EXCAVATION	23,151	CY		
10	8 INCH GRAVEL/HMA MILLING SERVICE ROAD INSTALLATION	1,300	SY		
11	GEOGRID	6,669	SY		
12	SUBBASE COURSE, 8 INCH	6,669	SY		
13	CRUSHED AGGREGATE BASE COURSE, 6 INCH	6,669	SY		
14	CEMENT TREATED DRAINABLE BASE COURSE, 6"	6,085	SY		
15	PCC PAVEMENT, 13.5 INCH	6,253	SY		
16	COMPRESSION JOINT SEALS	6,783	LF		

17	JOINT SEALING FILLER	145	LF		
18	PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 1 BEADS	108	SF		
19	PAVEMENT MARKINGS - RED TAXIWAY PAINT, TYPE 1 BEADS	1,159	SF		
20	PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 3 BEADS	2,277	SF		
21	PAVEMENT MARKINGS - BLACK OUTLINES, TAXIWAY PAINT, NO BEADS	3,501	SF		
22	PAVEMENT MARKINGS - TEMPORARY YELLOW CENTERLINE FOR TURNAROUND MOVEMENT ON RUNWAY 13/31, NO BEADS	388	SF		
23	18 INCH STORM SEWER PIPE	191	LF		
24	24 INCH STORM SEWER PIPE	276	LF		
25	30 INCH STORM SEWER PIPE	419	LF		
26	30 INCH STORM SEWER PIPE INSTALLED UNDER TAXIWAY PAVEMENT	235	LF		
27	ROCK EXCAVATION	1,600	CY		
28	LIGHT DRAIN, 2 INCH DIA.	100	LF		
29	NON-PERFORATED SUBDRAIN, 6 INCH DIA.	430	LF		
30	PERFORATED SUBDRAIN, 6 INCH DIA.	1,760	LF		
31	SUBDRAIN CLEANOUT	9	EA		
32	SW-502, MODIFIED, STORM SEWER INTAKE, 48 INCH DIA.	2	EA		
33	SW-502, MODIFIED, STORM SEWER INTAKE, 60 INCH DIA	3	EA		
34	FLARED END SECTION WITH APRON GUARD AND FOUNDATION, 30 INCH RCP	1	EA		
35	CLASS E REVETMENT STONE	50	TON		
36	TIED CONCRETE BLOCK MAT	200	SY		
37	NO. 8 AWG, 5KV, L-824C CABLE, INSTALLED IN CONDUIT	2,620	LF		
38	NO. 6 AWG, BARE SOLID COUNTERPOISE WIRE WITH GROUND RODS AND EXCOTHERMIC CONNECTIONS	2,360	LF		
39	NO. 8 AWG, 5KV L-824 CABLE, TEMPORARY JUMPER CABLE WIRE	4,000	LF		
40	1 INCH HDPE UNIT DUCT FOR AIRFIELD CIRCUITS	560	LF		

41	1 WAY 2 INCH SCHEDULE 40 PVC	1,460	LF		
42	2 WAY 2 INCH SCHEDULE 40 PVC	495	LF		
43	2 WAY 2 INCH SCHEDULE 40 PVC, CONCRETE ENCASED	76	LF		
44	1 WAY 2 INCH HDPE, DIRECTIONAL BORE	160	LF		
45	NEW L-867B BASE CAN JUNCTION HANHOLE	2	EA		
46	NEW L-861T TAXIWAY EDGE LIGHT INSTALLED ON NEW L-867B BASE CAN WITH NEW FOUNDATION	22	EA		
47	NEW L-861T TAXIWAY EDGE LIGHT - STAKE MOUNTED	13	EA		
48	NEW L-862(L) HIGH INTENSITY RUNWAY EDGE LIGHT (CLEAR/YELLOW) ON NEW L-867B BASE CAN WITH NEW FOUNDATION.	1	EA		
49	NEW L-858 LED SIGN UNIT WITH NEW FOUNDATION - 2 MODULE	2	EA		
50	NEW L-858 LED SIGN UNIT WITH NEW FOUNDATION - 3 MODULE	1	EA		
51	NEW SIGN UNIT FOUNDATION ONLY - 3 MODULE	1	EA		
52	RELOCATE EXISTING UNLIT SERVICE ROAD SIGN	1	EA		
53	RETROREFLECTOR, SURFACE OR STAKE MOUNTED, 30 INCH	3	EA		
54	RUNWAY 18 PAPI POWER RELOCATION	1	LS		
55	AIRFIELD ELECTRICAL DEMOLITION AND MISCELLANEOUS	1	LS		
56	ELECTRICAL SPARE PARTS	1	LS		
57	AOA FENCE REMOVAL	610	LF		
58	AOA FENCE, CHAIN LINK, WITH BARBED WIRE, 96 INCH	580	LF		
59	SEEDING AND FERTILIZING, PERMANENT	10.0	ACRE		
60	SEEDING AND FERTILIZING, TEMPORARY	10.0	ACRE		
61	SODDING	910	SY		
62	TOPSOIL - STRIP, STOCKPILE, AND RESPREAD	4,617	CY		
63	HYDROMULCH	7.0	ACRE		
64	HYDROMULCH - MECHANICALLY BONDED FIBER MATRIX (MBFM)	3.0	ACRE		
65	CONTRACTOR QUALITY CONTROL PROGRAM	1	LS		
66	STORM WATER POLLUTION PREVENTION PLAN (SWPPP), PREPARATION AND MANAGEMENT	1	LS		

67	INLET PROTECTION DEVICE	7	EA		
68	INSTALLATION AND REMOVAL OF SILT FENCE	1,800	LF		
69	MOBILIZATION AND MISCELLANEOUS, 2023 CONSTRUCTION	1	LS		
70	MOBILIZATION AND MISCELLANEOUS, 2024 CONSTRUCTION	1	LS		
71	TRAFFIC CONTROL AND SECURITY	1	LS		
72	CONSTRUCTION ACCESS	1	LS		
73	CONSTRUCTION SURVEY	1	LS		
74	ENGINEER/RPR FIELD OFFICE	1	LS		

COMPUTED TOTAL BASE BID (ITEMS 1 THROUGH 74)

(NUMBERS)

ACKNOWLEDGEMENTS BY BIDDER

- a. By submittal of a proposal, the BIDDER acknowledges and accepts that the quantities established by the OWNER are an approximate estimate of the quantities required to fully complete the Project and that the estimated quantities are principally intended to serve as a basis for evaluation of bids. The BIDDER further acknowledges and accepts that payment under this contract will be made only for actual quantities and that quantities will vary in accordance with the General Provisions subsection entitled "Alteration of Work and Quantities".
- b. The BIDDER acknowledges and accepts that the Bid Documents are comprised of the documents identified within the Instructions to Bidders. The BIDDER further acknowledges that each the individual documents that comprise the Bid Documents are complementary to one another and together establishes the complete terms, conditions and obligations of the successful BIDDER.
- c. As evidence of good faith in submitting this proposal, the undersigned encloses a bid guaranty in the form of a certified check or bid bond in the amount of 5% of the bid price. The BIDDER acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the bid guaranty to the owner as a liquidated damage.
- d. The BIDDER acknowledges and accepts the OWNER'S right to reject any or all bids and to waive any minor informality in any Bid or solicitation procedure.
- e. The BIDDER acknowledges and accepts the OWNER'S right to hold all Proposals for purposes of review and evaluation and not issue a notice-of-award for a period not to exceed **30 calendar days** from the stated date for receipt of bids.
- f. **It is the intent of the OWNER, after a period of review and evaluation, to award a contract to the responsible bidder that submits the lowest responsive proposal. The successful bidder will be informed their bid has been accepted through the OWNER's issuance of Notice-of-Award. The Notice-of-Award shall not be construed as a binding agreement. The proper execution of contract agreement shall serve as the binding agreement. The Owner may hold the awarded bid up to 100 calendar days from the date of receipt of bids before a contract is executed.**

Bid acceptance will be made based on the Total Base Bid plus any combination of Alternative Bids which are added to or deducted from the Total Base Bid and exclusive of any incentive/disincentive clause. OWNER reserves the right to accept or reject any alternatives to the Total Base Bid.

- g. The undersigned agrees that upon written notice of award of contract, he or she will execute the contract and provide executed payment and performance bonds within fifteen (15) days from the notice-of-award. The undersigned accepts that failure to execute the contract and provide the required bonds within the stated timeframe shall result in forfeiture of the bid guaranty to the owner as a liquidated damage.
- h. Time of Performance: By submittal of this proposal, the undersigned acknowledges and agrees to commence work within ten (10) calendar days of the date specified in the written "Notice-to-Proceed" as issued by the OWNER. The undersigned further agrees to complete the Project within the requirements described in the General Provisions, Supplementary Provisions and the Bid Documents.
- i. The undersigned acknowledges the Contractor shall pay non-penal amounts as liquidated damages to the OWNER for the time Project and Project Milestones remain incomplete beyond the contract time of performance, as detailed below and as further described in the General Provisions and the Bidding Documents. Bidder further acknowledges that separate sums of liquidated damages will be assessed for each of the conditions described hereinbefore, and they shall be cumulative if multiple conditions have not been satisfied.
- j. The BIDDER acknowledges that the OWNER has established a contract Disadvantaged Business Enterprise goal of **1.20%** for this project.

- k. The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determination as issued by the United States Department of Labor. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project.
- l. Compliance Reports (41 CFR Part 60-1.7): Within 30 days after award of this contract, the Contractor/Subcontractor shall file a compliance report (Standard Form 100) if s/he has not submitted a complete compliance report within 12 months proceeding the date of award. This report is required if the Contractor/Subcontractor meets all of the following conditions:
 - 1. Contractors/Subcontractors are not exempt based on 41 CFR 60-1.5.
 - 2. Has 50 or more employees.
 - 3. Is a prime contractor or first tier subcontractor.
 - 4. There is a contract, subcontract, or purchase order amounting to \$50,000 or more
- m. The undersigned acknowledges receipt of the following addenda:

Addendum Number ____ dated _____ Received_____

Addendum Number ____ dated _____ Received_____

Addendum Number ____ dated _____ Received_____

REPRESENTATIONS BY BIDDER

By submittal of a proposal (bid), the BIDDER represents the following:

- a. The BIDDER has read and thoroughly examined the bid documents including all authorized addenda.
- b. The BIDDER has a complete understanding of the terms and conditions required for the satisfactory performance of project work.
- c. The BIDDER has fully informed themselves of the project site, the project site conditions and the surrounding area.
- d. The BIDDER has familiarized themselves of the requirements of working on an operating airport and understands the conditions that may in any manner affect cost, progress or performance of the work
- e. The BIDDER has correlated their observations with that of the project documents.
- f. The BIDDER has found no errors, conflicts, ambiguities or omissions in the project documents, except as previously submitted in writing to the owner that would affect cost, progress or performance of the work.
- g. The BIDDER is familiar with all applicable Federal, State and local laws, rules and regulations pertaining to execution of the contract and the project work.
- h. The BIDDER has complied with all requirements of these instructions and the associated project documents.

CERTIFICATIONS BY BIDDER

- a. The undersigned hereby declares and certifies that the only parties interested in this proposal are named herein and that this proposal is made without collusion with any other person, firm or corporation. The undersigned further certifies that no member, officer or agent of OWNER'S has direct or indirect financial interest in this proposal.
- b. **Prohibition of Segregated Facilities:** (41 CFR Part 60)
 - 1. The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated

facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

2. "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
3. The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

c. **Trade Restriction Certification:** (49 CFR Part 30)

The Bidder, by submission of an offer certifies that it:

1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
3. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

d. **Certification Regarding Debarment and Suspension (non-procurement):** 2 CFR Part 180 & 2 CFR Part 1200

As a "covered transaction" under 2 CFR Part 180, the Bidder:

- a) Certifies by submission of their proposal that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.
- b) Agrees to comply with 2 CFR Part 1200 and 2 CFR Part 180, Subpart C by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction". As such, the successful bidder must verify each lower tier participant of a "covered transaction" under the Project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder shall accomplish this by:
 - i. Checking the Excluded Parties List System (EPLS) at <http://sam.gov>
 - ii. Collecting a certification statement similar to paragraph (a)
 - iii. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that an individual failed to tell a higher tier that they were excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension remedies, including suspension and debarment of the non-compliant participant.

e. **Buy American Certification:** (Title 49 U.S.C. Chapter 501)

The contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list. A Bidder or Offeror must complete and submit the Buy American certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

ATTACHMENTS TO THIS BID

The following documents are attached to and made a part of this Bid and are a condition of Bid responsiveness:

- Signed Proposal Form
- Acknowledgement of Addenda (if applicable)
- Utilization Statement Disadvantage Business Enterprise (DBE) and Letter of Intent
- Evidence of Good Faith Effort, Iowa Department of Transportation Disadvantaged Business Enterprise Information Statement of DBE Commitment, Form 102115, if proposed DBE goal is not met.
- Identity of Subcontractors
- Buy American Certification

ATTACHMENTS TO THIS BID IN SEPARATE ENVELOPE

The following document is submitted in a separate envelope and made a part of this Bid:

- Bid Guarantee (Bid Bond) in the form set forth in the Bidding Documents.

SIGNATURE OF BIDDER**IF AN INDIVIDUAL:**

Name: _____

By: _____
(Signature of Individual)

Doing Business as: _____

Business Address: _____

Telephone Number: _____

IF A PARTNERSHIP:

Partnership Name: _____

By: _____
(Authorized Signature)
(Attach Evidence of Authority to sign as a Partnership)

Name and Title: _____

Business Address: _____

Telephone Number: _____

IF A CORPORATION:

Corporation Name: _____

By: _____

*(Authorized Signature)**(Attach Evidence of Authority to sign)*

Name and Title: _____

Business Address: _____

Telephone Number: _____

ATTEST:

By: _____

(Authorized Signature)

Name and Title: _____

IF A JOINT VENTURE: *(Attach copy of Joint Venture Agreement)*

Joint Venture Name: _____

By: _____

*(Authorized Signature)**(Attach Evidence of Authority to sign)*

Name and Title: _____

Business Address: _____

Telephone Number: _____

Joint Venture Name: _____

By: _____

*(Authorized Signature)**(Attach Evidence of Authority to sign)*

Name and Title: _____

Business Address: _____

Telephone Number: _____

PERFORMANCE BOND

CONTRACTOR (Name and Address):	SURETY (Name and Address of Principal Place of Business):
OWNER (Name and Address):	
CONTRACT Date: Amount: Description (Name and Location):	
BOND Date (Not earlier than Contract Date): Amount: Modifications to this Bond Form:	

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms included in this Section, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, Executors, administrators, successors and assigns to the OWNER for the performance of the Contract, which is incorporated herein by reference.
2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
 - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an Agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and
 - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
 - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
 - 3.3.1. The Surety in accordance with the terms of the Contract;
 - 3.3.2. Another CONTRACTOR selected pursuant to paragraph 4.3 to perform the Contract.
4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified CONTRACTORS acceptable to the OWNER for a Contract for performance and completion of the Contract, arrange for a Contract to be prepared for execution by the OWNER and the CONTRACTOR selected with the OWNER's concurrence, to be secured with performance and payment Bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new CONTRACTOR and with reasonable promptness under the circumstances;
 - 4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
 - 4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.
5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied pliability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1. 4.2. or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to THE Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
 - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or nonperformance of the CONTRACTOR.
7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceedings legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the state of Iowa and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR UNDER THE Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
 - 12.2. Contract: The Agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

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PAYMENT BOND

Any singular reference to CONTRACTOR, Surety, OWNER or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):	SURETY (Name and Address of Principal Place of Business):
OWNER (Name and Address):	
CONTRACT Date: Amount: Description (Name and Location):	
BOND Date (Not earlier than Contract Date): Amount: Modifications to this Bond Form:	

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms included in this Section, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:
 - 2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, Liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, Liens or suits and tendered defense of such claims, demands, Liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.
3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.
4. The Surety shall have no obligation to Claimants under this Bond until:
 - 4.1. Claimants who are employed by or have a direct Contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a Claim is being made under this Bond and, with substantial accuracy, the amount of the Claim.
 - 4.2. Claimants who do not have a direct Contract with the CONTRACTOR:
 1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the Claim stating, with substantial accuracy, the amount of the Claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the Claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a Claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.
5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2. Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER. Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.
14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.
15. **DEFINITIONS**
 - 15.1. **Claimant:** An individual or entity having a direct Contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms 'labor, materials or equipment' that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.
 - 15.2. **Contract:** The Agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 15.3. **OWNER Default:** Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

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Item C-105 Mobilization

105-1.1 Mobilization and Miscellaneous. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items. *This item also includes contractor's fees, overhead and administrative fees, insurance, bonding, etc.*

105-1.2 Traffic Control and Security. *This item includes the installation, maintenance, relocation, and removal of all traffic control devices shown on the plans. This item also includes but is not limited to employee badging, background checks (if necessary), gate guards, etc.*

105-1.3 Construction Access. *This item includes construction required for the following items.*

1. *Modifications to the project staging area as deemed necessary by the contractor to satisfy their staging area, batch plant, or material stockpile needs. This includes but is not limited to relocating existing airport owned jersey barriers, materials, or stockpiles. Miscellaneous grading or aggregate installation to expand existing site as necessary.*
2. *Miscellaneous Batch Plant site work (if applicable).*
3. *Dust control during construction.*
4. *Restoration of the site access to the original condition.*

105-2 Mobilization limit. Mobilization shall be limited to **10 percent** of the total project cost.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. The Contractor shall provide dedicated space for the use of the field RPR and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity in accordance with local building codes.

METHOD OF MEASUREMENT

105-5.1 Mobilization and Miscellaneous basis of measurement and payment. Based upon the contract lump sum price for “Mobilization and Miscellaneous – 2023 or 2024 Construction” partial payments will be allowed as follows:

- a. With first pay request of 2023, 25% of “Mobilization and Miscellaneous, 2023 Construction”. With first pay request of 2024, 25% of “Mobilization and Miscellaneous, 2024 Construction”.
- b. When 25% or more of the 2023 construction is earned, an additional 25% of “Mobilization and Miscellaneous, 2023 Construction”. When 25% or more of the 2024 construction is earned, an additional 25% of “Mobilization and Miscellaneous, 2024 Construction”.

- c. When 50% or more of the 2023 construction is earned, an additional 40% of “Mobilization and Miscellaneous, 2023 Construction”. When 50% or more of the 2024 construction is earned, an additional 40% of “Mobilization and Miscellaneous, 2024 Construction”.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, Contractor Final Project Documentation, the final 10% of “Mobilization and Miscellaneous, 2023 Construction” and “Mobilization and Miscellaneous, 2024 Construction”.

105-5.2 Traffic Control and Security basis of measurement and payment. Based upon the contract lump sum price for “Traffic Control and Security” partial payments will be allowed as follows.

- a. With first pay request, 33.33% of “Traffic Control and Security”.
- b. When 50% or more of the original contract is earned, an additional 33.33% of “Traffic Control and Security”.
- c. After removal of all traffic control devices and all airfield pavement opens to traffic, the final 33.34% of “Traffic Control and Security”.

105-5.3 Construction Access basis of measurement and payment. Based upon the contract lump sum price for “Construction Access” partial payments will be as follows.

- a. With first pay request after all construction access items are in place, 50%.
- b. When 50% or more of the original contract is earned, an additional 20%.
- c. After restoration of areas associated with construction access is restored to original condition upon
- d. Completion of the project, the final 30%

105-5.4 Engineer/RPR Field Office. Based upon the contract lump sum price for “Engineer/RPR Field Office” partial payments will be paid as follows.

- a. Upon mobilization and installation of engineering/RPR Field Office, 25%.
- b. When 50% or more of the original contract is earned, an additional 50%.
- c. When 75% or more of the original contract is earned, an additional 15%
- d. Upon removal of the engineer/RPR field office, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

- a. Item C-105-6.1a Mobilization and Miscellaneous, 2023 Construction
- b. Item C-105-6.1b Mobilization and Miscellaneous, 2024 Construction
- c. Item C-105-6.2 Traffic Control and Security
- d. Item C-105-6.3 Construction Access
- e. Item C-105-6.4 Engineer/RPR Field Office

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Item D-701 Pipe for Storm Drains and Culverts

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

AASHTO R73	Standard Practice for Evaluation of Precast Concrete Drainage Productions
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
ASTM C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

701-2.3 Concrete. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 Joint fillers. Poured filler for joints shall conform to the requirements of ASTM D6690.

701-2.7 Plastic gaskets. Plastic gaskets shall conform to the requirements of ASTM C990.

701-2.8. Controlled low-strength material (CLSM). Not used.

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	mm	inch	mm
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required. Pipe joints not receiving rubber gaskets shall be wrapped in engineering fabric. Fabric shall conform with Iowa DOT Article 4196 for subsurface drainage.

b. Metal pipe. Not used on this project.

c. Polypropylene pipe. Joints for Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

d. Fiberglass pipe. Not used on this project.

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Not used on this project.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

All inspection requirements contained in this section shall be performed by the Contractor in the presence of the RPR.

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe interior. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition.

The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe.

For pipe sizes larger than 48 inches, a walk-through visual inspection shall be performed.

Incorporate specific inspection requirements for the various types of pipes beneath the general inspection requirements.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

Flexible pipes shall be inspected for rips, tears, joint separations, soil migration, cracks, localized buckling, settlement, alignment, and deflection. Determine whether the allowable deflection has been exceeded by use of a laser profiler for internal pipe diameters of 48 inches or less, or direct measurement for internal pipe diameters greater than 48 inches. Laser profile equipment shall utilize low barrel distortion video equipment. Deflection of installed pipe shall not exceed the limits provided in the table below, as a percentage of the average inside diameter of the pipe.

Maximum Allowable Pipe Deflection

Type of Pipe	Maximum Allowable Deflection (%)
Corrugated Metal Pipe	5
Concrete Lined CMP	3
Thermoplastic Pipe	5
Fiberglass	5

If deflection readings in excess of the allowable deflection are obtained, remove the pipe with excessive deflection and replace with new pipe. Isolated areas may exceed allowable by 2.5% with concurrence of RPR. Repair or replace any pipe with cracks exhibiting displacement across the crack, bulges, creases, tears, spalls, or delaminations. The report for flexible pipe shall include as a minimum, the deflection results and final post installation inspection report. The inspection report shall include: a copy of all video taken, pipe location identification, equipment used for inspection, inspector name, deviation from design line and grade, and inspector's notes.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The 18 in., 24 in., and 30 in. pipe size shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2 The volume of rock, hardpan, or other unyielding material shall be the number of cubic yards excavated. No payment shall be made for the cushion material placed for the bed of the pipe. No additional payment shall be made for rock excavation due to trench excavation exceeding trench widths shown in the plans.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot of pipe.

701-5.2 Payment will be made at the contract unit price per cubic yard for rock, hardpan, or other unyielding material excavation.

Payment will be made under:

Item 701-5.1a	18 Storm Sewer Pipe – per linear foot
Item 701-5.1b	24 Inch Storm Sewer Pipe – per linear foot
Item 701-5.1c	30 Inch Storm Sewer Pipe – per linear foot
Item 701-5.1d	30 Inch Storm Sewer Pipe Installed Under Taxiway Pavement – per linear foot
Item 701-5.2	Rock Excavation – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes

ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways
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END ITEM D-701

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM CODE	DESCRIPTION	UNIT	QUANTITIES					
				ESTIMATED			AS-BUILT		
				DIVISION 1	DIVISION 2	TOTAL	DIVISION 1	DIVISION 2	TOTAL
1	P-101	AIRFIELD PAVEMENT REMOVAL, VARIABLE DEPTH HMA (2-6 INCH) ON 9 INCH PCC	SY	3,520	0	3,520			
2	P-101	EXISTING SERVICE ROAD REMOVAL, VARIABLE DEPTH (4-5 INCH) GRAVEL/HMA MILLINGS	SY	1,326	0	1,326			
3	P-101	FULL DEPTH SAW CUTTING	LF	270	0	270			
4	P-101	DRAINAGE PIPE REMOVAL, LESS THAN 24 INCH DIA.	LF	495	0	495			
5	P-101	DRAINAGE STRUCTURE REMOVAL	EA	3	0	3			
6	P-101	PAINT REMOVAL	SF	1,604	3977	5,581			
7	P-151	CLEARING AND GRUBBING	LS	1	0	1			
8	P-152	UNCLASSIFIED EXCAVATION	CY	7,203	0	7,203			
9	P-152	BORROW EXCAVATION	CY	23,151	0	23,151			
10	SUDAS 2010	8 INCH GRAVEL/HMA MILLING SERVICE ROAD INSTALLATION	SY	1,300	0	1,300			
11	SUDAS 2010	GEOGRID	SY	6,669	0	6,669			
12	P-154	SUBBASE COURSE, 8 INCH	SY	6,669	0	6,669			
13	P-209	CRUSHED AGGREGATE BASE COURSE, 6 INCH	SY	6,669	0	6,669			
14	P-307	CEMENT TREATED DRAINABLE BASE COURSE, 6"	SY	6,085	0	6,085			
15	P-501	PCC PAVEMENT, 13.5 INCH	SY	6,253	0	6,253			
16	P-604	COMPRESSION JOINT SEALS	LF	6,783	0	6,783			
17	P-605	JOINT SEALING FILLER	LF	145	0	145			
18	P-620	PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 1 BEADS	SF	108	0	108			
19	P-620	PAVEMENT MARKINGS - RED TAXIWAY PAINT, TYPE 1 BEADS	SF	290	869	1,159			
20	P-620	PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 3 BEADS	SF	1,109	1168	2,277			
21	P-620	PAVEMENT MARKINGS - BLACK OUTLINES, TAXIWAY PAINT, NO BEADS	SF	2,046	1455	3,501			
22	P-620	PAVEMENT MARKINGS - TEMPORARY YELLOW CENTERLINE FOR TURF HAROUND MOVEMENT ON RUNWAY 13/31, NO BEADS	SF	388	0	388			
23	D-701	18 INCH STORM SEWER PIPE	LF	191	0	191			
24	D-701	24 INCH STORM SEWER PIPE	LF	276	0	276			
25	D-701	30 INCH STORM SEWER PIPE	LF	419	0	419			
26	D-701	30 INCH STORM SEWER PIPE INSTALLED UNDER TAXIWAY PAVEMENT	LF	235	0	235			
27	P-152/D-701	ROCK EXCAVATION	CY	1,800	0	1,800			
28	D-705	LIGHT DRAIN, 2 INCH DIA.	LF	100	0	100			
29	D-705	NON-PERFORATED SUBDRAIN, 6 INCH DIA.	LF	430	0	430			
30	D-705	PERFORATED SUBDRAIN, 6 INCH DIA.	LF	1,760	0	1,760			
31	D-705	SUBDRAIN CLEANOUT	EA	9	0	9			
32	D-751	SW-502, MODIFIED, STORM SEWER INTAKE, 48 INCH DIA.	EA	2	0	2			
33	D-751	SW-502, MODIFIED, STORM SEWER INTAKE, 60 INCH DIA.	EA	3	0	3			
34	D-751	FLARED END SECTION WITH APRON GUARD AND FOUNDATION, 30 INCH RCP	EA	1	0	1			
35	SUDAS 9040	CLASS E REVETMENT STONE	TON	50	0	50			
36	-	TIED CONCRETE BLOCK MAT	SY	200	0	200			
37	L-108	NO. 8 AWG, 5KV, L-824C CABLE, INSTALLED IN CONDUIT	LF	2,620	0	2,620			
38	L-108	NO. 6 AWG, BARE SOLID COUNTERPOISE WIRE WITH GROUND RODS AND EXOTHERMIC CONNECTIONS	LF	2,360	0	2,360			
39	L-108	NO. 8 AWG, 5KV L-824 CABLE, TEMPORARY JUMPER CABLE WIRE	LF	4,000	0	4,000			
40	L-110	1 INCH HDPE UNIT DUCT FOR AIRFIELD CIRCUITS	LF	560	0	560			
41	L-110	1 WAY 2 INCH SCHEDULE 40 PVC	LF	1,460	0	1,460			
42	L-110	2 WAY 2 INCH SCHEDULE 40 PVC	LF	495	0	495			
43	L-110	2 WAY 2 INCH SCHEDULE 40 PVC, CONCRETE ENCASED	LF	76	0	76			
44	L-110	1 WAY 2 INCH HDPE, DIRECTIONAL BORE	LF	160	0	160			
45	L-115	NEW L-867B BASE CAN JUNCTION HANHOLE	EA	2	0	2			
46	L-125	NEW L-861 TAXIWAY EDGE LIGHT INSTALLED ON NEW L-867B BASE CAN WITH NEW FOUNDATION	EA	22	0	22			
47	L-125	NEW L-861 TAXIWAY EDGE LIGHT - STAKE MOUNTED	EA	13	0	13			
48	L-125	NEW L-862(L) HIGH INTENSITY RUNWAY EDGE LIGHT (CLEAR/YELLOW) ON NEW L-867B BASE CAN WITH NEW FOUNDATION.	EA	1	0	1			
49	L-125	NEW L-858 LED SIGN UNIT WITH NEW FOUNDATION - 2 MODULE	EA	2	0	2			
50	L-125	NEW L-858 LED SIGN UNIT WITH NEW FOUNDATION - 3 MODULE	EA	1	0	1			
51	L-125	NEW SIGN UNIT FOUNDATION ONLY - 3 MODULE	EA	1	0	1			
52	-	RELOCATE EXISTING UNIT SERVICE ROAD SIGN	EA	1	0	1			
53	L-125	RETROREFLECTOR, SURFACE OR STAKE MOUNTED, 30 INCH	EA	3	0	3			
54	-	RUNWAY 18 PAPI POWER RELOCATION	LS	1	0	1			
55	L-125	AIRFIELD ELECTRICAL DEMOLITION AND MISCELLANEOUS	LS	1	0	1			
56	L-126	ELECTRICAL SPARE PARTS	LS	1	0	1			
57	F-162	AOA FENCE REMOVAL	LF	610	0	610			
58	F-162	AOA FENCE, CHAIN LINK, WITH BARBED WIRE, 96 INCH	LF	580	0	580			
59	T-901	SEEDING AND FERTILIZING, PERMANENT	ACRE	10	0	10			
60	T-901	SEEDING AND FERTILIZING, TEMPORARY	ACRE	10	0	10			
61	T-904	SODDING	SY	910	0	910			
62	T-905	TOPSOIL - STRIP, STOCKPILE, AND RESPREAD	CY	4,617	0	4,617			
63	T-908	HYDROMULCH	ACRE	7	0	7			
64	T-908/C-102	HYDROMULCH - MECHANICALLY BONDED FIBER MATRIX (MBFM)	ACRE	3	0	3			
65	C-100	CONTRACTOR QUALITY CONTROL PROGRAM	LS	1	0	1			
66	C-102	STORM WATER POLLUTION PREVENTION PLAN (SWPPP), PREPARATION AND MANAGEMENT	LS	1	0	1			
67	C-102	INLET PROTECTION DEVICE	EA	7	0	7			
68	C-102	INSTALLATION AND REMOVAL OF SILT FENCE	LF	1,800	0	1,800			
69	C-105	MOBILIZATION AND MISCELLANEOUS, 2023 CONSTRUCTION	LS	1	0	1			
70	C-105	MOBILIZATION AND MISCELLANEOUS, 2024 CONSTRUCTION	LS	1	0	1			
71	C-105	TRAFFIC CONTROL AND SECURITY	LS	1	0	1			
72	C-105	CONSTRUCTION ACCESS	LS	1	0	1			
73	GP-50	CONSTRUCTION SURVEY	LS	0	0	0			
74	C-105	ENGINEER/RPR FIELD OFFICE	LS	1	0	1			

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION									
BASE BID - RELOCATE TAXIWAY A - PHASE 1 CONSTRUCTION											
1	P-101	<p>AIRFIELD PAVEMENT REMOVAL, VARIABLE DEPTH HMA (2-6 INCH) ON 9 INCH PCC</p> <p>A. THIS ITEM INCLUDES THE REMOVAL OF EXISTING ASPHALT PAVEMENT, CONCRETE PAVEMENT, AND AGGREGATE BASE. REMOVALS SHALL OCCUR TO THE BOTTOM OF THE EXISTING AGGREGATE BASE.</p> <p>B. CONTRACTOR TO UTILIZE ASPHALT MILLINGS GENERATED FROM THE PAVEMENT REMOVAL FOR REINSTALLATION OF THE RELOCATED SERVICE ROAD. ANY EXCESS ASPHALT MILLINGS SHALL BE HAULED TO THE LOCATIONS SHOWN ON THE J-SHEETS AND BECOME PROPERTY OF THE OWNER. THE HAULING AND STOCKPILING OF REMAINING ASPHALT MILLINGS SHALL BE INCIDENTAL TO THE PAVEMENT REMOVAL BID ITEM.</p> <p>C. CONTRACTOR SHALL HAUL AND STOCKPILE UNCRUSHED CONCRETE FOR THE AIRPORT TO USE ON FUTURE AIRFIELD PROJECTS. THE STOCKPILE LOCATION FOR THIS UNCRUSHED CONCRETE IS SHOWN ON THE J-SHEETS. THE HAULING AND STOCKPILING OF UNCRUSHED CONCRETE SHALL BE INCIDENTAL TO THE PAVEMENT REMOVAL BID ITEM.</p>									
2	P-101	<p>EXISTING SERVICE ROAD REMOVAL, VARIABLE DEPTH (4-5 INCH) GRAVEL/HMA MILLINGS</p> <p>A. THIS ITEM INCLUDES THE REMOVAL OF THE GRANULAR SURFACE OF THE EXISTING SERVICE ROAD. EXISTING GRAVEL/HMA MILLINGS SHALL BE REMOVED TO THE FULL GRANULAR DEPTH AND SALVAGED/STOCKPILED FOR RE-USE ON THE RELOCATED SERVICE ROAD.</p>									
3	P-101	<p>FULL DEPTH SAW CUTTING</p> <p>A. DOUBLE SAW CUT ON THE EXISTING PAVEMENT IS CONSIDERED INCIDENTAL TO THIS BID ITEM.</p> <p>B. SEE D-SHEETS FOR SAW CUT LOCATIONS AND DETAIL.</p>									
4	P-101	<p>DRAINAGE PIPE REMOVAL, LESS THAN 24 INCH DIA.</p>									
5	P-101	<p>DRAINAGE STRUCTURE REMOVAL</p> <p>A. REMOVALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, NO DISPOSAL SITE EXISTS ON THE AIRPORT.</p> <p>B. THE BACKFILL FOR PIPE TRENCHES AND STRUCTURES SHALL MEET THE P-152 SPECIFICATION AND SHALL BE INCIDENTAL TO THIS BID ITEM.</p>									
6	P-101	<p>PAINT REMOVAL</p> <p>A. THIS ITEM IS FOR THE REMOVAL OF EXISTING PAVEMENT MARKINGS REGARDLESS OF PAINT MATERIAL AS REQUIRED FOR PROJECT COMPLETION AS SHOWN IN THE J-SHEETS AND K-SHEETS.</p>									
7	P-151	<p>CLEARING AND GRUBBING</p> <p>A. THE AIRPORT CUT DOWN THE TREES WITHIN THE PROJECT CONSTRUCTION LIMITS IN 2023 PRIOR TO PROJECT BIDDING OR CONSTRUCTION. THE CONTRACTOR SHALL COMPLETE REMAINING CLEARING, AND ALL GRUBBING, PER THE LUMP SUM BID ITEM.</p>									
8	P-152	<p>UNCLASSIFIED EXCAVATION</p> <p>A. BID ITEM INCLUDES THE FOLLOWING QUANTITY FOR EXCAVATION OF EXISTING ON-SITE MATERIAL TO OCCUR IN 2023 AND 2024 PER THE FW-SHEETS.</p> <p>- FW.01. CUT = 1,397 CY (CUT USED FOR ON-SITE FILL SHALL HAVE 1.30 SHRINK FACTOR)</p> <p>- FW.02. CUT = 5,806 CY (CUT USED FOR ON-SITE FILL SHALL HAVE A 1.30 SHRINK FACTOR)</p> <p>B. UNSUITABLE MATERIALS SHALL BE INSTALLED WITH COMPACTIVE EFFORT UNDER MOISTURE DENSITY CONTROL (95% STANDARD PROCTOR) AT THE LOCATION SPECIFIED IN THE PLANS.</p>									
9	P-152	<p>BORROW EXCAVATION</p> <p>A. SUITABLE BORROW MATERIAL IS NOT AVAILABLE ON AIRPORT PROPERTY. CONTRACTOR SHALL FURNISH BORROW TO SATISFY PROJECT FILL REQUIREMENTS IN 2023 AND 2024. BORROW MATERIAL SHALL MEET FILL TYPES "COHESIVE (LVC)" OR "GRANULAR (LVC)" AS INDICATED ON PAGE 5 OF THE GEOTECHNICAL REPORT ATTACHED TO APPENDIX 1 OF THE PROJECT MANUAL. THE LIMITATIONS FOOTNOTES WITHIN THE FILL TYPE TABLE APPLY. THE TOP 9 INCHES OF PROJECT SUBGRADE (NOT INCLUDING THE TOPSOIL LAYER), SHALL BE COHESIVE MATERIAL TO BETTER PROTECT AGAINST EROSION. LIMESTONE SCREENINGS OR CRUSHED LIMESTONE COULD BE USED AS IMPORTED FILL MATERIAL PROVIDED THEY MEET THE "GRANULAR (LVC)" CLASSIFICATION, WITH A FINES CONTENT OF 15% OR LESS, LOW PLASTICITY FINES, AND MOISTURE CONDITIONING NECESSARY TO ACHIEVE COMPACTION WITHOUT BULKING OR PUMPING WHEN PROOFROLLED. CONTRACTOR SHALL ALLOW RPR ACCESS TO THE PROPOSED BORROW LOCATION FOR GEOTECHNICAL TESTING TO CERTIFY MATERIAL SUITABILITY AT LEAST 15-DAYS PRIOR TO INSTALLATION.</p> <table border="1"> <thead> <tr> <th>Fill Type^{1,2}</th> <th>USCS Classification</th> <th>Acceptable Location for Placement</th> </tr> </thead> <tbody> <tr> <td>Cohesive (LVC)</td> <td>CL, CLML³, ML³ (LL ≤ 45 and PI ≤ 20)</td> <td>see limitations below</td> </tr> <tr> <td>Granular (LVC)</td> <td>GW, GP, GM, GC³, SW, SP, SM, SC³</td> <td>see limitation below</td> </tr> </tbody> </table> <p>FROM GEOTECHNICAL REPORT</p> <p>B. NO ADDITIONAL PAYMENT SHALL BE MADE FOR CONTRACTOR ACQUISITION, PERMITTING, INSURANCE, EXCAVATIONS, FINAL SLOPES AND GRADES, STABILIZATION, ETC. OF THE BORROW SOURCE LOCATION.</p> <p>C. BID ITEM INCLUDES THE FOLLOWING QUANTITY FOR BORROW EXCAVATION. SHRINKAGE FACTORS WERE NOT APPLIED TO THE VOLUME CALCULATIONS FOR PROJECT FILL LOCATIONS SATISFIED BY CONTRACTOR BORROW MATERIAL. A 1.30 SHRINK FACTOR WAS APPLIED TO UNCLASSIFIED EXCAVATION CUT MATERIAL THAT WILL BE USED FOR ON-SITE FILL, THE DIFFERENCE IN SHRINKAGE OF THIS CUT MATERIAL WAS FACORED INTO THE BORROW EXCAVATION ESTIMATED NEEDS.</p> <p>- FW.01. BORROW MATERIAL = 19,725 CY.</p> <p>- FW.02. BORROW MATERIAL = 1,826 CY.</p> <p>- BORROW MATERIAL TO REPLACE UNSUITABLE ROCK EXCAVATION = 1,600 CY.</p> <p>D. SLOPED SURFACES STEEPER THAN (1) VERTICAL TO FIVE (5) HORIZONTAL BENCHES SHALL BE CUT INTO THE EXISTING SLOPES PRIOR TO FILL PLACEMENT. REFER TO THE PROJECT GEOTECHNICAL REPORT.</p>	Fill Type ^{1,2}	USCS Classification	Acceptable Location for Placement	Cohesive (LVC)	CL, CLML ³ , ML ³ (LL ≤ 45 and PI ≤ 20)	see limitations below	Granular (LVC)	GW, GP, GM, GC ³ , SW, SP, SM, SC ³	see limitation below
Fill Type ^{1,2}	USCS Classification	Acceptable Location for Placement									
Cohesive (LVC)	CL, CLML ³ , ML ³ (LL ≤ 45 and PI ≤ 20)	see limitations below									
Granular (LVC)	GW, GP, GM, GC ³ , SW, SP, SM, SC ³	see limitation below									
10	SUDAS 2010	<p>8 INCH GRAVEL/HMA MILLING SERVICE ROAD INSTALLATION</p> <p>A. BID ITEM INCLUDES REINSTALLATION OF SALVAGED MATERIAL FROM 2023 EXISTING SERVICE ROAD REMOVAL.</p> <p>B. BID ITEM INCLUDES REINSTALLATION OF SALVAGED MATERIAL FROM 2024 ASPHALT REMOVAL WITH THE ASPHALT MILLINGS GENERATED.</p> <p>C. CONTRACTOR SHALL FURNISH GRANULAR MATERIAL AS NECESSARY TO COMPLETE THE TOTAL DEPTH OF 8-INCH IF IT IS NOT SATISFIED BY SALVAGED MATERIALS. ALL MATERIAL, EQUIPMENT, LABOR NECESSARY TO FURNISH AND INSTALL THIS MATERIAL SHALL BE INCIDENTAL TO THE BID ITEM.</p>									
15	P-501	<p>PCC PAVEMENT 13.5 INCH</p> <p>A. THE INTERMEDIATE PAVEMENT SECTION UTILIZING P-501 PCC SHALL HAVE HOT POUR JOINT SEALANT MEETING P-605 SPECIFICATION. HOT POUR JOINT SEALANT SHALL BE INCIDENTAL TO P-501 INSTALLATION ALONG THE INTERMEDIATE PAVEMENT.</p>									
16	P-604	<p>COMPRESSION JOINT SEALS</p>									
17	P-605	<p>JOINT SEALING FILLER</p> <p>A. COMPRESSION JOINT SEALANT SHALL BE APPLIED TO ALL TYPE C AND E JOINTS ON MAINLINE TAXIWAY A PAVEMENT.</p> <p>B. JOINT SEALING FILLER (SILICONE) SHALL BE APPLIED TO ALL A-1 JOINTS.</p> <p>C. HOT POUR MATERIAL SHALL BE APPLIED TO ALL JOINT TYPES (C AND E) ON THE INTERMEDIATE TAXIWAY A PAVEMENT. REFER TO P-501 REFERENCE NOTE INDICATING THAT THIS SHALL BE INCIDENTAL TO THE PCC PAVEMENT BID ITEM.</p>									
18	P-620	<p>PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 1 BEADS</p>									
19	P-620	<p>PAVEMENT MARKINGS - RED TAXIWAY PAINT, TYPE 1 BEADS</p>									
20	P-620	<p>PAVEMENT MARKINGS - YELLOW/WHITE TAXIWAY PAINT, TYPE 3 BEADS</p>									
21	P-620	<p>PAVEMENT MARKINGS - BLACK OUTLINES, TAXIWAY PAINT, NO BEADS</p>									
22	P-620	<p>PAVEMENT MARKINGS - TEMPORARY YELLOW CENTERLINE FOR TURNAROUND MOVEMENT ON RUNWAY 13/31, NO BEADS</p> <p>A. WATERBORNE TYPE III PAINT SHALL BE USED FOR ALL PERMANENT PAVEMENT MARKINGS</p> <p>B. WATERBORNE TYPE II PAINT SHALL BE USED FOR THE TEMPORARY YELLOW PAVEMENT MARKINGS</p> <p>C. SEE K-SHEETS FOR BEAD APPLICATIONS FOR ALL MARKINGS.</p>									

ESTIMATE REFERENCE INFORMATION (cont.)

ITEM NO.	ITEM CODE	DESCRIPTION
23	D-701	18 INCH STORM SEWER PIPE
24	D-701	24 INCH STORM SEWER PIPE
25	D-701	30 INCH STORM SEWER PIPE
26	D-701	30 INCH STORM SEWER PIPE INSTALLED UNDER TAXIWAY PAVEMENT
		<p>A. REFER TO M-SHEETS FOR STORM SEWER LAYOUT AND SHEET M.04 FOR THE STORM SEWER TABLES.</p> <p>B. PIPE JOINT WRAPPING, GASKETED PIPE JOINTS, CONNECTED PIPE JOINTS, OR P-610 CONCRETE CAPS OF FUTURE PIPE SHALL BE INCIDENTAL TO THE BID ITEM.</p> <p>C. RCP CLASS D' REQUIREMENTS AS LISTED ON PLAN SHEET M.04 SHALL BE INCIDENTAL TO THE BID ITEM IF REINFORCED CONCRETE PIPE IS SELECTED BY THE CONTRACTOR.</p> <p>D. UNCLASSIFIED TRENCH EXCAVATION AND BACKFILL SHALL BE INCIDENTAL TO THE COST OF THE PIPE. SEE ROCK EXCAVATION BID ITEM IF ROCK, HARDPAN, OR OTHER UNYIELDING MATERIAL IS ENCOUNTERED DURING EXCAVATION, INSTALLATION, AND BACKFILLING OPERATIONS.</p> <p>E. TRENCH BACKFILL REQUIREMENTS (DETAIL 2, SHEET M.07) AT STORM SEWER CROSSINGS BENEATH TAXIWAY PAVEMENT SHALL BE INCIDENTAL TO BID ITEM 26.</p> <p>F. ACCEPTABLE MATERIALS INCLUDE REINFORCED CONCRETE PIPE AND POLYPROPYLENE DUAL WALL PIPE PER ASTM F2881. IF POLYPROPYLENE DUAL WALL PIPE IS SELECTED BY THE CONTRACTOR THE PIPE SHALL MEET OR EXCEED THE DESIGN REQUIREMENTS OF THE RCP STORM SEWER PIPE AS SHOWN ON PLAN SHEET M.04. POLYPROPYLENE DUAL WALL PIPE CONNECTIONS SHALL BE A MANUFACTURED PRODUCT SPECIFICALLY FOR CONNECTION TO D-751 CONCRETE STRUCTURES AND RCP FLARED END SECTIONS.</p> <p>G. SEE NOTE FOR BACKFILL TO ACCOMPANY RCP AND POLYPROPYLENE PIPE ON SHEET M.07.</p>
27	P-152/P-701	ROCK EXCAVATION
		<p>A. THIS BID ITEM IS FOR ROCK EXCAVATION AS ENCOUNTERED DURING PROJECT CONSTRUCTION. REFER TO THE P-152 AND P-701 SPECIFICATION FOR CLASSIFICATION OF ROCK EXCAVATION AND REQUIREMENTS FOR REMOVAL.</p> <p>B. THE PROJECT GEOTECHNICAL REPORT AND SOIL BORINGS INDICATE THAT LIMESTONE WILL BE ENCOUNTERED DURING PROJECT EXCAVATION. THE BID ITEM QUANTITY IS AN ESTIMATE MADE FROM THE SOIL BORINGS OF ROCK EXCAVATION THAT CANNOT BE REMOVED WITHOUT BLASTING OR USING RIPERS.</p> <p>C. MATERIAL REMOVED DURING ROCK EXCAVATION SHALL BE HAULED TO THE UNSUITABLE WASTE LOCATION AS SHOWN IN THE PROJECT PHASING SHEETS, AND SHALL BE INCIDENTAL TO THE BID ITEM. UNSUITABLE MATERIALS SHALL BE INSTALLED WITH COMPACTIVE EFFORT UNDER MOISTURE/DENSITY CONTROL (95% STANDARD PROCTOR).</p> <p>D. REFER TO THE BORROW EXCAVATION BID ITEM FOR ROCK EXCAVATION REPLACEMENT MATERIAL REQUIREMENTS.</p>
28	D-705	LIGHT DRAIN, 2 INCH DIA.
		<p>A. ITEM IS FOR THE INSTALLATION OF 2" PVC PIPE TO DRAIN THE TAXIWAY EDGE LIGHTS, REFER TO P-SHEETS FOR DETAILS.</p> <p>B. INCLUDES ALL FITTING AND CONNECTIONS OF THE DRAIN SYSTEM FROM THE BASE CANS TO THE SUBDRAIN SYSTEM.</p>
31	D-705	SUBDRAIN CLEANOUT
		<p>A. STRUCTURAL PAD FOR SUBDRAIN CLEANOUT SHALL BE INCIDENTAL TO THE BID ITEM. REFER TO DETAIL 01 ON SHEET M.05.</p>
36		TIED CONCRETE BLOCK MAT
		<p>A. BID ITEM IS FOR ALL MATERIALS, EQUIPMENT, AND LABOR TO INSTALL THE STORM SEWER OUTLET PROTECTION.</p> <p>B. REFER TO THE SUPPLEMENTAL SPECIFICATIONS FOR THE MATERIAL AND INSTALLATION REQUIREMENTS OF THIS BID ITEM. REFER TO U-SHEETS FOR LOCATIONS.</p>
37	L-108	NO 8 AWG, 5KV, L-824C CABLE, INSTALLED IN CONDUIT
		<p>A. ITEM IS FOR THE INSTALLATION OF NO. 8 AWG L-824C CABLE IN NEW OR EXISTING CONDUIT.</p> <p>B. L-823 CONNECTOR INSTALLATION AT EACH LIGHT AND MANHOLE IS INCIDENTAL TO THIS ITEM.</p> <p>C. L-823 PRIMARY CABLE CONNECTIONS SHALL BE AMERACE "SUPER KIT", INTEGRO "COMPLETE KIT", OR APPROVED EQUAL.</p>
38	L-108	NO. 6 AWG, BARE SOLID COUNTERPOISE WIRE WITH GROUND RODS AND EXOTHERMIC CONNECTIONS
		<p>A. ITEM IS FOR THE INSTALLATION OF COUNTERPOISE WIRING IN CONDUIT TRENCHES AS SHOWN IN THE P-SHEET DETAILS.</p>
39	L-108	NO. 8 AWG, 5KV L-824 CABLE, TEMPORARY JUMPER CABLE WIRE
		<p>A. ITEM IS FOR CABLE TO BE USED AS TEMPORARY JUMPER CABLE DURING CONSTRUCTION</p> <p>B. SEE J-SHEETS FOR LOCATIONS OF JUMPER CABLE.</p> <p>C. JUMPER CABLE MUST BE NEW CABLE, AND NO SPLICES IN EACH JUMPER CABLE RUN.</p> <p>D. JUMPER CABLE SHALL BE TURNED OVER TO THE AIRPORT UPON COMPLETION OF CONSTRUCTION.</p>
40	L-110	1 INCH HDPE UNIT DUCT FOR AIRFIELD CIRCUITS
		<p>A. THIS BID ITEM SHALL BE USED BETWEEN THE STAKE MOUNTED LIGHT FIXTURES BEGINNING NEAR LIGHTS 13 AND 27 AS SHOWN ON SHEET P.03</p> <p>B. CONTRACTOR HAS THE OPTION TO EITHER PLOW OR TRENCH THE UNIT DUCT IN PLACE.</p>
44	L-110	1 WAY 2 INCH HDPE, DIRECTIONAL BORE
		<p>A. THIS BORE/TRENCHLESS ITEM IS FOR INSTALLATION BENEATH RUNWAY 18/36.</p>
51	L-125	NEW SIGN UNIT FOUNDATION ONLY - 3 MODULE
		<p>A. SIGN NUMBER 4 SHALL INCLUDE THE INSTALLATION OF A NEW FOUNDATION, BASE CAN, PATHWAYS, AND GROUNDING TO ALLOW FOR A FUTURE SIGN INSTALLATION. THE POWER CABLE, ISOLATION TRANSFORMER, AND ACTUAL SIGN UNIT ARE NOT REQUIRED.</p>
52		RELOCATE EXISTING UNLIT SERVICE ROAD SIGN
		<p>A. SALVAGE AND RELOCATE EXISTING UNLIT SIGN ON THE SERVICE ROAD TO THE LOCATION SHOWN ON SHEET K.01. INSTALLATION OF SIGN UNIT IN 5' X 2' X 6" CONCRETE PAD FOUNDATION SHALL BE INCIDENTAL TO THE ITEM.</p>
54		RUNWAY 18 PAPI POWER RELOCATION
		<p>A. THIS LUMP SUM BID ITEM INCLUDES ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL A NEW OPERATIONAL FAA PAPI POWER FEED FROM THE NEW ALLIANT SINGLE PHASE TRANSFORMER TO THE EXISTING PAPI RACK. LUMP SUM BID ITEM INCLUDES BUT IS NOT LIMITED TO EXCAVATION AND BACKFILL, RIGID CONDUIT, CABLE INSTALLATION AND CONNECTIONS, GROUNDING, DUCT MARKERS, SURGE PROTECTION DEVICE SUPPLY AND INSTALLATION, METER AND DISCONNECT REMOVAL AND REINSTALLATION.</p> <p>B. THE INSTALLATION DISTANCE BETWEEN TRANSFORMER AND PAPI RACK IS APPROX. 550 LF. SEE PLAN SHEETS P.03 AND P.10 FOR ADDITIONAL DETAILS.</p> <p>C. COORDINATION WITH FAA RESIDENT ENGINEER AND LOCAL FAA TECH OPERATIONS THROUGHOUT THE INSTALLATION OF THIS BID ITEM.</p>
55	L-125	AIRFIELD ELECTRICAL DEMOLITION AND MISCELLANEOUS
		<p>A. ITEM IS FOR THE REMOVAL AND DISPOSAL OF THE ELECTRICAL ITEMS SHOWN ON SHEET P.02.</p> <p>B. ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED.</p>
56	L-126	ELECTRICAL SPARE PARTS
		<p>A. ITEM IS FOR ELECTRIC SPARE PARTS TO BE PROVIDED AS PART OF THIS PROJECT</p> <p>B. SEE SHEET P.05 AND SPECIFICATION L-126 FOR PART REQUIREMENTS, AND THE SPARE PART ITEMS THAT ARE TO BE INCLUDED AS PART OF THIS BID ITEM.</p>

ESTIMATE REFERENCE INFORMATION (cont.)

ESTIMATE REFERENCE INFORMATION (cont.)

ITEM NO.	ITEM CODE	DESCRIPTION
57 58	F-162 F-162	AOA FENCE REMOVAL AOA FENCE, CHAIN LINK, WITH BARBED WIRE, 96 INCH A. REFER TO PLAN SHEETS FOR FENCE REMOVAL AND NEW FENCE LOCATIONS. B. REFER TO PLAN SHEET J.03 FOR FENCE DETAILS C. INCIDENTAL TO THE ITEMS IS THE REMOVAL AND SALVAGE OF EXISTING SIGNS ON THE EXISTING FENCE AND THE REINSTALLATION ON THE PROPOSED FENCE. CONTRACTOR SHALL CONSULT WITH ENGINEER ON FENCE SIGN LOCATIONS PRIOR TO REINSTALLATION.
59 60	T-901 T-901	SEEDING AND FERTILIZER, PERMANENT SEEDING AND FERTILIZER, TEMPORARY A. CONTRACTOR TO COORDINATE 2023 PERMANENT SEEDING LIMITS WITH ENGINEER PRIOR TO INSTALLATION. TEMPORARY SEEDING SHALL BE USED AS NECESSARY TO COMPLY WITH THE SWPPP OR IN 2023 CONSTRUCTION AREAS THAT WILL BE RE-DISTURBED IN 2024.
62	T-905	TOPSOIL - STRIP, STOCKPILE, AND RESPREAD A. THIS QUANTITY WAS CALCULATED ASSUMING A 4-INCH STRIP AND A 2-INCH RESPREAD (1.45 SHRINK FACTOR) ALONG DISTURBED AREAS. B. CONTRACTOR TO COORDINATE 2023 RESPREAD LIMITS WITH ENGINEER PRIOR TO INSTALLATION. CONTRACTOR SHALL STOCKPILE EXCESS 2023 TOPSOIL MATERIAL FOR FINAL RESPREAD IN 2024. STOCKPILED TOPSOIL MATERIAL LOST IN EXCESS OF THE 1.45 SHRINKAGE FACTOR SHALL BE REPLACED (FURNISHED) BY THE CONTRACTOR AT NO COST TO THE OWNER TO ACHIEVE A MINIMUM FINAL TOPSOIL THICKNESS OF 2 INCHES IN ALL AREAS.
63	T-908	HYDROMULCH A. THE CONTRACTOR SHALL HYDROMULCH ALL AREAS DESIGNATED FOR PERMANENT SEEDING AS SHOWN ON THE U-SHEETS, AND ANY OTHER LOCATIONS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES. MULCHING IS NOT REQUIRED FOR TEMPORARY SEEDING. B. THE USE OF STRAW INSIDE THE AOA IS PROHIBITED.
64	C-102	HYDROMULCH - MECHANICALLY BONDED FIBER MATRIX (MBFM) A. THIS ITEM SHALL BE INSTALLED AT PROPOSED DITCH BOTTOMS AND ON STEEPER SLOPES AS SHOWN ON THE U-SHEETS. B. ITEM SHALL MEET THE REQUIREMENTS OF IOWA SUDAS SPECIFICATION 9040, SECTION 2.16.B.3. MULCHING MATERIAL TO BE USED FOR THE MBFM SHALL MEET THE REQUIREMENTS OF IOWA SUDAS SPECIFICATIONS 9010, SECTION 2.07.B.3. INSTALLATION AND APPLICATION RATES SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.
65	C-100	CONTRACTOR QUALITY CONTROL PROGRAM A. THIS ITEM INCLUDES BUT IS NOT LIMITED TO ALL COSTS ASSOCIATED WITH DEVELOPING AND IMPLEMENTING A QUALITY CONTROL PROGRAM THAT DETAILS METHODS AND PROCEDURES THAT WILL BE TAKEN TO ASSURE THAT ALL MATERIAL, AND COMPLETED CONSTRUCTION, INCLUDING THAT WHICH IS PERFORMED BY SUBCONTRACTORS REQUIRED BY THIS CONTRACT CONFORM TO THE CONTRACT PLANS, TECHNICAL SPECIFICATIONS, AND APPLICABLE STATE AND FEDERAL REQUIREMENTS. B. REFER TO SPECIFICATION C-100 FOR PROGRAM REQUIREMENTS AND EXECUTION. THE ENGINEER INTENDS TO USE TERRACON FOR QUALITY ASSURANCE TESTING. THE CONTRACTOR SHALL PREPARE TO EMPLOY THIRD PARTY TESTING FOR QUALITY CONTROL THROUGH A DIFFERENT QUALIFIED TESTING FIRM THAN TERRACON.
66	C-102	STORM WATER POLLUTION PREVENTION PLAN (SWPPP), PREPARATION AND MANAGEMENT A. THE UNIT PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO MAINTAIN THE EROSION CONTROL PLAN DURING CONSTRUCTION. B. THIS ITEM INCLUDES PLAN PREPARATION, NPDES GENERAL PERMIT #2, MANAGEMENT, INSPECTIONS, MAINTENANCE OF SILT FENCE AND OTHER CONTROL MEASURES, AND ALL ADDITIONAL POLLUTION CONTROL MEASURES THAT WILL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR BASED ON THE CONTRACTOR'S STORM WATER POLLUTION PREVENTION PLAN. C. THE CONTRACTOR SHALL SUBMIT A DETAILED STORM WATER POLLUTION PLAN FOR REVIEW BY THE ENGINEER, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. D. PARTIAL PAYMENT FOR THIS ITEM SHALL BE BASED ON THE ESTIMATED PERCENTAGE OF WORK COMPLETED AT THE TIME OF SUBMITTAL OF THE PAY APPLICATION. E. FINAL PAYMENT WILL BE MADE AFTER ALL WORK ON THE PROJECT REQUIRED BY THE CONTRACT HAS BEEN COMPLETED, 90% OR GREATER VEGETATED COVERAGE HAS BEEN ACHIEVED, AND NOTICE OF DISCONTINUATION HAS BEEN FILED.
69 70	C-105 C-105	MOBILIZATION AND MISCELLANEOUS, 2023 CONSTRUCTION MOBILIZATION AND MISCELLANEOUS, 2024 CONSTRUCTION A. REFER TO C-105 SPECIFICATION FOR MOBILIZATION AND MISCELLANEOUS BID ITEM REQUIREMENTS. B. MOBILIZATION IS LIMITED TO 10% OF THE TOTAL COST OF THE PROJECT, REFER TO SECTION C-105 FOR PAYMENT SCHEDULE.
71	C-105	TRAFFIC CONTROL AND SECURITY A. REFER TO C-105 SPECIFICATION FOR TRAFFIC CONTROL AND SECURITY BID ITEM REQUIREMENTS. B. BID ITEM INCLUDE COMPENSATION FOR ALL SECURITY ITEMS FOR 2023 AND 2024 CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO EMPLOYEE BADGING, BACKGROUND CHECKS, GATE GUARDS, ETC. THE AIRPORT BADGING FEE IS \$40 PER INDIVIDUAL. C. ALL TRAFFIC CONTROL AS SHOWN ON THE J-SHEETS SHALL BE INCLUDED WITH THIS ITEM. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, BARRICADES, LIGHTED RUNWAY CLOSURE "X's", SAFETY FENCE, EDGE LIGHT COVERS, MAINTENANCE OF ALL TRAFFIC CONTROL, AMONG OTHERS. D. REFER TO SECTION C-105 FOR PAYMENT SCHEDULE.
72	C-105	CONSTRUCTION ACCESS A. REFER TO C-105 SPECIFICATION FOR CONSTRUCTION ACCESS BID ITEM REQUIREMENTS. B. ITEM INCLUDES MODIFICATIONS TO PROJECT STAGING AREA AS DEEMED NECESSARY BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ITEM ALSO INCLUDES ANY FINAL RESTORATION OR CLEAN-UP OF THE STAGING AREA AS DEEMED NECESSARY BY THE CONTRACTOR/OWNER UPON COMPLETION OF CONSTRUCTION.
73	GP-50	CONSTRUCTION SURVEY A. REFER TO GENERAL PROVISIONS 50-07 FOR REQUIREMENTS FOR THIS ITEM. CONTRACTOR SHALL NOTE GRADE TOLERANCES WITHIN THE INDIVIDUAL SPECIFICATION SECTIONS, WITH PARTICULAR ATTENTION TO THOSE INCLUDED IN THE PAVEMENT SECTION. GRAE CHECKS WILL BE PERFORMED BY THE ENGINEER TO VERIFY CONTRACTOR'S CONSTRUCTION IS WITHIN SAID TOLERANCES LISTED IN THE INDIVIDUAL TECHNICAL SPECIFICATIONS.
74	C-105	ENGINEER/RPR FIELD OFFICE A. THIS ITEM SHALL BE USED TO ESTABLISH A UNIT PRICE FOR CONTRACTOR PROVIDED ENGINEER/RPR FIELD OFFICE. ESTIMATED FIELD OFFICE DURATION IS FROM SEPTEMBER 2023 THRU AUGUST 2024. THIS USE OF THIS BID ITEM SHALL BE AT THE DIRECTION OF THE ENGINEER. B. REFER TO THE C-105 SPECIFICATION FOR FIELD OFFICE REQUIREMENTS. ADDITIONAL TO THESE REQUIREMENTS IS CONTRACTOR PROVIDED MOBILE HOT SPOT FOR INTERNET ACCESS.

TABULATION OF EXISTING MATERIAL AVAILABLE FOR SALVAGE FOR PROPOSED GRAVEL/HMA MILLINGS AIRPORT SERVICE ROAD

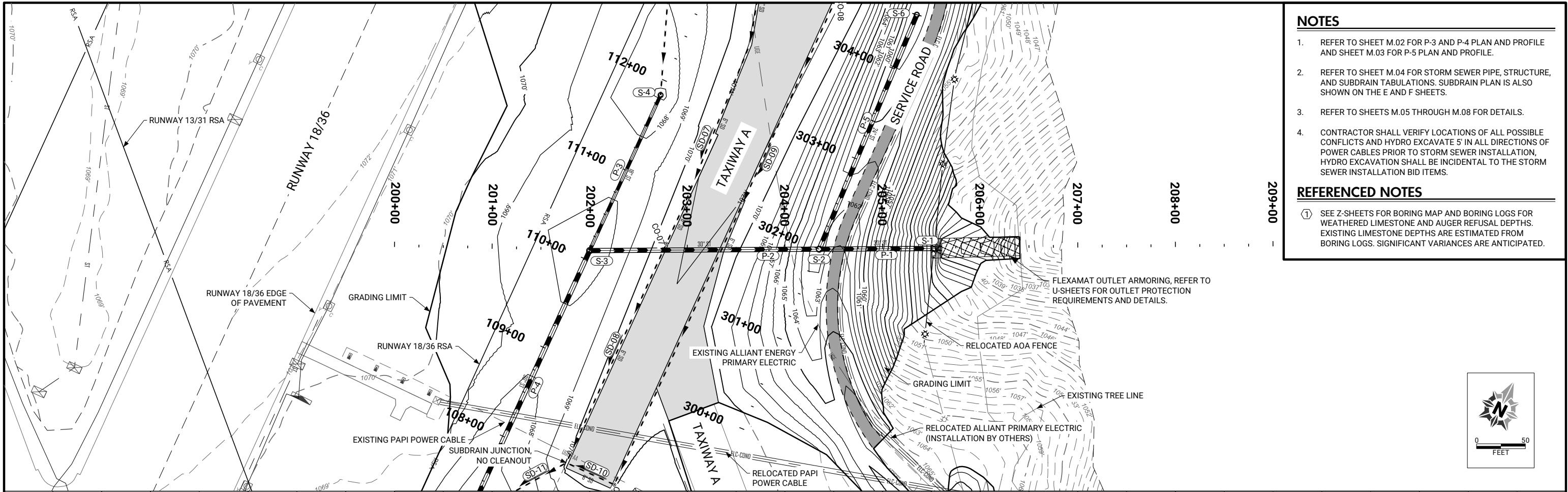
TABULATION OF EXISTING GRAVEL/HAM MILLINGS MATERIAL AVAILABLE FOR SALVAGE FROM EXISTING AIRPORT SERVICE ROAD		
LOCATION	EXISTING GRAVEL/HMA MILLINGS (CY)	COMMENTS
EXISTING AIRPORT SERVICE ROAD N: 3625070.15 E: 5674268.04 TO N: 3624276.71 E: 5674693.41	166 (4-5 INCH DEPTH)	CALCULATED USING AN AVERAGE DEPTH OF 4.5 INCHES
TOTAL GRAVEL/HMA MILLINGS MATERIAL AVAILABLE FOR SALVAGE	166 CY	

TABULATION OF PROPOSED GRAVEL/HMA MILLINGS AIRPORT SERVICE ROAD

TABULATION OF GRAVEL/HMA MILLING MATERIAL REQUIRED FOR THE PROPOSED AIRPORT SERVICE ROAD		
LOCATION	GRAVEL/HMA MILLINGS REQUIRED 8 INCH DEPTH (CY)	COMMENTS
AIRPORT SERVICE ROAD STA. 100+50.34 TO STA. 110+14.31	289	
TOTAL GRAVEL/HMA MILLINGS REQUIRED FOR AIRPORT SERVICE ROAD	289 CY	

NOTES

1. PROPOSED AIRPORT SERVICE ROAD SHALL UTILIZE ALL SALVAGED MATERIAL FROM THE EXISTING SERVICE ROAD. HMA MILLINGS FROM TAXIWAY A PAVEMENT REMOVALS SHALL BE UTILIZED TO PROVIDE THE REMAINING MATERIAL REQUIRED.

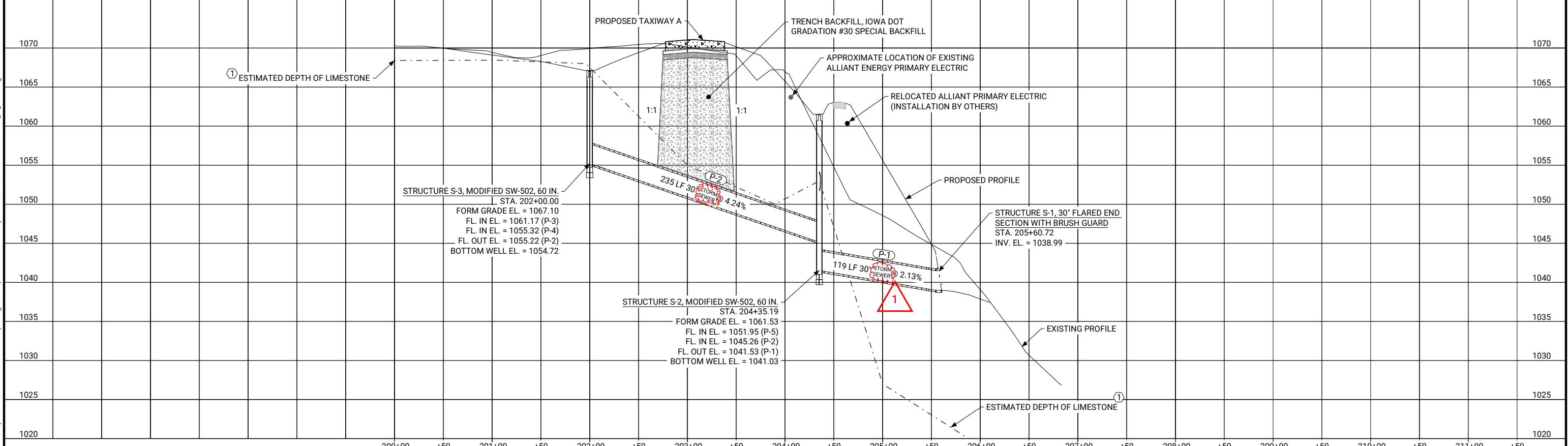


NOTES

- REFER TO SHEET M.02 FOR P-3 AND P-4 PLAN AND PROFILE AND SHEET M.03 FOR P-5 PLAN AND PROFILE.
- REFER TO SHEET M.04 FOR STORM SEWER PIPE, STRUCTURE, AND SUBDRAIN TABULATIONS. SUBDRAIN PLAN IS ALSO SHOWN ON THE E AND F SHEETS.
- REFER TO SHEETS M.05 THROUGH M.08 FOR DETAILS.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL POSSIBLE CONFLICTS AND HYDRO EXCAVATE⁵ IN ALL DIRECTIONS OF POWER CABLES PRIOR TO STORM SEWER INSTALLATION, HYDRO EXCAVATION SHALL BE INCIDENTAL TO THE STORM SEWER INSTALLATION BID ITEMS.

REFERENCED NOTES

① SEE Z-SHEETS FOR BORING MAP AND BORING LOGS FOR WEATHERED LIMESTONE AND AUGER REFUSAL DEPTHS. EXISTING LIMESTONE DEPTHS ARE ESTIMATED FROM BORING LOGS. SIGNIFICANT VARIANCES ARE ANTICIPATED.



CLIENT PROJECT NO: 3-19-0028-078 FOTH PROJECT NO: 23D022.01
 DESIGNED BY: MDH CHECKED BY: RPT DRAWN BY: MDH
 LETTING DATE: 4/19/2023 CAD DATE: 3/24/2023 7:24:40 AM
 CAD FILE: c:\pw\workdir\pw_le\fdh_mdh1\0629859\23D022.01_M_Sheets.dgn

NO DATE BY REVISION DESCRIPTION
 1 4/13/2023 RPT ADDENDUM 1



RELOCATE TAXIWAY A - PHASE 1 CONSTRUCTION
 DUBUQUE, IOWA

STORM SEWER PLAN & PROFILE
 STORM SEWER OUTLET

STREET NO.
M.01

STORM STRUCTURES						STORM SEWER PIPE											
STRUCTURE NUMBER	LOCATION (STATION)	TYPE OR STANDARD ROAD PLAN	FORM GRADE (ELEV.)	BOTTOM WELL (ELEV.)	NOTES	PIPE NUMBER	STRUCTURE NUMBER		RCP CLASS 'D'	PIPE DIAMETER (INCHES)	LENGTH OF LINE (FEET)	SLOPE %	FLOW LINES			PIPE PROFILE SHEET NO.	NOTES
							FROM	TO					INLET ELEVATION	OUTLET ELEVATION	OTHER ELEVATION		
S-1	205+60.72	30" FLARED END SECTION		1038.99		P-1	S-2	S-1	3,750	30	119	2.13	1041.53	1038.99		M.01	GASKETED PIPE, CONNECTED PIPE JOINTS
S-2	204.35.19	MODIFIED SW-502, 60 IN.	1061.53	1041.53	SW-604 TYPE 6 CASTING	P-2	S-3	S-2	3,750	30	235	4.24	1055.22	1045.26		M.01	GASKETED PIPE
S-3	202+00.00	MODIFIED SW-502, 60 IN.	1067.10	1054.72	SW-604 TYPE 6 CASTING	P-3	S-4	S-3	2,000	18	175	1	1062.92	1061.17		M.02	
S-4	111+84.74	MODIFIED SW-502, 48 IN.	1066.92	1062.42	SW-604 TYPE 6 CASTING	P-4	S-5	S-3	2,000	30	300	0.5	1056.82	1055.32		M.02	
S-5	107+09.74	MODIFIED SW-502, 60 IN.	1066.01	1056.82	SW-604 TYPE 6 CASTING	P-5	S-6	S-2	2,000	24	260	0.5	1053.25	1051.95		M.03	
S-6	304+59.98	MODIFIED SW-502, 48 IN.	1058.00	1052.75	SW-604 TYPE 6 CASTING	P-6		S-5	2,000	24	16	0.5		1057.22		M.02	CAP END OF PIPE SECTION WITH P-610 STRUCTURAL CONCRETE
						P-7		S-5	3,750	18	16	0.5		1057.62			CAP END OF PIPE SECTION WITH P-610 STRUCTURAL CONCRETE

SUBDRAIN										
NUMBER	TYPE	LENGTH (FT.)	BEGINNING FLOWLINE ELEVATION	BEGINNING SURFACE ELEVATION	ENDING FLOWLINE ELEVATION	ENDING SURFACE ELEVATION	SLOPE (%)	BEGINNING CLEANOUT	ENDING CLEANOUT	NOTES
SD-01	6" Ø PERF.	157	1068.889	1071.889	1066.140	1070.791	1.751	CO-01	CO-03	
SD-02	6" Ø PERF.	235	1067.315	1070.315	1066.140	1070.791	0.500	CO-02	CO-03	
SD-03	6" Ø NON-PERF.	61	1066.140	1070.791	1065.835	1070.233	0.500	CO-03	-	ENDS AT SUBDRAIN JUNCTION
SD-04	6" Ø PERF.	159	1068.900	1071.900	1066.140	1070.233	1.736	CO-04	-	ENDS AT SUBDRAIN JUNCTION
SD-05	6" Ø PERF.	113	1067.139	1070.139	1066.140	1070.233	0.884	CO-05	-	ENDS AT SUBDRAIN JUNCTION
SD-06	6" Ø NON-PERF.	200	1066.140	1070.233	1064.920	1066.920	0.610	-	-	CONNECT TO STRUCTURE S-4
SD-07	6" Ø PERF.	302	1067.013	1070.013	1065.503	1070.604	0.500	CO-06	CO-07	
SD-08	6" Ø PERF.	249	1065.503	1070.604	1064.258	1070.030	0.500	CO-07	-	ENDS AT SUBDRAIN JUNCTION
SD-09	6" Ø PERF.	548	1068.391	1071.391	1065.651	1070.142	0.500	CO-08	CO-09	
SD-10	6" Ø NON-PERF.	54	1065.651	1070.142	1064.273	1070.036	2.550	CO-09	-	ENDS AT SUBDRAIN JUNCTION
SD-11	6" Ø NON-PERF.	115	1064.273	1070.036	1063.698	1066.010	0.500	-	-	CONNECT TO STRUCTURE S-5

SUBDRAIN CLEAN OUTS		
NUMBER	STATION	OFFSET
CO-01	611+60.67	27.00 LT
CO-02	416+88.46	26.67 LT
CO-03	613+17.79	27.00 LT
CO-04	611+60.52	49.71 RT
CO-05	416+91.66	55.64 RT
CO-06	416+95.53	54.61 RT
CO-07	419.94.63	27.00 RT
CO-08	416+93.24	27.00 LT
CO-09	422+41.02	27.00 LT

TOTAL SCHEDULE		
ITEM	QUANTITY	
30" FLARED END SECTION	1 EA	
MODIFIED SW-502, 48 IN.	2 EA	
MODIFIED SW-502, 60 IN.	3 EA	
30" CLASS V RCP PIPE	354 LF	
30" CLASS III RCP PIPE	300 LF	
24" CLASS III RCP PIPE	276 LF	
18" CLASS V RCP PIPE	16 LF	
18" CLASS III RCP PIPE	175 LF	
6" Ø PERFORATED SUBDRAIN	1,760 LF	
6" Ø NON-PERFORATED SUBDRAIN	430 LF	
SUBDRAIN CLEANOUT	9 EA	

STORM STRUCTURE NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING STRUCTURE INFORMATION PRIOR TO INSTALLATION OF STORM SEWER. CONTACT ENGINEER WITH ANY DISCREPANCIES THAT WILL CHANGE PIPE SLOPES.
2. ALL STORM STRUCTURES SHALL BE INSTALLED WITH STEPS IN ACCORDANCE WITH SPECIFICATION D.751.

SUBDRAIN NOTES

1. ALL SUBDRAIN CONNECTIONS TO NEW STORM STRUCTURES SHALL BE INCIDENTAL TO THE SUBDRAIN INSTALLATION.
2. ALL SUBDRAIN CLEANOUT MOW PADS SHALL BE INCIDENTAL TO THE SUBDRAIN CLEANOUT BID ITEM.

STORM SEWER NOTES

1. ALL PIPES SHALL BE CLASS 3 NON-GASKETED, OR EQUIVALENT, UNLESS NOTED OTHERWISE.
2. ACCEPTABLE MATERIALS INCLUDE REINFORCED CONCRETE PIPE AND POLYPROPYLENE DUAL WALL PIPE PER ASTM F2881. IF POLYPROPYLENE DUAL WALL PIPE IS SELECTED BY THE CONTRACTOR THE PIPE SHALL MEET OR EXCEED THE DESIGN REQUIREMENTS OF THE RCP STORM SEWER PIPE AS SHOWN. POLYPROPYLENE DUAL WALL PIPE CONNECTIONS SHALL BE A MANUFACTURED PRODUCT SPECIFICALLY FOR CONNECTION TO D-751 CONCRETE STRUCTURES AND RCP FLARED END SECTIONS.