

June 28, 2017

ADDENDUM NO. 2

FOR

Passenger Security Checkpoint Expansion

CHICAGO MIDWAY INTERNATIONAL AIRPORT

SPECIFICATION NO. 461340

For which Bids are due in the office of the Chief Procurement Officer, Department of Procurement Services, Bid & Bond Room 103, City Hall, 121 N. LaSalle Street, Chicago, IL 60602 at **11:00 a.m., Central Time on June 29, 2017.**

The following additions and revisions are incorporated into the above-referenced Specification (the "Contract Documents") as noted. All other provisions and requirements as originally set forth, except as amended by previous addenda, remain in full force and are binding. Any additional work required by this Addendum shall conform to the applicable provisions of the original Contract Documents.

In accordance with Paragraph 13 of the "Requirements for Bidding and Instructions for Bidders" in Part One of Three of the Specifications, the deadline for questions has passed. No additional questions will be answered prior to bid opening except as the Chief Procurement Officer, in her sole discretion, deems to be in the best interest of the City.

BIDDER MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE PROPOSAL EXECUTION PAGE.

SECTION 1. NOTICE OF REVISIONS/CHANGES/CLARIFICATIONS

1.	Bid opening has been extended to <u>July 11, 2017, 11:00am Central Time</u>
----	---

SECTION 2. DRAWINGS

Drawing Number Volume 1	Change
A-607	Notation added to further define type and quantities of column covers in response to RFI.
A-608	Notation removed to clarify design intent of column covers.
A-609	Notation removed to clarify design intent of column covers.
A-628	Drawing sheet re-printed to include missing line work.
A-659	Notation revised to clarify design intent of column covers.
E-107	Notation added to describe requirements for area of rescue communicators.

SECTION 3. INSTRUCTIONS AND EXECUTION DOCUMENTS

Section Number	Change
Part 2	Replace Book Part Two of Three "General Conditions" in its entirety

SECTION 4. TECHNICAL SPECIFICATIONS

Section Number	Change
00 00 10	Revise Table of Contents to include section 28 26 09 Rescue Assistance Systems
07 42 13.23	Metal Composite Material Wall Panels: Added additional fabricators to Article 2.02, A.2.
07 42 93	Soffit Panels: Added additional manufacturers to Article 2.02
07 62 00	Sheet Metal Flashing and Trim: Added additional manufacturers to Article 2.05
07 84 13	Penetration Firestopping: Added Article 1.06 Quality Assurance and 3.05 Field Quality Control requirements
07 84 43	Joint Firestopping: Added Article 1.06 Quality Assurance and 3.05 Field Quality Control requirements
08 11 13	Hollow Metal Doors and Frames: Added additional manufacturers to Article 2.01
08 71 00	Door Hardware: Added additional manufacturers to article 2.05, 2.09, 2.10
28 26 09	Insert new section 28 26 09 Rescue Assistance Systems in its entirety

SECTION 5. RESPONSES TO QUESTIONS/REQUESTS FOR CLARIFICATION

The following questions and requests for clarification were submitted in accordance with the instructions provided in the Contract Documents. The City's response (shown in ***bold italics***) follows each question or request for clarification in the table below:

Question 1:	Architectural Metals North America proposed AM2000 Rainscreen system meets or exceeds all of the performance requirements of the specification 07 42 13.23 Metal Composite Material Wall Panels. Please include Architectural Metals North America as a Fabricator
Response	<i>Architectural Metals North America has been added as a fabricator in 07 42 13.23, 2.02, A., 2..</i>
Question 2:	Specification 31 63 33 – Drilled Micropiles – The specification requires mill test reports for the steel piling components to be submitted. Will mill secondary steel of domestic origin be acceptable?
Response	<i>No, it's not acceptable.</i>
Question 3:	Please see the attached documentation to provide references / qualifications in order for Metal Erectors, Inc. to be added as an approved fabricator of the Aluminum Composite Metal Rain Screen Panel System, Spec Section 074213.23.
Response	<i>Metal Erectors, Inc. has been added as a fabricator in 07 42 13.23, 2.02, A., 2..</i>
Question 4:	Specification Section 05 58 19 Heating & Cooling Unit Covers; Section 2.01.B: It states that the Heating & Cooling unit enclosures shall withstand the effects of gravity loads and the following loads and stresses without exceeding the allowable design working stress of materials involved and without exhibiting permanent deformation in any components: Live Loads: 100 lb/SF or a concentrated load of 300 lb/SF on an area of 4 sq. in., whichever produces the greater stress. Please advise if we do in fact need to include the extra unistrut framing required to meet this live load requirement? There is a considerable cost increase for this.

Response	<i>Specification section 05 58 19 is to be followed.</i>
Question 5:	<p>On A-658 and A-659, columns 1A, 1B, 2B, and 2C are noted as having terrazzo base</p> <ul style="list-style-type: none"> • For estimating purposes, can you please provide a quantity of these types of columns
Response	<i>Sheets A-607, A-608, & A-609 call out locations and types of column covers. Refer to revised A-607, A-608 & A-609 for clarifications.</i>
Question 6:	<p>On A-607, A-608, and A-609 there is a note that reads as follows: "Install new terrazzo base to existing GFRG column enclosures. New terrazzo base to match existing terrazzo base heights. General Contractor to repair and patch GFRG or other enclosures as needed."</p> <ul style="list-style-type: none"> • For estimating purposes, can you please provide a quantity of these types of columns to receive new Terrazzo base
Response	<i>General note has been removed for clarification. Sheets A-607, A-608 call out locations and types of column covers. Refer to revised A-607, A-608 for additional clarifications.</i>
Question 7:	<p>Drawing C-104 indicates that we are to remove and re-route 428 LF of fiber optic conduit which does not correspond to previous RFI response which was to remove and re-route conduit and cable. Drawing C-120 shows installing new 8" PVC conduit for the re-routed fiber optic line but makes no mention of cable, which according to previous RFI was supposed to be included in the scope of work. Please confirm new cable is to be included in the scope of work, and if so, what size, type and number of cables, including splicing and termination locations.</p>
Response	<i>Relocation of the fiber optic line includes new cabling as well as relocating the two existing manholes and existing concrete ductbank as shown on Sheet C-120. Station and offsets are provided on Sheet C-120 for the proposed locations of the relocated electrical manholes. As-built information on the existing fiber optic line indicates it is a 2-3" PVC concrete encased ductbank with 4-#6 cables and 1-#8 ground; the 2nd duct is a spare. As with all other existing utilities within the work limits, the contractor must field verify the utilities' location and contents and provide this information to the Commissioner for review prior to beginning any work.</i>
Question 8:	<p>Drawing AP-211 Note 3 addresses the MOT with regard to the Bridge Superstructure work during phases 1A, 1B, and 2. It states "if daytime work is desired the contractor must coordinate with..." Daytime work is desired to install only (no truck traffic/deliveries) the Curtainwall and Roofing behind temporary barrier wall with crane, NOT over live traffic, in the Cicero Avenue ROW. Can this work be completed during the daytime?</p>
Response	<i>Bridge Substructure work will be allowed within the Cicero Ave ROW during daytime hours provided that the contractor stays within the limits of the lane closures shown on Sheets AP-211. Contractor must coordinate scheduling and construction activities with the Commissioner prior to commencement of work. Also, as stated in Note 11 on Sheet AP-200, the maximum equipment height is 160-feet.</i>
Question 9:	<p>Please reference bid plan sheet C-104 notes 7 & 8. Required scope as described consists of removing cable and conduit for lighting circuit and the relocation of fiber optical conduit. The fiber re-route is shown on bid plan sheet C-120. Are there any additional details pertaining to this scope of work available, such as size of cable, number of cables, etc.?</p>
Response	<i>In addition, as-built information for "Roadway Lighting Conduit" shown on Sheet C-102 UTILITY SURVEY indicates this is a Direct Earth Buried (DEB) 3" PVC conduit with 2-#6 cables and 1-#8 ground. As with all other existing utilities within the work limits, the contractor must field verify the utilities' location and contents and provide this information to the Commissioner for review prior to beginning any work.</i>

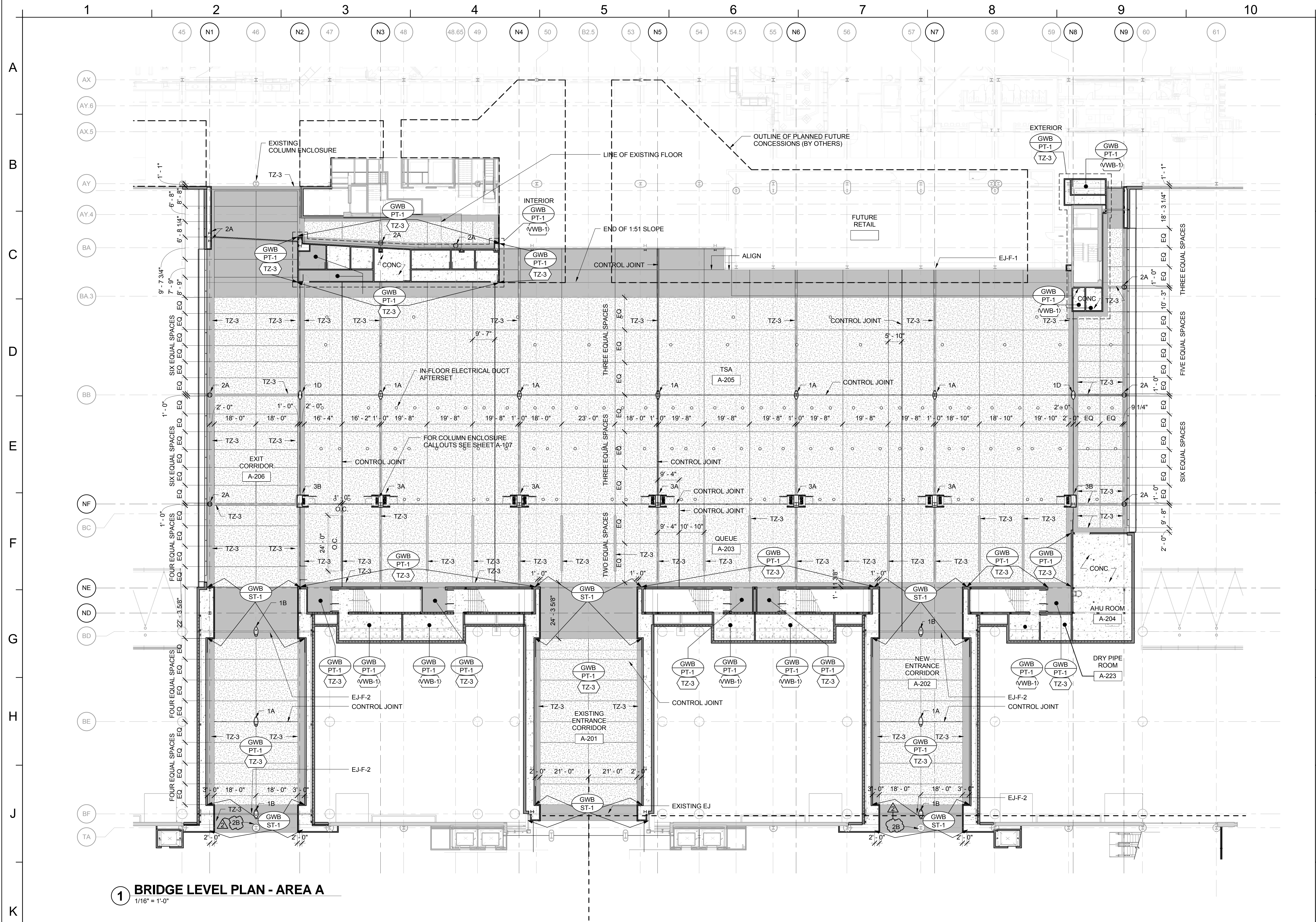
Question 10:	Specification 31 63 33 – Drilled Micropiles – The specification requires mill test reports for the steel piling components to be submitted. Will mill secondary steel of domestic origin be acceptable?
Response	<i>No, secondary steel is not acceptable. Specification requirements must be followed.</i>
Question 11:	The first time this project was bid, temporary concrete barriers were to be used for the pier work in Cicero Ave. The drawings now issued for bid depict the use of traffic control barrels; reference drawings AP 211-AP 212. Will the Contractor be allowed to use the temporary concrete barrier to protect the open excavations, the workers and equipment from traffic?
Response	<i>If the Contractor chooses to use temporary concrete barriers (TCB), TCB must be utilized and installed per the IDOT Highway Standards, IDOT District 1 Standards, and the IDOT Safety Engineering Policy Memo 4-15. Lane closures, including number of lanes, durations, and hours, are limited to those shown in the plans and specifications. If TCBs are used, all blunt ends must be protected with impact attenuators. The contractor will be responsible for maintaining access to the worksite with required access points through the barrier as approved by the CDA and IDOT. There will be no additional compensation for placement, replacement, maintenance, relocation, and removal of temporary concrete barriers and associated appurtenances including the required attenuators. Additionally, the contractor will be responsible to repair any pavements damaged in conjunction with the placement of TCB.</i>
Question 12:	Plumbing Detail 1/P601 shows a dielectric fitting at the cast iron down spout to hub and spigot cast iron underground piping. Please confirm if dielectric fitting is required.
Response	<i>The piping in question is cast iron to cast iron. No dielectric fitting is required.</i>
Question 13:	Upon reviewing the plans it does not appear that there is a specification for the Area Rescue Product. I was able to locate signage for the Area Rescue. Is there a specification?
Response	<i>See revised drawings sheet E-107 & Specification section 28 26 09 for information regarding area of rescue communicators.</i>

In accordance with Section 13 of the “Requirements for Bidding and Instructions for Bidders” in Part One of Three: Interpretation of Contract Documents, the deadline for questions has passed. No additional questions will be answered prior to bid opening except as the Chief Procurement Officer, in her sole discretion, deems to be in the best interest of the City.

END OF ADDENDUM NO. 2

CITY OF CHICAGO
DEPARTMENT OF PROCUREMENT SERVICES

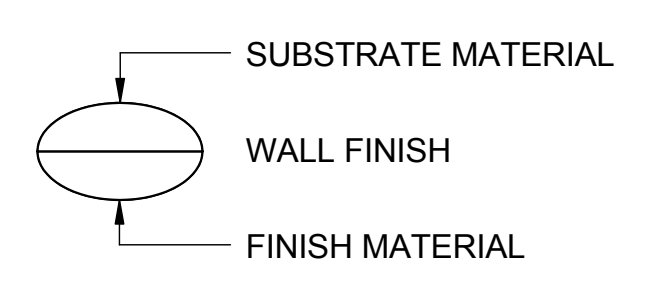
JAMIE L. RHEE
CHIEF PROCUREMENT OFFICER



1 BRIDGE LEVEL PLAN - AREA A
1/16" = 1'-0"

FINISH SYMBOL LEGEND

TZ-1	TZ-4
TZ-2	SC-1
TZ-3	EXISTING TO REMAIN



BASE FINISH
GL-1 GLAZING TAG

GENERAL NOTES - FINISH PLANS

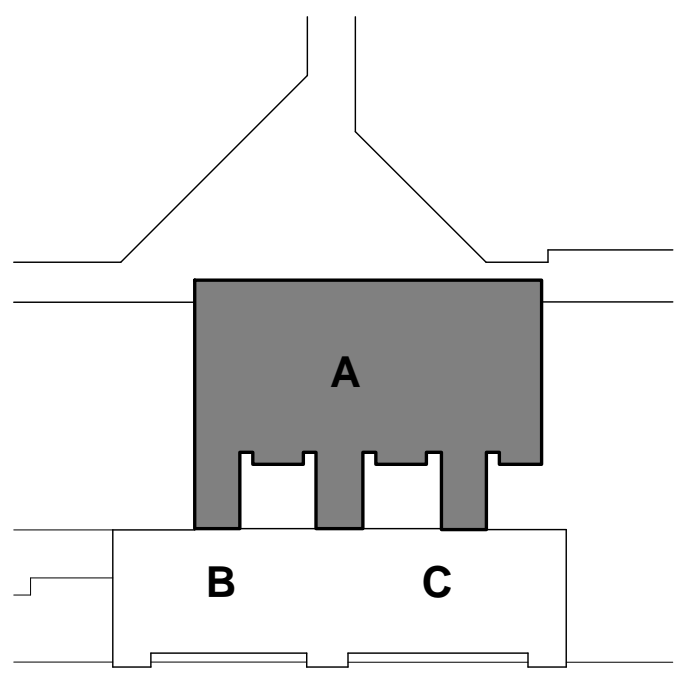
- PRIME AND PAINT ALL NEW GWB WALLS
- ALL WALLS SHALL RECEIVE SCHEDULED / NOTED FINISH IN ALL EXPOSED AREAS AND ON ALL EXPOSED SURFACES EXTENDED TO MIN. 4" ABOVE FINISHED CEILING U.N.O.
- TRANSITION STRIPS REQUIRED AT ALL CHANGES OF MATERIAL

CHICAGO DEPARTMENT OF AVIATION
MIDWAY INTERNATIONAL AIRPORT
CITY OF CHICAGO
5700 S. Cicero
Chicago, IL 60638
MAYOR RAHM EMANUEL
COMMISSIONER GINGER S. EVANS

MARK M. STROMBERG
001-017758
EXPIRES: 11/30/2018

MULLER+MULLER
700 N. Sangamon St.
Chicago, IL 60642
Telephone: 312.432.4180

JACOBS
525 W. Monroe Suite 200
Chicago, Illinois 60661
Telephone: 312.251.3000
db|HMS
303 W. Erie St. #510
Chicago, IL 60654
Telephone: 312.915.0557



KEY PLAN

1	8/1/2017	ISSUED FOR BID
2	8/23/2017	ADDENDUM 2
MARK	DATE	ISSUANCE

PROJECT NAME:
MIDWAY AIRPORT PASSENGER SECURITY CHECKPOINT EXPANSION

DESIGNED: D.S. DRAWN: G.A.R. CHECKED: K.Z.

ISSUE: **ISSUED FOR ADDENDUM 2**

PROJECT NO.: M9185.12
DATE: 8/23/2017

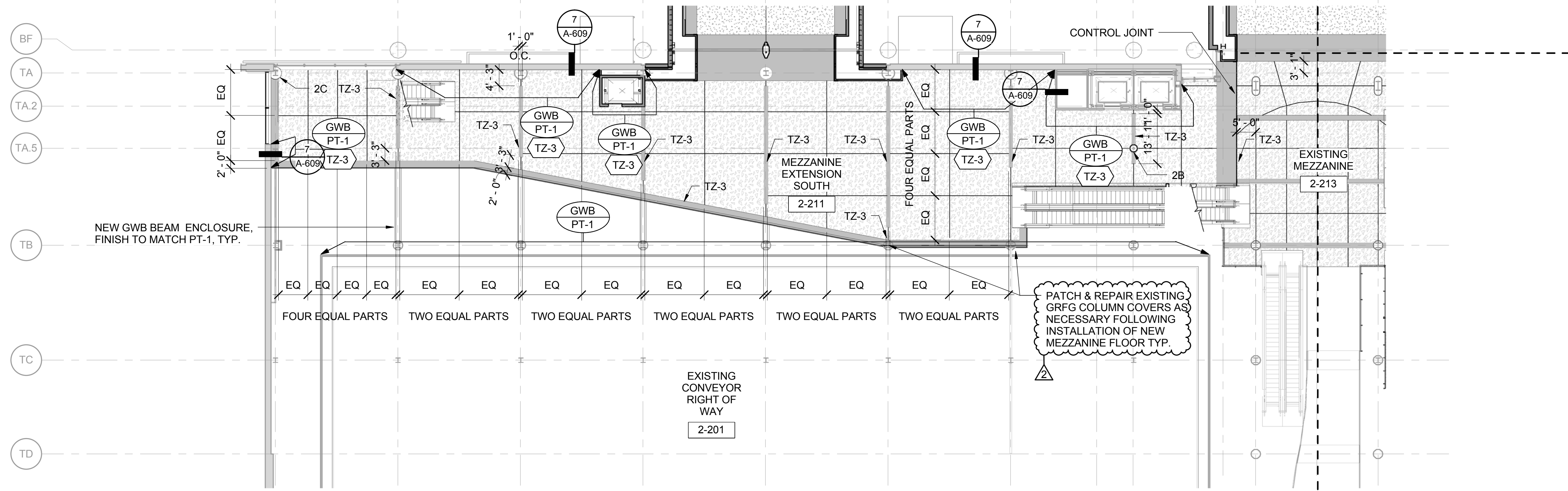
SHEET TITLE:
BRIDGE LEVEL FINISH FLOOR PLAN - AREA A

REVISION SHEET NO.

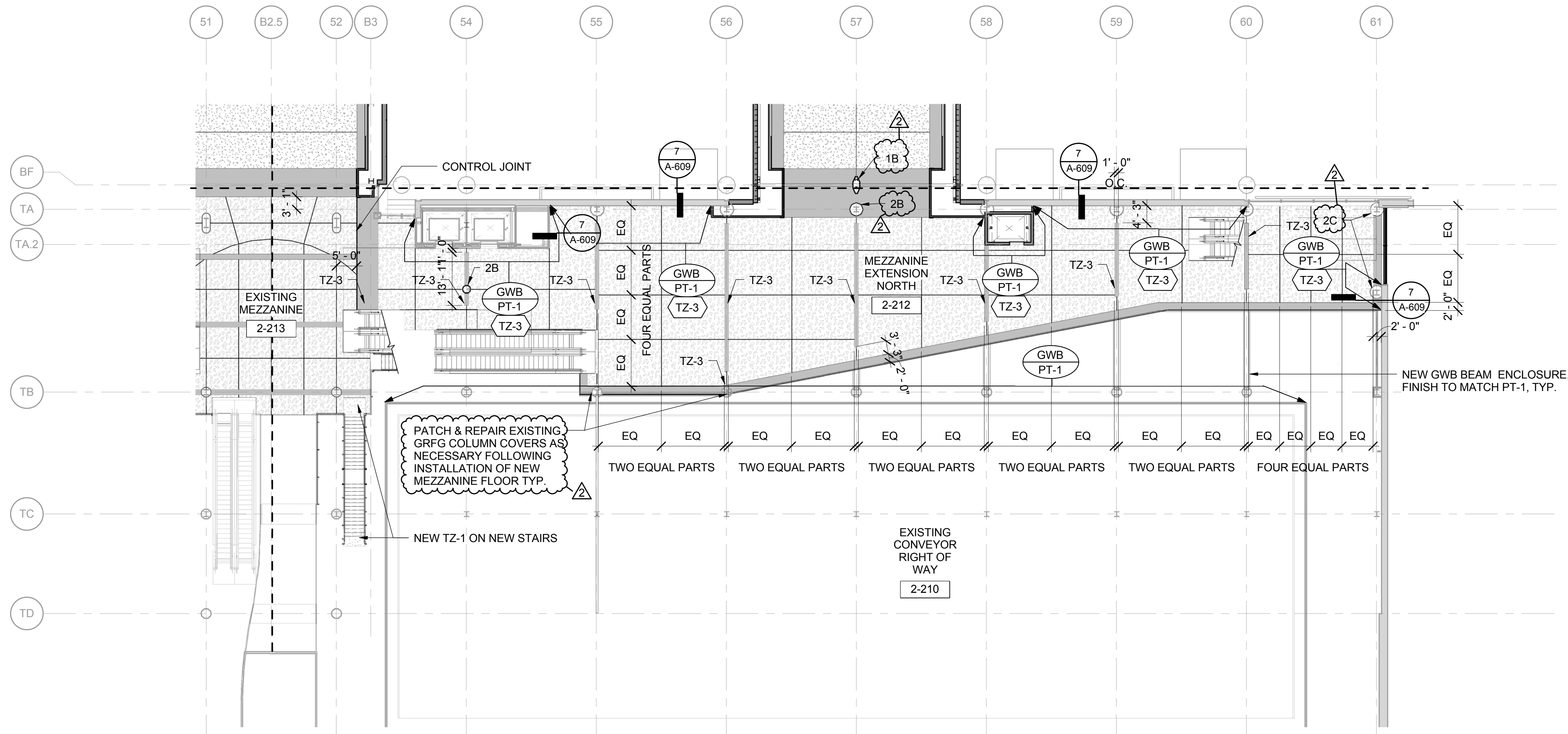
A-607



6/15/2017 10:23:52 AM



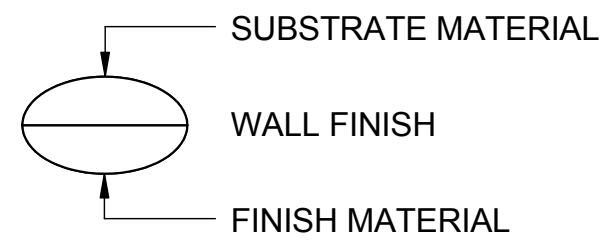
1 BRIDGE LEVEL PLAN - AREA B
1/16" = 1'-0"



2 BRIDGE LEVEL PLAN - AREA C
1/16" = 1'-0"

FINISH SYMBOL LEGEND

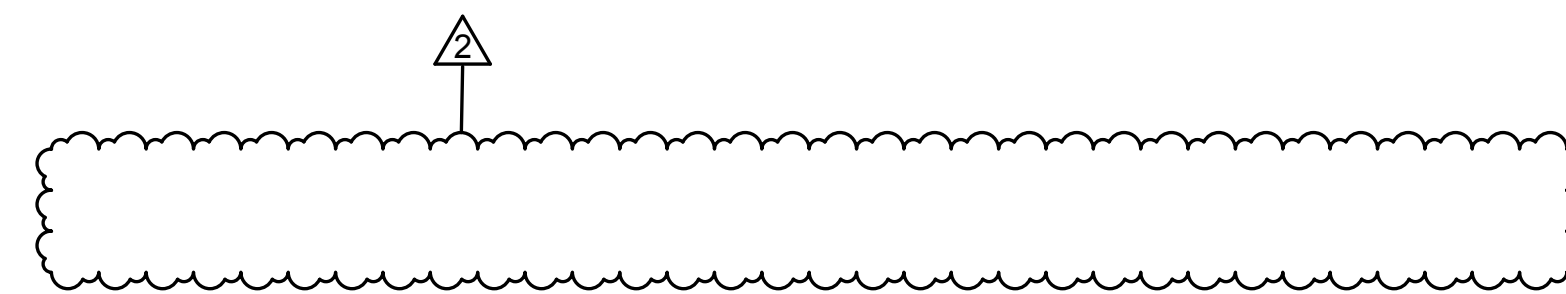
	TZ-1		TZ-4
	TZ-2		SC-1
	TZ-3		EXISTING TO REMAIN



	BASE FINISH
	GLAZING TAG

GENERAL NOTES - FINISH PLANS

- PRIME AND PAINT ALL NEW GWB WALLS
- ALL WALLS SHALL RECEIVE SCHEDULED / NOTED FINISH IN ALL EXPOSED AREAS AND ON ALL EXPOSED SURFACES EXTENDED TO MIN. 4" ABOVE FINISHED CEILING U.N.O.
- TRANSITION STRIPS REQUIRED AT ALL CHANGES OF MATERIAL



MIDWAY INTERNATIONAL AIRPORT
CITY OF CHICAGO

5700 S. Cicero
Chicago, IL 60638

MAYOR RAHM EMANUEL
COMMISSIONER GINGER S. EVANS



MULLER+MULLER

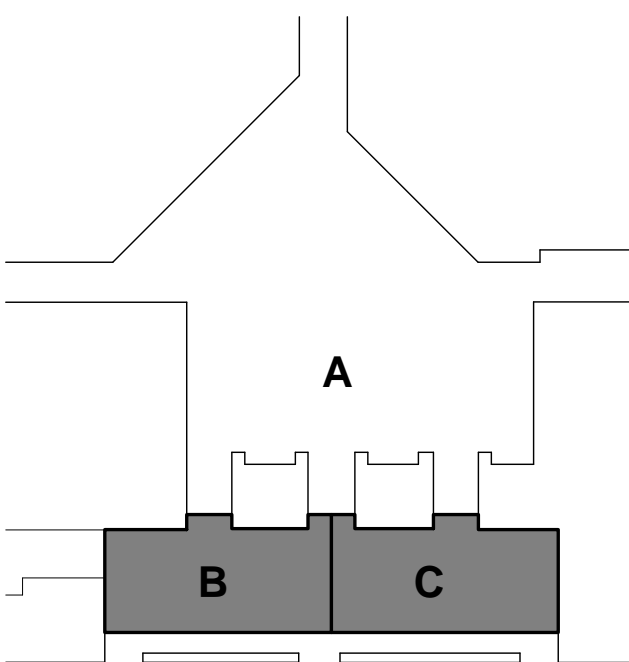
700 N Sangamon St
Chicago, IL 60642
Telephone: 312.432.4180

JACOBS

525 W. Monroe Suite 200
Chicago, Illinois 60661
Telephone: 312.251.3000

db | HMS

303 W Erie St #510
Chicago, IL 60654
Telephone: 312.915.0557



KEY PLAN

1	8/1/2017	ISSUED FOR BID
2	8/23/2017	ADDENDUM 2

MARK	DATE	ISSUANCE
------	------	----------

PROJECT NAME:
**MIDWAY AIRPORT PASSENGER
SECURITY CHECKPOINT
EXPANSION**

DESIGNED: D.S. DRAWN: G.A.R. CHECKED: K.Z.

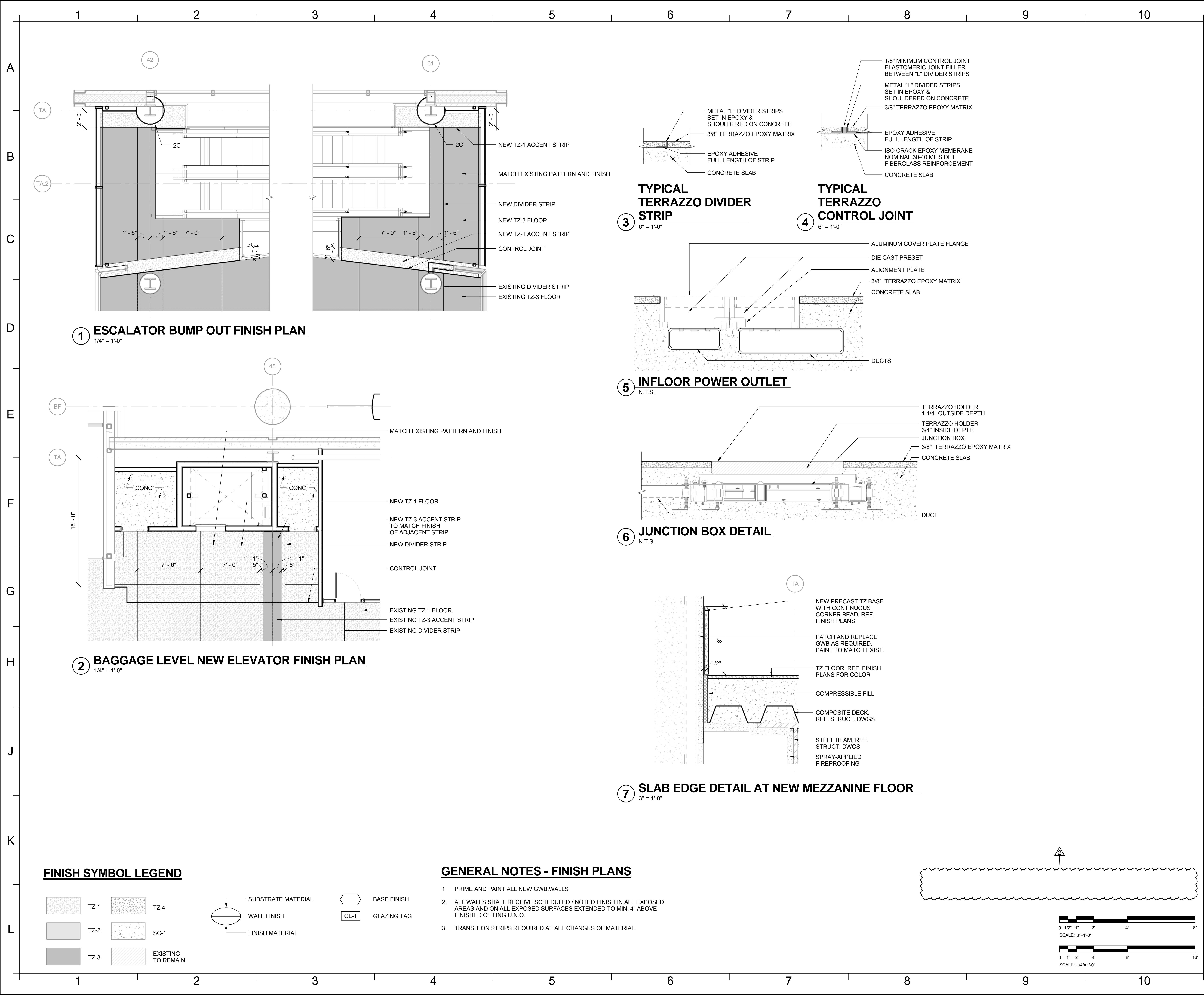
ISSUE:
ISSUED FOR ADDENDUM 2

PROJECT NO.: M9185.12
DATE: 8/23/2017

SHEET TITLE:
**BRIDGE LEVEL FINISH
FLOOR PLAN - AREA B & C**

REVISION SHEET NO.

A-608

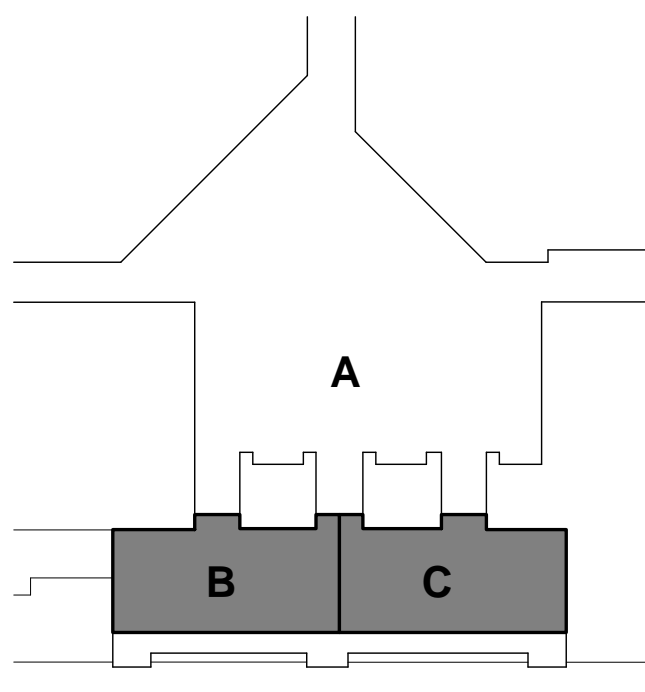


CHICAGO DEPARTMENT OF AVIATION
MIDWAY INTERNATIONAL AIRPORT
CITY OF CHICAGO
5700 S. Cicero
Chicago, IL 60638
MAYOR RAHM EMANUEL
COMMISSIONER GINGER S. EVANS

STATE OF ILLINOIS
MARK M. STROMBERG
001-017758
EXPIRES: 11/30/2018

MULLER+MULLER
700 N Sangamon St
Chicago, IL 60642
Telephone: 312.432.4180

JACOBS
525 W. Monroe Suite 200
Chicago, Illinois 60661
Telephone: 312.251.3000
db|HMS
303 W Erie St #510
Chicago, IL 60654
Telephone: 312.915.0557



KEY PLAN

MARK	DATE	ISSUANCE
1	8/1/2017	ISSUED FOR BID
2	8/23/2017	ADDENDUM 2

PROJECT NAME:
MIDWAY AIRPORT PASSENGER SECURITY CHECKPOINT EXPANSION

DESIGNED: D.S. DRAWN: G.A.R. CHECKED: K.Z.

ISSUE: **ISSUED FOR ADDENDUM 2**

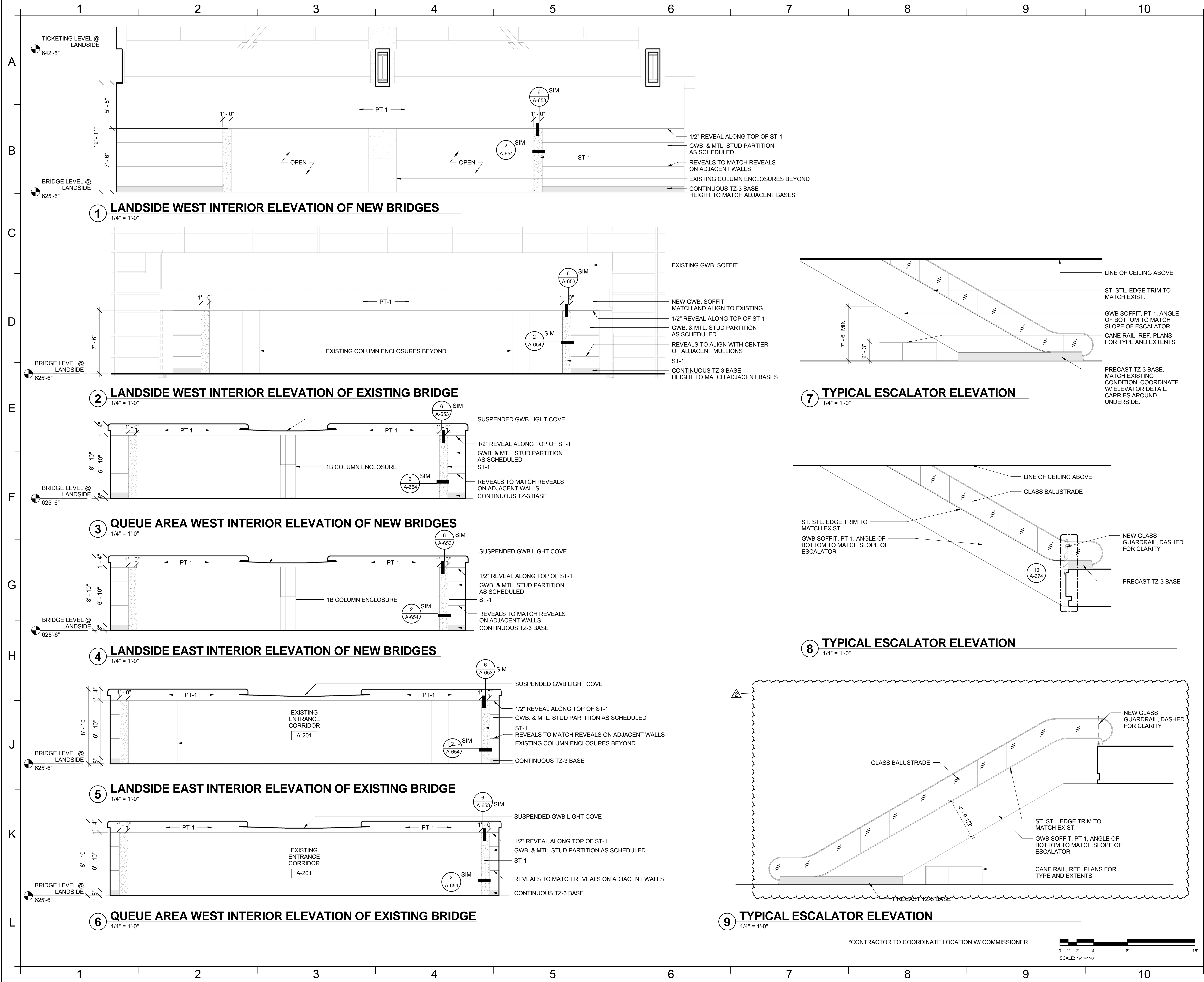
PROJECT NO.: M9185.12
DATE: 8/23/2017

SHEET TITLE:
ENLARGED FINISH FLOOR PLANS AND DETAILS

REVISION SHEET NO.
A-609

6/15/2017 10:24:03 AM

6/15/2017 10:24:15 AM

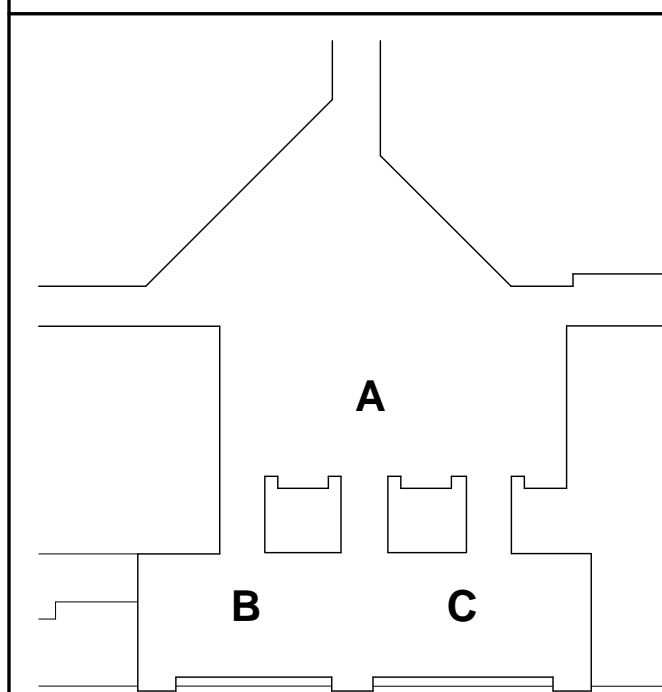


MIDWAY INTERNATIONAL AIRPORT
CITY OF CHICAGO
5700 S. Cicero
Chicago, IL 60638
MAYOR RAHM EMANUEL
COMMISSIONER GINGER S. EVANS



MULLER+MULLER
700 N Sangamon St
Chicago, IL 60642
Telephone: 312.432.4180

JACOBS
525 W. Monroe Suite 200
Chicago, Illinois 60661
Telephone: 312.251.3000
db|HMS
303 W Erie St #510
Chicago, IL 60654
Telephone: 312.915.0557



KEY PLAN

MARK	DATE	ISSUANCE
1	6/1/2017	ISSUED FOR BID
2	6/23/2017	ADDENDUM 2

PROJECT NAME:
**MIDWAY AIRPORT PASSENGER
SECURITY CHECKPOINT
EXPANSION**

DESIGNED: D.S. DRAWN: E.G., M.F. CHECKED: K.Z.

ISSUE:
ISSUED FOR ADDENDUM 2

PROJECT NO.: M9185.12
DATE: 6/23/2017

SHEET TITLE:

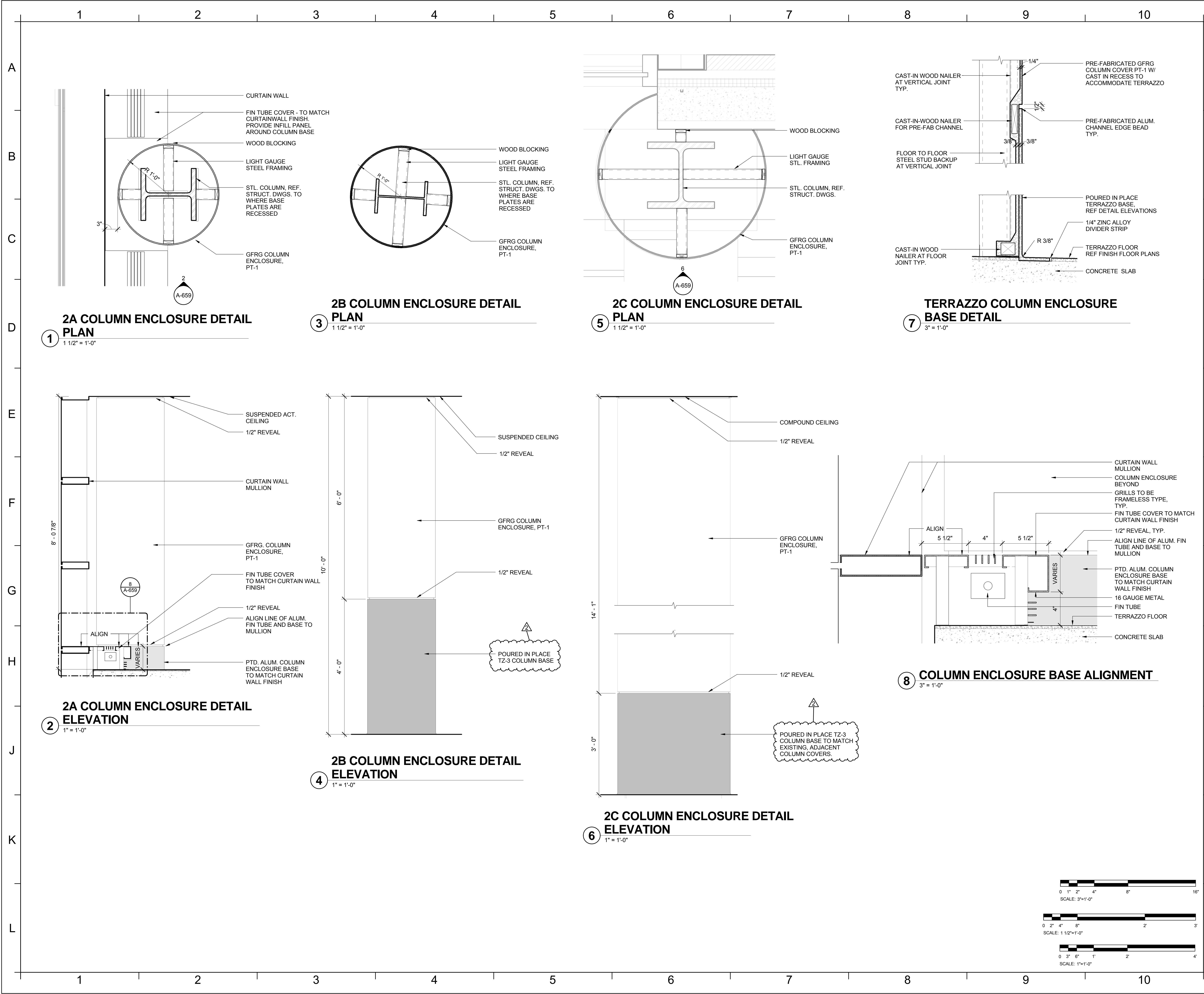
INTERIOR ELEVATIONS

REVISION SHEET NO.

A-628

*CONTRACTOR TO COORDINATE LOCATION W/ COMMISSIONER





1	6/1/2017	ISSUED FOR BID
2	6/23/2017	ADDENDUM 2
MARK	DATE	ISSUANCE

PROJECT NAME:
MIDWAY AIRPORT PASSENGER SECURITY CHECKPOINT EXPANSION

DESIGNED: D.S. DRAWN: G.A.R. CHECKED: K.Z.

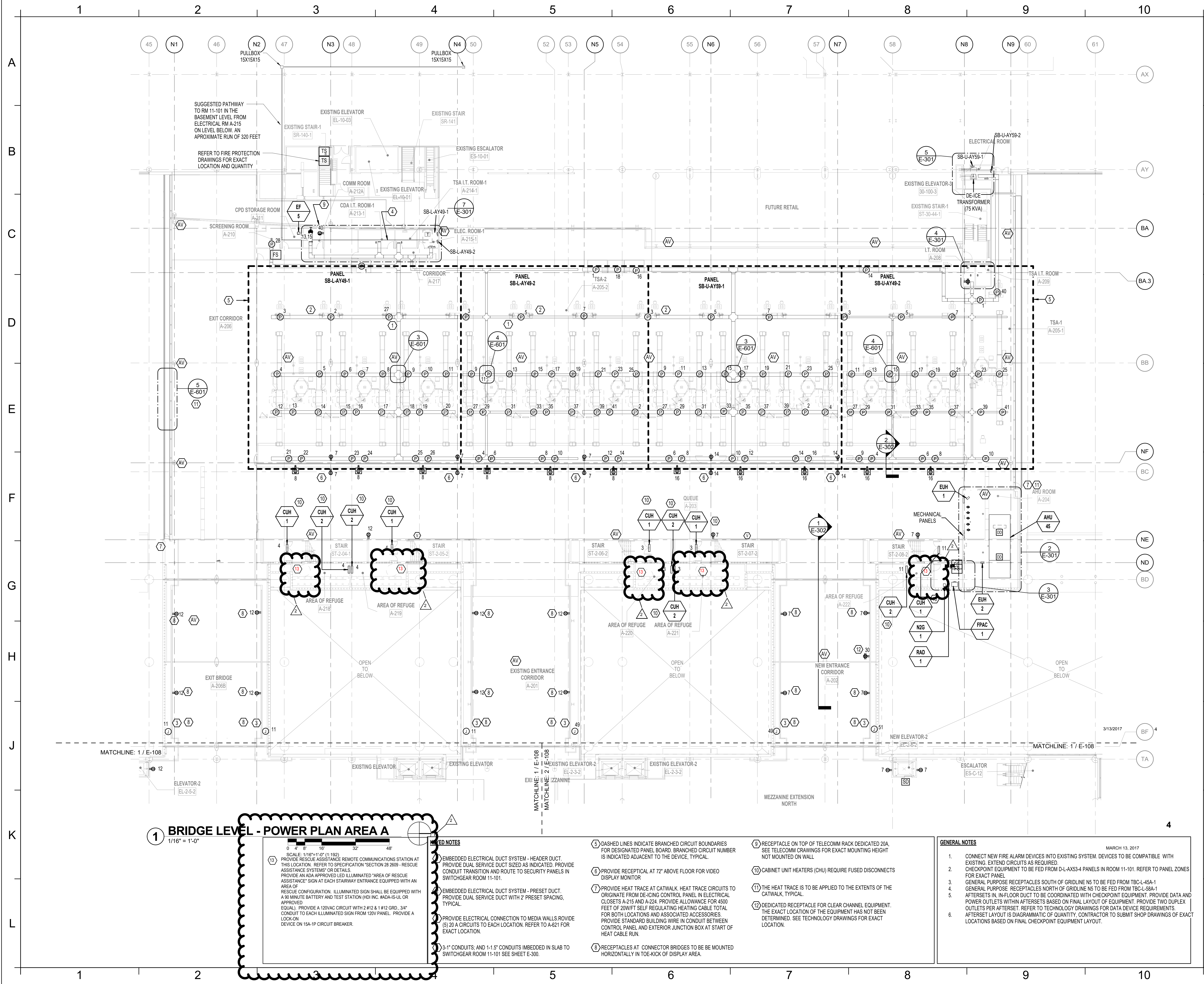
ISSUE: **ISSUED FOR ADDENDUM 2**

PROJECT NO.: M9185.12
DATE: 6/23/2017

SHEET TITLE:
COLUMN ENCLOSURE DETAILS

REVISION SHEET NO.
A-659

5/22/2017 10:11:38 AM



1 BRIDGE LEVEL - POWER PLAN AREA A
1/16" = 1'-0"

SCALE: 1/16" = 1'-0" (1:192)
PROVIDE RESCUE ASSISTANCE REMOTE COMMUNICATIONS STATION AT THIS LOCATION. REFER TO SPECIFICATION 'SECTION 28 2609 - RESCUE ASSISTANCE SYSTEMS' OR DETAILS.
PROVIDE AN AIA APPROVED LED ILLUMINATED 'AREA OF RESCUE ASSISTANCE' SIGN AT EACH STAIRWAY ENTRANCE EQUIPPED WITH AN AREA OF RESCUE CONFIGURATION. ILLUMINATED SIGN SHALL BE EQUIPPED WITH A 90 MINUTE BATTERY AND TEST STATION (HDI INC. #ADA-IS-UL OR APPROVED EQUIV.). PROVIDE A 120VAC CIRCUIT WITH 2 #12 & 1 #12 GRD., 3/4" CONDUIT TO EACH ILLUMINATED SIGN FROM 120V PANEL. PROVIDE A LOCK-ON DEVICE ON 15A-1P CIRCUIT BREAKER.

NOTES
1. EMBEDDED ELECTRICAL DUCT SYSTEM - HEADER DUCT. PROVIDE DUAL SERVICE DUCT SIZED AS INDICATED. PROVIDE CONDUIT TRANSITION AND ROUTE TO SECURITY PANELS IN SWITCHGEAR ROOM 11-101.
2. EMBEDDED ELECTRICAL DUCT SYSTEM - PRESET DUCT. PROVIDE DUAL SERVICE DUCT WITH 2' PRESET SPACING, TYPICAL.
3. PROVIDE ELECTRICAL CONNECTION TO MEDIA WALLS. PROVIDE (5) 20 A CIRCUITS TO EACH LOCATION. REFER TO A-621 FOR EXACT LOCATION.
4. 3-1" CONDUITS; AND 1-1.5" CONDUITS IMBEDDED IN SLAB TO SWITCHGEAR ROOM 11-101 SEE SHEET E-300.

5. DASHED LINES INDICATE BRANCHED CIRCUIT BOUNDARIES FOR DESIGNATED PANEL BOARD. BRANCHED CIRCUIT NUMBER IS INDICATED ADJACENT TO THE DEVICE, TYPICAL.
6. PROVIDE RECEPTACLE AT 72" ABOVE FLOOR FOR VIDEO DISPLAY MONITOR.
7. PROVIDE HEAT TRACE AT CATWALK. HEAT TRACE CIRCUITS TO ORIGINATE FROM DE-ICING CONTROL PANEL IN ELECTRICAL CLOSETS A-215 AND A-224. PROVIDE ALLOWANCE FOR 4500 FEET OF 20W/FT SELF REGULATING HEATING CABLE TOTAL FOR BOTH LOCATIONS AND ASSOCIATED ACCESSORIES. PROVIDE STANDARD BUILDING WIRE IN CONDUIT BETWEEN CONTROL PANEL AND EXTERIOR JUNCTION BOX AT START OF HEAT CABLE RUN.
8. RECEPTABLES AT CONNECTOR BRIDGES TO BE MOUNTED HORIZONTALLY IN TOE-KICK OF DISPLAY AREA.

9. RECEPTACLE ON TOP OF TELECOMM RACK DEDICATED 20A, SEE TELECOMM DRAWINGS FOR EXACT MOUNTING HEIGHT NOT MOUNTED ON WALL.
10. CABINET UNIT HEATERS (CHU) REQUIRE FUSED DISCONNECTS.
11. THE HEAT TRACE IS TO BE APPLIED TO THE EXTENTS OF THE CATWALK, TYPICAL.
12. DEDICATED RECEPTACLE FOR CLEAR CHANNEL EQUIPMENT. THE EXACT LOCATION OF THE EQUIPMENT HAS NOT BEEN DETERMINED. SEE TECHNOLOGY DRAWINGS FOR EXACT LOCATION.

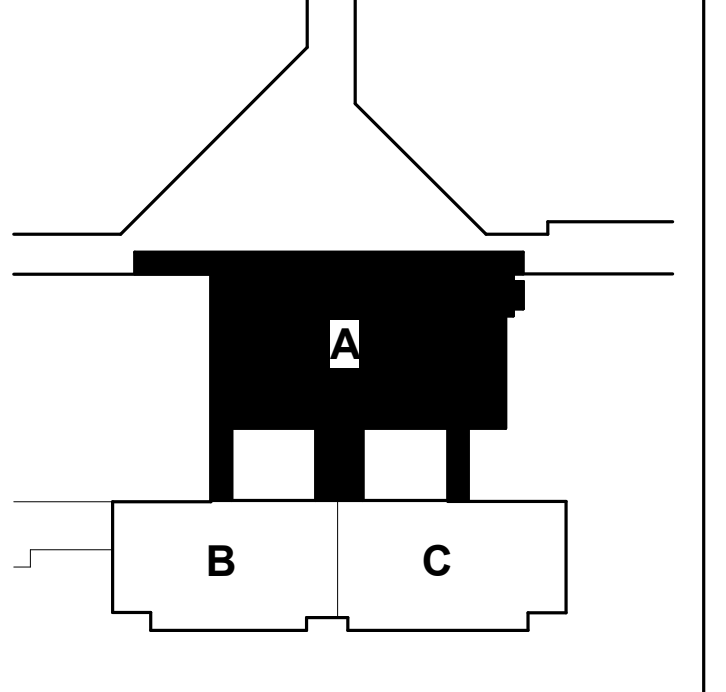
GENERAL NOTES
MARCH 13, 2017
1. CONNECT NEW FIRE ALARM DEVICES INTO EXISTING SYSTEM. DEVICES TO BE COMPATIBLE WITH EXISTING. EXTEND CIRCUITS AS REQUIRED.
2. CHECKPOINT EQUIPMENT TO BE FED FROM D-L-AX33-4 PANELS IN ROOM 11-101. REFER TO PANEL ZONES FOR EXACT PANEL.
3. GENERAL PURPOSE RECEPTABLES SOUTH OF GRIDLINE N5 TO BE FED FROM TBC-L-45A-1.
4. GENERAL PURPOSE RECEPTABLES NORTH OF GRIDLINE N5 TO BE FED FROM TBC-L-58A-1.
5. AFTERSETS IN, IN-FLOOR DUCT TO BE COORDINATED WITH CHECKPOINT EQUIPMENT. PROVIDE DATA AND POWER OUTLETS WITHIN AFTERSETS BASED ON FINAL LAYOUT OF EQUIPMENT. PROVIDE TWO DUPLEX OUTLETS PER AFTERSET. REFER TO TECHNOLOGY DRAWINGS FOR DATA DEVICE REQUIREMENTS.
6. AFTERSET LAYOUT IS DIAGRAMMATIC OF QUANTITY. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF EXACT LOCATIONS BASED ON FINAL CHECKPOINT EQUIPMENT LAYOUT.

CHICAGO DEPARTMENT OF AVIATION
MIDWAY INTERNATIONAL AIRPORT
CITY OF CHICAGO
5700 S. Cicero
Chicago, IL 60638
MAYOR RAHM EMANUEL
COMMISSIONER GINGER S. EVANS

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
NATHAN A. RUBIN
062-061740

MULLER+MULLER
700 N Sangamon St
Chicago, IL 60642
Telephone: 312.432.4180

JACOBS
525 W. Monroe Suite 200
Chicago, Illinois 60661
Telephone: 312.251.3000
db|HMS
303 W Erie St #510
Chicago, IL 60654
Telephone: 312.915.0557



KEY PLAN			
1	6/1/2017	ISSUE FOR BID	
2	6/23/2017	ADDENDUM 2	
MARK	DATE	ISSUANCE	
PROJECT NAME:			
MIDWAY AIRPORT PASSENGER SECURITY CHECKPOINT EXPANSION			
DESIGNED: SKM		DRAWN: SKM	
		CHECKED: BS	
ISSUE: ISSUED FOR ADDENDUM 2			
PROJECT NO.: M9185.12			
DATE: JUNE 23, 2017			
SHEET TITLE:			
BRIDGE LEVEL PLAN - AREA A - POWER			
REVISION		SHEET NO.	
		E-107	

**CITY OF CHICAGO
DEPARTMENT OF AVIATION
Midway International Airport (MDW)
PASSENGER SECURITY CHECKPOINT EXPANSION PROJECT**

**PART TWO OF THREE
GENERAL CONDITIONS**

SPECIFICATION NO.: 461340

PROJECT NO.: M9185.12-00

A.I.P. PROJECT NO.: TBD



**CITY OF CHICAGO
Rahm Emanuel
Mayor**



**DEPARTMENT OF AVIATION
Ginger S. Evans
Commissioner**

Issued by:

**DEPARTMENT OF PROCUREMENT SERVICES
Jamie L. Rhee
Chief Procurement Officer**

**June 28, 2017
Issued for Addendum 2**

**CITY OF CHICAGO
CHICAGO DEPARTMENT OF AVIATION
GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

REFERENCES TO FEDERAL REQUIREMENTS

The Work in this Contract may be included in the Federal Airport Improvement Program, which is being undertaken and accomplished by the City of Chicago, in accordance with the terms and conditions of a Grant Agreement between the City of Chicago and the United States, under the Airport and Airway Improvement Act of 1982 (Public Law 97-248; Title V, Provision et seq., September 3, 1982; 96 Stat. 671; codified at 49 U.S.C. Provision 2201 et seq.) and Part 152 of the Federal Aviation Regulations (14 CFR Part 152), pursuant to which the United States has agreed to pay a certain percentage of the costs of the Project that are determined to be allowable Project costs under the Act. The United States is not a party to this Contract and no reference in this Contract to the Federal Aviation Administration ("FAA") or any representative thereof, or to any rights granted to the FAA or any representative thereof, or the United States by the Contract, makes the United States a party to this Contract.

Under the provisions of the aforementioned Grant Agreement, the following must constitute material terms of this Contract. These terms are intended to supplement or expand upon the terms and conditions already contained in this contract and are not intended, nor should be construed to be a limitation upon the existing terms and conditions in the Contract.

1. ACCESS TO RECORDS AND REPORTS – Section XII.G.
2. BONDS / INSURANCE / INDEMNIFICATION – Instructions to Bidders (Part One) and Article XVI.
3. BREACH OF CONTRACT AND REMEDIES – Article XVII and XVIII.
4. BUY AMERICA – Instruction to Bidders (Part One) and Section XIX.U.
5. CARGO PREFERENCE – USE OF UNITED STATES FLAG VESSELS – Section XIX.EE.
6. CERTIFICATION REGARDING LOBBYING – Instruction to Bidders (Part One) and EDS.
7. CIVIL RIGHTS – Section XIX.C.
8. COPELAND ANTI-KICKBACK ACT – Sections XIX.J.
9. DAVIS-BACON REQUIREMENTS – Sections XIX.I.
10. DISADVANTAGED BUSINESS ENTERPRISES – Section XIX.F.
11. ENVIRONMENTAL REQUIREMENTS – Section XIX.T.
12. EPA CONTRACTOR LISTING – EDS.
13. EQUAL EMPLOYMENT OPPORTUNITY – Section XIX.D.
14. FALSE OR FRAUDULENT STATEMENTS AND CLAIMS – Section XIX.P.
15. FOREIGN TRADE RESTRICTIONS – Section XIX.V.
16. GOVERNMENT DEBARMENT AND SUSPENSION – EDS.

17. HOURS AND SAFETY STANDARDS ACT – Section IX.K.
18. INTEREST OF MEMBERS OR DELEGATES TO THE UNITED STATES CONGRESS – Section XIX.Z.
19. NO EXCLUSIONARY OR DISCRIMINATORY SPECIFICATIONS –Section XIX.K.
20. NON-SEGREGATED FACILITIES CERTIFICATION – EDS.
21. PATENT RIGHTS– Section XIX.FF.
22. PREFERENCE FOR RECYCLED PRODUCTS – Section XIX.DD.
23. PROMPT PAYMENT TO SUBCONTRACTORS – Section IX.H.
24. REHABILITATION ACT – Section XIX.C.4.b.
25. RIGHTS IN DATA AND COPYRIGHTS – Section XIX.GG.
26. STATE OF ENERGY CONSERVATION PLANS – Section XIX.S.
27. TERMINATION FOR CONVENIENCE – Article XVIII.
28. TRADE RESTRICTION – Instruction to Bidders (Part One).
29. VETERANS PREFERENCE – Section XIX.W.

TABLE OF CONTENTS

I.	GENERAL PROVISIONS	1
A.	Definitions	1
B.	Contract Interpretation	5
C.	Severability	5
D.	Interpretation/Rules	5
E.	Entire Agreement	7
II.	PROJECT ORGANIZATION	8
A.	Owner	8
B.	The Commissioner	8
C.	The Chief Procurement Officer	8
D.	Construction Manager	8
E.	Architect/Engineer	8
F.	Testing Consultants	9
G.	Contractor	9
III.	PROPERTY	10
A.	Ownership of Drawings and Documents	10
B.	Right of Entry	10
C.	Information Provided By the City	11
D.	Site Conditions	11
E.	Permits and Licenses	12
F.	No Lien Provision	13
G.	Ownership of Property and Builder's Risk	13
IV.	SCOPE OF WORK	15
A.	The Scope of Work for the Project	15
B.	Errors or Discrepancies in Contract Documents	15
C.	Requests for Information (RFI)	15
D.	City Directed Value Engineering	15
E.	Construction Operations Plan and Procedures	15
V.	SUBCONTRACTING & ASSIGNMENT	19
A.	No Assignment of Contract	19
B.	No Assignment of Contract Funds	19
C.	Subcontracts	19
D.	City's Right To Assign	20
VI.	QUALITY OF WORKMANSHIP, EQUIPMENT AND MATERIALS	21
A.	Standards of Performance	21
B.	Compliance with Contract Documents	21
C.	Correction of Work	21
D.	Failure To Proceed With Directed Work	22
E.	Materials	22
F.	Warranties	24
G.	Testing Laboratory Labels	25
H.	Materials, Inspection and Responsibility	26
VII.	PERSONNEL	27
A.	General	27
B.	Key Personnel	27
C.	Character of Workers	27

	D. Supervision and Superintendence.....	27
	E. Employment Outreach.....	27
VIII.	SCHEDULE	30
	A. Time	30
	B. Delays.....	30
	C. Substantial Completion of Milestones, Phases, and Project	32
	D. Completion of Punch List.....	33
	E. Baseline and Monthly Update Schedules.....	33
	F. Acceptance of the Work and Right to Occupy Before Substantial Completion	42
	G. Suspension of Work	42
	H. Winter Suspension.....	42
	I. Work During the Winter Suspension Period	43
IX.	PAYMENTS.....	44
	A. General.....	44
	B. Contract Price Breakdown (Lump Sum Contracts and Lump Sum Line Item(s) of Unit Price Contracts)	44
	C. Procedure for Monthly Payment Estimate and Final Payment	44
	D. Payment for Stored Material	46
	E. Retainage	47
	F. Payments Withheld	48
	G. Release of Retainage	49
	H. Prompt Payment to Subcontractors	50
	I. Pay Estimates and Payments Subject to Review	53
	J. Salaries/Payments.....	53
	K. Contract Work Hours and Safety Standards Act.....	59
X.	CHANGES IN THE WORK	61
	A. City's Right to Change Work	61
	B. Contractor's Request	61
	C. Payment For Changes	61
	D. Contract Modification	67
	E. Contractor's Release	67
	F. Failure to Comply with Order.....	67
	G. Change Claims	68
	H. City Audit.....	69
XI.	SHOP DRAWINGS, PRODUCT DATA AND SAMPLES	70
	A. Definitions	70
	B. Contractor's Responsibilities and Submittal Procedures	70
	C. Review by the Commissioner	72
XII.	PROJECT RECORD DOCUMENTS, PROJECT ACCOUNT RECORDS AND DAILY PROGRESS REPORTS	75
	A. "As-Built" Drawings	75
	B. Operation and Maintenance Manuals, Instructions, and Parts List	75
	C. Record Shop Drawings	76
	D. Record Documents.....	76
	E. Delivery Requirements for Reduction of Retainage.....	76
	F. Electronic Records	76
	G. Project Account Records	76
XIII.	TESTING AND INSPECTION	79

	A. General Inspection	79
	B. Materials and Equipment Testing and Inspection	80
XIV.	PROTECTION OF PERSONS AND PROPERTY, HEALTH AND SAFETY, SERVICES AND USE OF SITE	82
	A. Protection of Persons and Property	82
	B. Health and Safety	87
	C. Compliance with Environmental Laws.....	91
	D. Environmental Permits	92
	E. Disposal of Materials, Construction Debris, Soil and Waste	93
	F. Equipment and Environmental Control During Transport	94
	G. Environmental Records and Reports	94
	H. Ultimate Disposal Site	95
	I. Open Dumping Prohibited	95
	J. Services and Use of Site	95
	K. Storage	98
	L. Equipment and Falsework	98
	M. Cooperation Among Contractors	99
	N. Injuries To Contractor's Employees	100
XV.	<u>AIRPORT SECURITY AND OPERATIONS</u> <u>101</u>	
	A. Airport Security and Badging.....	101
	B. Airport Operations	103
	C. Construction Notices to Federal Aviation Administration.....	107
	D. Confidentiality of Project Data.....	107
	E. Confidentiality of Airport Security Data.....	107
XVI.	<u>INSURANCE, INDEMNITY AND BONDS.....</u>	109
	A. Indemnity	109
	B. Performance and Labor & Material Payment Bonds	109
	C. Insurance.....	110
XVII.	<u>CLAIMS AND DISPUTES</u>	111
	A. Claims	111
	B. Disputes.....	113
XVIII.	<u>EVENTS OF DEFAULT AND TERMINATION</u>	115
	A. Chief Procurement Officer's Right.....	115
	B. Events of Default.....	115
	C. Notices	115
	D. Remedies	116
	E. Nonexclusivity	117
	F. Court Determination	117
	G. Discretion of Chief Procurement Officer	117
	H. Early Termination.....	117
XIX.	<u>COMPLIANCE WITH ALL LAWS</u>	119
	A. General	119
	B. Airport Rules and Regulations	119
	C. Human Rights.....	119
	D. Affirmative Action, Equal Employment Opportunity, Goals and Timetables.....	122
	E. Illinois Human Rights Act	128
	F. Disadvantaged Business Enterprise	128
	G. Minimum Wage, Mayoral Executive Order 2014-1.....	129

H.	Living Wage Ordinance	130
I.	Chicago Minimum Wage Ordinance.....	131
J.	Davis-Bacon	131
K.	Copeland “Anti-Kickback” Act	131
L.	No Exclusionary or Discriminatory Specifications.....	131
M.	Economic Disclosure Statement and Contractor’s Affidavit (EDS)	132
N.	Anti-Scofflaw (Section 2-92-380 of the Chicago Municipal Code).....	132
O.	Americans with Disabilities Act	133
P.	Section 2-92-586 of the Municipal Code.....	133
Q.	False or Fraudulent Statements and Claims	133
R.	Disclosure of Ownership.....	133
S.	Employment of Illinois Laborers on Airport Projects	133
T.	State Energy Conservation Plan	133
U.	Environmental Requirements	133
V.	Buy American	135
W.	Foreign Trade Restrictions (49 CFR Part 30.13).....	135
X.	Veterans Preference (49 USC 4711 (c)).....	136
Y.	Office of Inspector General and Legislative Inspector General (Chapter 2-56 and 2-55 of the Municipal Code).....	136
Z.	2014 City Hiring Plan Prohibitions	136
AA.	Governmental Ethics Ordinance (Chapter 2-156 of the Municipal Code)	137
AA.	Business Relationship with Elected Officials	137
BB.	Conflict of Interest.....	138
CC.	Steel Products.....	138
DD.	Preference for Recycled Products	138
EE.	Cargo Preference – Use of United States Flag Vessels.....	138
FF.	Patent Rights	138
GG.	Rights in Data and Copyrights.....	139
HH.	Licensing of General Contractors.....	140
II.	Prohibition on Certain Contributions (Mayoral Executive Order No. 2011-4).....	140
JJ.	Federal Ineligible Contractors	141
KK.	False Statements.....	141
LL.	Ineligibility to do Business with the City.....	141
MM.	Project Labor Agreement	141
NN.	Clean Diesel Fleet (Section 2-92-595 of the Chicago Municipal Code).....	142
OO.	Duty to Report Corrupt or Unlawful Activity.....	143
PP.	Equal Pay Act.....	143
QQ.	Texting When Driving.....	143
RR.	Electronic Mail Communication.....	143
TT.	EDS Update Obligation.....	143
UU.	Wheel Tax (City Sticker)	143
VV.	Energy Conservation Requirements.....	143
WW.	Procurement of Recovered Materials.....	144
XX.	Prohibition of Segregated Facilities.....	144
YY.	Seismic Safety.....	144
XX.	<u>MISCELLANEOUS</u>	<u>145</u>
A.	General Provisions	145
B.	Notices of Events of Default and Termination Under Article XVIII.....	146
C.	Authority	146
D.	No Waiver of Legal Rights	146

I. GENERAL PROVISIONS

A. Definitions.

"Affiliate" of a person or entity means a person or entity that directly or indirectly through one or more intermediaries or third parties, controls or is controlled by, or is under common control with, the person or entity. A person or entity shall be deemed to be controlled by another person or entity if it is controlled in any manner whatsoever that results in control in fact by that other person or entity (either acting individually or acting jointly or in concert with others) whether directly or indirectly and whether through shared ownership, a trust, a contract or otherwise. Indicia of control may include, without limitation: interlocking management or ownership; identity of interests among family members; shared facilities and equipment; common use of employees; or reorganization of a business entity following a determination of City contracting ineligibility using substantially the same management, employees, ownership or principals. In determining whether persons or entities are Affiliates, the City shall consider all appropriate factors, including but not limited to common ownership, common management and contractual relationships.

"Airport" means Chicago O'Hare International Airport or Chicago Midway International Airport together with any additions thereto, improvements, or enlargements thereof, now or hereafter made, except any land rights-of-way or improvements which are now or may hereafter be owned by or are part of the transportation system operated by the Chicago Transit Authority, or any successor thereto, wherever located within the boundaries of the Airport.

"Airport Operations" means 1) the movement of passengers, vehicles and freight into, on and out of the airport, and 2) aircraft operations into, on and out of the airport and all support services needed to operate aircraft including but not limited to, fueling, repairing, baggage services and food services.

"Airside" or "Airfield" means, generally, those areas of an Airport beyond the terminals, buildings, and gates where aircraft operate. Airside includes Aircraft Operations Area (AOA), such as runways, taxiways and other areas of the Airport that are used for taxiing, hovering, take-off and landing of Aircraft, including entry and exit from Aircraft loading ramps and parking areas and areas not necessarily under the control of the Air Traffic Control Tower.

"Award" means the date that the contract is released by the Department of Procurement Services.

"Baseline Schedule" means a schedule prepared to illustrate a planned method of performing a group of inter-related tasks. The baseline schedule is the Contractor's plan to perform the work identified by the Contract Documents with the time established by the Contract Documents, formatted in the Critical Path Method and approved by the Commissioner in accordance with Article VIII.

"Beneficial Occupancy" means the date or decision for use of the project or portion thereof for the purpose intended whereby the Owner/Tenant may occupy or use the building or area even while contract work is on-going.

"Business Days" means business days according to the City of Chicago Calendar. "CDA" means the Chicago Department of Aviation.

"Calendar Day" means every day shown on the calendar including Saturdays, Sundays and holidays.

"CIP" means the Capital Improvement Program of the Chicago Airport System for the City of Chicago.

"Chicago O'Hare International Airport Design and Construction Standards" means, collectively, those documents which have been or may be issued from time to time by the City containing design and construction standards for new construction at the Airport.

"Chief Procurement Officer" means the Chief Executive of the Department of Procurement Services for the City of Chicago, and any representative duly authorized in writing to act on the Chief Procurement Officer's behalf.

"City" means the City of Chicago, a municipal corporation and home-rule government under sections 1 and 6(a), Article VII, respectively, of the 1970 Constitution of the State of Illinois.

"Commissioner of Aviation", or "Commissioner", means the Chief Executive of the Chicago Department of Aviation for the City of Chicago and any representative duly authorized in writing to act on the Commissioner's behalf.

"Comptroller" means the Chief Executive of the Department of Finance for the City of Chicago and any representative duly authorized in writing to act on the Comptroller's behalf.

"Construction Manager" means the entity(ies) that the City has retained to provide construction management services for projects at the City's Airports.

"Contract" or "Agreement" means this Contract for Construction, including all exhibits attached hereto and/or incorporated by reference herein, and all amendments, modifications, or revisions made from time to time in accordance with the terms hereof.

"Contract Documents" means all of the documents comprising this Contract, including: Part One, The Requirements for Bidders and Proposal Documents; Part Two, The General Conditions; Part Three, the Technical Specifications, and the Contract Drawings.

"Contract Completion Date" is the date, determined by the number of Calendar Days (set forth in Part One of the Contract Documents) following issuance of a Notice-to-Proceed by which the Contractor must achieve Substantial Completion of the Project. Part One may also set forth Calendar Days for Substantial Completion of phases or milestones. The Contract Completion Date and/or completion dates for phases and milestones, if any may be adjusted by Contract Modification.

"Contract Modification" is a document signed by the Contractor and City, (or the City alone under certain circumstances stated in the Contract Documents) that adjusts the scope of Work, the Contractor's compensation, the Contract Completion Date, or the time allowed by the Contract for completion of any phase or milestone.

"Contract Price" is the total compensation to be paid to the Contractor for the Work by the City as may be amended from time to time by Contract Modifications.

"Contractor's Warranty" means the Contractor's representation as to the character and quality of the Work in accordance with the terms and conditions of the Contract Documents, and the Contractor's promise to repair and replace the Work not in conformance with such representations. Without limiting the scope or duration of any Manufacturer's Warranty provided for specific parts of the Work, all Work furnished under this Contract is guaranteed by Contractor against defective materials and workmanship, improper installation or performance, and non-compliance with the Contract documents for a period of one year. Unless otherwise specified, the one-year period will begin on the date of Substantial Completion or Beneficial Occupancy, whichever comes first, for those parts of the Project that are completed and put into use prior to Final Completion. For all other parts of the Project the one-year period will begin on the date of Final Completion.

"Contractor" refers to the person or entity that is awarded the Contract.

"Days" (whether or not capitalized) means calendar days, unless otherwise stated.

"Daytime Work" means work performed between the hours of 6:00 AM and 6:00 PM, unless

otherwise defined in the plans.

"Environmental Laws" means all applicable Federal, State, and local laws, ordinances, rules, regulations, executive orders, and any other applicable directives pertaining to environmental or health matters.

"FAA" means the Federal Aviation Administration created under the Federal Aviation Act of 1958, as amended, or any successor agency thereto.

"Field Order" means a written order to the Contractor signed by the Construction Manager (with the prior written approval of the Commissioner and the Chief Procurement Officer) unilaterally directing changes in the Work and/or in the Contract time.

"Final Completion of the Project" means the last date on which all of the following events have occurred: the Commissioner has determined that all Punch List Work and any other remaining Work has been completed in accordance with the Contract Documents; final inspections have been completed and operations systems and equipment testing have been completed; final occupancy certifications have been issued; all Project Record Documents have been provided to the Commissioner.

"Hazardous Materials" means friable asbestos or asbestos containing materials, polychlorinated biphenyls (PCBs), petroleum products, natural gas, source material, special nuclear materials, and by-product materials regulated under the Atomic Energy Act (42 U.S.C. Sec. 2011, et seq.), pesticides regulated under the Federal Insecticide Fungicide and Rodenticide Act (7 U.S.C. Sec. 136, et seq.), and any hazardous waste, toxic or dangerous substance or related material, including any substance defined, determined or identified as "hazardous waste", or "toxic substance" or "contaminant" (or comparable term) in any Environmental Law.

"Key Personnel" means those job titles and the persons assigned to those positions in accordance with the provisions of this Contract.

"Landside" means the airport terminal areas, parking, roadway, baggage and curbside areas and other areas outside the Aircraft Operations Areas.

"Manufacturer's Warranty" means a representation by a fabricator or manufacturer as to the character and quality of materials that are a part of the Work, along with a promise to repair or replace materials not in conformance with such representation, which Warranty is provided by a fabricator or manufacturer in the normal course of its business.

"MCC" means the Municipal Code of Chicago.

"Monthly Update Schedule" means a version of an original Baseline Schedule that contains a record of progress to date and additions representing accepted changes in the future sequence of the work. The Monthly Update Schedule will accurately forecast the contractor's plan to complete the remaining Work within the time established by the Contract Documents as adjusted by Contract Modifications or Field Order.

"Moratorium Day" means a workday on which restrictions imposed on the performance of the work (other than due to weather, see Weather Day) by the Commissioner or other applicable authorities (most typically during holiday travel seasons) which so interfere with the prosecution of the Work as to be deemed by the Commissioner an event beyond the reasonable control of the Contractor.

"Night Work" means work performed between the hours of 6:00 pm and 6:00 am unless otherwise defined in the plans.

"Notice-To-Proceed" means written authorization from the Commissioner to the Contractor to commence the Work required by the Contract Documents.

"O'Hare Coordinate System" means the grid coordinate system originally established for the Airport.

"O'Hare Monument System" means the 'new' Monument System which was established in 2002. The coordinates are based upon North American Datum (NAD) 1983 and the elevation is based upon North American Vertical Datum (NAVD) 1988.

"Owner" means the City of Chicago.

"Pay Estimate" means a payment request to the City prepared by the Construction Manager for Work performed by Contractor. Pay estimates will be based upon actual quantities of Work performed at the unit prices specified in the Contractor's bid or, if a lump sum line item or lump sum contract, at the prices specified in the Work breakdown.

"Premium Time Cost" means additional labor costs resulting from working outside of regular scheduled working hours. Premium time costs include overtime and shift differentials as determined by the applicable labor union contract.

"Project" means, collectively, the improvements to be constructed by the Contractor in accordance with the Contract.

"Project Limit Lines" means the geographical boundaries of the Project, as more fully identified and described in the Contract Drawings.

"Project Record Documents" are all documents the Contract requires the Contractor to provide to the City including but not limited to shop drawings, As-Built Documents, parts manuals, operation and maintenance manuals, project manuals and or specifications and manufacturers warranties.

"Punch List Work" means minor adjustments, repairs or deficiencies in the Work. Whether an item is Punch List Work or necessary for Substantial Completion will be determined in the sole discretion of the Commissioner.

"Risk Management Office" means the Benefits and Risk Management Office in the Department of Finance for the City, which is under the direction of the Comptroller and which is charged with the review and analysis of insurance and related liability matters for the City.

"Special Wastes" means those substances as defined in 415 ILCS 5/1 et seq. of the Illinois Environmental Protection Act and as further defined in Section 809.13 of 35 Illinois Administrative Code, Subtitle G, Ch. 1.

"Subcontractor" means any person or entity with whom Contractor subcontracts to provide any part of the Work and all subcontractors of any tier, suppliers, and materialmen, whether or not in privity with Contractor.

"Substantial Completion of a Milestone, Phase, or the Project" is the date upon which, in the determination of the Commissioner, the Contractor has completed all such work in accordance with the Contract Documents (including the commissioning of all systems and turnover of all operations and maintenance manuals) except for Punch List Work, and the City is able to occupy and/or use the Work as applicable that makes up the Phase, a Milestone, or the Project, as a whole for the purpose intended.

"Time Extension" means the period of time, in Calendar Days, that will be provided to the Contractor for a delay to the critical path of the approved Baseline Schedule that affected the Substantial Completion of any Phase, Milestone, or the Project, provided that the delay was caused by a City-directed change in the work or an event for which the Contractor is entitled to additional time to perform the Work under the terms of the General Conditions.

"TSA" means the federal Transportation Security Administration created by the Aviation and Transportation Security Act of 2001, and any successor agency thereto.

"Weather Day" means a workday on which restrictions imposed on the performance of the work by weather that so interferes with the prosecution of the work as to be deemed by the Commissioner an event beyond the reasonable control of the Contractor.

"Work" means all labor, materials, equipment, and other incidentals furnished by the Contractor necessary or convenient to the successful completion of the Project, and which are required by, incidental or collateral to the Contract Documents. Work which is necessary, convenient, required, incidental or collateral to that shown on the Contract documents shall be deemed to be included in the Contract Price and shall be furnished and installed by the Contractor at no additional cost to the City.

"Work Day" means every Calendar Day that the approved Baseline and Monthly Update Schedules indicate that the Contractor is to perform work.

B. Contract Interpretation.

Any headings of this Contract are for convenience of reference only and do not define or limit the provisions thereof. In this Contract, unless the context otherwise requires, the terms "hereby", "herein", "hereof", "hereto", "hereunder Contract" and any similar terms used in this Contract refer to this Contract. All section references, unless otherwise expressly indicated, are to sections of this Contract. Words importing persons will include firms, associations, partnerships, trusts, corporations, joint ventures and other legal entities, including public bodies, as well as natural persons. Words of any gender will be deemed and construed to include correlative words of other genders. Words importing the singular number will include the plural and vice versa, unless the context otherwise indicates. All references to any exhibit or document will be deemed to include all supplements and/or amendments to any such exhibits or documents entered into in accordance with the terms and conditions hereof and thereof. All references to any person or entity will be deemed to include any person or entity succeeding to the rights, duties, and obligations of such persons or entities in accordance with the terms and conditions of this Contract. The terms "include", "includes", or "including", when followed by one or more examples, denote a nonexclusive list.

C. Severability.

If any provision of this contract is held or considered to be or is in fact invalid, illegal, inoperative or unenforceable as applied in any particular case or in any jurisdiction or in all cases because it conflicts with any other provision or provisions of this contract or of any constitution, statute, ordinance, rule of law or public policy, or for any other reason, those circumstances do not have the effect or rendering the provision in question invalid, illegal, inoperative or unenforceable in any case or circumstances, or of rendering any other provision or provisions in this contract invalid, illegal, inoperative or unenforceable to any extent whatsoever. The invalidity, illegality, inoperativeness or unenforceability of any one or more phrases, sentences, clauses or sections in this contract does not affect the remaining portions of this contract or any part of it.

D. Interpretation/Rules.

1. Intent of Plans and Specifications.

- a. The intent of the plans and specifications is to describe the Work that the Contractor will undertake to fulfill the requirements of the Contract. The Contractor must perform all Work as provided in the Contract Documents and such collateral, and incidental Work as required, necessary and/or convenient to complete the Work in accordance with the Contract Documents. The Contractor must furnish all required materials, equipment, tools, labor, temporary light and power, shop drawings, installation

drawings, working drawings, and incidentals, unless otherwise provided in the Contract, and will include the cost of all such items in the Contract unit and lump sum prices for the several units of Work.

- b. The specifications and plans are not intended to cover every detail of materials, parts, or construction. The Contractor must furnish all materials, parts, and labor necessary to complete the Work, whether or not said details are particularly shown or specified, all at no additional cost to the City.
- c. Except as otherwise expressly stated in the Contract Documents, the Contractor's bid price(s) includes, and the Contractor must provide and furnish, all items necessary and incidental to the Work and the Project, including but not limited to all materials, parts, labor, supervision, coordination, administration, equipment, tools, temporary light and power, shop plans, working drawings, and incidentals required by the Contract Documents and desirable for the full completion of the Work, whether or not particularly shown, described, or specified in the Contract Documents; and the Contractor's bid price(s) includes all costs relating to, or associated with, the foregoing including but not limited to all direct costs, overhead, and profit. No terms of the Contract Documents, which more specifically indicate that the Contractor will bear the costs of an item or which more specifically indicate that an item will be performed at no additional cost to the City, will be construed or interpreted to in any way limit the foregoing.
- d. Wherever the imperative form of address is used, such as "perform the excavating", "provide equipment required", "remove obstructions encountered", "furnish and install reinforcing steel bars", it is understood and agreed that such address is directed to the Contractor.
- e. "Provide" as used in these specifications means furnish and install.
- f. Unless a contrary meaning is specifically noted elsewhere, words "as required," "as directed", "as permitted", and similar words mean that requirements, directions of, and permission of the Commissioner are intended; similarly the words "approved", "acceptable", "satisfactory", or words of like import, mean "approved by", "acceptable to", or "satisfactory to" the Commissioner. Words "necessary", "proper", or words of like import as used with respect to extent, conduct, or character of Work specified shall mean that Work must be conducted in a manner, or be of character which is "necessary" or "proper" in the opinion of the Commissioner.
- g. Wherever the words "approved", "reasonable", "suitable", "acceptable", "properly", "satisfactory", or words of like effect and import are used, they mean, unless otherwise particularly herein specified, approved, reasonable, suitable, acceptable, proper, or satisfactory in the judgment of the Commissioner.
- h. The Work under this Contract has not been completely segregated into divisions of Work to be performed by any trade or Subcontractor. The Contractor shall be responsible for all segregation of Work between the trade or craft jurisdictional limits.
- i. As provided in Section IV, before the Contractor physically begins the Work, the Contractor must check the City's plans and specifications. Should any errors, discrepancies or omissions be found in these plans and specifications or any discrepancy found between the Contract Drawings and the physical conditions at the site or in any subsequent drawings that may be provided thereafter, the Contractor must notify the Commissioner, in writing, within 48 hours of discovering the error, discrepancy or omission. Any Work done after such discovery, unless authorized by the Commissioner, will be done at the Contractor's expense. The Contractor will not

be allowed to take advantage of any error, omission, or discrepancy in the Contract Documents.

- j. The Contractor will be furnished additional copies of the plans and specifications at the cost of reproduction. Specifications by organizations other than the City to which reference is made in the City's Technical Specifications will be obtained by the Contractor at its expense.
- k. The Contractor must keep on hand at the work site, for reference, a complete set of specifications for the Work, a complete set of all plans of the Work, copies of all plans furnished by the Contractor, all additional and revised plans furnished by the City and all orders issued to the Contractor by the Commissioner that relate to the Work.

2. Precedence of Documents.

Unless otherwise noted in the Requirements for Bidding and Instructions for Bidders (see Part 1), the following shall govern the Interpretation of the Contract in all cases of conflict or inconsistency therein.

In the event a seeming conflict between provisions within one or more of the items in the Contract documents is discovered, an interpretation which reconciles the otherwise inconsistent and/or conflicting provisions, without ignoring either or any of them, shall be preferred.

If such reconciliation is not possible, then the various Contract documents shall be deemed to govern in the following order of precedence:

- a. First: The General Conditions (Part 2) as issued or subsequently amended.
- b. Second: The Requirements for Bidding and Instructions for Bidders found in Part 1 as issued or subsequently amended.
- c. Third: Technical specifications (Part 3) as issued for bid or as subsequently amended.
- d. Fourth: Contract plan and drawings as issued for bid or as subsequently amended.
- e. Fifth: All other Contract Documents.

In the event of conflict or inconsistency between the Contract Documents as provided to the Contractor on CD and the Official Printed Copy of the Contract Documents, the Official Printed Copy shall govern.

E. Entire Agreement.

The Contract Documents, and the exhibits attached to them and incorporated thereby, shall constitute the entire agreement between the parties with respect to the subject matter hereof, and no other oral or written understandings, representations, inducements, consideration, promises, or interpretations will be implied or impressed upon this Contract that are not expressly addressed herein and therein.

END OF I

II. PROJECT ORGANIZATION

A. Owner.

1. The City of Chicago is the Owner of the Project. The City possesses and operates the Airport, which is on City property. The City possesses the power and authority to lease premises and facilities and grant other rights and privileges at the Airport.

2. Personal Liability of Public Officials: In carrying out any of the provisions of this Contract or in exercising any power or authority granted to them thereby, there will be no liability upon the Chief Procurement Officer, Commissioner, their authorized representatives, or any employee of the City, either personally or as officials of the City, it being understood that in such matters they act as representatives of the City.

B. The Commissioner.

Except where otherwise specified in this Contract, for the purposes of this Contract, the Commissioner, or any successor office to the Commissioner, will represent the City in all matters relating to the Contractor's performance of its Work, such as to the quality and acceptability of materials furnished and Work performed, rate of progress of the Work, the amount and quality of Work performed and materials furnished and the estimates thereof. The Commissioner's determination with respect to such matters is a condition precedent to the right of the Contractor to receive money due under the Contract, provided that the Contract Modifications are approved in accordance with Article X.

C. The Chief Procurement Officer.

The Chief Procurement Officer has the statutory authority to solicit and award this Contract for the City and will represent the City in most administrative matters relating to the Contract, such as approval of Subcontractors and approval of DBE plans.

D. Construction Manager.

The Construction Manager is the organization(s) or entity(ies) that the City has retained to oversee the construction of projects at the City's Airports. Among the duties relating to this Contract, the Construction Manager will inspect the Contractor's Work to verify that it is in compliance with the Contract Documents and act as a point of contact where indicated in the Contract Documents. The Construction Manager will have no authority to issue approvals that the Contract requires the Contractor to obtain from the Commissioner, to bind the City contractually, or to make modifications to this Contract. In carrying out any of the provisions of this Contract or in exercising any power or authority granted to it, there will be no liability upon any officer, employee, or authorized representative of the Construction Manager, either personally or as officials of the Construction Manager, it being understood in such matters they act as representatives of the Construction Manager.

E. Architect/Engineer.

The City has retained an Architect/Engineer for the project whose name appears on the plans (Part Three of the Contract Documents). The Contractor will have no direct contact with the Architect/Engineer except as authorized by the Commissioner. The Architect/Engineer is not authorized to make changes to designs approved by the City and included in the Contract Documents without the express direction of the City pursuant to a Contract Modification.

F. Testing Consultants.

The City may retain one or more consultants to perform testing of materials provided by the

Contractor and incorporated into the Project to ensure compliance with Contract requirements. All such consultant(s) will make recommendations to the Commissioner and Chief Procurement Officer but does not have authority to approve materials or substitutes which authority is reserved to and requires approval of the Commissioner and/or Chief Procurement Officer.

G. Contractor.

1. Contractor's Responsibility for Work:

- a. Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.
- b. The Work shall be under the charge and care of the Contractor until Final Completion of the Project, Milestone, or phase, as determined by the Commissioner, including all "Punch List" Work, unless otherwise specified in the Contract Documents. The Contractor will assume all responsibility for injury or damage to the Work by action of the elements and fire or from any other causes whatsoever, whether arising from the execution, or from the non-execution, of the Work. The Contractor must rebuild, repair, restore and make good, at its expense, all injuries or damages to any portion of its Work occasioned by any of the above causes before its completion and final acceptance.
- c. When equipment or materials are furnished to the Contractor by the City for the Contractor's use or inclusion in the Work, the Contractor's responsibility for all such equipment and materials will be the same as for materials furnished by the Contractor.
- d. The Work will not be considered as completed and accepted until a written notice from the City confirming the Final Completion has been received by the Contractor.

2. Subcontractors:

- a. Except as otherwise provided in the Contract, all transactions of the City and the Commissioner will be with the Contractor; Subcontractors shall be recognized only in the capacity of employees or workers.
- b. Contractor further will implement such measures as may be necessary to ensure that its staff and its Subcontractors are bound by all provisions of the Contract.
- c. As provided in Article V, all Subcontractors must be approved by the Chief of Procurement Officer. The Contractor may not make any substitution for a Subcontractor that has been accepted by the Chief Procurement Officer, unless the substitution is acceptable to the Chief Procurement Officer. All requests to subcontract must be submitted on the form approved by the Commissioner and Chief Procurement Officer.
- d. The Contractor is responsible for all Subcontractors' Work.
 - (1) There is no privity between Subcontractors and the City; Subcontractors have no rights as third-party beneficiaries under this Contract.
 - (2) The Contractor will require the Subcontractors to communicate with the City through the Contractor only.

END OF II

III. PROPERTY

A. Ownership of Drawings and Documents.

1. All drawings, specifications, and copies thereof furnished by the Commissioner or CPO are the property of the City and are not to be used on other work.
2. The City will provide to the Contractor, without charge, one (1) CD of all Contract Documents, 2 complete full size drawing sets and two (2) complete half size drawing sets.
3. All documents, data, studies, reports, and instruments of service prepared for or by the City under this Contract, are the property of the City. During the performance of its Work, the Contractor will be responsible for any loss or damage to documents while in the Contractor's possession or the possession of a Subcontractor and any such document so lost or damaged must be restored at the expense of the Contractor.
4. The Contractor will deliver, or cause to be delivered, at any time during the term of this Contract all documents, including but not limited to drawings, models, specifications, estimates, reports, studies, maps, and computations, prepared by or for the City, under the terms of this Contract, to the City promptly upon reasonable demand thereof or upon termination or completion of the Work hereunder. In the event of the failure by the Contractor to make such delivery, the Contractor will pay to the City damages the City may sustain by reason thereof, including consequential damages.
5. All Project Record Documents and deliverables, and any other information or data, whether in hard copy or in electronic format, (collectively, "Data") prepared by or provided to the Contractor under this Contract are confidential. The Contractor must not issue publicity or news releases nor grant press interviews and, except as may be required by law during or after the performance of this Agreement, disseminate any information regarding the Project without the prior written consent of the Commissioner. In the event the Contractor is presented with requests for documents by any administrative agency or with subpoena duces tecum regarding any Data, the Contractor must immediately give notice to the Commissioner and to the Corporation Counsel of the City of Chicago with the understanding that the City shall have the opportunity to contest such a process by any means available to it before such Data are submitted to a court or other third party; provided, however, that the Contractor shall not be obligated to withhold such delivery beyond that time as may be ordered by a court or administrative agency, unless the subpoena or request is quashed or the time to produce is otherwise extended.

B. Right of Entry.

1. The Contractor, and any of its officers, employees, agents, and Subcontractors, shall be permitted to enter upon any part of the Project site owned by the City in connection with the performance of the Work hereunder, subject to the terms and conditions contained herein and those rules established by the Commissioner. The Contractor will provide advance notice to the Commissioner of any such intended entry. Consent to enter upon all or any part of the Project Site given by the Commissioner will not create, nor be deemed to imply the creation of, any additional responsibilities on the part of the City.
2. The Contractor must use, and will cause each of its officers, employees, agents, and Subcontractors, to use the highest degree of care when entering upon property owned by the City, and must comply and will cause each of its officers, employees, agents, and Subcontractors, to comply with any and all instructions and requirements for the use of such property. Any and all claims, suits, judgments, costs, or expenses, including reasonable attorneys' fees, arising from, by reason of, or in connection with any such entry shall be treated in accordance with the applicable terms and conditions of the Contract, including without

limitation the indemnification provisions.

3. Damage to City Property: If the Contractor causes damage to City property, the Contractor must at the option of the Commissioner either 1) pay the cost of repair of the damage or 2) repair or replace the damage. To the extent that the City undertakes repair or replacement, the Commissioner will have the right to a set off against the payments to the Contractor for the cost of repairs or replacement if the City undertakes repair or replacement of the damaged property or has it done by others.

C. Information Provided By the City.

Surveys, soil borings, geotechnical information, data, or plans generally describing the unimproved land or existing structures at the site may be provided to the Contractor by the City. Such information is not warranted by the City to be accurate. The Contractor will not be entitled to rely on it. When such information is provided by the City and it appears on Contract Documents prepared by the Architect/Engineer, the Contractor acknowledges that the Architect/Engineer and City have not verified such information. Site plans prepared by the Architect/Engineer are based on surveys performed by consultants that have not been verified by the City and the Architect/Engineer. Site plans do not constitute any representation by the Architect/Engineer and City to the Contractor of site boundaries or characteristics. Information provided by the City may be based upon either the O'Hare Coordinate System or the O'Hare Monument System. Contractor is responsible for identifying the datum system used and, if it is the O'Hare Coordinate system, is responsible for converting that information to the O'Hare Monument System.

D. Site Conditions.

1. If conditions encountered at the site are:
 - a. Subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents, or
 - b. Pre-existing unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, including the presence of unanticipated Hazardous Materials, then pursuant to the Public Construction Contract Act, 30 ILCS 557, the Contractor will take no action to disturb the area until providing written notice to the Construction Manager immediately, and receiving notice from the Construction Manager as to how and when to proceed.
2. If the conditions differ materially from those indicated in the Contract Documents and could not have been known to the Contractor at the time the Contract was bid, and such conditions will cause a material increase or decrease in the Contractor's cost of, or time required for, the performance of any part of the Work, an equitable adjustment in the Contract Amount or Contract time or both, will be made based upon Article X, "Changes In The Work."
3. The Contractor must follow the requirement of written notice in Section III. D. 1. above and the requirements set out in Section XVII. A. Claims, regarding a claim for changed site conditions. The Contractor must also provide written Notice of Claim regarding the changed site condition to the Construction Manager immediately after its discovery. The Notice of Claim for the changed site conditions must state the nature of the changed site condition, its location, and the work that is affected by it. The Contractor's failure to provide the written notice to the Construction Manager within one day after discovery of the changed site condition constitutes a waiver of any Claim that Contractor may have relating to the changed site condition, a waiver of its right to file a Claim under Article XVII.A and a waiver of its right to file a dispute to the Chief Procurement Officer under Article XVII.B.

E. Permits and Licenses.

1. Wherever the Work requires the obtaining of permits from the City of Chicago or other public authorities, triplicate copies of such permits must be furnished to the Construction Manager by the Contractor hereunder before the Work covered thereby is started.
2. Except as otherwise provided in paragraph 2 below, the Contractor will obtain, at its own expense, all permits and licenses necessary to carry out the Work. Unless an Allowance for Permit Fees has been established in Book 1 of the Contract Documents, there will be no separate fee reimbursement from the City to the Contractor in connection with Permits and Fee requirements and all costs therefore are considered as incidental to the project.
3. Permits required from the Metropolitan Water Reclamation District of Greater Chicago, the Illinois Division of Waterways, and the U.S. Army Corps of Engineers will be obtained by the City.
4. The special use of or removal, alteration, or replacement of certain City owned facilities and appurtenances such as traffic signs, trees, sewers, hydrants, bridges and viaducts, which will be required as a consequence of the Contractor's Work, will be subject to the applicable Municipal Ordinances. It will be the Contractor's responsibility to obtain all the necessary permits and pay the associated fees. Copies of such permits will be furnished to the Construction Manager by the Contractor before the Work covered is started. No payment will be made for Work performed without the required permits unless authorized by the City. Information with regard to the above may be obtained by contacting the appropriate City Departments.
5. Water System Work: If water from a City hydrant is necessary to the execution of the Work, the Contractor, with approval of the Construction Manager, will obtain a hydrant permit from the Department of Water Management of the City of Chicago. Before starting Work, the Contractor will pay to the Department of Water Management of the City of Chicago a fee for water to be used as set forth in the Municipal Code of Chicago and its amendments to date. Payments are to be made to: Department of Water Management, Bureau of Billings & Customer Services.
6. Sewer System Work: The construction, repair, adjustment, or cleaning of any subsurface structure designed to collect or transport storm and/or wastewater, either in private property or in the public way, will require a permit issued by the Department of Water Management.
 - a. The construction, repair, adjustment, or cleaning of any subsurface structure designed to collect or transport storm and/or wastewater, either in private property or in the public way, will require a permit issued by the Department of Sewers, (Sewers and Drains).
 - b. Sewer Permits for doing any of the above described Work will be issued to Sewer Drain Layers currently licensed by the Department of Sewers. Contractor must be, or must subcontract with, a licensed Sewer Drain Layer for such Work.
 - c. When applying for a permit, a Contractor must submit two (2) sets of plans which show all new underground sewer work inside and around the Project with a clear site or location plan together with an estimate of the sizes and quantities of sewer to be installed.
 - d. Contractor must arrange for permits and/or inspection at least forty-eight (48) hours prior to starting work.
 - e. A copy of the permits must be on the jobsite prior to starting construction.
 - f. Failure to obtain permits prior to starting construction could result in the revocation of the drain layer's license.

- g. Plans for large projects (over 400 feet of sewer work) are to be brought in for examination and review by the City's Construction Manager at least two (2) days prior to application for the issuance of permits.
 7. Traffic and Parking Sign Removal and Replacement: When sign removal and replacement is not a pay item of the Contract, the City of Chicago will remove and reinstall any sign as may be required; however, the Contractor will be responsible for all fees relative to the removal and replacement of all of the City's traffic and parking signs. The Contractor must advise the Bureau of Traffic Engineering and Operations, in writing, of the location of each sign to be removed by specifying its distance from the property line of the nearest cross street. Each sign legend should also be stated. The Contractor must provide this information at least five (5) business days prior to removal. The Contractor will also advise the Bureau of Traffic Engineering and Operations, in writing, of when signs may be reinstalled as soon as this date is known.
- F. No Lien Provision.
1. The Contractor must notify its Subcontractors that no mechanics' liens under The Illinois Public Mechanics' Lien Act, 770 ILCS 60/23, will be permitted to arise, be filed, or maintained against public funds, the Project, or any part thereof or any interest therein, or any improvements thereon, or against any monies due or to become due to the Contractor on account of any work, labor, services, materials, equipment, or other items performed or furnished for or in connection with the Project; and the Contractor, for itself and its Subcontractors, does hereby expressly waive, release, and relinquish such liens and all rights to file or maintain such liens; and agrees further that this waiver of liens and waiver of the right to file or maintain such liens will be an independent covenant.
 2. If any of the Contractor's Subcontractors, employees, officials, agents, or any other person directly or indirectly acting for, through, or under any of them files or maintains a lien or claim as described in paragraph "1" above, the Contractor agrees to cause such liens and claims to be satisfied, removed, or discharged within thirty (30) days from the date of filing thereof; provided, however, that the City may extend the thirty (30) day period if the City determines that such lien claim cannot be so satisfied, removed, or discharged in such period and that the Contractor is proceeding diligently to cause such liens or claims to be satisfied, removed, or discharged. The City will have the right, in addition to all other rights and remedies provided under this Contract or by law, to cause such liens or claims to be satisfied, removed, or discharged by any means at the Contractor's sole cost, such cost to include reasonable legal fees.
 3. The Contractor must give, or cause to be given, a copy of these provisions to all Subcontractors and will include these provisions in all contracts with Subcontractors and/or give written notice of same to all Subcontractors or other persons having oral or written agreement with such Subcontractors.
- G. Ownership of Property and Builder's Risk.
1. The City will be and become the owner of each of the improvements, equipment and fixtures which has been installed or constructed by the Contractor as part of the Project or for which the City has paid Contractor to store in anticipation of installation or construction. The City's title shall be free and clear of liens, claims, security interests or other encumbrances, upon the earlier of installation, payment therefore or Final Completion of the Project. However, transfer of title to the City shall not relieve Contractor of any of its responsibilities under this Contract with respect to Work in progress.
 2. Regardless of passage of title, the risk of loss to any of the Work (and to any goods,

materials, equipment and furnishings that are provided or are to be provided by the Contractor under the Contract) shall remain with the Contractor until the date of Final Completion of the Project. If any of the Work (or any goods, materials, equipment and furnishings that are provided or are to be provided by the Contractor under the Contract) is destroyed, mutilated, defaced or otherwise damaged, by any cause whatsoever, the Contractor shall repair or replace the same at no extra cost to the City. Any performance bond or insurance protection required by the Contract or otherwise provided by the City or the Contractor shall in no way limit the responsibility of the Contractor under this section.

END OF III

IV. SCOPE OF WORK

A. The Scope of Work for the Project.

The Work that the Contractor must provide under this Contract includes, but is not limited to, the Work described in Part Three of the Contract Documents. The Contractor must provide the Work in accordance with the standards of performance set forth in the Contract Documents.

B. Errors or Discrepancies in Contract Documents.

Before the Contractor begins the Work, the Contractor must check the City's plans and specifications. Should any errors, discrepancies, or omissions be found in these plans and specifications or any discrepancy found between the Contract Drawings and the physical conditions at the site or in any subsequent drawings that may be provided thereafter, the Contractor must notify the Commissioner, in writing, immediately. Any Work done after such discovery, unless authorized by the Commissioner and Chief Procurement Officer, will be done at the Contractor's expense. The Contractor will not be allowed to take advantage of any error, omission, or discrepancy in the Contract Documents.

C. Requests for Information (RFI).

All Contractor questions and requests for clarifications of the Contract Documents must be addressed through a Request for Information (RFI). RFIs will be generated by the Contractor and answered by written directive of the Commissioner.

D. City Directed Value Engineering.

The City reserves the right to value engineer the Work by modifying the Contract Documents to provide innovative, alternative, lower cost construction without impairing the essential functions and characteristics of the Work including, but not limited to, service life, reliability, economy of operation, ease of maintenance, necessary standardized features, desired appearance, or design standards ("City Directed Value Engineering"). Any such changes will be incorporated through a Contract Modification pursuant to Article X - Changes in Work. Payment for the Work will be made pursuant to Article IX. For City Directed Value Engineering, the Contractor will not be eligible to receive any Value Engineering Incentive.

E. Construction Operations Plan and Procedures.

1. Construction Operations Plan.

Within fifteen (15) days after the Contract Award date, the Contractor must submit to the Commissioner for review the order of procedure the Contractor proposes to follow in performing the Work, a proposed construction schedule, a list of equipment to be used and a general description of the procedures, methods, structures and equipment to be used ("Construction Operation Plan"). An Airport traffic management plan must also be submitted as part of the Construction Operation Plan, if required by the Commissioner. Work will begin only after the Contractor's proposed Construction Operation Plan has been approved by the Commissioner in writing. It is understood by the Contractor that a reasonable amount of time will be required by the Commissioner for the examination of said Construction Operation Plan. As Work progresses, changes or modifications in such procedure and Baseline Schedule, or in such methods, structures and equipment may be required by the Commissioner. In such event, upon notice from the Commissioner to the Contractor, further Work must be performed only with the changed Construction Operation Plan.

- a. Procedures, Methods, Structures and Equipment: No later than ten (10) days prior to starting Work, the Contractor must submit for the Commissioner's approval a detailed

description of procedures, methods, structures and equipment for the Work that is consistent with the approved Construction Operation Plan. The Contractor will determine the methods to be employed, the procedures to be followed, the plant, falsework, shoring, bracing and other temporary structures and equipment to be used in the Work, subject to the requirements of the Contract Documents and the approval of the Commissioner. The Contractor must furnish all material and supplies, plant, heat, power, staging and falsework, equipment, tools, implements, and all material and appliances of every sort or kind that may be necessary for the full and complete carrying out of this Contract, whether temporary or permanent and whether or not incorporated into the Work. The Contractor must provide, as part of its submittal, drawings and calculations for all equipment, falsework, shoring, bracing, and other temporary structures or temporary services required for the Work, designed, signed and sealed by the appropriate (i.e. Structural, Mechanical, Electrical, Civil, etc.) Illinois licensed engineer. As Work progresses, changes or modifications in the procedures, methods, structures or equipment may be required by the Commissioner. In such event, upon notice from the Commissioner to the Contractor, further Work must be performed only in accordance with the changed procedures, methods, structures and equipment.

- b. Commissioner Approval: The Commissioner, in the Commissioner's sole discretion, may disapprove, reject or require modification of any proposed or previously approved Construction Operation Plan or procedures, methods, structures or equipment that the Commissioner believes: (i) is unsafe for the Work, for other activities being carried on in the vicinity, for other structures, for the public, or for workers, engineers and inspectors employed thereon; (ii) will result in undesirable settlement of the ground, will not provide for the completion of the Work by the Contract Completion Date, is contrary to any other requirement of this Contract; or (v) will adversely impact Airport Security, Airport Operations, or any function of the Airport, or Airlines.
- c. Contractor Responsibility: It is expressly agreed that the Commissioner's acceptance or approval of the Construction Operation Plan and any procedure, method, structure, or equipment submitted or employed by the Contractor, will not in any manner relieve the Contractor of responsibility for the safety, maintenance, and repairs of any structure or Work, or for the construction, maintenance and safety of the Work hereunder, or from any liability whatsoever on account of any procedure or method employed by the Contractor, or due to any failure or movement of any structure or equipment furnished by the Contractor. If, even though implemented in accordance with a Construction Operation Plan and procedures, methods, structures and equipment approved by the Commissioner, any procedure, method, structure or equipment used by Contractor fails in any manner whatsoever, such failure will in no way form the basis for any claim for additional compensation, damages, expenses, an extension of time for completion of this Contract, or for material, labor or equipment required for repairing or rebuilding the Work or any other property that may have been damaged by the failure of any such procedure, method, machinery, structure or equipment.

2. Sustainability.

The CDA encourages the Contractor to implement the best possible environmental, social, and fiscally responsible practices. The Sustainable Airport Manual ("SAM") has been developed as an integral part of the overall sustainability standards for the CDA and is incorporated into this Contract by reference. Contractors are strongly encouraged to incorporate as many sustainability elements into their project as are feasible. The SAM is meant to supplement existing federal, state and/or local regulatory requirements with additional best practice sustainability strategies and considerations. The SAM does not supersede any existing standards, regulations, codes, guidelines or practices (visit

www.airportsgoinggreen.org to obtain the latest version of SAM).

- a. Sustainability Requirements: Within thirty (30) days from the Notice to Proceed, the Contractor must submit to the Commissioner all required pre-construction sustainability plans, equipment/material lists, and estimates as detailed in the Part III, Technical Specifications. Pre-construction submittals required by the Technical Specifications may include: Diesel Emission Compliance Plan Pre-Construction Form; Local/Regional Materials Pre-Construction Estimate; Recycled Content Pre-Construction Estimates; Construction Waste Management Plan Pre-Construction Estimate of Construction & Debris Form. Failure to submit the required pre-construction documentation will result in rejection of the first payment for Mobilization as detailed in Part III Technical Specification – M-101 “Mobilization”.
 - b. Submittals: Monthly and/or Project Completion submittals as detailed in the Part III Technical Specifications must be submitted as required. Failure to submit the required submittals and documentation may result in non-payment and/or reduction of retainage.
3. The Contractor must furnish all material and supplies, plant, heat, power, staging and falsework, equipment, tools, implements, and all material and appliances of every sort or kind that may be necessary for the full and complete carrying out of this Contract whether temporary or permanent and whether or not incorporated or to be incorporated into the Work.
4. Security Personnel: The Contractor must furnish security personnel not only to protect the public and those who Work at or in the vicinity of the Work under this Contract, but to protect all materials, tools, machinery and equipment and all Work performed by the Contractor until said Work has been completed and accepted by the City. The cost of security personnel is incidental to the contract unless otherwise specified in the Contract Documents.
5. Batch Plant: A batch plant may be authorized at the Airport in Part Three, otherwise, the Contractor must seek permission to have a concrete or asphalt batch plant on Airport property by making a written request to the Construction Manager for submission to the Commissioner and Director. It is within the absolute discretion of the Commissioner whether to allow a batch plant on Airport property and denial of permission is not subject to a claim or dispute under Article XVII of the General Conditions. If permission is provided, the use of the batch plant is subject to all conditions set by the Commissioner to which the Contractor must agree in writing. The Contractor must obtain and follow the requirements of all federal, state and local permits, copies of which must be provided to the Construction Manager, before the plant is placed in operation. The plant must be dismantled and removed from the Airport when directed by the Commissioner. The Contractor's failure to follow the Commissioner's direction to remove the plant or to comply with the conditions for use of the plant, set by the Commissioner, constitutes a default under the Contract. Only adequate and safe procedure, methods, structures, and equipment will be used. Any costs related to land leasing, rental fees, or operations will be incidental to the Contract.
6. Verification of Dimensions, Cutting & Patching.
 - a. Wherever the Work is required to connect to existing improvements, the Contractor must take complete field measurements affecting all construction in this Contract and will be solely responsible for the proper fit between the Work and existing structures or appurtenances.
 - b. The Contractor must do all cutting, patching, or fitting of Work that may be required to make the Work under this Contract and the existing improvements come together and fit properly. In the event field measurements contradict the design drawings, Contractor

must submit discrepancies, via Request for Information, to the Commissioner for clarification.

7. Contractor's Layout of the Work. The Contractor is responsible for the correct lay-out and accurate fitting of all parts of its Work. All labor, materials, and other expense necessary for, or incidental to, the setting and maintaining of lines and grades (exclusive of the tasks of establishing the original reference base line and bench marks which must be performed by the City) will be furnished by the Contractor at its own expense. All Contractor layout and control survey work must be performed by a professional Land Surveyor registered in the State of Illinois.
8. Occupancy Interferences.
 - a. The Contractor must utilize a method of Work which interferes as little as possible with the normal conduct of Airport Operations or business in or around the Airport.
 - b. The building or structures may be in full time use and operation and will continue in normal use during application and installation of the Work. Building facilities, including heating, ventilation, and air conditioning, lighting and plumbing, will not be interrupted in the occupied areas, except as required for making connections to power sources as hereinafter specified.
 - c. The Contractor will serve written notification to the Commissioner requesting any anticipated interruption in facilities at least two (2) weeks prior to disruption of services, allowing for temporary relocation of personnel, operations, and equipment during the Work. The Contractor must provide any temporary facilities deemed necessary by the Commissioner due to a disruption of services. The Commissioner, in his or her sole discretion, will determine the procedures, times of day and dates the Contractor may accomplish the Work and may reject or modify the Contractor's request.
 - d. Deliveries and Storage of all material and/or equipment must be located in areas as designated or approved by the Commissioner, scheduled in such manner to minimize interference with the normal conduct of business in or around the occupied portions of the building and airline or vehicular areas.

END OF IV

V. SUBCONTRACTING & ASSIGNMENT

A. No Assignment of Contract.

The Contract must not be assigned or any part of the same subcontracted without the written consent of the Chief Procurement Officer. If the Chief Procurement Officer provides consent, such consent does not relieve the Contractor from any of its obligations or change the terms of the Contract, and Contractor shall remain responsible for satisfactory performance of all work undertaken by the assignee or Subcontractor.

B. No Assignment of Contract Funds.

The Contractor will not transfer or assign any Contract funds or claims due or to become due without the prior written consent of the Chief Procurement Officer and Comptroller. The transfer or assignment of any Contract funds, either in whole or in part, or any interest therein, which will be due or to become due to the Contractor, without the prior written consent of the Chief Procurement Officer and Comptroller, is void so far as the City is concerned.

C. Subcontracts.

1. All Subcontractors are subject to the approval of the Chief Procurement Officer before they may provide material, labor or services on the Project. The Contractor, upon entering into any agreement with a Subcontractor that has been approved by the Chief Procurement Officer must furnish the Chief Procurement Officer with one (1) copy of a written contract evidencing such agreement signed by the Contractor and Subcontractor. Copies of all written Subcontractor agreements and Purchase Orders for Suppliers must be provided to the Chief Procurement Officer within fifteen (15) days of the Notice to Proceed. All subcontracts must be in writing, must require each Subcontractor to be bound by the terms of this Contract, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by this Contract, assumes toward the City. All subcontracts must require that any services to be performed will be performed in strict accordance with this Contract and must provide that the Subcontractor is bound by and subject to the requirements of this Contract, whether or not a particular provision specifically mentions Subcontractors, and will provide that the City's rights are not thereby prejudiced. All Contractors and Subcontractors must have a Vendor Number. Vendor number requests shall be made on the form provided by the Commissioner.
2. The Contractor hereby collaterally assigns any or all subcontracts to the City, effective upon the City's exercise, in its sole discretion, of its rights to assume such assignment as a remedy for Contractor's default or in the event of early termination. The Contractor must require each of its Subcontractors (including material suppliers) to consent to a collateral assignment to the City of its respective subcontract with the Contractor. The Contractor's subcontracts must include language stating, "Contractor has collaterally assigned this subcontract to the City of Chicago, effective upon written assumption of such assignment by the City in the event of Contractor's default or early termination of Contractor's contract with the City. Subcontractor hereby consents to such assignment and assumption. Subcontractor acknowledges and agrees that, in the event of such an assignment and assumption, the City will have no liability to Subcontractor for work performed by Subcontractor prior to the effective date of the assignment and assumption and that Subcontractor shall look solely to Contractor for any compensation or other obligations arising under the subcontract prior to such date."
3. Subcontracts may contain different provisions than are provided herein with respect to payments, schedules, and matters not affecting the quality or timely completion of the Work. The subcontract must preserve the rights of the City under this Contract with respect to the Work performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor must require each Subcontractor to enter into

similar subcontracts with its Subcontractors. The Contractor will make available to each Subcontractor, prior to the execution of such subcontract, copies of this Contract to which the Subcontractor will be bound by this paragraph.

4. The Contractor, by administering each lower tier subcontract that exceeds \$25,000 a “covered transaction”, must verify each lower tier participation of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The Contractor will accomplish this by:
 - a. Checking the System for Award Management at website: <http://www.sam.gov>
 - b. Collecting a certification statement similar to the Certification Regarding Debarment and Suspension (Bidder or Offeror), included with Contractor’s bid (see Instructions for Bidders).
 - c. Inserting a clause or condition in the covered transaction with the lower tier contract.

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

D. City’s Right To Assign.

The City expressly reserves the right to assign or otherwise transfer all or any part of its interests hereunder without the consent or approval of the Contractor.

END OF V

VI. QUALITY OF WORKMANSHIP, EQUIPMENT AND MATERIALS

A. Standards of Performance.

1. Without limiting Contractor's obligations to complete the Project in accordance with the Contract Documents, the Contractor must perform, or cause to be performed, all of the Work required by the Contract with that degree of skill, care, and diligence normally exercised by experienced contractors performing that type of work in projects of a scope and magnitude comparable to the Project. The Contractor must assure timely and satisfactory completion of the Work. The Contractor must at all times act in the best interests of the City. The Contractor must perform, or cause to be performed, all Work in accordance with the terms and conditions of this Contract and to the reasonable satisfaction of the Commissioner.
2. The Contractor will further perform, or cause to be performed, all Work hereunder according to those standards for Work at the Airports promulgated by CDA, the FAA, and any other interested Federal, State, or local governmental units.

B. Compliance with Contract Documents.

The Contractor must supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Contractor is responsible for ensuring that the Work complies with the Contract Documents.

C. Correction of Work.

1. The Contractor, when directed in writing by the Commissioner, must promptly re-perform, correct, or remove all Work identified to be defective or as failing to conform to the standards set forth in Section VI A above or the Contract Documents, whether observed before or after Substantial Completion of the Contractor's Work and whether or not fabricated, installed, or complete. The Contractor must bear all costs of correcting such defective or nonconforming Work, including costs associated with removing and reinstalling any nonconforming Work and compensation for any additional services made necessary thereby.
2. If the Contractor does not proceed with re-performance, correction, or removal of such defective or nonconforming Work after written notice from the Commissioner and within the time period designated, the Commissioner may correct or remove it. In addition, the Commissioner may store at the expense of the Contractor, portions of Work that have been removed as needed for others to undertake the corrective Work. If the Contractor does not pay the cost incurred for any such removal and storage within ten (10) days thereafter, the Commissioner may upon ten (10) additional days' written notice from the Chief Procurement Officer, sell such defective or non-conforming Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Commissioner's additional Work or services of City employees or others made necessary thereby. If such proceeds of sale do not cover all costs the Contractor should have borne for removal and correction of the Work, the difference will be charged to the Contractor, deducted from any amounts due the Contractor. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor must pay the difference to the City.
3. Work done outside the Contract limit lines shown on the Contract Drawings or any work performed outside the scope of the Contract without a Field Order or Contract Modification will be considered as unauthorized and at the expense of the Contractor and will not be measured or paid for. Upon direction of the Commissioner, work so done must be removed or replaced and those areas restored at the Contractor's expense.

4. Neither the letter of Final Completion, nor any provisions in the Contract Documents will relieve the Contractor of responsibility for nonconforming Work, faulty materials, equipment or workmanship and, unless otherwise specified, the Contractor will remedy any defects due thereto and pay for any damage to other Work resulting therefrom. The Commissioner will give written notice of such observed defects with reasonable promptness.

D. Failure To Proceed With Directed Work.

In case of Contractor's failure to execute work in accordance with the Contract or a Field Order, the Commissioner may give Contractor written direction to perform the work within the period required by the Commissioner. If the Contractor fails to comply with such written direction, the Commissioner may give notice in writing to the Contractor and, with the approval of the Chief Procurement Officer, may direct others to proceed to execute such Work as may be deemed necessary, and the cost thereof will be deducted from compensation due or which may become due the Contractor under the Contract.

E. Materials.

1. Quality of Materials.

- a. Unless otherwise specified in the Contract Documents, all material incorporated into the Project must be new and must be incorporated in such manner as to produce completed construction, which is in conformance with the Contract Documents and acceptable in every detail to the Commissioner. The Contractor must certify on the "Request For Inspection of Material" form designated by the Commissioner that all materials and equipment to be used in the project comply with all Contract requirements. Only materials which conform to the requirements of the Contract Documents shall be incorporated in the Work.
- b. In the absence of a definite specification, materials must be the best of their respective kinds with properties best suited to the Work required. Inspection of materials shall be as specified in Article XIII, "Testing and Inspection".

2. Source of Materials.

- a. The Contractor must notify the Commissioner in writing as soon as possible, but no later than thirty (30) days, after the Contract has been awarded of the source (or sources) from which the Contractor expects to obtain the various construction materials. The source of supply of each material used must be approved by the Commissioner before delivery is started. If sources previously approved are found to be unacceptable at any time and fail to produce materials satisfactory to the Commissioner, the Contractor must furnish materials from other approved sources.
- b. If the Contractor seeks to investigate new sources of supply, the Contractor must furnish without charge such preliminary samples as the Commissioner may require. Tests may be made on these preliminary samples and reports rendered, but it is understood that such tests are for information purposes only and that the tests will not be construed as a guarantee of acceptance of any alternate supply of materials.

3. Substitution of Materials.

- a. Except for requests for substitution that were identified in the Contractor's bid and approved by the Commissioner and Chief Procurement Officer in accordance with Part One of the Contract Documents, requests for substitution for specified products or manufacturers will be considered only in case of product unavailability or other conditions beyond the reasonable control of the Contractor, or due to City Directed

value engineering.

- b. Each request for substitution must be submitted separately and must include:
 - (1) Complete data substantiating compliance of proposed substitution with requirements stated in the Contract Documents, including:
 - (a) Product identification, including manufacturer's name and address.
 - (b) Manufacturer's literature identifying:
 - i) Product description
 - ii) Reference standards
 - iii) Performance and test data
 - (c) Samples, as applicable.
 - (d) Name and address of similar projects on which the product has been used, and date of each installation.
 - (2) Itemized comparison of the proposed substitution with product specified; list significant variations.
 - (3) Data relating to changes in Baseline Schedule.
 - (4) Any effect of substitution on other parts of the Work, any Subcontractors, or any separate contracts.
 - (5) List of changes required in other Work or products.
 - (6) Accurate cost data comparing proposed substitution with product specified, including amount of any net change to Contract Price.
 - (7) Designation of required license fees or royalties.
 - (8) Designation of availability of maintenance services, sources of replacement materials.
- c. The Contractor warrants and represents that in making a formal request for substitution that:
 - (1) The proposed substitution is equivalent to or superior in all respects to the product specified.
 - (2) The same warranties and guarantees will be provided for the substitute as for the product specified.
 - (3) The Contractor will coordinate the installation of accepted substitutes into the Work and will make such changes as may be required for the Work to be complete in all respects.
- d. If the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty that the proposed substitution or deviations will provide a quality or result at least equal to that attainable by the product specified, the Commissioner may reject substitution or deviation without further investigation.
- e. The Commissioner will judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Commissioner will not approve proposed substitutes as equal to items specified which, in the Commissioner's opinion, would be unharmonious, or otherwise inconsistent with the character, quality or design of the

Project.

- f. Any additional cost, or any loss or damage, arising from the substitution of any material or method for those specified must be borne by the Contractor, including the cost for damages incurred by other contractors notwithstanding approval or acceptance of such substitution by the Commissioner, unless such substitution was initiated at the written request or direction of the Commissioner.
- g. The investigation, review and approval of substitute materials requires a minimum of thirty (30) days beyond that required for specified routine items. The Contractor agrees that no request for a delay or disruption will be allowed whether or not the substitution is granted.
- h. Approval by the Commissioner of a substitution of material must be given pursuant to a Contract modification as required in Article X, "Changes in the Work."

F. Warranties.

1. Warranties.

- a. The Contractor warrants to the City that the Work, materials, and equipment furnished and installed under the Contract are of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage.
- b. All Work furnished under this Contract must be guaranteed against defective materials and workmanship, improper performance and non-compliance with the Contract Documents for a period of one year after Substantial Completion or Beneficial Occupancy of a discrete phase or portion of the Work, whichever occurs first, and extending for a period of one year. Longer term warranties of manufacturers and installers, where required by Part Three of the Contract Documents, Detailed Specifications, shall be secured by the Contractor for the periods specified.
- c. Nothing stated herein shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the one-year period for correction of Work relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

2. Contractor's Warranties.

- a. The Contractor's Warranty must be in addition to any Manufacturers' Warranties.
- b. The Contractor's Warranty must include the name of the Project as designated in the Contract Documents, be signed by an officer of the company having authority to provide the warranty, and state: "This document serves as a one (1) year written guarantee for the Work performed, and material and equipment installed on the above

referenced project. This warranty incorporates all provisions of the Contract Documents that refer or relate to the guarantee. This warranty is commenced on (date)."

- c. During the warranty period, the Contractor must repair and replace at its own expense, when so ordered by the Chief Procurement Officer or the Commissioner, all Work that may develop defects whether these defects may be inherent in the equipment or materials, in the functioning of the piece of equipment, or in the functioning and operation of pieces of equipment operating together as a functional unit. Any equipment or material, which is repaired or replaced, will have the warranty period extended for a period of one additional year from the date of the last repair or replacement but shall not extend beyond two years following the Final Completion of the Project.
 - d. Should the Contractor or any Subcontractor of any tier return to do any Work during the warranty period, the Contractor or any Subcontractor of any tier must procure and maintain the insurance coverages required in Section III by this Contract and provide certificates of insurance for the coverages to the Commissioner, prior to beginning the work.
3. Manufacturer's Warranties.
- a. The Contractor must:
 - (1) ensure that all required Manufacturer's Warranties pass through to the CDA.
 - (2) submit all applicable Manufacturer's Warranties to the Commissioner and ensure that all warranty forms have been completed in the CDA's name and registered with the appropriate manufacturers.
 - b. Repairs and replacements made by the Contractor, pursuant to Section VI.F.3, will include a Manufacturer's Warranty, if standard with the Manufacturer, in addition to the Contractor's Warranty.

G. Testing Laboratory Labels.

- 1. All equipment containing electrical wiring must conform to the City Electrical Code.
- 2. In compliance with City of Chicago Ordinances all items of equipment furnished and installed or assembled by the Contractor under this Contract will be approved and so labeled by a testing laboratory acceptable under the Chicago Electrical Code Section 14- 64-010.
- 3. Any unit comprised of a number of components assembled at the factory and considered custom made will have a label of a testing laboratory acceptable under the Chicago Electrical Code Section 14-64-010 for the entire unit as well as for each component.
- 4. **All costs in obtaining a Testing Laboratory Label will be paid for by the Contractor with no additional charge to the City.**

Any delays in Completion of the Project caused by the manufacturer of equipment in obtaining the required Testing Laboratory Labels and City approval will not be grounds for an extension of time beyond the Substantial Completion Date.

H. Materials, Inspection and Responsibility.

Without limiting the City's rights of inspection under Article XIII or elsewhere in this Contract.

1. The Commissioner, by his or her representatives, shall have the right to inspect any equipment or materials to be used in carrying out this Contract.
2. The City does not assume any responsibility for the availability of any controlled materials or other materials and equipment required under this Contract.
3. The Contractor shall be responsible for all materials, components and completed Work furnished under this Contract until expiration of the Contractor's Warranty.
4. Materials, components or completed Work not complying herewith may be rejected by the Commissioner and must be replaced by the Contractor at no cost to the City.
5. Any materials or components rejected must be promptly removed from the project or project site at the sole expense of the Contractor following receipt of notice from the Commissioner that such materials or components have been rejected.

END OF VI

VII. PERSONNEL

A. General.

The Contractor must, immediately upon receiving a fully executed copy of the Contract, assign and maintain during the term of the Contract and any extension of it, an adequate staff of competent personnel who are fully equipped, licensed as appropriate, available as needed, qualified and assigned exclusively to perform the Work. Contractor must include among its staff such Key Personnel and positions as identified below.

B. Key Personnel.

1. Upon award of the Contract, the Contractor will submit a project staff organizational chart, which includes the names and resumes of employees in key positions for this Project. All key personnel must have experience on projects of a like size and scope to this Project in the position they are proposed to fill. All employees in key positions must be approved by the Commissioner.
2. If any key personnel furnished by the Contractor for the Project in accordance with the key personnel provisions under this section of the Contract should be unable to continue in the performance of assigned duties for reasons due to death, disability or termination, the Contractor must promptly notify the Commissioner explaining the circumstances. Changes in assignment of key personnel due to commitments not related to this Contract are prohibited without Commissioner's approval.
3. On request by the Commissioner, the Contractor must furnish to the Commissioner within seven (7) working days the name of the person substituting for the individual unable to continue, together with any information the Commissioner may require to judge the experience and competence of the substitute person. Upon approval by the Commissioner, such substitute person must be assigned to the Project and if the Commissioner rejects the substitute, the Contractor shall have seven (7) days thereafter to submit a second substitute person. Such process shall be repeated until a proposed replacement has been approved by the Commissioner.
4. In the event that, in the opinion of the Commissioner, the performance of personnel of the Contractor assigned to this Project is at an unacceptable level, such personnel will cease to be assigned to this Project, must return to the Contractor, and the Contractor must furnish to the Commissioner the name of a substitute person or persons in accordance with the previous paragraph.

C. Character of Workers.

The Contractor must employ only competent and efficient laborers, mechanics, or artisans and whenever, in the opinion of the Commissioner, any such worker is careless, incompetent, violates safety or security rules, obstructs the progress of the Work, acts contrary to instructions or acts improperly, or fails to follow the safety requirements of this Contract, the Contractor must, upon request of the Commissioner, discharge or otherwise remove such worker from the Work and must not use such worker again, except with the written consent of the Commissioner. The Contractor must not permit any person to enter any part of the Work or any buildings connected therewith who is under the influence of intoxicating liquors or controlled substances.

D. Supervision and Superintendence.

1. The Contractor must personally supervise and superintend the Work, and will have a competent jobsite Superintendent, able to direct all of Contractor's and subcontractor's Work, at the site at all times that any Work is being performed.

2. The Contractor must also have a full time experienced and qualified Project Manager and Safety Representative assigned to the Project.
3. Job Superintendent and Project Manager or designee must be available by phone, 24 hours per day, 7 days per week, including holidays, throughout the Project duration.

E. Employment Outreach Requirements.

1. The City is committed to improving access to employment for low income individuals and residents of socio-economically disadvantaged areas. To this end, the City supports and encourages the promotion of work opportunities to Chicago residents living in socio-economically disadvantaged areas. Contractor is strongly encouraged to employ residents of socio-economically disadvantaged areas and other low-income individuals.
2. The City is also committed to connecting veterans to employers, and employers to veterans. Therefore, the Contractor is reminded of its obligation under 49 USC 47112(c) (Veteran's Preference) and is encouraged to employ Chicago veterans and partner with the City's Office of Veterans Affairs to advertise job openings, obtain resumes, and promote general hiring outreach.
3. No later than the Notice to Proceed Date, the City may identify Socio-Economically Disadvantaged Areas. Contractor must conduct a minimum of one job fair in each of up to three Socio-Economically Disadvantaged Areas (to be identified by the City) to foster hiring employees from such areas. The job fairs are to be held no later than 30 days following the Notice to Proceed unless otherwise agreed by the City. Job fairs must include contractor's subcontractors to the extent applicable. Contractor must also participate in any City-sponsored job fairs or similar outreach events as reasonably requested by the City, including but not limited to job fairs for veterans. Nothing in this section prohibits Contractor from conducting additional job fairs in other locations or at other times.
4. For any new hires of Contractor or its Subcontractors, Contractor or Subcontractor must provide job postings or employment listings to area workforce development groups or agencies as identified by the City, assist agencies, and the City's Office of Veterans Affairs.
5. In order to help promote the efficiency of the Work, Contractor must designate and identify a member of its team as an Employment Services Coordinator who will be assigned to assist employees, particularly new hires who are low income or are from Socio-Economically Disadvantaged Areas, or employees who are veterans, regarding access to information and social services that may help them be successful employees.
6. The Employment Services Coordinator will also serve as a liaison between the Contractor and social services organizations, assist agencies, workforce development groups or agencies, and labor organizations to help Contractor advertise job openings, obtain resumes, and plan and execute job fairs in Socio-Economically Disadvantaged Areas in order to promote hiring outreach throughout Chicago and especially in Socio-Economically Disadvantaged Areas. Likewise, the Employment Services Coordinator will also serve as a liaison between the Contractor and the City's Office of Veterans' Affairs and other veterans' affairs organizations to promote the employment of veterans. Contractor must report to the City in a form acceptable to the Commissioner regarding its efforts under this section, and also the number of employees ultimately hired who are veterans or are from Socio-Economically Disadvantaged Areas.

- F. Employment Plan:** No later than twenty business days after contract award Contractor must provide a written plan outlining the steps it intends to take to ensure compliance with its Equal Employment Opportunity obligations as well as its plans for outreach to veterans and to workers in

Socio-Economically Disadvantaged Areas.

- G. **Sustainable Airport Commuting:** In accordance with CDA's commitment to sustainability and reducing carbon emissions associated with the Airport, as well as reducing construction-related traffic impacts on the traveling public, Contractor and its Subcontractors must encourage employees to access their jobs at the Airport by using public transportation. To this end, and allowance amount has been established for Contractor to provide a shuttle bus free to workers on the project between, at a minimum, the worksite and the nearest CTA train station. (Allowance G-8 "Community Outreach Allowance") This allowance will be limited to the Contractor's actual costs of operating the shuttle bus, and will be measured for payment in accordance with Article X, "Changes in the Work," of Part 2 – General Conditions. Contractor must provide a shuttle bus plan, including cost estimates, for the City's approval within twenty days of contract award.

END OF VII

VIII. SCHEDULE

A. Time.

1. Duration: The Contract duration for Substantial Completion is the period of time allotted in Part One of the Contract Documents for Substantial Completion. Contractor must achieve Substantial Completion of the Project by the Contract Completion Date.
2. Start Date: The date of commencement of the Work will be the date set forth in the Contract or such other date as may be established at the discretion of the Commissioner in the Notice to Proceed.
3. Progress and Completion.
 - a. TIME IS OF THE ESSENCE IN THIS CONTRACT.
 - b. No time extensions will be allowed unless they are contained in a Contract modification, which has been approved and executed by the City.
 - c. Without the Commissioner's prior written approval, the Contractor will not suspend any Work.
 - d. Notwithstanding any other terms contained herein, the Contractor will take measures to protect its Work and to minimize the impact of climatic conditions on the progress of the Work.
4. Liquidated Damages. Liquidated damages will be assessed against the Contractor, in accordance with the Schedule set forth in Part One of the Contract Documents, for: Substantial Completion of the Project after the Contract Completion Date, failure to achieve any milestone or phase dates that provide for liquidated damages as set out in Part One of the Contract, failure to return any area to aircraft operations on a timely basis as set out in Part One of the Contract Documents, or failure to complete the Punch List Work as required by Section VIII.D.2.
5. Daily Progress Reports: The Contractor and all Subcontractors must prepare and submit to the Commissioner daily progress reports on the various parts of the Work in the form that is approved by the Commissioner. The daily progress reports must include, but not be limited to, the number of workers and the classification of the trades involved, equipment used, and any pertinent information regarding possible delays in the Work. Daily progress reports must be submitted to the Construction Manager prior to the completion of the following work day.
6. Weekly Project Progress Meeting: The Contractor's project manager and field superintendent must attend a weekly project progress meeting with the Construction Manager. The Contractor's project manager must submit a three-week look-ahead schedule, from the current accepted Monthly Update Schedule at the meeting. The three-week look-ahead shall include the activities ID and identify whether the activity is part of that Monthly Update Schedule's Critical path. The three-week look-ahead shall be provided through Final Completion of the Project. Weekly Progress Meetings will begin at Notice to Proceed and shall continue through Final Completion.
7. Float Time: Total Float Time shown on the Baseline Schedule is not for exclusive use or benefit of the Contractor, but is an expiring resource available to the City or the Contractor to accommodate changes in the Work, however originated, or to mitigate the effects of events which may delay performance of all or part of the Work. Time extensions for Contract performance will be granted only to the extent that delays extend the Critical Path of the current Monthly Update Schedule beyond the Contract Milestone(s) or Completion dates. In order to obtain a time extension, the Critical Path delay must be beyond the control and without

fault or negligence of the Contractor, any of its Subcontractors or concurrent delays. In the event that Contractor created a delay impact on an already negative float path on the current Monthly Update Schedule, the Contractor will not receive any time extension unless and until the negative float is increased for the activity with the highest negative float on the current Monthly Update Schedule.

B. Delays:

1. No Damages for Delay: If the Contractor is delayed in the commencement, prosecution or completion of the Work by any act of the City, including but not limited to a delay, change, addition, deletion or modification in the Work or any omission, neglect or default of the City, or by order of the Commissioner, or the Commissioner's designee, or by any cause beyond the Contractor's control, none of which are due to any fault, neglect, act or omission on Contractor's part, then the Contractor shall be entitled solely and exclusively to an extension of time only. Such extension of time shall release and discharge the City, its employees and representatives from any and all claims for damages of whatever character, including but not limited to, disruption, changes in sequence, interference, inefficiency, field or home office costs claimed by the Contractor on account of the aforesaid or any other causes of delay.
2. Notice of Delay: In the event that Contractor's performance of its Work is delayed by causes beyond the reasonable control of the Contractor, the phase / milestone of the project, the Substantial Completion Date or the Contract Completion Date of the project may be extended by the City to reflect the extent of such delay. The Contractor must give the Construction Manager written notice within five (5) Calendar Days of the commencement of such delay. The written notice by the Contractor will comply with the requirements of VIII. B.6. Consideration of a time extension for events beyond the reasonable control of the Contractor will only be made if the delay directly impacts critical path activities based on the latest accepted Monthly Update Schedule.
3. Events of Delay Events considered to be beyond the reasonable control of the Contractor are limited to acts of God, acts of the public enemy, fires, floods, earthquakes, epidemics, quarantine restrictions, labor strikes at the job site, freight embargoes, or Weather Days in Section VIII.B.4., provided that the listed causes were not foreseeable and did not result from the fault or negligence of the Contractor, and provided further that the Contractor has taken reasonable precautions to prevent further delays owing to such causes.
4. Weather Days:
 - a. No additional time will be granted for weather days associated with this Contract. All work must be completed by the contract dates for each phase and milestone. However, weather events, which are exceptionally irregular, are excluded. Unless otherwise specified in Part I, Instruction and Execution Documents, Section 4 – Time of Completion, an exceptional weather event shall be defined as an event that prevents work on one (1) or more Critical Path activities within the Baseline Schedule for three (3) or more consecutive planned workdays. The fourth (4th) consecutive planned workday prevented from occurring by an exceptional irregular weather event shall be grounds for requesting a time extension in accordance with General Conditions Article VIII.B.4.b.
 - b. For each Weather Day the Contractor encounters that prevents work on critical path activities on Work Days in the latest accepted Monthly Update Schedule, the Contractor must provide written notice to the Construction Manager within two work days. The notice to the Construction Manager will be entitled Notice of Weather Day and must state: 1) the date the weather occurred; 2) the type of weather (including the NOAA weather data); and 3) the critical path activity of the latest accepted Monthly Update Schedule that could not be worked on because of the weather.

- c. The Construction Manager will review each Request for each Weather Day as submitted by the Contractor. The Construction Manager will notify the Contractor of its decision in writing. If the CM denies the Weather Day Request, the Contractor may appeal the decision to the Commissioner within (10) days of receipt of the denial from the Construction Manager.
 - d. The Commissioner will grant or deny the request for each Weather Day based upon the facts stated in the request and the actual weather conditions that day as they affected the Contractor's scheduled activities. The Commissioner will notify the Contractor of that final decision in writing. If the Commissioner denies the request, the Contractor will not be entitled to a Weather Day for the date requested.
 - e. The Contractor's failure to follow the requirements of this Section VIII.B.4 constitutes a waiver of the right to file a dispute to the Chief Procurement Officer pursuant to Article XVII.
 - f. If the Contractor does not agree with the Commissioner's final decision on a request for a Weather Day, the Contractor may appeal the decision to the Chief Procurement Officer under Section XVII.B of the Contract. However, the Contractor may not appeal the decision unless the Weather Day request exceeds three (3) Calendar Days or the liquidated damages exceed \$10,000. The decision of the Commissioner is final for each Weather Day request of three (3) days or less, or if the liquidated damages assessed are \$10,000 or less.
5. Delays Which Do Not Qualify For Time Extensions: No extension of time will be granted under this section for any delay: (1) if the delay was caused by the action and/or inaction of the Contractor, including but not limited to the fault or negligence of the Contractor or its Subcontractors; or (2) for which any remedies are provided for or excluded by any other provision of the Contract; or (3) which has not been requested in strict accordance with Article VIII.B.6. Procedure for Time Extension Requests, the procedures and such other provisions of the Contract Documents which may be applicable. The Commissioner's permitting the Contractor to proceed with its Work, or any part thereof, after such extension will in no way operate as a waiver of any other rights on the part of the City.
6. Procedure for Time Extension Requests.
- a. The Contractor expressly consents to both the time requirements and notice content requirements for requesting an extension of time set forth in this Section VIII.B.6. The Contractor acknowledges that the notice requirements set forth in this section VIII.B.6 shall be strictly enforced and agrees that any failure on the part of the Contractor to provide notice strictly in accordance with the requirements of this Section VIII.B.6, shall constitute a waiver of the Contractor's right to seek an extension of time or to file a dispute to the Chief Procurement Officer under Article XVII. The Contractor further understands and agrees that, notwithstanding any case law decision to the contrary, the notice requirements of this Section VIII.B.6 shall not be subject to or diminished by any claim on the part of the Contractor that the Commissioner or any person acting on behalf of the Commissioner had actual or constructive knowledge of any request for extension of time, entitlements to an extension of time or any facts or circumstances supporting an extension of time. The Contractor further acknowledges that the time requirements and content requirements of Section VIII.B.6 have the purpose, among others, of allowing the Construction Manager and Commissioner to evaluate the time extension request contemporaneously with the event that has been claimed to cause the delay.
 - b. In order to request a Time Extension, a "Commencement of Delay" notice must be provided in writing to the Construction Manager, no more than five (5) calendar days after the commencement of the delay, otherwise, the claim for the time extension is

waived.

- c. "Termination of Delay" notice must be provided in writing to the Construction Manager no more than five (5) Calendar Days after the delay has been terminated.
- d. If the cause of the delay impacts the critical path of the latest accepted Update Schedule, a "Request for Time Extension" must be submitted within ten (10) Calendar Days after the termination of the delay and must (1) state the cause of the delay, (2) specifically demonstrate the negative impact of the delay on the critical path of the latest accepted Update Schedule, and (3) state the number of days requested.
- e. The Construction Manager shall advise the Contractor of its recommendation regarding the Time Extension request, in writing, within ten days of receipt. If the Contractor and Construction Manager agree on the length of a proposed Time Extension, the Contractor will sign a Contract Modification that states the agreed upon Time Extension for approval by the City to the Commissioner. The Contractor must make a Claim to the Commissioner, as required by Article XVII, regarding any Request for Time Extension request to which the Construction Manager and Contractor do not agree. However, the Contractor may not appeal the Commissioner's final decision unless the Request for Time Extension exceeds five (5) Calendar Days or the liquidated damages exceed \$10,000. The decision of the Commissioner is final for each Request for Time Extension of five (5) days or less, or if the liquidated damages assessed are \$10,000 or less.

7. Liquidated Damages for Delay

- a. As provided in Section VIII.A.4., if the Project is delayed as a result of the Contractor's refusal or failure to begin the Work on the date of commencement as stated in Section VIII.A.2 or as a result of Contractor's refusal or failure to carry the Work forward expeditiously with adequate forces, equipment, material or other resources, or as a result of Contractor's other failure to complete the Work according to the approved Baseline Schedule, and if Part One provides for liquidated damages, then such damages shall be assessed. Liquidated damages will be assessed for any of the following events, if so provided in Part One: (i) every day the Substantial Completion Date is exceeded, (ii) every day that a phase or milestone date (that provides for liquidated damages) is exceeded, (iii) every day for failure to complete Punch List Work as required by Section VIII.D.2, or (iv) for failure to return an area of the Project for aircraft operations within the time as may be required by Part One. In such events, the City will recover liquidated damages by deducting the amount thereof out of any moneys due or that may become due the Contractor, and if said moneys are insufficient to cover said damages, then the Contractor will pay the amount due.
- b. These liquidated damages are for Contractor's delay only, and nothing contained in this Contract limits the right of the City to recover from the Contractor any damages, costs and expenses sustained by the City due to Contractor's other improper performance hereunder, repudiation of the Contract by the Contractor, Contractor's other failure to perform, or Contractor's other breaches in any other respect, including but not limited to defective workmanship or materials.

C. Substantial Completion of Milestones, Phases, and Project.

The Contractor will notify the Construction Manager and Commissioner, in writing, of a definitive date when the Work on a milestone, a phase or the Project as a whole will be ready for inspection to determine whether the Work is Substantially Complete. Notice will be given by the Contractor at least seven (7) days in advance of that date for a milestone or phase and fifteen (15) days in advance for the Project as a whole. If the Construction Manager concurs that the work will be ready for inspection and/or testing on the date stated, the Commissioner, Construction Manager and

other parties selected by the Commissioner will make such inspection within a reasonable period of time. The scheduling of the inspection will not relieve the Contractor of its responsibilities under the Contract Documents. The Contractor is required to furnish access to all parts of the subject Work for the inspection.

D. Completion of Punch List.

1. It is also understood and agreed that TIME IS OF THE ESSENCE IN CLOSING OUT THE JOB SITE WORK OF THIS CONTRACT for a milestone, phase or Project completion. The Contractor agrees to begin work immediately after receipt of a Punch List.
2. The period to complete Punch List Work for a milestone or phase will be determined in the sole discretion of the Commissioner. The period to complete the Punch List Work for the Final Project Completion is forty-five (45) calendar days unless otherwise stated in Part One of the Contract Documents. The time period for completion of the Punch List Work begins the day after the Punch List is provided to the Contractor. The Commissioner may extend the period to complete Punch List Work for specific work, which requires the receipt of long lead-time materials. However, all other Punch List Work must be completed as required by Section VIII.D, including the turnover of Record Documents, As-Built Drawings and O&M Manuals and all other documents required by the contract documents.
 - a. Unless otherwise directed by the Commissioner and Chief Procurement Officer, failure of the Contractor or its Subcontractors to begin the Punch List Work on the job site prior to the expiration of three (3) Working Days after receipt of the Punch List will be construed as failure to prosecute the work of the Contract.
 - b. It is further understood and agreed that the Punch List Work will be continuously prosecuted once begun. Therefore, any gap of three (3) Working Days during which Punch List Work is not being performed on the job site will also be construed as failure to prosecute the work of the Contract.
 - c. The Contractor will notify the Construction Manager, in writing, of a definitive date when the Punch List Work will be ready for inspection. The Construction Manager and other required parties will make the inspection within a reasonable time frame. If the Punch List Work is deemed complete, the Construction Manager will issue a letter to the Contractor stating that the Project has reached Final Completion.
 - d. Unless otherwise agreed in a Contract Modification, the failure to commence, continue, or complete the Punch List Work will result in the charging of \$500 per day of the liquidated damages.
 - e. If liquidated damages are assessed, they will be added to the previously determined liquidated damages assessed at the time of Substantial Completion of the Project.

E. Baseline and Monthly Update Schedules

1. General.
 - a. It is understood and agreed that "TIME IS OF THE ESSENCE OF THE CONTRACT". The Contractor agrees to begin actual work covered by this Contract in conformity with the Contract provisions and to prosecute the same with all due diligence, so as to Substantially Complete the entire Work under this Contract by the Contract Completion Date, expressed in Calendar Days following Notice to Proceed as set forth in Part One. The Contractor will, when necessary, use overtime, multiple shifts, weekend and or holiday work to maintain the Baseline Schedule, approved by the Commissioner, without additional compensation.
 - b. The Contractor must use the Critical Path Method (CPM) as described in Paragraph 3

below in preparing the Baseline and Monthly Update Schedule for approval by the Commissioner. The Contractor must utilize Primavera Project Planner 6.0, or a more current version. The Commissioner may choose to direct the Contractor to use a different scheduling software program to prepare the schedule. The Commissioner's decision regarding the scheduling software is final and cannot be disputed under XVII of the Contract. Any costs associated with obtaining the required scheduling software or training to use such software will be incidental to the contract.

- c. The Baseline Schedule will, at a minimum, indicate the dates for the starting and completion of the various stages of the Work, including without limitation the placing of material orders, delivery of materials and equipment; preparation, submittal and approval of all required compliance submittal; preparation and procurement of material and equipment furnished by the Contractor; interface activities performed by others upon which the Contractor's schedule depends; all work activities and field construction operations; equipment installation, testing and balancing.
- d. The Commissioner's approval of the Baseline Schedule is done for the sole purpose of ensuring that all CPM scheduling documents prepared by the Contractor are in conformance with the Contract requirements. This approval does not relieve the Contractor of the responsibility for the means, methods, procedures, manpower requirements and equipment to meet Activity durations, and sequence of the construction process nor does it provide any entitlement to additional funds for Project Substantial Completion on a date that is earlier than the Contract Completion Date.
- e. The initial approved Baseline Schedule will only be changed based on a Contract Modification which extends the Contract Completion Date or the required date for completion of a phase or milestone. All updates will be plotted against the approved Baseline Schedule

2. Qualification and Approval of Scheduler.

- a. To assist in the preparation and maintenance of the Baseline and Monthly Update Schedule, the Contractor may engage, at its own expense, a consultant who is skilled in the application of CPM scheduling techniques for construction projects and the use of Primavera scheduling software. If the Contractor has qualified personnel on staff, the Contractor may perform the required scheduling with its own organization.
- b. Prior to engaging a consultant, or using in-house staff personnel and within five (5) Calendar Days after award of Contract, the Contractor must submit to the Construction Manager:
 - (1) The name and address of the proposed consultant or in-house staff person.
 - (2) Sufficient information to show that the proposed consultant, or the in-house staff person, has the qualifications and experience to meet the progress schedule requirements.
 - (3) A list of prior construction projects, along with Primavera schedule samples from three (3) different projects, which the proposed consultant or in-house staff person has prepared. These three (3) CPM schedules must be for projects similar in complexity and magnitude to this Project.
- c. The Commissioner has the right to approve or disapprove employment of the proposed consultant, or the performance of the schedule requirements of the Contract by the Contractor's in-house staff, and will notify the Contractor as to approval or disapproval within seven (7) Calendar Days from receipt of the information. In case of disapproval, the Contractor will submit another person and the supporting documents

within seven (7) Calendar Days. The Commissioner also reserves the right to disqualify the consultant or Contractor's staff personnel at any time throughout the Project if the preparation, presentation, reporting and updating do not, in the Commissioner's opinion, meet the degree of detail described in the Project specification. The Commissioner's disapproval or disqualification of the consultant or in-house staff is final and cannot be disputed under Article XVII of the Contract. Such approval, disapproval or disqualification does not release the Contractor from any of its obligations under this Contract.

3. Critical Path Method.

- a. The Contractor must prepare a detailed Baseline and Monthly Update Schedule for the Work consisting of a CPM diagram or diagrams, as specified below. The format of the network diagram will utilize the "Gantt Chart" method with the relationship lines, showing the proposed starting and completion date for the various stages of the Project including any float time, and will be prepared so that it can be used to plot actual progress against proposed progress. The Baseline Schedule must have the same durations for phases, milestones, and Contract Completion Date as stated in Part One of the Contract Documents. The Baseline Schedule must be updated and submitted no less than monthly or more frequently as directed by the Commissioner or the monthly payment will be withheld pursuant to General Conditions Section IX.F.3 of the Contract.
- b. Specification applicable to Baseline Schedule and network diagram:
 - (1) Each separate sheet will include the Project name, Contract number, Contractor's name, data date and plot date. If multiple diagrams are prepared, each must, in addition to the above, include a descriptive title of that portion of the Work included therein. The Contractor will be given a "Schedule Template" which will identify the general layout and all required elements.
 - (2) The Baseline Schedule must show the order and interdependency of activities, indicating the sequence in which the Work is to be performed as planned by the Contractor, and must describe and indicate the critical path.
 - (3) The Baseline Schedule must be submitted to the Commissioner in triplicate printed in color on 11"x17" paper. Additionally, a CD containing the following files must be submitted: Narrative, Baseline Schedule ("xer" format), Schedule Analyzer Report and a full schedule ("pdf" format).
 - (4) Activities shown on the Baseline Schedule will include, as a minimum, field construction operations, submittal to and approval of submittals by the Commissioner, procurement of material and equipment furnished by the Contractor or City, interface milestones performed by others upon which the Contractor's Baseline Schedule may depend, and equipment installation and testing. The duration for approval submittals shall be fourteen (14) calendar days for shop drawings, product data and samples and thirty (30) calendar days for requested substitutions. Exceptions to the review duration will be evaluated by the Construction Manager on a case by case basis. If a submittal is rejected or returned for correction, two new activities will be inserted into the schedule for Resubmission and another for Review of the Resubmission.
 - (5) The Contractor shall obtain a unique identifier from the CM prior to coding the schedule and use Primavera's "Project Activity Codes" for all codes defined in Section VIII.E.3.d.
 - (6) The critical activities defined as activities with less than one (1) day of float will

not exceed twenty (20) percent of the number of activities within each phase of work. The critical and near critical activities with less than ten (10) days of float will not exceed forty (40) percent of the number of activities within each phase of work.

- c. The following items define the term "activities" as it pertains to the Project CPM Schedule:
 - (1) Each activity will be a unit of work, with an amount of time indicated for its performance.
 - (2) Each activity will be a logically separate part of the work, defined by an observable start and an observable finish. All activity relationships and the types of constraints must be accepted by the Construction Manager. Use of the following constraints is not permitted: Finish On, Start On, Mandatory Finish, Mandatory Start.
 - (3) To establish the scope of an activity for CPM purposes, the Contractor will form a single activity from the largest grouping of related operations, which permit a continuous and measurable flow of work.
 - (4) The scope of an activity will be concise enough to permit a reasonable appraisal of its status or as directed by the Construction Manager. Activities should be broken down in the level of detail as directed by the Construction Manager.
 - (5) Activities of other stakeholders or companies related to the project will be included in the Contractor's schedule as milestones and identified with a designation accepted by the Construction Manager.
- d. The following information must be furnished for each activity in the Baseline Schedule:
 - (1) Activity ID.
 - (2) Description of the activity.
 - (3) Duration of the activity.
 - (4) Activity Resource References: each activity will include, but not be limited to a) units of measure (e.g., SF, SY, TNS, LF, CY, LBS., EA.), budgeted quantity, and budgeted cost per unit or as detailed in the Schedule of Prices found in Part One, Section 3 of the Contract Documents. For the Baseline Schedule each line item from the Schedule of Prices must be included as its own resource in the resource dictionary and the sum of the resource loaded activities and general condition activities (e.g., mobilization, project management, bonds and insurance) must equal the amount bid. In addition, when directed by the Commissioner, the manpower requirements by subcontractor craft, man-hours, and equipment and items listed on the approved Schedule of Values must be provided.
 - (5) Each activity that is not performed by the Contractor will be assigned a responsibility code (using activity code "RESP") indicating which Subcontractor, supplier, fabricator, etc., is to perform the activity. Submittal review activities should be coded as "A/E" and Utility projects should be coded to the responsible utility.
 - (6) When applicable, each activity must be coded according to the phase (using activity code "PHAS") in which the activity is to be performed. Phase coding

must be in accordance with the contract phasing specified in Part I of the Contract Documents. Activities relating to the overall project, or otherwise not specific to any particular phase, must be coded "General".

- (7) When applicable, each activity must be coded according to the type of work (using activity code "TYPE") being performed. Type coding includes, but is not limited to, submittal and approval of submittals, procurement, fabrication construction / installation, and testing/commissioning. Activities relating to the overall Project, or otherwise not specific to any particular work type, must be coded "General".
 - (8) When applicable, each activity must be coded according to the location of the work (using activity code "LOCN") in which the activity is to be performed. Location coding includes, but is not limited to, terminal, concourses, gates, airside, landside, etc. Activities relating to the overall project, or otherwise not specific to any particular location must be coded "General".
 - (9) When applicable, each activity must be coded according to the milestone (using activity code "MILE") in which the activity is to be performed. Milestone coding must be in accordance with the contract phasing specified in Part I of the Contract Documents. Activities relating of the overall project, or otherwise not specific to any particular milestone, must be coded "General".
 - (10) When applicable, each activity must be coded according to the associated specification section (using activity code "SPEC"). Specification coding must accurately follow the Contract Documents and/or be in accordance with CSI standards, as required by the Commissioner.
 - (11) Additional activity code as may be required by the Commissioner.
 - (12) Each activity will be identified with early/late start, early/late finish, and total float.
 - (13) When applicable, each activity must be coded according to the associated Field Order number (using activity code "FO"). In addition, the Field Order must be identified within each activity description.
- e. In addition to the above, any phase, milestone, or activity with a start date/finish date or duration specified in Part One will be shown in the Project CPM Schedule. Phase, milestone and Project Substantial Completion dates must have late finish constraints based upon the durations specified in Part One.

4. Completion Requirements.

- a. The Contractor must submit the required Baseline Schedule in two (2) stages:
 - 1) Stage 1 – must be submitted within fifteen (15) Calendar Days after the "Notice of Award" is issued. This schedule must detail the first ninety (90) days, then summarize the remaining activities through project completion and identify the critical path.
 - 2) Stage 2 – must be submitted within forty-five (45) Calendar Days after the "Notice of Award" is issued. This schedule must detail all activities through project completion with cost and resource loading.
- b. Failure by the Contractor to provide the Baseline Schedule, both Stage 1 and Stage 2, within the required time period is grounds for the Commissioner to withhold monthly

- progress payments.
 - c. The Contractor will not be allowed to begin field work until the Stage 1 Baseline Schedule is approved by the Commissioner.
 - d. Contractor's failure to have the Baseline Schedule approved because the schedule did not comply with the requirements of Section VIII.E. is not a basis for a Request for Time Extension.
5. Submittal, Acceptance, and Contractor's Responsibility for the Baseline Schedule.
- a. The Contractor shall submit a written narrative and a Schedule Analyzer Enterprise report in triplicate and text file with the submission of the Baseline Schedule. The narrative shall present the construction approaches and explain the schedule logic, and discuss the project's critical path.
 - b. Prior to submitting the Baseline Schedule to the Construction Manager, the Contractor must review and verify the procurement lead time for the fabrication and delivery of all construction materials and Project equipment, along with the erection and/or installation durations for all the construction activities that make up the critical path of the Project.
 - c. The Contractor must coordinate its letting of subcontracts, material purchases, shop drawing submissions, delivery of material and sequence of operations to conform to the Baseline Schedule and will furnish proof of same as may be required by written notification from the Construction Manager.
 - d. Upon receipt of the Baseline Schedule and supporting documents, the Construction Manager will review the schedule for conformance with the Contract Documents and degree of detail and within fourteen (14) calendar days, will either approve the schedule or reject it with written comments. If the Baseline Schedule is approved, it will become the "Baseline Schedule" for the project. If the Baseline Schedule is rejected, the Contractor must submit a Revised Baseline Schedule to the Construction Manager within seven (7) Calendar Days after the first rejection. All subsequent rejections require a revised Baseline Schedule to be submitted within three (3) Calendar Days after the rejection.
 - e. In the event the Contractor fails to provide the required Baseline Schedule and supporting documents as outlined in this section within the time prescribed and/or updates within the stated time frames, the Contractor will be in default of the Contract requirements, and the Commissioner may, in addition to any other remedies available to the City, withhold monthly progress payments until such time as the Contractor submits the required information.
6. Monthly Update Schedule.
- a. The Contractor shall prepare the first Monthly Update Schedule by updating the accepted Baseline Schedule. The subsequent Monthly Update Schedules shall use the previous accepted Monthly Update Schedule as a basis for the current Monthly Update Schedule. All Monthly Update Schedules shall be targeted against the accepted Baseline Schedule for the purpose of comparison. The Contractor will be given a "Schedule Template" which will identify the general layout and all required elements.
 - b. When preparing the first Monthly Update Schedule, the Contractor must not make any changes, additions, or deletions to the accepted Baseline Schedule dates, durations, relationships, constraints, resources, codes, or costs, unless the changes have been requested in writing and accepted by the Commissioner. When preparing subsequent

Monthly Update Schedules, using the previous Monthly Update as a basis, the Contractor must not make any changes, additions, or deletions to the accepted Baseline Schedule dates, durations, relationships, constraints, resources, codes, or costs, unless the changes have been requested in writing and accepted by the Commissioner. The Monthly Update Schedule will be compared against the accepted Baseline Schedule.

- c. The Contractor must update the Monthly Update Schedule on a monthly basis coincident with the submission of the monthly pay estimate or more frequently if requested by the Commissioner at no additional cost. If payments are being made twice a month pursuant to Section IX.C.1, the Commissioner will determine whether the updated schedule information must be submitted with each pay estimate. The updated information will include the original schedule detail and the following additional information:
 - (1) Actual start dates
 - (2) Actual finish dates
 - (3) Activity percent completion
 - (4) Remaining duration of activities in progress
 - (5) Critical activities will be identified or highlighted
- d. The Monthly Schedule must be submitted to the Commissioner in triplicate printed in color on 11" x 17" paper in a format provided by the Construction Manager. Additionally, a CD containing the following files must be submitted: Narrative, Monthly Update Schedule ("xer" format), Baseline Schedule ("xer" format), Schedule Analyzer Report and a full schedule ("pdf" format). The Monthly Update Schedule must be submitted no later than three (3) work days after the data date. The data date will match the monthly NTP anniversary date or on a date as directed by the Construction Manager.
- e. Upon receipt of the Monthly Update Schedule, the Construction Manager will review the schedule for conformance with the Contract Documents and degree of detail. The Commissioner, within fourteen (14) Calendar Days after Construction Manager's receipt of the updated Monthly Update Schedule and supporting documents, will approve the updated Monthly Update Schedule or reject it with written comments. If the updated Monthly Update Schedule is rejected, the Contractor must submit a revised updated Monthly Update Schedule within three (3) calendar days after the first rejection. All subsequent rejections require a revised Monthly Update Schedule to be submitted within three (3) calendar days after rejection.
- f. Progress payments will be withheld, by the Commissioner, if updates are not submitted by the Contractor as required.
- g. As part of the normal Monthly Schedule update, the Contractor must prepare a written narrative report, highlighting the progress during the past update period. The written narrative report will include but not be limited to the following information:
 - (1) Summary of Work accomplished during the past update period
 - (2) Comparison chart of the approved Baseline Schedule contract completion dates and the current update contract completion dates
 - (3) Analysis of critical path(s)
 - (4) Analysis of time lost/gained during the update period
 - (5) Identification of problem areas
 - (6) Recommended solutions to current problems
 - (7) Explanation of current changes to the schedule.
- h. The Contractor shall submit a narrative and a computerized schedule analysis report in

triplicate with the submission of the Project CPM Schedule. The narrative shall compare previous month's update with the current month's update. The computerized schedule analysis report must be generated by using software acceptable by the Construction Manager and submitted as a hard copy and text file.

- i. The Contractor is required to attend a Monthly Update Schedule meeting with the Construction Manager. The purpose of this meeting is to review progress, current status, problem areas, planned work and the accuracy of the Monthly Update Schedule. The Contractor's narrative report will be reviewed at this meeting. The Contractor's representatives attending this meeting must include the accepted scheduler and key personnel that have the authority to commit manpower and/or other resources to correct any negative impact to the schedule. The Contractor shall provide any necessary computer and/or audio/visual equipment (such as a projector) to conduct this meeting.
- j. The Monthly Update Schedule will be used as a guide for verifying estimates of work completed for which payment is requested, and must accurately represent the Project's as-built status. All remaining activities must accurately and logically reflect how the contractor plans on achieving the contractual dates set forth in Part One or as defined by accepted field orders. Any out of sequence logic must be corrected and re-planned. Any current changes from the current accepted Monthly Update Schedule must be requested and explained in the update Narrative.
- k. None of the information provided in this Section VIII.E.6 constitutes a Request for a Time Extension under the General Conditions Section VIII.B.6.

7. Contractor Proposed Changes to the Monthly Update Schedule.

- a. If the Contractor proposes to make any changes in the approved Monthly Update Schedule, the changes must be addressed within the Narrative, stating the reasons for the change, identifying each changed activity (including durations and interrelationships between activities) and providing a compact disk of the proposed changed schedule.
- b. The Commissioner has the authority, in his or her sole discretion, to approve or disapprove the proposed change in the Monthly Update Schedule and will do so in writing as part of the Monthly Update Schedule Review. The Commissioner's decision is final and may not be disputed by the Contractor under Article XVII of the Contract.
- c. Proposed changes that require changing the Primavera finish constraints originally established by the contract documents can only be accepted by approved Contract Modification.

8. Recovery.

- a. The Contractor must maintain an adequate work force and the necessary materials, supplies and equipment to meet the most recently accepted Baseline Schedule. In the event that the Contractor, in the judgment of the Commissioner, is failing to meet the Baseline Schedule, including any Contract milestones, the Commissioner will direct the Contractor in writing that a recovery schedule must be submitted to the Construction Manager. The Contractor must submit the recovery schedule within ten (10) Calendar Days of receipt of the Construction Manager's written direction.

The Commissioner's decision to order a Recovery Schedule is final and may not be disputed. The Commissioner's rights under this provision are cumulative to rights under any other provisions of the Contract.

- b. The Recovery Schedule must set forth a plan to eliminate the accepted Monthly

Update Schedule slippage (negative float). The plan must be specific to show the methods to achieve the recovery of time, i.e. increasing manpower, working overtime, weekend work, employing multiple shifts. All costs associated with implementing the Recovery Schedule will be borne by the Contractor.

- c. Upon receipt of the Recovery Schedule, the Construction Manager will review the Recovery Schedule for conformance with the Contract Documents and degree of detail and make a recommendation to the Commissioner. The Commissioner within fourteen (14) calendar days after receipt of the Recovery Schedule and supporting documents by the Construction Manager will either approve the Recovery Schedule or reject it with written comments. If the proposed Recovery Schedule is rejected, the Contractor must submit a revised Recovery Schedule within seven (7) Calendar Days after the date of rejection. All subsequent rejections require a revised Recovery Update Schedule to be submitted within three (3) Calendar Days after the rejection. The Commissioner's decision to reject the Recovery Schedule or a revised Recovery Schedule is final and may not be disputed by the Contractor under Article XVII. Progress payments may be withheld by the Commissioner if the Recovery Schedule is not submitted by the Contractor as required.
- d. Upon approval of the Recovery Schedule, it will become the Revised Baseline Schedule. All future Monthly Update Schedules will be plotted against the Revised Baseline Schedule.
- e. The Contractor must implement the Recovery Schedule immediately upon approval of the Recovery Schedule by the Commissioner. In the event the Contractor refuses to follow the direction of the Commissioner, the Commissioner reserves the right after seven (7) days written notice to the Contractor, to procure the materials, equipment and labor to proceed with or to complete the Work or any portion of it in accordance with the Recovery Schedule and charge the cost to the Contractor. The Commissioner's rights under this provision are cumulative to rights under any other provisions of the Contract including the City's rights to terminate for default or convenience.

9. Revised Baseline or Monthly Update Schedules.

- a. The Commissioner, through the Construction Manager, may direct the Contractor to revise the Baseline or the Monthly Update Schedule. The reasons for the direction may include but are not limited to: changes in the Work, re-phasing, the addition or deletion of scope, and acceleration.
- b. The Construction Manager will direct the Contractor in writing to provide a revised Baseline or the Monthly Update Schedule. Resources and data related to those resources such as unit cost, cost, quantity, unit of measure, and resource ID must match the latest Pay Estimate. Resources and resource related data such as equipment hours, crew size, manhours, etc. will be evaluated and replanned by the Contractor to ensure the accuracy of the revised baseline schedule.
- c. The Contractor must provide the Revised Schedule within ten (10) days of receipt of the Construction Manager's written direction.
- d. The Commissioner has the authority, in his or her sole discretion, to approve or reject the Revised Schedule and will do so in writing within ten (10) days after receipt of the Contractor's submission; provided, however, that any change in the Baseline or Monthly Update Schedule that changes the Contract Completion Date or any date established in Part One for completion of a phase or milestone will require a Contract Modification. If the revised Baseline Schedule is rejected, the Contractor must submit the schedule to the Construction Manager within seven (7) calendar days after the first rejection. All subsequent rejections require the schedule to be submitted within three (3)

calendar days after the rejection. If the Commissioner approves the Revised Schedule, then that Revised Schedule will be designated the new "Baseline Schedule". All monthly updates will be plotted against the new "Baseline Schedule" in Primavera. The Commissioner's decision to reject the Revised Schedule is final and may not be disputed by the Contractor under Article XVII.

F. Acceptance of the Work and Right to Occupy Before Substantial Completion.

1. The City may occupy and use the Project or portions thereof in advance of Substantial Completion of the Project. In the event that the City desires to exercise partial occupancy and use prior to Substantial Completion, the Commissioner will provide written notice to the Contractor, and the Contractor must cooperate with the Commissioner in making available for the City's use such services as heating, ventilating, cooling, water, lighting and telephone for space or spaces to be occupied, and if the Work required to furnish such services is not entirely completed at the time the City desires to occupy and use the space or spaces, the Contractor will make every reasonable effort to complete that Work.
2. When the Commissioner determines that the City will use all or part of the Project before Substantial Completion, the Commissioner will determine:
 - a. The responsibility between the City and Contractor for maintenance, repair, furnishing of utilities and the protection of the public (if required) for that part of the Project to be occupied.
 - b. The list of items remaining to be performed before the Project or portion thereof to be occupied will be substantially complete.
 - c. Whether any types of insurance will be needed by the Contractor.
 - d. The effect of the City's use before Substantial Completion on required guarantees and warranties.

G. Suspension of Work.

1. The Commissioner has authority to suspend the Work wholly, or in part for such period of time as the Commissioner may deem necessary due to conditions unfavorable for the satisfactory prosecution of the Work, or to conditions which, in the Commissioner's opinion, warrant such actions or for such time as is necessary to carry out orders given; or to perform any or all provisions of the Contract. If the Commissioner suspends Work for more than seven (7) Calendar Days, the Contractor will be entitled to compensation for the following costs of the suspension unless the suspension and/or costs were caused by any act or omission of the Contractor: demobilization and remobilization, field supervision (based upon the approved staffing plan), and idle equipment costs as provided in Article X.
2. If it becomes necessary to stop Work for an indefinite period of time, the Contractor must store all materials in such manner that they will not become damaged in any way, take every precaution to prevent damage or deterioration of the Work performed and erect temporary structures where necessary. The Contractor must not suspend work without written consent from the Commissioner.

H. Winter Suspension.

1. When Part One of the Contract Documents provides for a winter suspension, the Contractor must incorporate the winter suspension period into the Monthly Update Schedule. The winter suspension will begin and end on the dates specified in Part One of the Contract, if any.
2. The Contractor must prepare for the winter suspension period by removing or relocating any

equipment, materials, stockpiles, or items, which may interfere with or impair Airport Operations. The Contractor must participate in a site inspection with the Commissioner on or before the winter suspension commencement date. Any grading, backfilling, barricades, or other items or work directed by the Construction Manager, will be completed without interfering or impairing Airport Operation, and must be finished before the commencement date of the winter suspension period. All costs associated with preparation of the Project for the winter suspension period are incidental to the Project and must be included in the Contractor's Base Bid.

I. Work During the Winter Suspension Period.

If the Contractor requests permission to work during the specified winter suspension period and the request is approved, then the following rules will apply:

1. The Contractor will identify the proposed work within the most currently accepted Monthly Update Schedule by placing the work on a calendar that identifies the proposed winter work days. The Monthly Update Schedule containing the proposed winter work must be submitted at least one (1) month prior to the commencement date of the winter suspension. If the proposed winter work is accepted, the Contractor will continue to update the Monthly Update Schedule as stated in paragraph E.6.c.
 2. It is understood that no extension of time, regardless of the cause, or damages of whatever character, will be allowed for any work that may be delayed, hampered, disrupted, re-sequenced, changed, or stopped by the Commissioner or adverse weather if Contractor elects to perform work during the winter suspension period.
 3. All work will be coordinated with Airport Operations through the Construction Manager. Airport Operations cannot be interfered with or impaired in any way by the work being completed by the Contractor during the winter suspension. The Contractor will immediately remove and/or relocate any equipment, material, items, barricades, or stop work, if directed by the Commissioner.
 4. Payment for work completed, inspected, and accepted during the winter suspension period will be in accordance with the procedures established in Article IX Payments.
 5. It is understood that any increase in costs associated with the work done during the winter suspension period are the Contractor's responsibility and the Contractor is not entitled to any additional compensation. Such costs include but are not limited to, loss of productivity, winter heat, winter protection, snow removal, frost protection, disruptions to the work, work stoppages, temporary power, de-watering, winterized material (including but not limited to concrete, water, aggregate and bituminous mixtures.)
 6. Substantial Completion dates for Contract milestones, phase(s), sub-phase(s) or the Project as a whole in the current approved Monthly Update Schedule will not be altered, changed, or adjusted in any way based upon the work accomplished during the winter suspension period.
 7. Any float for individual activities in the Baseline or Monthly Update Schedule that the Contractor gains by doing Work during the winter suspension must be used by the Contractor before it seeks a time extension.
8. All provisions of the Contract Documents apply to the Work being completed during the winter suspension.

END OF VIII

IX. PAYMENTS

A. General.

The Contract Price is the amount of the bid accepted by the City ("Contract Price"). The Contract Price includes all costs of any kind to complete the Project, including but not limited to, labor, equipment, materials, permits, licenses and taxes necessary to perform the Work in accordance with the Contract's written terms and conditions. To the extent that the Contract was bid by line items with unit prices and estimated quantities, the City will pay Contractor unit prices for actual quantities used. Lump sum bids and lump sum line items will be paid in accordance with Section IX.B. In all cases, any work contained in the Contract Documents for which no pay item is identified will be incidental to the Contract.

The City may opt to include allowances for certain work in the contract. Any allowances will be defined in the Contract Documents. Unless otherwise noted the value of the allowance shall be included in the Contractor's bid to arrive at the contract price. Allowances will be paid for in accordance with the terms outlined in the allowance description and Article X. Changes in the Work.

B. Contract Price Breakdown (Lump Sum Contracts and Lump Sum Line Item(s) of Unit Price Contracts).

1. To verify the progress of the Work and to facilitate processing monthly Pay Estimates to the Contractor on lump sum Contracts or lump sum line items, the Contractor must submit to the Construction Manager for review, within fifteen (15) calendar days after Contract Award Date, a complete detailed and itemized breakdown of the various parts of the Project that are to be paid for on a lump sum basis including combined values and quantities of material, labor and other separate costs of all items ("Breakdown"). The total of these costs must equal the total lump sum of the Contract or lump sum line item(s) as applicable. Each Breakdown must correspond to cost-loaded Baseline Schedule activities. Each Breakdown must be divided in such a manner that payments for the various parts of the Work may be reviewed by the Commissioner and verified against the Contractor's completed Work.
2. Each Breakdown will be in such form and in such detail and supported as to correctness by such data as the Commissioner may require. The Breakdown(s) will be used as a basis for Contractor's certificate for Payment Estimates.
3. If the Contractor does not furnish a Breakdown as required by the City, the Commissioner may at his/her discretion, withhold payment until an acceptable Breakdown has been provided and approved.

C. Procedure for Monthly Payment Estimate and Final Payment.

1. Provided that the Contractor proceeds to perform and complete the Work properly under the Contract, progress payments based on Pay Estimates prepared by the Construction Manager will be processed on a monthly basis. The payment period ends on the monthly anniversary date of the Notice to Proceed. Payments may be processed twice a month if the following conditions apply:
 - a. Any project valued at \$20,000,000 or less when the amount earned is greater than one million dollars (\$1,000,000).
 - b. Any project valued at \$20,000,000 or greater when the amount earned is greater than five million dollars (\$5,000,000).
2. Contractor must provide an original and two (2) copies of the following submittals to the Construction Manager as a condition precedent to the Commissioner submitting a Pay Estimate to the Comptroller for processing:

- a. **Certified Statement:** The Contractor must submit a certified statement (signed by the Contractor and notarized) with each Payment Estimate. The statement, in the form designated by the Commissioner, must list the amount earned by each Subcontractor, supplier and the Contractor during the Pay Estimate period and include the following:
 - (1) the name and business address of the particular Subcontractor or supplier;
 - (2) description of the Work performed and/or product supplied;
 - (3) indication that the Subcontractor or supplier is a DBE, or a non-certified firm;
 - (4) the total amount of the particular subcontract;
 - (5) the amount previously paid to the Subcontractor;
 - (6) the amount of the Pay Estimate Contractor will pay to each individual Subcontractor and/or supplier from payments Contractor receives on the request;
 - (7) the balance remaining under the subcontract to complete the Work.
- b. **Partial Waivers of Lien to Date and Contractor's Affidavit Form:** The Contractor must submit the Partial Waivers of Lien to Date and Contractor's Affidavit, in the form designated by the Commissioner, from all Subcontractors and suppliers indicating the total payment requested by each and for which payment has been previously received by them from funds paid to the Contractor by the City pursuant to prior Pay Estimates. The Contractor's Affidavit must be clearly identified with Pay Estimate number and period covered. The affidavit portion of the form must include the total amount invoiced by the Subcontractor and supplier to date. In the event that, after submitting a current Payment Estimate but before payment therefore by the City is received, the Contractor receives payment for a prior Pay Estimate, the Contractor shall secure appropriate waivers of lien from all Subcontractors and Suppliers whose total payment to date is affected thereby. Such waivers shall be updated to reflect receipt of said additional payment and Contractor shall tender such waivers to the City on or before the date payment of the current Pay Estimate is made.
- c. **DBE Utilization Report:** A status report of DBE subcontractor payments, as required by Part One of the Contract, must be submitted with each monthly Payment Estimate in the form required by the City. The submittal of the DBE Utilization report is in addition to the electronic reporting of DBE payments in the C2 system required by the Department of Procurement Services (DPS).
- d. **Certified Payrolls:** Certified payrolls for the payment period must be submitted by the Contractor and all the Subcontractors working on the job site to the Construction Manager every week. Additionally, any Apprentice payroll certifications must be submitted with the Certified Payroll. All the payrolls must be identified with Contractor's or Subcontractor's NAME, PROJECT DESCRIPTION AND PROJECT NUMBER, and be sequentially numbered. The payroll must be submitted by the Contractor and Subcontractors until all Work by that Contractor or Subcontractor is completed. If there are periods of no Work by a Contractor or Subcontractor, a payroll labeled "NO WORK" must be submitted. The final payroll must be clearly labeled "FINAL". Certified payrolls are required to ensure, among other things, compliance with the prevailing wage rate requirements of this Contract. Race, Work classification, and gender should be clearly marked for each employee on the certified payroll along with all additional information required by the Chief Procurement Officer. Contractor may be required to submit data electronically or online in accordance with the City's LCP Tracker System.
- e. The Contractor must submit to the Construction Manager, with each Pay Estimate, Payroll Canvass Reports (PCR's) on Exhibits B and C included in Part One of the Contract Documents. A "Pay Period Canvass Report" must be prepared individually, by the Contractor and by each of its Subcontractors, on Exhibit B to indicate, on a weekly basis, hours of each trade utilized during each pay period by the Contractor and its

Subcontractors on the project. A combined "Payroll Canvass Summary Report" will be prepared by the Contractor on Exhibit C to indicate accumulated hours of each trade utilized, to date, on the Project by the Contractor and all of its Subcontractors. The Contractor is responsible for the accuracy of information and all arithmetical calculations made in the Payroll Canvass Reports.

- f. Schedule Requirement: The Contractor will satisfy all requirements and submissions as described in Section VIII. E. "Baseline and Monthly Update Schedules."
- g. Subcontractor Payment Certification: The Contractor must submit a Subcontractor Payment Certification in a form approved by the Chief Procurement Officer. The Certification must list the estimated amount to be paid to each Subcontractor, supplier and the Contractor for the Payment Estimate period. The information provided in the certificate may be posted by the Chief Procurement Officer on the City's website. Vendor numbers must be shown for all companies listed.
- h. The Commissioner may, from time to time, require additional documentation to facilitate payment. Contractor will comply with any reasonable request for additional documentation.

D. Payment for Stored Material.

- 1. Payment of stored material on the project site will be one hundred percent (100%) of a valid invoice less applicable retainage (as described in Section IX.E) when the Contractor has complied with the following requirements and has:
 - a. Provided a paid invoice from the supplier showing the unit, quantity, description of the material or equipment and costs.
 - b. Provided a waiver of lien from the supplier for the total amount of the material purchased.
 - c. Provided inspection tickets for all the material stored.
 - d. Material invoices should reference, if applicable, the Contract line item for each item of material.
- 2. Payment for material stored off-site, if authorized in Part Three of the Contract, or when approved in writing by the Commissioner and Chief Procurement Officer, will be one hundred percent (100%) of a valid invoice less applicable Retainage (as described in Section IX.E) when the Contractor has provided documents and complied with the requirements listed below.
 - a. Provided a paid invoice from the supplier showing the unit, quantity, description of the material or equipment and costs.
 - b. Provided a waiver of lien from the supplier for the total amount of the material purchased.
 - c. Provided inspection tickets for all the material stored.
 - d. Provided a Contractor-certified statement giving the exact location of the materials or equipment, and stating that:
 - (1) such materials are segregated, identified as City property, suitably stored and maintained at a bonded, secure and environmentally appropriate location agreed upon and subject to such conditions required or established by the Commissioner.
 - (2) the Contractor has complied with procedures satisfactory to the Commissioner to establish the City's title to such materials or otherwise protect the City's interest therein, including but not limited to, insurance, storage and transportation to the Project Site for such materials stored off-site, as the Commissioner may reasonably require.

- (3) the materials, equipment and associated fabricated components will not be diverted away from the Project.
- e. The risk of loss will remain with the Contractor. The Contractor must provide the Construction Manager with a certificate of insurance coverage for the stored material upon which payment is requested.
- f. Simultaneously with payment for such material, and in addition to the Contractor's certification required by paragraph 2.d(2) above, the Contractor must prepare and execute any and all documents required to transfer title to the City, including without limitation, any Uniform Commercial Code Documentation necessary to perfect transfer of title. However, nothing in this Article IX is intended or shall be construed to modify and/or accelerate the date on which any warranty of the materials is to commence as may elsewhere be specified by the Contract Documents.
- g. All material and Work covered by payments made will there upon become the sole property of the City.
- h. The Contractor must pay the CDA's reasonable costs for consultants or attorneys relating to administration of the payment for material stored off site, to verify and review required filings and documents, inspect materials, and travel. Travel costs are to be paid based upon the current City Travel Guidelines.

E. Retainage.

- 1. Pursuant to the Chicago Municipal Code provision entitled Retainage in Title 2, Ch. 2-92, Sect. 2-92-250-250 and 49 CFR 26.29, the Commissioner shall retain ten percent (10%) from the invoice sums approved and due the Contractor ("Retainage") until the amount so retained reaches five percent (5%) of the Contract value including approved Contract Modifications, unless Commissioner determines a different amount is appropriate as provided below. As each Subcontractor satisfactorily completes its Work as required for payment under Section IX.H., the Contractor Retainage amount will be incrementally reduced, in an amount equal to the retainage paid by the Contractor to the Subcontractor, and released to the Contractor pursuant to Section IX.G.
- 2. After 75% satisfactory completion of the project, based on Pay Estimates approved and due the contractor, the contractor may request that the Commissioner reduce the Retainage to 3% of the contract value including Contract Modifications. However, the Commissioner may, at the Commissioner's sole discretion, decline to reduce the Retainage held, and has the right to increase the amount of the Retainage withheld at any time if the Commissioner considers the performance or progress of the Work to be such that the City will likely incur damages, including but not limited to liquidated damages, in excess of the Retainage. Any Retainage which may be due to the Contractor in accordance with the Contract Documents will be released by the Commissioner upon Contract Closeout.
- 3. The Contractor must not withhold retainage from its Subcontractors in excess of five percent (5%) of each subcontract amount, and must release Retainage to its Subcontractors at least as frequently as the earlier of the City's release of Retainage to Contractor under Section IX.G or the prompt payment to Subcontractors required by Section IX.H

F. Payments Withheld.

- 1. No payment shall be made to the Contractor until certificates of insurance, bonds, or other evidence of compliance by the Contractor with all the requirements of the Contract for insurance and bonds have been provided to the Commissioner. Further, no payments on the basis of Work performed by a Subcontractor shall be paid until copies of all bonds required

and any certificates of insurance required of the Subcontractors by the Contract have been filed with the Commissioner.

2. The Commissioner may decline a Pay Estimate if, in the Commissioner's opinion, the Pay Estimate is not adequately supported. If the Contractor and Commissioner cannot agree on a revised amount, the Commissioner will process the Pay Estimate in the amount the Commissioner deems appropriate.
3. The Commissioner may decline to process any Pay Estimate or may rescind in whole or in part any approval previously made to such extent as may be necessary in the Commissioner's opinion because of any failure of the Contractor to perform any obligation under the Contract, including but not limited to:
 - a. The Contractor's failure or refusal to provide the Commissioner the required Project Baseline Schedule for the Work or Monthly Update Schedule and obtain the Commissioner's approval for either as required by the Contract.
 - b. The Contractor's failure to remedy defective Work.
 - c. The Contractor's failure to make prompt payments properly to Subcontractors, employees, or material suppliers or for labor, materials or equipment, or provide partial lien waivers with pay estimates.
 - d. The Contractor's failure to maintain progress of the Work as required in the current approved Baseline Schedule, or failure to carry out the Work in accordance with the Contract as determined by the City.
 - e. The Contractor's refusal to follow City, state, federal, or Contract safety and security requirements.
 - f. The Contractor's failure to remove equipment, materials, concrete batch plants or asphalt batch plants from the Airport as directed by the Commissioner.
4. Pursuant to 2-92-270 of the Municipal Code of the City of Chicago, the Chief Procurement Officer may also notify the Contractor that payments to the Contractor will be suspended if the Chief Procurement Officer has determined that the Contractor has failed to pay any Subcontractor, employee, or workman, for Work performed. If Contractor has not cured a failure to pay a Subcontractor, employee or workman within 10 days after receipt of such notice, the Chief Procurement Officer may request the Comptroller to apply any money due, or that may become due, to Contractor under the Contract to the payment of such Subcontractors, workmen, and employees and the effect will be the same, for purposes of payment to Contractor of the Contract Price, as if the City had paid Contractor directly. Further, if such action is otherwise in the City's best interests, pursuant to 2-92-245 of the Municipal Code of the City of Chicago, the Chief Procurement Officer may (but is not obligated to) request the Comptroller to make direct payments to Subcontractors for monies earned on contracts and the effect will be the same, for purposes of payment to Contractor of the Contract Price, as if the City had paid Contractor directly. The City's election to exercise or not to exercise its rights under this paragraph shall not in any way affect the liability of the Contractor or its sureties to the City or to any such Subcontractor, workman, or employee upon any bond given in connection with such Contract.
5. The City's rights under Section IX.F are cumulative to any other rights provided under the Contract.

G. Release of Retainage.

1. Retainage shall be released in accordance with the requirements of 49 CFR 26.29 as each

Subcontractor's work is satisfactorily completed. "Satisfactory Completion" of Subcontractor's work means all of the tasks called for in the subcontract have been accomplished and documented as required. When Contractor is satisfied that Subcontractor's work has been satisfactorily completed, Contractor shall submit to the city proof that the retainage has been received by Subcontractor, together with any other documentation of satisfactory completion as may be required by the Commissioner. If this subcontractor retainage submittal is acceptable, the City will accept an invoice for the amount of retainage released to the Subcontractor, and will reduce the Retainage sum by that amount.

2. Upon Substantial Completion of the Project, the Contractor must notify the Construction Manager, in writing, that the Project will be ready for inspection and/or testing on a definite date. Notice will be given at least fifteen (15) calendar days in advance of said date. If the Construction Manager concurs that the Project will be ready for inspection, testing, and/or Commissioning on the date given and recommends an inspection to the Commissioner, the Commissioner and other parties will make such inspection as is convenient for all parties, but within a reasonable period of time. The scheduling of the inspection, testing, and/or Commissioning to determine whether the Project is Substantially Complete shall not relieve the Contractor of its responsibilities under the Contract Documents. The Contractor is required to furnish access for the inspection, testing, and/or Commissioning. If the Commissioner finds that the Work is acceptable under the Contract Documents and has been fully and satisfactorily performed on a timely basis, Retainage will be reduced to one percent (1%), of the current Contract Price including Contract Modifications, provided that the Contractor has provided: (a) DBE final lien waivers, DBE conditional final lien waivers, or an affidavit of the DBE stating the final amount earned; (b) complete certified payrolls;
- (c) spare stock of materials, spare parts, accessories, special tools, O&M manuals, manufacturer's warranties; and (d) all other items required by the Contract Documents or the Commissioner.
3. Payment of Remaining Retainage at Final Completion of the Project: The remaining Retainage will be paid, subject to IX.E, when all remaining Work and Punch List Work is complete and the Contractor submits to the Construction Manager a sworn affidavit that states the following:
 - a. All payrolls, bills for materials and equipment, and all other indebtedness connected with the Work for which the City might in any way be responsible, have been paid or otherwise satisfied.
 - b. The "Contractor's Sworn Statement and Affidavit" for final release of Retainage has been provided to the Construction Manager.
 - c. All claims made by Subcontractors of any tier, suppliers, and others against the Contractor, the City, any agents of the City, the Commissioner or Construction Manager have been resolved.
 - d. "Final Waiver of Lien and Contractor's Affidavit" forms for all Subcontractors of any tier have been provided to the Construction Manager.
 - e. The Warranties and Guarantees, required by the Contract, have been provided to the Construction Manager.
 - f. All Warranties and Guarantees are in full force and effect.
 - g. The surety's written consent, signed by its authorized representative, for final payment to be made directly to the Contractor, has been provided to the Construction Manager.
 - h. The Contractor agrees that acceptance of final payment will constitute a general release to the City, its representatives, officials and employees of all claims of liability

for anything done or furnished or relating to the Work of the Contract or for any act or neglect of the City or its agent's officials and employees relating to or connected with the Contract.

- i. As-Built documentation including but not limited to As-Built Contract drawings, As-Built Shop Drawings and Operation and Maintenance Manuals have been provided to the Construction Manager as required by Article XII.E.
- j. All sustainability-related documentation and, where required, final SAM Construction Checklist has been provided.
- k. All other documents requested by the Commissioner have been provided.
- l. As a prerequisite to receive payment of the remaining Retainage, the Contractor must also comply with the following.
- m. The Contractor must remove all of the Contractor's trailers, equipment, leftover materials, and trash from the Project site, staging area(s) or anywhere else on the Airport. The Contractor must also restore the Contractor's staging area(s) to its pre-construction condition. If the Contractor does not comply with this requirement, the Commissioner may provide written notice to comply within a period of time determined by the Commissioner. If the Contractor fails to comply with the written notice, the Commissioner may have the work done by others, and deduct the charge from the Contractor's Retainage.
- n. The Contractor must return all Airport Security Badges that have been issued to all of the Contractor's employees and all of its Subcontractors' employees of any tier. If there are any badges the Contractor does not or is unable to return, the Contractor will provide the name(s) of the individual(s) and a written explanation stating the reason the badge was not returned. The Commissioner will determine whether the Contractor has complied with this requirement and may deduct from the compensation due to Contractor the amount then charged for lost badges pursuant to the Chicago Municipal Code, 10-36-56.

H. Prompt Payment to Subcontractors.

- 1. The term "Subcontractor" has the same meaning as in Section I.A. Contractor must state the requirements of the Prompt Payment provision in all Subcontracts and purchase orders. If Contractor fails to incorporate these provisions in all Subcontracts and purchase orders, the provisions of this Section are deemed to be incorporated in all Subcontracts and purchase orders. Contractor and the Subcontractors have a continuing obligation to make prompt payment to their respective Subcontractors. Compliance with this obligation is a condition of Contractor's participation and that of its Subcontractors on the Project.
- 2. The Contractor must make payment to its Subcontractors within seven (7) days of receipt of payment from the City for each monthly Pay Estimate, but only if the Subcontractor has satisfactorily completed its Work in accordance with the Contract Documents and provided the Contractor with all of the documents and information required of the Contractor by the General Conditions, Article IX. "Payments". The Contractor may delay or postpone payment for a progress Pay Estimate when the Subcontractor's Work or materials do not comply with the requirements of the Contract Documents, and the Contractor is acting in good faith and not in retaliation for a Subcontractor exercising legal or contractual rights.
- 3. The Contractor must make final payment to its Subcontractors within seven (7) days after the Subcontractor has satisfactorily completed all of its Work, including but not limited to, completion of punch list work, providing final lien waivers, and providing all of the documents required by the Contract Documents for payment of Retainage at Final

Completion of the Project as provided for in General Conditions Section IX.G. Retainage must be paid to Subcontractors as required by this section, whether the Project has been determined to have reached Substantial Completion as defined in Section I.A., or whether the Contractor has received payment from the City for Retainage. The Contractor may delay or postpone payment of Retainage if the Subcontractor's Work or materials do not comply with the requirements of the Contract Documents, the Contractor has substantial grounds for and has acted reasonably in making the determination, and the Contractor is acting in good faith and not in retaliation for a Subcontractor exercising legal or contractual rights.

4. Contractor must make payment to Subcontractors so that they receive it within seven (7) days of receipt of the check from the City. Payment is deemed received by the Subcontractor at the time of hand delivery by the Contractor, or three (3) calendar days after mailing by the Contractor.
5. To the extent feasible, to facilitate the flow of information to Subcontractor, the City will post at the Construction Manager's office a list of Contractor's Pay Estimates, including the Subcontractors identified in them, submitted to the City Comptroller for payment and the date of payments made to the Contractor by the City.
6. Contractor must submit a status report of Subcontractor payments monthly for the duration of the contract on the "Subcontractor Payment Certification" form required by the City. The Form can be downloaded from the City's website at:

http://www.ci.chi.il.us/webportal/COCWebPortal/COC_EDITORIAL/subcompliance_2/pdf

or as otherwise provided by the Commissioner. The form must be received by the tenth (10th) day of each month. The statement must list the following for Contractor and for each Subcontractor and supplier for the period for which payment is requested:

- a. Total amount invoiced by the Contractor for the prior month;
 - b. The name of each particular Subcontractor or supplier utilized during the prior month;
 - c. Indication if the Subcontractor or supplier is acting as a DBE or a non-certified firm on this contract;
 - d. The vendor/supplier number of each Subcontractor or supplier;
 - e. Total amount invoiced that is to be paid to each Subcontractor or supplier.
7. Contractor must not delay or refuse to timely submit pay requests for a Subcontractor's work or materials. The City may construe such delay or refusal as Contractor's failure to act in good faith. "Timely", in this context, means within thirty (30) days after the portion of the Subcontractor's work that the Subcontractor has invoiced is in place in the project or the materials delivered to the City (or off-site if this Contract permits payments for off-site delivery). In addition, Contractor must not delay or postpone payment for an undisputed portion of a Subcontractor's invoice or in connection with claims or disputes involving different pay requests on the same project or different projects.
 8. The City will withhold payment from the Contractor when the Commissioner determines that the Contractor has not complied with this Section IX.H.
 9. These provisions do not confer any rights in Subcontractors against the City. Nothing in this section is to be construed to limit the rights of and remedies available to the City, including but not limited to various rights under the General Conditions.
 10. The City posts payments to prime contractors on the web at:

<http://webapps.cityofchicago.org/VCSearchWeb/org/cityofchicago/vcsearch/controller/payments/begin.do?agencyId=city>.

If the Contractor, without reasonable cause, fails to make any payment to its Subcontractors and material suppliers within 7 days after receipt of payment under a City contract, the Contractor shall pay to its Subcontractors and material suppliers, in addition to the payment due them, interest in the amount of 2% per month, calculated from the expiration of the 7-day period until fully paid.

In the event that a Contractor fails to make payment to a Subcontractor within the 7-day period required above, the Subcontractor may notify the City by submitting a report form that may be downloaded from the DPS website at:
http://www.cityofchicago.org/content/dam/city/depts/dps/ContractAdministration/StandardFormsAgreements/Failure_to_Promptly_Pay_Fillable_Form_3_2013.pdf

The report will require the Subcontractor to affirm that (a) its invoice to the Contractor was included in the payment request submitted by the contractor to the City and (b) Subcontractor has not, at the time of the report, received payment from the contractor for that invoice. The report must reference the payment (voucher) number posted on-line by the City in the notice of the payment to the contractor. Subcontractors are hereby reminded that per Chapters 1-21, "False Statements," and 1-22, "False Claims," of the Municipal Code of Chicago, making false statements or claims to the City are violations of law and subject to a range of penalties including fines and debarment.

11. Whistleblower Protection. Contractor shall not take any retaliatory action against any Subcontractor for reporting non-payment pursuant to this Sub-Section 3.2.3. Any such retaliatory action is an event of default under this Contract and is subject to the remedies set forth in Section 3.5 hereof, including termination. In addition to those remedies, any retaliatory action by a contractor may result in a contractor being deemed non-responsible for future City contracts or, if, in the sole judgment of the Chief Procurement Officer, such retaliatory action is egregious, the Chief Procurement Officer may initiate debarment proceedings against the contractor. Any such debarment shall be for a period of not less than one year.
12. Liquidated Damages for Failure to Promptly Pay. Much of the City's economic vitality derives from the success of its small businesses. The failure by contractors to pay their subcontractors in a timely manner, therefore, is clearly detrimental to the City. Inasmuch as the actual damages to the City due to such failure are uncertain in amount and difficult to prove, Contractor and City agree that the Chief Procurement Officer may assess liquidated damages against contractors who fail to meet their prompt payment requirements. Such liquidated damages shall be assessed to compensate the City for any and all damage incurred due to the failure of the Contractor to promptly pay its subcontractors, and does not constitute a penalty. Any and all such liquidated damages collected by the City shall be used to improve the administration and outreach efforts of the City's Small Business Program.
13. Action by the City. Upon receipt of an electronic report of a failure to pay, the City will issue notice to the contractor, and provide the contractor with an opportunity to demonstrate reasonable cause for failing to make payment within applicable period set forth in the Contract. The Chief Procurement Officer, in his or her sole judgment, shall determine whether any cause for nonpayment provided by a contractor is reasonable. In the event that the contractor fails to demonstrate reasonable cause for failure to make payment, the City shall notify the contractor that it will assess liquidated damages. Any such liquidated damages will be assessed according to the following schedule:

First Unexcused Report:	\$50
Second Unexcused Report:	\$100
Third Unexcused Report:	\$250
Fourth Unexcused Report:	\$500
Fifth and Each Succeeding	

Unexcused Report: \$1,000

The liquidated damages set forth above shall be assessed per unexcused report per contract, i.e., each successive report regarding a contractor's failure to pay under this Contract will be assessed liquidated damages, regardless of which subcontractor files the unexcused report(s).

By executing this Agreement, Contractor acknowledges and agrees that the City may collect such damages by deducting any amount due to the City from the next payment to be made to the Contractor. In the event that no further payments are due to Contractor, Contractor agrees to promptly pay such liquidated damages as it may owe to the City. Failure to make such payment within thirty (30) days of receipt of notice of the assessment of liquidated damages may result in Contractor being debarred from participating in City contracts for a period of not less than one year.

Contractors are reminded that each unexcused failure to pay promptly is an event of default under the Contract and, in addition to the liquidated damages provided for in this Section, is subject to the remedies found in Section XVIII.D of this Contract. Contractors are further reminded that per Section 2-92-270 of the Municipal Code of Chicago, failure to pay subcontractors as required by law and the Contract may result in the City suspending payments to Contractor and making direct payments to such subcontractors. Any such direct payments shall be from funds due and owing to the contractor.

If the Chief Procurement Officer determines that the circumstances pertaining to a contractor's failure to pay promptly warrant excusing such non-performance, or determines that excusing such non-performance is in the best interests of the City, the Chief Procurement Officer may waive any of the remedies provided in this Section IX.H. Each such waiver is discrete, non-precedential and does not constitute a waiver of any subsequent remedies against a contractor who fails to comply with the terms and conditions set forth herein.

I. Pay Estimates and Payments Subject to Review.

1. The City shall not be precluded or estopped by any measurement, estimate, or certificate made by Contractor or any Subcontractor either before or after the completion and acceptance of the Work and payment for that Work, from showing the true amount and character of the Work performed and materials furnished by the Contractor, or from showing that any such measurement, estimate, or certificate is untrue or incorrectly made, or that the Work or materials do not conform in fact to the Contract. The City will not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor and its sureties such damages as the City may sustain by reason of the Contractor's failure to comply with the terms of the Contract.

J. Salaries / Payments.

1. Salaries of all employees of the Contractor performing Work will be paid unconditionally and not less often than once a week without deduction or rebate on any account, except only for payroll deductions as are mandatory by law or permitted under the applicable regulations pursuant to the Copeland "Anti-Kickback" regulations, and will be responsible for the submission of affidavits required thereunder, except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof. If, in the performance of this Contract, there is any under payment of salaries by the Contractor, the Comptroller for the City of Chicago ("Comptroller") may withhold, out of payments due to the Contractor, an amount sufficient to pay to employees underpaid, the difference between the salaries required to be paid hereby and the salaries actually paid such employees for the total number of hours worked.
2. The Contractor further undertakes to pay all lawful claims made against it by such

Subcontractors and all lawful claims made against it by other third persons arising out of, in connection with, or because of its performance of this Contract which are attributable to the Contractor. The Contractor further will cause all of its Subcontractors to pay all lawful claims made against them. In the event such lawful claims are not satisfied, the Comptroller is hereby empowered to disburse such sums for and on account of the Contractor directly to the respective parties to which such sums are due and lawfully owed.

3. Provisions Required by the Regulations of the Secretary of Labor 29 CFR § 5.5 (Davis-Bacon Requirements).

a. Minimum Wages.

- (1) All laborers and mechanics employed or working upon the site of the Work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto as Schedule "B" and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonable anticipated for bona fide fringe benefits under provision 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (7) of this provision; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics will be paid the appropriate wage rate and fringe benefits on the wage determination for the classifications of Work actually performed, without regard to skill, except as provided in 29 CFR § Part 5.5(a)(4). Laborers or mechanics performing Work in more than once classification may be compensated at the rate specified for each classification for the time actually worked therein; provided that the employer's payroll records accurately set forth the time spent in each classification in which Work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this provision) and the Davis-Bacon poster (WH-1321) will be posted at all times by the Contractor and any Subcontractors at the site of the Work in a prominent and accessible place where it can be easily seen by the workers.
- (2) The Commissioner will require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the Contract to be classified in conformance with the wage determination. The Commissioner will approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - i) The Work to be performed by the classification requested is not performed by classifications in the wage determination; and
 - ii) The classification is utilized in the area by the construction industry; and
 - iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (3) If the Contractor and the laborers and mechanics to be employed in the

classification (if known), or their representatives, and the Commissioner agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the Contractor to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C., 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within thirty (30) days of receipt and so advise the Construction Manager or Contracting Officer or will notify the Construction Manager or Contracting Officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

- (4) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Director do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contractor will refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of the receipt and so advise the Contractor and Commissioner or state within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)
 - (5) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(3) or (4) of this paragraph, will be paid to all workers performing Work in the classification under the Contract from the first day on which Work is performed in the classification.
 - (6) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit, which is not expressed as an hourly rate, the Contractor will either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - (7) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Trade Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)
- b. Withholding: The Federal Aviation Administration will upon its own action or written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime contractor, or any other Federally-assisted Contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including apprentice, trainee, or helpers, employed or working on the site of the Work, all or part of the wages required by the Contract, the Commissioner may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such

violations have ceased in accordance with Article 7.5.1.

c. Payrolls and Basic Records.

- (1) Payrolls and basic records relating thereto will be maintained by the Contractor during the course of the Work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the Work. Such records will contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates or wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in provision 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under the 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in provision 1(b)(2)(B) of the Davis-Bacon Act, the Contractor will maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing benefits. Subcontractors employing apprentices or trainees under approved programs will maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget and OMB control number 1215-0140 and 1215-0017.)
- (2) The Contractor will submit weekly, for each week in which any Work by laborers or mechanics is performed, a copy of all payrolls to the Commissioner for transmission to the Federal Aviation Administration. The payrolls submitted will set out accurately and completely all of the information required to be maintained under 5.5(a)(3)(i) of regulations, 29 CFR Part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-055-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all Subcontractors. (Approved by the Office of Management and Budget under control number 1215-0149.)
- (3) Each payroll submitted will be accompanied by a "Statement of Compliance", signed by the Contractor, or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and will certify the following:
 - i) That the payroll for the payroll period contains the information required to be maintained under 5.5(a)(3)(i) of Regulations, 29 CFR Part 5 and that such information is correct and complete;
 - ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR Part 3;
 - iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of the Work performed as specified in the applicable wage determination

incorporated into the Contract.

- (4) The weekly submission of properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(c)(3) of this provision.
- (5) The falsification of any of the above certifications may subject the Contractor or Subcontractor to civil or criminal prosecution under Provision 1001 of Title 18 and Provision 231 of Title 31 of the United States Code.
- (6) The Contractor or Subcontractor will make the records required under paragraph (3)(c)(1) of this provision available for inspection, copying, or transcription by authorized representatives of the Commissioner, The Federal Aviation Administration, or the Department of Labor, and will permit such representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the City of Chicago or Federal agency may, after written notice to the Contractor or Subcontractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

d. Apprentice and Trainees.

- (1) Apprentices. Apprentices will be permitted to Work at less than the predetermined rate for the Work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the Project site in any craft classification will not be greater than the ratio permitted to the Contractor as to the entire Work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, will be paid not less than applicable wage rate on the wage determination for the classification of Work actually performed. In addition, any apprentice performing Work on the job site in excess of the ratio permitted under the registered program will be paid not less than the applicable wage rate on the wage determination for the classification of Work actually performed. Where a Contractor is performing construction on a Project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program will be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices will be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that the different

practice prevails for the applicable apprentice classification, fringes will be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the Work performed until an acceptable program is approved.

- (2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to Work at less than the predetermined rate for the Work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the Project site will not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees will be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees will be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration will be paid not less than the applicable wage rate on the wage determination for the classification of Work actually performed. In addition, any trainee performing Work on the Project Site in excess of the ratio permitted under the registered program will be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the Work performed until an acceptable program is approved.
- (3) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part will be in conformity with the Equal Employment Opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30, which are incorporated by reference in the Contract.
- e. Compliance with Copeland Act Requirements. The Contractor will comply with the requirements of 29 CFR Part 3, which are incorporated by reference in the Contract.
- f. Subcontractors. The Contractor and Subcontractor will insert into any subcontracts the clauses contained in Sections IX.J.3. (a) through (j), Provisions Required By The Secretary of Labor, and Section IX.H, Prompt Payment To Subcontractors of this Contract and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier Subcontracts. The Contractor will be responsible for the compliance by any Subcontractor or lower tier Subcontractor with all the Contract clauses in 29 CFR § 5.5.
- g. Contract Termination and Debarment. A breach of these Contract paragraphs (3)(a) through (j) and K.1. through 5. below may be grounds for termination of the Contract and for debarment as a Contractor and Subcontractor as provided in 29 CFR § 5.12.

- h. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by referenced in the Contract.
- i. Disputes Concerning Labor Standards. Disputes arising out of the labor standards provisions of this Contract will not be subject to the general "Disputes" clause of this Contract. Such disputes will be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5,6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the Commissioner, the U.S. Department of Labor, or their employees or their representatives.
- j. Certification of Eligibility.
 - (1) By entering into the Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government Contracts by virtue of provision 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
 - (2) No part of the Contract will be subcontracted to any person or firm ineligible for award of a government Contract by virtue of provision 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
 - (3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.
- K. Contract Work Hours and Safety Standards Act: The Contractor agrees to comply and assures compliance with sections 102 and 107 of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. § 327 through 333, and implementing U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-Construction Contracts Subject to the Contract Work Hours and Safety Standards Act)", 29 CFR Part 5; and U.S. DOL regulations, "Safety and Health Regulations for Construction", 29 CFR Part 1926. Other requirements that may apply are stated in subparagraphs 1 through 5 below.
 - 1. Overtime Requirements. No Contractor or Subcontractor contracting for any part of the Contract Work which may require or involve the employment of laborers or mechanics will require or permit any such laborer or mechanic including watchmen and guards in any workweek in which he or she is employed on such Work to Work in excess of eight hours in any calendar day or in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is greater.
 - 2. Violation; Liability for Unpaid Wages; Liquidated Damages. In the event any violation of the clause set forth in subparagraph (1) of this paragraph, the Contractor and any Subcontractor responsible therefore will be liable for the unpaid wages. In addition, such Contractor and Subcontractor will be liable to the United States (in the case of Work done under Contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages will be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day for which such individual was required or permitted to Work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

3. Withholding for Unpaid Wages and Liquidated Damages. The Federal Aviation Administration or the Commissioner will upon its/her own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of Work performed by the Contractor or Subcontractor under any Contract or any other Federal Contract with the same Contractor, or any other Federally assisted Contract subject to Contract Work Hours and Safety Standards Act, which is held by the same Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.
4. Subcontracts. The Contractor and Subcontractor will insert in any Subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the Subcontractors to include these clauses in any lower tier Subcontracts. The Contractor will be responsible for compliance by any Subcontractor or lower tier Subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.
5. Working Conditions. No Contractor or Subcontractor may require any laborer or mechanic employed in the performance of any Contract to Work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards (29 CFR § 1926) issued by the Department of Labor.

L. Fair Labor Standards Act.

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

M. Occupational Safety and Health Act.

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

END OF IX

X. CHANGES IN THE WORK

A. City's Right to Change Work.

The City reserves the right to direct, by written Field Order, changes in the Work or Contract time, or the Baseline Schedule without prior notice to the Contractor's surety and the Contractor is obligated to perform in accordance with the Field Order. These changes may consist of additions, deletions, or other revisions to the Work and/or changes in the Contract Completion Date, at the discretion of the City, with the Contract Price and/or the Contract Completion Date and/or the Baseline Schedule being adjusted as appropriate. The Contractor must begin the changed work upon receipt of a Field Order. A Field Order is a written order to the Contractor, signed by the Construction Manager with the prior approval of the Commissioner and Chief Procurement Officer. The Contractor must begin the changed work upon receipt of the signed Field Order. Pursuant to Section 2-92-730(d) of the Municipal Code of Chicago, for each Field Order which, by itself or aggregated with previous Field Orders, increases the Contract value by ten percent (10%) of the initial Contract value or Fifty Thousand Dollars (\$50,000), whichever is less, the Contractor will make good faith efforts to increase the participation of DBE Subcontractors already participating in the Contract.

B. Contractor's Request.

The Contractor must submit to the Construction Manager written copies of any request for adjustment to the Contract Price, Contract time and/or Baseline Schedule for such changed Work promptly as required by Article X.

C. Payment For Changes.

The adjustment in Contract Price, if any, for changes (either additions, deletions or revisions) in the Work or Contract time or changes to the Baseline Schedule, shall be made in accordance with sections 1 through 3 below. Where changes in the Work involve both additions and deletions, any percentage mark-ups applicable to labor and materials as set forth below shall be applied to the net difference. An adjustment in Contract Price and/or Contract time requires a Contract Modification pursuant to Section X.D. Payment for a Contract Modification will be made after the Contract Modification is executed by the City. The Commissioner may require additional documentation to facilitate approval for changes in the work. Contractor will comply with any request for additional documentation.

1. Unit Price Basis: To the extent that such changes in the Work result in an increase or decrease in the quantities of unit priced Work to be performed, the adjustment in Contract Price will be as follows:

- a. All increases or decreases in such Work of the type that appears in the Contract as unit price items shall, except as provided in paragraph (b.) below, be paid for or deducted at the Contract unit prices as bid by the Contractor.
- b. For line items that represent (10%) or more of the original Contract Price, and actual quantities of these line items represent a twenty-five percent (25%) or more variance from the bid quantities, but are not deleted in their entirety, the Contract Price adjustment will be based on a negotiated unit price based on costs which are demonstrated by the Contractor and agreed to by the Commissioner, subject to approval of the Chief Procurement Officer, in a method consistent with paragraph C.2 "Proposal Basis".

The negotiated unit price can be higher, lower, or equal to the unit price as bid by Contractor. If the Commissioner and Contractor are unable to agree on a negotiated unit price, the Commissioner shall determine a reasonable unit price to be incorporated by a Contract Modification, which shall be prepared by the Commissioner and signed by the Contractor for submission to the City for execution.

However, the Contractor may dispute the amount of the unit price determined by the Commissioner as a Change Claim pursuant to Section X.G and XVII.

- c. For line items that represent ten percent (10%) or more of the Contract Price, and are deleted in their entirety, the Contractor will only be compensated for any materials or equipment that were ordered in accordance with the approved Baseline Schedule and approved submittal prior to Contractor's receipt of the notice of deletion of the line item, providing that the materials and equipment order could not be cancelled, nor returned to the supplier less restocking fees and also provided that the materials and equipment are delivered to the City, found acceptable, and are adequately protected for storage. Contractor shall not be entitled to any lost profits on Work that was deleted, or any other costs or compensation.
 - d. The Contractor must provide a breakdown by Contract line item listing the total percentage of each line item attributable to a DBE firm.
2. Proposal Basis: To the extent that there are no unit prices for the changed Work, either as bid or as identified in an approved Breakdown of a lump sum, the Contract Price adjustment for the changed Work may be based upon a price agreed to by the City and Contractor.

If the changed Work is to be completed on a proposal basis, a proposal for the changed Work must be provided by the Contractor to the Construction Manager and accepted by the Commissioner prior to the date on which the changed Work is fifty percent (50%) complete. Until such time a proposal is agreed to by the City, the Contractor will submit a Time and Material Work Report as required in Paragraph X.C.3 below. In addition, if the Commissioner has not accepted the proposal for the changed Work prior to the commencement of the changed Work, time and material work reports must be maintained by the Contractor, as required by Section X.C.3.n., until a proposal is agreed to by the Contractor and City through the signing of a Contract Modification. If there is no agreement between the Contractor and City as to the Contract Price adjustment and/or Contract time adjustment for the changed Work on a proposal basis prior to the completion of fifty percent (50%) of the changed Work, the changed Work will be paid for on a time and material basis as provided for under Section X.C.3.

Proposal Pricing: The proposal submitted shall be a starting point for negotiation between the City and Contractor. Any proposal submitted in writing by the Contractor for consideration for changed Work to be done must be broken down into segments of cost as follows:

- a. Labor: Number of proposed labor hours multiplied by the base wage plus an amount not to exceed thirty percent (30%) to cover jobsite general conditions, overhead, and profit. All indirect costs must be part of the overhead, including but not limited to supervision, engineering, safety, surveying, quality control, and other technical personnel. Fringe benefits, as allowed by the applicable labor union, multiplied by the proposed number of labor hours, plus an amount up to ten percent (10%) of the total fringe benefit may be allowed.
- b. Insurance and Payroll Taxes: Cost for property damage, liability, and workman's compensation insurance premiums, unemployment insurance contributions and social security taxes on the extra Work, to which an amount not to exceed ten percent (10%) of the cost of these items will be added. The Contractor must furnish satisfactory evidence of the rate or rates paid for such insurance and taxes.
- c. Material: Cost of materials plus an amount not to exceed fifteen percent (15%) of the cost of material to cover profit and handling charges of contractor performing the Work. Material cost must be supported by quotations from the suppliers and must be net of any discounts or rebates offered by the suppliers.
- d. Equipment: For equipment owned by the Contractor, costs will be determined by the

number of proposed equipment hours multiplied by the rate as allowed by the latest revision of "Equipment Watch Rental Rate Blue Book" as issued by Equipment Watch. Equipment rates as allowed by the latest revision of Equipment Watch Rental Rate Blue Book shall be the total Federal Highway Administration (FHWA) hourly rate. Idle equipment shall consist of the percentage sum of the following elements: depreciation, cost of facilities capital (CFC) and indirect cost multiplied by the hourly rate. For equipment rented by Contractor, rates will be determined by the Equipment Distributors' Compilation Of Rental Rates (AED Green Book) for the period that said machinery and equipment are to be used on such Work, to which no percent will be added. Where machinery and equipment are not listed in these schedules, then the rates will be determined by the Commissioner after reviewing all available records of the Contractor or other information concerning the expense of operating that type of equipment.

- e. Cost for Increase in Performance Bond: The Contractor must furnish the Construction Manager written documentation from the bonding company of the rate or rates applicable for additional bonding for this Contract. These rate/rates will be applied to all the changes increasing or decreasing the Contract Price to which no mark-up will be added. No bonding costs will be allowed for Subcontractors. In the absence of written documentation from the bonding company, a percentage of the total change will be added or subtracted, as determined by the Commissioner and Chief Procurement Officer, to cover the increase or decrease of the cost of the bond. No bond costs will be applied to proposal pricing for Contract allowances. Bond costs are acceptable if an increase is required to a Contract allowance.
- f. When Work is to be performed by a single Subcontractor or multiple subcontractors, the proposal may include as administrative costs an amount not to exceed ten percent (10%) of the first ten thousand dollars (\$10,000.00) and five percent (5%) of any amount over ten thousand (\$10,000.00) of the total approved costs of such Work. The Subcontractor, however, is not allowed any additional markup if it subcontracts its Work to a third party. The use of a Subcontractor will require the approval of the Chief Procurement Officer. All subcontracted costs must be supported by proposals from the Subcontractors performing the Work. The Subcontractor's proposal must be broken down into its various parts of Work as described in items a) through d) above, or as required by the Commissioner.
- g. DBE Breakdown: The Contractor must provide a breakdown by cost with each proposal outlining the total dollar amounts to be paid to itself and each Subcontractor/Supplier pertaining to the changed work. This breakdown must distinguish each Subcontractor/Supplier by its minority status (i.e. Non-Minority, DBE).

3. Time and Material Basis:

Procedure: The Construction Manager will provide the Contractor with daily Work Report forms for use on the project. Time and Material Work Reports will be used for all changed work that does not have an approved proposal. Time and Material Work Reports are also required for all work the Contractor feels is out of the Contract scope and plans to claim. If the changed Work is not subject to unit pricing and the City and Contractor cannot agree on a price based on a proposal prior to the time the Work is 50% complete, the Work shall be paid for on a time and material basis. The Contractor must notify the Construction Manager of all Time and Material Work in advance for work to be verified. The Contractor will fill in detailed information on the Work Report and have it signed by the Construction Manager at the end of the shift. The Contractor will submit the Work Report to the Construction Manager within 24 hours of completion. All invoices for changed Work must be submitted by Contractor within fifteen (15) days after completion of the changed work. Contractor's Failure to provide a complete invoice for the changed Work within that period will authorize the Commissioner, subject to the approval for the Chief Procurement Officer, to determine the final amount for the Contract modification which may be awarded without the signature of the Contractor.

Time and Material Billing:

- a. Labor: For all hourly wage labor and hourly wage foremen in direct charge of the specific operations, the Contractor shall be entitled to receive the actual hourly wage rate paid for every hour that said labor and foremen are actually engaged in such Work. No additional allowance or payment will be made for general superintendence. All indirect costs must be part of the overhead, including but not limited to supervision, engineering, safety, surveying, quality control, and other technical personnel. No additional compensation beyond the 30% will be allowed.
- b. The Contractor shall receive the actual costs paid to, or in behalf of, workers for health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the Work.
- c. An amount equal to thirty percent (30%) of above 3a. and an amount equal to ten percent (10%) of above 3b. will also be paid to the Contractor to cover jobsite general conditions, overhead, and profit.
- d. No payment will be made for labor performed on a time and material basis until the Contractor has furnished the Construction Manager with itemized statements of the labor cost as follows:
 - (1) Name, classification, date, daily hours, total hours, rate and extension for each journey worker, apprentice and foreman.
 - (2) Certified payrolls or certified copies thereof, pertinent to the Work for which payment is requested. The payroll records will contain the name, address and social security number of each employee, the employee's correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid. The labor rates will be audited and corrected against the certified payrolls. Falsification of the certified payroll is an offense punishable by law.
- e. Insurance and Payroll Tax: For property damage, liability, and workers compensation insurance premiums, unemployment insurance contributions and social security taxes on the time and material Work, the Contractor shall receive the actual costs, to which ten percent (10%) will be added. No payment will be made for insurance and payroll taxes until the Contractor has furnished satisfactory evidence of the rate or rates paid for such insurance and tax.
- f. Materials: For materials accepted by the Commissioner and used as an integral part of finished Work, the Contractor shall receive the actual costs of such materials delivered on the job site, including transportation charges paid by him (exclusive of machinery rentals as hereinafter set forth), as shown by original receipted bills, to which fifteen percent (15%) will be added to the first ten thousand dollars (\$10,000.00) and ten percent (10%) for any amounts over ten thousand dollars (\$10,000.00).
- g. The Contractor will be reimbursed for any materials used in the construction of the Work, such as sheeting, falsework, form lumber, burlap, or other materials for curing, etc., which are not an integral part of the finished Work. The amount of reimbursement must be agreed upon in writing before such Work is begun and no percent shall be added. The salvage value of such materials shall be taken into consideration in the reimbursement agreed upon.
- h. No payment will be made for material costs until the Contractor has furnished itemized statements of the material costs, which must include:

- (1) Quantities of materials, prices, and extension.
 - (2) Material transportation costs supported by receipted invoices.
 - (3) Receipted invoices for all materials used. However, if materials used on the time and material Work are not specifically purchased for such Work but are taken from the Contractor's stock, then in lieu of the invoices, the Contractor must furnish an affidavit certifying that such materials were from its stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor. The price quoted for such material must be reasonable and acceptable as per the normal industry practice.
- i. Equipment: For equipment owned by the Contractor, costs will be determined by the number of proposed equipment hours multiplied by the rate as allowed by the latest revision of "Equipment Watch Rental Rate Blue Book" as issued by Equipment Watch. Equipment rates as allowed by the latest revision of Equipment Watch Rental Rate Blue Book shall be the total Federal Highway Administration (FHWA) hourly rate. Idle equipment shall consist of the percentage sum of the following elements: depreciation, cost of facilities capital (CFC) and indirect cost multiplied by the hourly rate. For equipment rented by Contractor, rates will be determined by the Equipment Distributors' Compilation of Rental Rates (AED Green Book) for the period that said machinery and equipment are to be used on such Work, to which no percent will be added. Where machinery and equipment are not listed in these schedules, then the rates will be determined by the Commissioner after reviewing all available records of the Contractor or other information concerning the expense of operating that type of equipment.
 - j. When equipment is rented, the Contractor shall receive actual rental cost as shown by original receipted bills to which five percent (5%) shall be added which shall compensate Contractor for standard operating costs, including but not limited to: routine servicing and repair, service and lube labor, fuel, lubricants, filters, tires, tire service, and lube trucks. No additional compensation for ordinary operating expenses will be allowed.
 - k. No payment will be made for equipment not shown on the Daily Work Report (see C.3.n below). No payment will be made unless designations, dates, daily hours, rental rates, and extensions for each unit of machinery and equipment are shown on the itemized statement of time and material Work.
 - l. Bond: The City will pay the Contractor the actual increase in cost of its performance bond. The Contractor must furnish from the bonding company written documentation of the rate or rates applicable for additional bonding for this Contract. These rate/rates will be applied to all the changes increasing or decreasing the Contract Price to which no percent will be added. No bonding costs will be allowed for Subcontractors. In the absence of written documentation from the bonding company, a percentage of the total change will be added or subtracted, as determined by the Commissioner and Chief Procurement Officer, to cover the increase or decrease of the cost of the bond. No bond costs will be applied to Time & Materials pricing for Contract allowances. Bond costs are acceptable if an increase is required to a Contract allowance.
 - m. When Work is performed by a single Subcontractor or multiple Subcontractors, the Contractor shall receive as administrative costs an amount equal to ten percent (10%) of the first ten-thousand dollars (\$10,000.00) and five percent (5%) of any amount over ten-thousand dollars (\$10,000.00) of the total approved costs of such Work. The Subcontractor or Subcontractors are not allowed any additional markup. All subcontracted costs must be supported by invoices from the Subcontractors performing the Work. The Subcontractors' invoices must be submitted in the form described in Section X.C.3.a. through m.

- n. Documentation: For additional Work performed on a time and material basis the Contractor must each day submit to the Construction Manager detailed and complete records of the labor, material, equipment, and other costs relating to any force account Work performed on the previous day. These Daily Work Reports are to be submitted in the format designated by the Commissioner and must be signed by the Contractor and the Construction Manager. Failure of the Contractor to submit Daily Work Reports to the Construction Manager within 24 hours after the completion of the shift's work may, at the sole discretion of the Commissioner, cause these reports to be rejected and disqualified for payment.
- o. DBE Breakdown: The Contractor must provide a breakdown by cost with each proposal outlining the total dollar amounts to be paid to itself and each Subcontractor/Supplier pertaining to the changed work. This breakdown must distinguish each Subcontractor/Supplier by its minority status (i.e. Non-Minority, DBE).
- p. Base Contract Work On a Premium Time Basis:
 - (1) Premium Time costs will be paid, for Contract Work performed outside of regularly scheduled working hours as defined by the Contract Documents, only if expressly directed in writing by the City prior to the Contractor commencing the Work.

Compensation, when authorized, shall cover only the direct cost of the premium portion of the time involved and shall be without any charge for insurance. No payment will be made for union fringe benefits on the premium portion of the time unless expressly required by union agreement. Taxes, which are attributed to the premium portion of the time, will be paid. If taxes are charged by the Contractor, the Commissioner may require the Contractor to supply verification that the employees' Social Security Tax, Federal Unemployment Tax, and State Unemployment Tax limits have not been exceeded.
 - (2) An amount equal to seven percent (7%) of the sum of the premium portion of the work plus taxes will also be paid to the Contractor or Subcontractor performing the work to cover jobsite general conditions, overhead, and profit. All indirect costs shall be part of the overhead, including but not limited to supervision, engineering, and other technical personnel.
 - (3) If the Contractor enters into a subcontract, the Contractor will be allowed an additional two percent (2%) of the Subcontractor's premium time billing to cover the Contractor's supervisory and related expense on subcontract operations. The Subcontractor is not allowed the additional two percent (2%) if it sublets its Work.
 - (4) Daily Work Reports in the format designated by the Commissioner for the premium time hours must be kept and signed daily (in the format designated by the Commissioner). The reports must indicate the time of day when the Work was performed and wage rate differential that will be charged. Billings must reflect hours reported on Daily Work Reports.

4. Changes on Lump Sum Contracts or Lump Sum Items in Unit Priced Contracts:

All increases or decreases in elements of the Work, that are listed in the Contract Price breakdown as unit prices or that can otherwise be assigned a value based on the approved Contract Price breakdown will be compensated, for the purpose of any change, based on those prices.

5. Miscellaneous:

- a. For the purpose of this section, any business entity, which employs field labor and performs Contract Work on the job site, is defined as a Subcontractor. (Suppliers/deliverers of materials are not considered as field labor).
- b. When the extra Work involves only supply of material without any field labor at the job site, the supplier, for the purposes of this section, will be considered as a Subcontractor and the mark up as specified in Section X.C.3, f will apply.
- c. Expenses incurred by the City: Upon written request of the Commissioner and Chief Procurement Officer, the Contractor will pay the bills that are the responsibility of the City. The Contractor will be reimbursed for the actual amount paid out to which will be added a mark-up as specified in Section X.C.3 above.
- d. Any adjustment in Contract time due to changed Work will be based on the impact that the changed Work has on critical path items in the Monthly Update Schedule.

D. Contract Modification.

The final terms of any adjustment in Contract Price and/or Contract Completion Date relating to changed Work must be incorporated into a written Contract Modification executed by the City and Contractor (except as provided in Section X.C.3). Contract Modifications resulting in Contract Price adjustments in excess of \$5,000 require execution by the Mayor, the Comptroller and the Chief Procurement Officer. Payment for Contract Modifications and/or an adjustment in Contract Completion Date will be made after the Contract Modification is executed by the City.

E. Contractor's Release.

Except as otherwise agreed to by the Commissioner and Chief Procurement Officer, each Contract Modification shall constitute a full release to the City from granting any additional compensation or extension of time arising or resulting from the Contract Modification. The release that the Contractor must sign will state, "By executing this Contract Modification, Contractor certifies that it has reviewed and accepts the compensation and/or time extension provided in full accord and satisfaction for this Contract Modification and that it expressly waives and releases any and all additional claims and demands relating to, or arising out of, the matters covered by this Contract Modification as more fully described in the exhibit attached hereto including but not limited to: direct, indirect, overhead, home or field office costs; profits; damages; disruptions and impact."

F. Failure to Comply with Order.

The Contractor must promptly proceed with any changes in the Work or Project Schedule or Contract time as directed by Field Order in writing, in accordance with Section X.A, with or without the Contract Modification. The Contractor's refusal or failure to proceed promptly with the changed Work or changes in the Project Schedule as directed will constitute an event of default under the Contract.

G. Change Claims.

1. If the Contractor and the Construction Manager are unable to agree upon an adjustment in Contract Price and/or Contract Completion Date for changed Work in accordance with Section X.C, which is executed by the City under Section X.D, the Contractor may make a claim for the changed work under this Section X.G. ("Change Claims") The Contractor expressly consents to both the time requirements and notice content requirements for making a Change Claim under this Section X.G. The Contractor acknowledges that the notice requirements set forth in this Section X.G. shall be strictly enforced and agrees that any failure on the part of the Contractor to provide notice strictly in accordance with the requirements of this Section X.G constitutes a waiver of the Contractor's right to make a Change Claim for changes in the Work or to file a dispute to the Chief Procurement Officer under Article XVII.

The Contractor further understands and agrees that, notwithstanding any case law decision to the contrary, the notice requirements of this Section X.G. shall not be subject to or diminished by any claim on the part of the Contractor that the City or any person acting on behalf of the City directed the Contractor to make changes in the Work or had actual or constructive knowledge of any changes in the Work. The Contractor further acknowledges that the time requirements and notice content requirements of Section X.G. have the purpose, among others, of allowing the City to evaluate Change Claims contemporaneously with the work that is the subject of the Change Claim.

2. If the Contractor and Construction Manager are unable to agree on the price and/or time in connection with a change to the Work pursuant to a Field Order or attributable to direction from the Construction Manager on how and when to proceed, after notification by the Contractor of differing site conditions, the Contractor must, within fifteen (15) days of completing the changed Work directed by Field Order or attributable to differing site condition(s), provide written notice to the Construction Manager of the amount of money and/or time sought by the Contractor indicating the contractual and factual basis for each and designate such as a "Notice of Claim".
3. The Construction Manager shall, within thirty (30) days from receipt of the Notice of Claim, respond by: requesting a meeting with the Contractor; making a written request for additional information from the Contractor, including but not limited to a general statement of the basis for the claim, the facts underlying the claim, the notice to the Construction Manager of the change that gave rise to the claim, reference to the applicable Contract provisions, and all documentation that describes, relates to and supports the claim; taking other action to attempt to resolve the Notice of Claim, and/or advising the Contractor in writing that it should file a Claim under Article XVII, Claims and Disputes. Any steps taken by the Construction Manager to resolve the Notice of Claim shall not exceed sixty (60) days from receipt of the Notice of Claim unless the Contractor agrees to an additional amount of time in writing. The Contractor and Construction Manager may agree on a proposed adjustment of Contract Price and/or Contract Completion Date in resolution of a Notice of Claim, which proposal is subject to approval by the City in a Contract Modification under the requirements of Section X.D.
4. If the Notice of Claim cannot be resolved as provided for in Section X.G., the Contractor must follow the requirements of Section XVII.A, "Claims" and XVII.B, "Disputes".
5. If the Contractor does not agree with the adjustment for time and/or compensation proposed by the Construction Manager, the Contractor must follow the procedures set out by the Contract to file a Claim and/or Dispute as provided in Article XVII. If the Contractor does not follow the procedures set out by the Contract to file a Claim and/or Dispute as provided in Article XVII, the failure to do so constitutes a waiver of the right to make a Claim or file a Dispute to the Chief Procurement Officer. In the event of the Contractor's waiver, the Commissioner may file a Dispute, pursuant to Section XVII.B, with the Chief Procurement Officer seeking a final decision of the Chief Procurement Officer regarding adjustment in the Contract Price and/or Contract time for the changed Work.

H. City Audit.

All documents, records, books, and accounts, relating to changes in the Work are subject to the audit provisions of Article XII.D.2.

END OF X

XI. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Definitions.

1. "Shop Drawings" are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work. The term "Shop Drawings" as used herein includes, but is not limited to: fabrication, erection, layout and setting drawings; manufacturers' standard drawings; schedules; wiring and control diagrams; and other drawings pertaining to materials, equipment and piping; duct and conduit systems; and methods of construction as may be required to show that the materials, equipment or systems and the position thereof conform to the Contract's requirements. Shop Drawings will establish the actual detail of all manufactured and fabricated items and indicate the proper relation to adjoining Work.
2. "Product Data" are illustrations, standard schedules, performance charts, instructions, descriptive literature, catalogs and brochures, performance and test data, diagrams and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.
3. "Samples" are physical examples, which illustrate materials, equipment or workmanship and establish standards and measures by which the Work will be accepted. The term "Samples" as used herein includes materials, fabricated items, equipment, devices, appliances, or parts thereof as called for in the specifications and any other samples as may be required by the Commissioner to determine whether the kind, quality, construction, workmanship, finish, color and other characteristics of the materials, etc., proposed by the Contractor conform to the required characteristics. The various parts of the Work will be in accordance with the reviewed samples.
4. "Submittal" refers to Shop Drawings, Product Data, or Samples and other items as may be required by the Contract Documents.

B. Contractor's Responsibilities and Submittal Procedures.

1. Providing Shop Drawings, Product Data, and Samples is part of the scope of Work under this Contract and will be done at the expense of the Contractor and to the satisfaction of the Commissioner.
2. The Number of Shop Drawings, Product Data, and Samples to be submitted will be determined by the Commissioner and indicated in Section XI.B.12.
3. The Contractor must submit to the Construction Manager such Shop Drawings, Product Data, Samples, and other data required for the Work involved under this Contract in accordance with the approved Baseline Schedule and the form designated by the Commissioner entitled "Index and Schedule for Submission of Shop Drawings and Samples" (hereafter "Index and Schedule").
4. The "Index and Schedule" must be updated with the Baseline Schedule or as required by the Commissioner and will include a list of Shop Drawings, Product Data, Samples, and other data to be reviewed, a schedule of proposed submittal dates, and the date of manufacture, construction or erection. The dates listed in the Index and Schedule will allow sufficient time for review and processing by the Commissioner and review by the Consultants and re submittal, if necessary, of Shop Drawings or other data before the Shop Drawings and Samples are needed by the Contractor. No extensions of time will be granted to the Contractor because of its failure to have Shop Drawings, Samples and Product Data submitted in ample time to allow for review.
5. The Contractor's submission of all Shop Drawings, Samples and Product Data to the

Construction Manager for review shall not relieve the Contractor from its responsibility in preparing and submitting proper Shop Drawings, Samples and Product Data in accordance with the Contract Documents. By submitting Shop Drawings, Product Data, and Samples, the Contractor represents that it has determined and verified all materials, field measurements, field conditions and verified quantities related thereto, or will do so, and that it has checked and coordinated the information contained within such submittal with the requirements of the Work and of the Contract Documents.

6. All Submittals must be transmitted to the Construction Manager in compliance with the manual entitled "Procedure for Approval of Shop Drawings, Product Data, Samples and Record Documents" which is incorporated into the Contract.
7. All Submittals must be transmitted to the Construction Manager on the form designated in the manual entitled "Procedure for Approval of Shop Drawings, Product Data, Samples and Record Documents" and must include:
 - a. Project title and number.
 - b. The names of:
 - (1) Contractor
 - (2) Subcontractor
 - (3) Contract Number
 - (4) Supplier
 - (5) Manufacturer
 - (6) Separate details when pertinent
 - c. Date and revision dates.
 - d. Identification of product or material.
 - e. Relation to adjacent structure or materials.
 - f. Field dimensions, clearly identified as such.
 - g. Specification section number and paragraph.
 - h. Applicable standards, such as ASTM number or Federal Specification.
 - i. A blank space, minimum of 6 inches by 6 inches, for the review stamp.
 - j. Identification of deviations from Contract Documents.
 - k. Other data pertinent to the product or material.
 - l. Contractors stamp of Approval specified in Section XI.B.9.
 - m. Installation location, where applicable.
8. Any Submittal, which in the Commissioner's opinion is not complete and in proper form, will be returned to the Contractor without review. Submittals that are not complete or not in proper form include, but are not limited to, those which are not: clear and legible; collated into sets; complete; free of errors; checked by the Contractor; representative of the actual material or assembly and bearing the Contractor's approval stamp or other mark showing review and approval by the Contractor. The Contractor must not submit as Shop Drawings duplicates or reproductions of any Contract documents issued by the City.
9. All Shop Drawings, Product Data, and Samples must be examined and coordinated by the

Contractor and will be dated and stamped by the Contractor, using the language designated by the Commissioner, indicating that the Submittal has been reviewed and checked prior to submittal and found to be in conformance with the Contract Documents. The Contractor must submit all Shop Drawings, Samples and Product Data to the Commissioner for review with 1) an accompanying transmittal letter which states the Project by title and project number and identifies the Work, material, or product by Specification Section and Article number and 2) the completed form entitled "Shop Drawing Data". The Contractor must coordinate Submittals into logical groups or sets to facilitate review of the several items.

10. No extensions of time will be allowed because of the Contractor's failure to submit Shop Drawings and other Submittals in ample time to allow review, possible rejection, and resubmittal and final review.
11. The Contractor must furnish Shop Drawings, Samples, Product Data and information which permit the Commissioner to identify and review the construction and to determine whether the Work complies with the requirements of the Contract Documents.
12. The Contractor must submit not less than the following quantities unless a greater number is specified herein or is required in the detailed Technical Specifications or is required by the Commissioner:
 - a. Shop Drawings: Submit one (1) original and six (6) copies of Shop Drawings.
 - b. Product Data: Submit six (6) copies of Product Data.
 - c. Samples: Submit four (4) Samples.
13. Prior to submitting Shop Drawings, Product Data, or Samples, the Contractor must notify the Commissioner in writing if there are any deviations in the Submittals from the requirements of the Contract. If any deviations from the Contract requirements are rejected by the Commissioner or if evaluation of the deviations delays the progress of Work, any delay caused will not be compensated with a time extension.

C. Review by the Commissioner.

1. Submittals shall be reviewed by the Commissioner for compliance with the Contract Documents. In reviewing Submittals, the Commissioner will not verify dimensions and field conditions. Any review will not be construed as a completed check nor will it relieve the Contractor, Subcontractors, manufacturers, fabricators, or suppliers from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents, nor will it relieve the Contractor from responsibility for errors of any sort in Shop Drawings, Samples, and Product Data nor from responsibility for proper fitting of the Work, nor from the necessity of furnishing any Work required by the Contract Documents which may not be indicated on Shop Drawings when reviewed. The Contractor will be solely responsible for any quantities, which may be shown on the Shop Drawings. The Commissioner's review of a specific item will not indicate approval of an assembly of which the item is a component.
2. The Contractor must modify and resubmit Submittals, as required, until review permitting fabrication is obtained. The Contractor will not fabricate products, begin Work, order or have delivered any material, equipment or systems, which requires a reviewed Submittal, until return of the submittal with a stamp authorizing Work to be done. The stamps are indicated in Section XI.C.3.
3. After review by the Commissioner, the Commissioner shall return a copy of reproducible Shop Drawings, which will have been stamped by the architect/engineer of record and/or CDA as follows:

- a. The stamp "A" signifies "No Exceptions." Indicates final action and that no changes need to be made to the submittal. The Contractor may proceed with the work for that Submittal. Resubmittal is not required.
 - b. The stamp "B" signifies "Exceptions as Noted." This indicates that the Submittal is accepted subject to corrections and/or comments noted. The Contractor may proceed with the Work for that Submittal provided the Contractor incorporates the reviewer's corrections and/or comments in the Work. Resubmittal is not required.
 - c. The stamp "C" signifies "Revise and Resubmit." This indicates the Submittal was reviewed and does not meet all the requirements necessary to proceed with the work associated with the Submittal. The Contractor must resubmit in accordance with the reviewer's corrections and/or comments made regarding the submittal. Submittals marked in this manner must not be released for fabrication, delivery, or construction.
 - d. The stamp "D" signifies "Rejected." This indicates that the Submittal does not meet requirements set forth in the Contract Documents. The Contractor must resubmit this work in accordance with the Contract requirements and any corrections and/or comments made regarding the submittal by the reviewer. Submittals marked in this manner will not be released for fabrication, delivery, or construction.
 - e. The stamp "N" signifies "No Action Taken". This indicates that the Contractor has met the contractual requirement for providing drawings and calculations for equipment, falsework, shoring, bracing, and other temporary structures or temporary services required for the work, designed, signed, and sealed by an Illinois licensed engineer employed by that Contractor. The Contractor and the licensed engineer employed by that Contractor will be solely responsible for, including but not limited to, the proper implementation, execution, installation, operations, and/or construction procedure or method covered by this Submittal.
4. If the Shop Drawings require revision, the Contractor must notify the City and all appropriate parties, in writing, that the reviewed set has been withdrawn and the Contractor must submit the substitution set in accordance with the above procedures.
 5. Submittals that are rejected or require revisions must be corrected and resubmitted to the Construction Manager to maintain the approved Index and Schedule and Baseline schedule.
 6. Submission and Review of Samples: The Contractor must submit not less than four (4) Samples of materials to the Construction Manager for approval as indicated in the Technical Specifications. In case a considerable range of color, graining, texture or other characteristics may be anticipated in finished products, a sufficient number of Samples of the specified materials must be furnished by the Contractor to indicate the full range of such characteristics which will be present in the finished products; and such product delivered or erected without Submittal and review of full range Samples will be subject to rejection. All Samples will be properly labeled to indicate type of material submitted, intended use, manufacturer's name, project name, Contractor's name, Subcontractors' and suppliers' names, include an indication of compliance requirements, including FAA, and be accompanied with a letter of transmittal containing similar information, together with the specification section number for identification of each item. Each tag or sticker must have clear space for the stamps of the Contractor and Commissioner. Samples must be inspected and reviewed. Notice of the result of the review shall be provided to the Contractor with one of the stamps indicated in Section XI.C.3. Rejected Samples will be returned. Accepted Samples will be retained by the Commissioner and will become the property of the City. Where color Samples are required to be submitted, color Samples must be submitted on the actual material, which will finally be installed in the Work.

7. Product Data: After review by the Commissioner, two (2) sets of Product Data stamped by the Commissioner as previously described in Section XI.C.3 shall be returned to the Contractor.
8. When reviewed by the Commissioner, Shop Drawings, Samples and Product Data will become a part of the Contract, and the materials and equipment furnished will be in conformity with the same, provided that the review of such Submittal will in no way relieve the Contractor from its responsibility for the proper installation and performance of any material or equipment or from its liability to replace the same should it prove defective.

END OF XI

XII. PROJECT RECORD DOCUMENTS, PROJECT ACCOUNT RECORDS AND DAILY PROGRESS REPORTS

A. "As-Built" Drawings.

1. As the Work progresses, the Contractor and the Subcontractor for each trade or division of Work, under the direction of the Contractor, must keep a complete and accurate record of the following:
 - a. Changes and deviations between the Work as actually installed and the Work as shown on the Contract Drawings and the Shop Drawings.
 - b. The specific locations of piping, valves, ductwork, manholes, handholes, equipment, and other such Work which were not located or changed location from that shown on Contract Drawings.
 - c. Equipment schedules indicating manufacturers' names and model numbers installed.
2. Changes, deviations, and other information must be neatly and correctly recorded on a full sized set of Contract Drawings. This record set of Contract Drawings must be kept at the job site for inspection by the Commissioner. Upon completion of the Work, the Contractor must submit one (1) final set of Contract Drawings with changes, deviations or other information marked in red ink to show the as-built conditions of the Project and three (3) copies ("As-Built Drawings") to the Construction Manager for approval and acceptance by the Commissioner prior to the completion of the Punch List.
 - a. The Contractor must submit half-size red-line as-built drawings for any work related to a FAA facility at the completion of a phase, milestone, or as required for acceptance by the FAA.
3. At the time "As-Built Drawings" are delivered to the Construction Manager, the Contractor and each Subcontractor must certify, in writing, that the "As-Built Drawings" are complete and accurate.

B. Operation and Maintenance Manuals, Instructions, and Parts List.

1. The Contractor must furnish to the Construction Manager one bound copy of operation and maintenance manuals, instructions, specifications relative to the assembly, installation, alignment, placing in operation and maintenance of equipment, systems and construction under this Contract prior to Substantial Completion. Two (2) additional bound copies and two (2) electronic copies, in a format acceptable to the Commissioner, must be furnished to the Construction Manager prior to Final Completion.

For all items requiring spare parts and materials, the Contractor must submit five (5) bound copies of the list of required spare parts and materials for each, including manufacturers product, material, part or re-order numbers, name, address, and telephone numbers of local suppliers and manufacturer's corporate offices.

For any work related to a FAA facility, the Contractor must submit Operation and Maintenance Manuals and Test Results at the completion of a phase or milestone or as required for acceptance by the FAA.

2. The bound copies must be permanently reproduced on heavy paper and will be in addition to any instruction and parts lists attached to the equipment or materials when delivered or submitted in conformance with the Contract Documents.
3. Contractor shall submit one (1) original and four (4) copies of all guarantees and warranties required by the Contract Documents from Contractor, subcontractors, suppliers

and/or manufacturers.

C. Record Shop Drawings.

Record Shop Drawings and Product Data must be submitted for all items reviewed as Shop Drawings, and have a status of "A", "B" or "N". Contractor must provide three (3) bound copies of all submittals in loose-leaf binders and two (2) electronic copies in a format acceptable to the Commissioner. Binders must be divided by Specification number and contain an index of all items, including Shop Drawings.

D. Record Documents.

All Record Documents must be prepared and transmitted to the Construction Manager in compliance with the manual entitled "Procedure for Approval of Shop Drawings, Product Data, Samples and Record Documents" which is incorporated into the Contract.

E. Delivery Requirements for Reduction of Retainage.

As a prerequisite to the Punch List completion and prior to the Contractor's application for a reduction of Retainage from three percent (3%) to one percent (1%) and as a condition to its review by the Commissioner, the Contractor must deliver to the Construction Manager, in suitable transfer cases clearly marked "Record Documents": the "As-Built Drawings", Record Shop Drawings. Product Data, instructions, parts lists, and operations and maintenance manuals arranged in proper order and indexed.

F. Electronic Records.

Upon request by the Commissioner, Contractor shall provide the City electronic versions of any hard-copy record documents that the Contractor is required to prepare pursuant to the Contract Documents.

G. Project Account Records.

1. Project Data and Records:

- a. All books and accounts kept by the Contractor in connection with the Contract shall be open to the inspection of the Commissioner or the Commissioner's authorized representative and all City of Chicago authorized agencies and their representatives. Promptly following the preparation of periodic payrolls of the Contractor and of each of its Subcontractors, the Contractor must furnish the Construction Manager with such number as may be required of certified copies of such payrolls.
- b. The Contractor and each Subcontractor must also keep an accurate record showing the names and occupation of all laborers, workers and mechanics employed by them in connection with the Work and showing also the actual hourly wages paid to each of such workers, which record will be open at all reasonable hours to the inspection of the Commissioner and to the Director of Labor (State of Illinois).
- c. The Contractor must at any time when required by the Commissioner or Chief Procurement Officer, furnish to the Construction Manager a written statement, verified by affidavit, giving the names and addresses of all persons, firms, and corporations who have up to the date thereof furnished labor or materials in or about the performance of the Contract and the amounts due or to become due to said parties.
- d. The Contractor and any Subcontractor must furnish the Construction Manager with such information as the Commissioner may require relating to the materials including all information necessary to determine the cost of the Work, such as the number of workers employed, their pay, the distribution of labor into Work item, equipment time distribution and any other information which the Commissioner may require. The

Contractor must, on request, furnish the Construction Manager with copies of delivery tickets and invoices, in triplicate, covering all expenditures on the Contract.

2. Audits:

- a. The Contractor must maintain, or cause to be maintained, records showing actual time devoted and costs incurred. The Contractor must maintain, or cause to be maintained, its books, records, documents, and other evidence, and adopt, or cause to be adopted, accounting procedures and practices sufficient to reflect properly all costs of whatever nature, claimed to have been incurred and anticipated to be incurred for or in connection with the Project for five (5) years after the date the final payment is made and all pending matters are closed. This system of accounting will be in accordance with generally accepted accounting principles and practices, consistently applied throughout.
- b. The Contractor must furnish, or cause to be furnished, to the Commissioner such information as may be requested relative to the progress, execution, and cost of the Project. All books and accounts in connection with the Project must be open to inspection by authorized representatives of the City. The Contractor must make these records available, or cause them to be made available, at reasonable times during the performance of the Work under this Contract and will retain them in a safe place and must make them available for inspection for at least five (5) years after the Project Completion Date. No provision in this Contract granting the City right of access to records and documents is intended to impair, limit, or affect any right of access to such records and documents, which the City would have had in the absence of such provisions.
- c. The City may in its sole discretion audit the records of Contractor or its Subcontractors, or both, at any time during the term of this Contract or within five years after the Contract ends, in connection with the goods, Work, or services provided under this Contract. If, as a result of such an audit, it is determined that Contractor or any of its Subcontractors has overcharged the City, the City will notify Contractor. Contractor must then promptly reimburse the City for any amounts the City has paid Contractor due to the overcharges and also some or all of the cost of the audit, as follows:
 - (1) if the audit has revealed overcharges to the City representing less than 5% of the total Project cost, based on the Contract Prices, of the goods, Work, or services provided, then the Contractor must reimburse the City for 50% of the cost of the audit;
 - (2) if, however, the audit has revealed overcharges to the City representing 5% or more of the total Project cost, based on the Contract Prices, of the goods, Work, or services provided, then Contractor must reimburse the City for full cost of the audit.

Failure of Contractor to reimburse the City in accordance with (1) or (2) b above is an event of default under this Contract, and Contractor will be liable for all the City's cost of collection, including any court costs and attorneys' fees.

3. Confidentiality: All of the reports, information, or data, prepared or assembled by or provided to the Contractor under this Contract are confidential and the Contractor agrees that, except as specifically authorized herein or as may be required by law, neither it or its subcontractors must make available said reports, information, or data, to any other individual or organization, without the prior approval of the Commissioner.

END OF XII

XIII. TESTING AND INSPECTION

A. General Inspection.

1. All materials and equipment and each part or detail of the Work is subject at all times to inspection, testing and approval by the Construction Manager, the Commissioner, and/or a consultant engaged by the City to perform such inspections and testing (collectively, "City Inspector"). The Contractor will be held strictly responsible for performance of the Work that complies with the express requirements and intent of the Contract Documents in regard to quality of materials, workmanship and the diligent execution of the Contract. Such inspection may include mill, plant, shop, field inspection and any material or equipment furnished. The City Inspectors must be allowed access to all parts of the Work and must be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection. The City Inspectors have the right to take progress photos of any part of the Work.
2. All material used must be inspected, tested, and approved before being incorporated in the Work. All inspections and tests performed by the City Inspector are to verify that the materials being furnished by the Contractor meet the Contract requirements and will be used as the basis for Pay Estimates. Payment will not be made for uninspected, untested, or otherwise unauthorized use of materials incorporated into the Work. The Contractor, at its own expense, may perform or have others perform similar tests for the sole purpose of maintaining the Quality Control of the material being provided. Payment will be based solely on the results of those tests performed by the Commissioner.
3. Material and equipment inspection must be as hereinafter specified in the Section XIII.B, "Materials and Equipment Testing and Inspection".
4. The Contractor must remove, or uncover such portions of the finished Work as the Commissioner may direct before the final acceptance of the same to allow examination by a City Inspector. After the examination, the Contractor must restore said portion of the Work to the standard required by the Contract Documents. If the Work thus exposed or examined proves acceptable, the expenses of uncovering or removing and the replacing of the parts removed shall be paid for as changed Work, unless otherwise provided in the Contract Documents, but, if the Work so exposed or examined is unacceptable, the expense of uncovering or removing and the replacing of the same in accordance with the Contract Documents shall be borne by the Contractor.
5. Except as may be otherwise specified in other sections of the Contract Documents, a City Inspector will make inspection of all Work included in the Contract as soon as practicable after notification by the Contractor as provided in Section IX.G.1 that the Work is substantially completed and ready for inspection. If the Work is not acceptable to the Commissioner at the time of such inspection, the Construction Manager will inform the Contractor as to the particular defects to be remedied before the Project will be determined to be substantially complete.
6. When the Contract includes Work for which the Federal Government is to pay a portion of the cost thereof, such Work shall also be subject to the inspection and approval by the representatives of the Federal Government, but such inspection and approval will in no sense make the Federal Government a party to the Contract.
7. When the Contract includes Work that will ultimately be owned and/or maintained by a specific outside agency or other third party, such Work shall also be subject to the inspection by the representatives of the outside agency or third party, but such inspection will in no sense make the outside agency or third party a party to the Contract.

B. Materials and Equipment Testing and Inspection.

1. As stated in Section XIII.A "General Inspection", all materials and equipment may be inspected and tested by a City Inspector. For materials which are not an integral part of equipment and for which Samples can be submitted, the Contractor must give sufficient advance notice of placing orders to permit tests to be completed before the materials are incorporated into the Work and must afford such facilities as the City Inspector may require for collecting and forwarding samples and making inspections and tests. All Samples must be furnished without charge. The Contractor must not make use of or incorporate into the Work the materials represented by the Samples until tests have been made and the materials found to be in accordance with the requirements of the Contract Documents.
2. The Contractor must notify the Construction Manager that materials and/or equipment have been delivered to the job site and inspected by the Contractor, by submitting a "Request for Inspection of Material" form. The Construction Manager shall inspect the material and/or equipment and make a recommendation to the Commissioner as to its conformance with the requirements of the Contract Documents prior to its incorporation into the Work.
3. For materials that are an integral part of machinery or equipment or of parts of equipment normally stocked by the Contractor or Subcontractor, the Contractor may furnish copies of certified tests made at the time of production.
4. In addition to on-site inspection and testing, the City Inspectors shall have free entry, at all times while Work is being performed, to all parts of a manufacturer's works that concern the manufacture of the material or equipment ordered for the Project. The City Inspectors shall be permitted to examine all components and subassemblies. Assemblies and parts must be numbered for identification. The Contractor (or manufacturer) must provide the City Inspectors with a detailed production schedule prior to the first inspection. After a study of the production schedule, the City Inspectors must inform the Contractor (or manufacturer) of its methods, extent of inspection and facilities desired. The manufacturer will afford the City Inspectors, without charge, all reasonable facilities to provide satisfactory documentation that the material or equipment is being furnished in accordance with the Contract Documents. All tests and inspection shall be made at the place of manufacture prior to shipment and at the Contractor's or manufacturer's expense.
5. Part Three of the Contract Documents may include the cost of travel and living expenses for a specific number of City employees and/or other persons for a specific test. The travel and living expenses for any additional City employees or additional person(s) will not be a cost to the Contractor. The manufacturer or Contractor will furnish a certification of the ordered tests after completion. The Commissioner reserves the right to re-inspect all materials or equipment, which have been inspected and accepted at the place of manufacture or source of supply, after they have been delivered to the site and to reject any which do not meet with the requirements of the Contract Documents.
6. If the preparation of the material or equipment is at a far distant or inaccessible location, or if it is divided into unreasonably small quantities, or widely distributed to an unreasonable extent, or if the percentage of rejected material is unreasonably large, or if the Contractor's production schedule and arrangements for test and calibration is such that the cost of inspection by the City is unreasonably high, the additional cost of extra inspection resulting therefrom must be born by the Contractor. The Commissioner shall be the sole judge of what is to be deemed extra inspection.

If the City Inspector is a City employee, the actual travel of the City Inspector, limited to the applicable amounts set forth in the City's travel reimbursement guidelines, must be included in the additional cost of extra inspection and paid by the Contractor. If the City Inspector is not a City employee, the City Inspector's travel expense reimbursement shall be

as stated in the City's contract with the City Inspector, limited to the applicable amount set out in the City's travel reimbursement guidelines, must be included in the additional cost of extra inspection, and paid by the Contractor.

7. Unless otherwise provided, all materials will be sampled and tested in accordance with the latest published standard methods of the American Society for Testing and Materials and revisions thereof, where such standard methods exist. In case there are no ASTM standards which apply, applicable standard methods of other recognized standardizing agencies will be used. In all cases, the standard methods and revisions thereof that will be used are those in effect on the date of the invitation for bids.
8. For any material not covered by the designated specifications of some designated society, association, institute or governmental authority, appropriate methods of testing and inspection to be designated by the Commissioner will be followed.

END OF XIII

XIV. PROTECTION OF PERSONS AND PROPERTY, HEALTH AND SAFETY, SERVICES AND USE OF SITE

A. Protection of Persons and Property.

1. Protection of FAA Facilities.

- a. The Contractor's operations such as trenching, jacking of pipe or casing, excavation for pavements or structures, site grading and vehicular traffic may occur over, around and under FAA facilities such as equipment houses, direct buried cables and duct banks. These facilities are critical to the operation of the air traffic control functions at the Airports and all possible steps must be taken to identify, protect and prevent damage to such utilities and to ensure their integrity throughout the period of construction activity.
- b. The Contractor must notify the Construction Manager at least 72 hours prior to any excavation in the vicinity of FAA cables or ducts. The Construction Manager in turn will contact an FAA representative at the FAA O'Hare National Airspace System or at Midway Airport FAA Airway Facilities to arrange for a joint walking tour with cable location equipment to identify precisely such cables and locations in order to assure the preservation of their vital functions during construction. It is impossible to over stress the importance and priority involved in the maintenance of the FAA facilities on the Airports.
- c. In order to access FAA facilities, the Contractor must notify the Construction Manager at least five (5) business days in advance.

2. Protection of Persons and Property in Areas of the O'Hare Airport Transit System (ATS).

- a. The following Rules govern Work and other activities performed within or near the ATS Right of Way "ROW Envelope," as defined herein. These rules are intended to protect the lives and safety of persons and to prevent property damage. The rules are applicable at all times. It is the obligation of any person working or performing activities, or directing the activities of others, within or near the ATS to ensure compliance with these rules. These rules represent the minimum requirements. Additional care should be exercised if circumstances warrant.
- b. General Information:
 - (1) The ATS is a transit system used primarily for transporting airline passengers, airline employees, and other Airport personnel to various points within the Airport. The ATS serves the three domestic terminals in the Terminal Core Area, the International Terminal, and the Long Term Parking Areas. Passenger stations are located at each of the domestic terminals (1, 2, and 3), the International Terminal, and Lot "E" in the Long Term Parking Areas. New stations may be constructed in the future. If such stations are constructed, they will also be covered by these rules as of the commencement date of their construction.
 - (2) The ATS guideway (track area) is primarily elevated, but it is at-grade in some areas of the Airport. The plans, which will be provided by the Commissioner, illustrate the location of the guideway structure. The plans also indicate the location of the traction power, facility power, and other facilities, which serve the ATS.
 - (3) ATS vehicles are designed to operate without personnel (motorman or conductors) on-board. Vehicles are controlled from the ATS Maintenance

Building. The number of vehicles operating at the same time on the ATS may vary according to the time of day. Vehicles may operate individually (single car) or jointly (as many as three cars). Vehicles may travel up to 50 miles an hour at various points along the route, and may change direction without notice or warning. Vehicles may stop at any time without notice or warning.

- (4) The schedule for ATS service may vary according to the time of day, with peak service expected between 1400 hours and 2000 hours. Vehicles may operate seven (7) days a week, twenty-four (24) hours a day, with 750-volt direct current electrical power ("v.d.c.") to the guideway on at all times. Intervals between vehicles may be as short as 90 seconds, or as long as five to seven minutes.
- (5) The ATS is powered by 750 v.d.c. electricity through its guideway. Any direct or indirect contact (touching or placement of conducting materials in contact with or near these rails) can result in death or severe injury.
- (6) Work and other activities are prohibited within certain horizontal and vertical areas adjacent to the ATS, collectively called the "Right-of-Way Envelope" ("ROW Envelope"). The clearances required to preserve the integrity of the ROW Envelope will be maintained at all times. The horizontal component of the ROW Envelope is depicted on plans, which will be provided by the Commissioner. The actual width of the horizontal ROW Envelope may vary at different locations. Regardless of the actual width, however, Work and other activities are prohibited within 2 horizontal feet from the vertical end of the tie (track support) face. Work and other activities are prohibited within five (5) feet from the edge of the slab along the at-grade portions of the ATS. The vertical component of the ROW requires a minimum vertical clearance over the guideway of thirteen (13) feet, six (6) inches. Underneath the elevated structure, Work and other activities are prohibited within two (2) feet of the bottom flange of the steel girder. The minimum vertical clearance underneath the elevated structure when it crosses paved surfaces (roadways) is fourteen (14) feet, six (6) inches, and may be lower in some specific paved areas (not designated roadways), and at unpaved locations.

c. Rules:

- (1) All persons who perform Work or other activities near or within the ROW Envelope must exercise the highest standard of care so as not to cause injury to themselves, passengers, contractors or their employees, or others; interference with the operations of or property damage to the ATS; or other property damage.
- (2) Persons performing Work or other activities near the ROW Envelope must exercise the highest standard of care so as to avoid entry on or within the ROW Envelope. Such entry has the potential to cause injury or death to themselves, passengers, contractors and their employees, or others; interference with the operations of or property damage to the ATS; or other property damage.
- (3) Entry on or within the ROW Envelope is prohibited, unless specifically permitted in writing and, then, only in the manner and at the times and locations permitted in writing by the Commissioner. Work and other activities within the ROW Envelope will not proceed without the express written authorization of the City. In no event will the City be liable or responsible for any damages for delays or other claims arising in connection with the obtaining of such authorization.
- (4) No less than thirty (30) days prior to the start of any Work or other activities near (within 10 feet) or within the ROW Envelope, a written operations plan must be

prepared in writing and provided to the Construction Manager for its review. The Construction Manager will meet with the involved parties within ten (10) business days of receipt of the plan to discuss any changes, which may be required. At a minimum, the plan will include the following:

- (a) The Work or other activities to be performed; the equipment to be used; and the number of personnel or others involved.
 - (b) The schedule and proposed hours for Work or other activities to be within or near the ROW Envelope.
 - (c) Any sequential staging of the Work or other activities near or within the ROW Envelope.
 - (d) Drawings depicting haul roads, storage sites, barricades, or temporary structures to be located near or within the ROW Envelope.
 - (e) A description of measures to be taken to preserve the integrity of the ROW Envelope, and prevent interference with ATS operations or violations of these rules.
 - (f) Any other matters which may affect the ATS.
 - (g) The Construction Manager will be notified again, in writing, no more than 72 hours in advance of the start of Work or other activities to be performed near or within the ROW Envelope.
- (5) All Work or other activities within or near the ROW Envelope must be conducted, on dates designated by the Construction Manager, between the hours of 0000 (12:00 A.M.) and 0500 (5:00 A.M.). No other times will be available except with the express written permission of the City. No Work or other activities, which would inhibit normal ATS service, will be permitted within the ROW Envelope during peak service hours.
- (6) Prior to the start of any Work or other activities within or near the ROW Envelope, any persons who may be on-site, including the Contractor, field personnel and supervisors, must attend safety classes held by the City. The persons requiring such classes will be responsible for the cost. A cost estimate will be provided upon written request.
- (7) The persons responsible for the Work or other activities to be performed near or within the ROW Envelope must pay any costs, which the City may incur in connection with such Work and other activities, including without limitation costs associated with providing flagmen, or construction inspectors. A cost estimate will be provided upon written request.
- (8) Power to the guideway may be disconnected, by the City, for short periods of time, when deemed permissible by the City, in its sole discretion, to allow Work or other activities to be performed near or within the ROW Envelope. Power will not be disconnected during peak service hours. Arrangements for disconnection of power must be made with the Commissioner. City personnel assigned to this task will be identified. Only City personnel assigned to this task are authorized to disconnect power. No Work or other activities will proceed until such time as the identified City personnel indicate that the power has been disconnected.
- (9) Work and other activities near or within the ROW Envelope must not cause damage, settlement, or displacement of any structures, equipment, track, or any other portion of

the ATS. In the event of any damage, settlement or displacement of the equipment, structures, track, or any other portion of the ATS, all Work and other activities must be immediately suspended and the Construction Manager and Commissioner promptly notified. The City may decide, in its sole discretion, what measures are needed to repair any damage to the ATS, and may order such repairs to be done by City personnel, by others hired by the City, or by the person responsible for damage. Regardless of who performs the repairs, the person responsible for the Work or other activities, which caused the damage, must bear the cost of repair and service disruption.

- (10) If the Commissioner deems, in his or her absolute sole discretion, the Work or other activities being performed near or within the ROW Envelope to be hazardous to the operations or safety of the ATS or its passengers, he or she may immediately order the suspension of such Work or other activities, and may revoke any and all authorizations to be near or within the ROW Envelope. Such order and revocation may be verbal in an emergency, with written notice to follow as soon as practicable. Such Work and other activities will immediately cease and will not be recommenced until a new authorization is received from the City. In no event will the City be liable or responsible for any damages for delay or other claims in connection with such revocation.
- (11) The City reserves the right to perform Work within the ROW Envelope, at any time, and without prior notice. Work and other activities of the Contractor to be conducted near or within the ROW Envelope, which may, in the City's sole opinion, interfere with the City's Work, will be suspended, upon written notice by the Commissioner or Construction Manager, until such time as the City indicates. In no event will the City be liable or responsible for any damages for delay or other claims arising in connection with such suspension.
- (12) The City reserves the right to issue new rules as may be needed, in the City's sole opinion, from time to time, in connection with Work or other activities being conducted near the ATS, or near or within the ROW Envelope, and such rules will be effective as of the date of issuance.

3. Protection of Existing Structures and Property.

- a. The Contractor must avoid damage, as a result of its operations, to trees, plant life, existing sidewalks, curbs, streets, alleys, pavements, utilities, adjoining property, the work of other contractors and the property of the City and others and will at its own expense repair any damage thereto caused by its operations.
- b. The Contractor must be responsible for loss or damage by fire or theft of equipment, material, or other property of the CDA or the City of Chicago, incurred while such equipment, material or other property is located in any field office or on the site of the Work. The Contractor must repair or replace any such equipment, material or other property so lost or damaged, to the satisfaction of the Commissioner at no additional cost to the City.
- c. The Contractor must familiarize itself with the requirements of local and state laws applicable to underpinning, shoring and other Work affecting adjoining property and wherever required by law the Contractor will shore-up, brace, underpin, secure, and protect as may be necessary all foundations and other parts of existing structures adjacent to, adjoining and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the Work.
- d. The Contractor is responsible for the giving of any and all required notices to any adjacent or adjoining property owner or other party and such notice or notices must be

served in sufficient time as not to delay the progress of the Work.

- e. The Contractor must indemnify, save and keep the City harmless from any damages on account of settlements or the loss of lateral support of adjacent or adjoining property and from all loss or expense and all damages for which the City may become liable in consequence of such injury or damage to adjacent and adjoining structures and their premises.
 - (1) The provisions of the foregoing paragraph will include also and apply to any liabilities and duties placed upon the City of Chicago as owner or occupant of the property on which the improvements provided for herein are to be constructed, by the provisions of an Act entitled "An Act to prescribe the duty of an owner or occupant of lands upon which excavations are made in reference to the furnishing of lateral and subjacent support to adjoining lands and structures thereon". See 765 ILCS 140/1 et seq.

4. Protection of Utilities.

- a. The Contractor must determine the locations of all utilities in the vicinity of the site of the Work and will take suitable care to protect and prevent damage to such utilities from its operations under this Contract.
 - (1) The O'Hare International Airport Underground Construction Notification document, also known as the "Dig Book" must be prepared and submitted a minimum of twenty-one (21) calendar days prior to the commencement of any excavation and/or utility work. The Contractor cannot perform any excavation or work around existing utilities without receiving a fully executed Dig Book. The Contractor must participate with the Construction Manager in the preparation of the Dig Book.
 - (2) Contractor must include in the Baseline, Monthly Update and Three-Week Look Ahead Schedules a predecessor milestone and task to represent the submittal and execution of the Underground Construction Notification form for each activity associated with excavation and utility work. The milestone denotes the submittal of the form to the CDA for approval. The task should denote the twenty-one (21) calendar day form approval period.
- b. When performing Work adjacent to existing sewers, drains, water and gas lines, electric or telephone or telegraph conduits or cables, poles lines or poles, or other utility equipment or structures, which are located outside of the neat lines of the excavations to be made or of the structures to be constructed under this Contract and which are to remain in operation, the Contractor must preserve and maintain such utility equipment, structures, and utility marking posts in place at its own expense and will co-operate with the City department, utility company or other party owning or operating such utility equipment or structures in the maintenance thereof.
- c. The Contractor is responsible for and must repair all damage to any such utility, equipment or structures caused by its acts, whether negligent or otherwise, or its omission to act, whether negligent or otherwise and will leave such utility, equipment or structures in as good condition as they were in prior to the commencement of its operations under this Contract. However, it is hereby agreed that any such utility equipment or structures damaged as a result of any act, or omission to act, of the Contractor may, at the option of the City department, utility company, or other party owning or operating such utility, equipment or structures damaged, be repaired by such City department, utility company, or other party and in such event the cost of such repairs will be borne by the Contractor.

5. Protection of Streets, Alleys, and Public Grounds.

- a. If in the prosecution of the Work it is necessary to excavate, use or occupy any street, alley, or public grounds of the City, the Contractor must erect and maintain such barriers and, during the night time, such lights as will effectually prevent the happening of any accidents or damage to life, limb or property in consequence of such excavation, use or occupation of such street, alley, or public grounds.
- b. The Contractor will be liable for all damages occasioned by the excavation, use or occupation of any street, alley, or public grounds, or by the carelessness of the Contractor, its agents, employees, or workers and will indemnify the City against all judgments rendered against it by reason thereof.
- c. If the City is sued solely for such neglect, a judgment rendered against it will be conclusive evidence (1) of the negligence of the Contractor as aforesaid and (2) the amount of such damages recoverable from the Contractor by reason thereof. In the defense of such action, the Contractor, upon notice, agrees to cooperate with the City to the fullest extent in furnishing evidence bearing on the charges therein made.

6. Protection of Existing Trees in the Right of Way.:

- a. It is the responsibility of the Contractor to protect all trees from damage at the construction site. Any damage to trees resulting from a construction project, as determined by the Commissioner, will be repaired or replaced at the Contractor's expense.
- b. The Contractor will be required to replace any permanently damaged tree with a new tree of the same type and said new tree will have a trunk with a minimum one and one-half (1-1/2) inch diameter.
- c. The protection of trees will include bridging, tunneling, drawing, drilling or boring underneath existing trees. The surface area directly adjacent to the tree trunk will not be disturbed under the following guidelines:
 - (1) Less than 5 inches DBH trees - 2-foot radius of the tree trunk with a minimum of 3-foot depth.
 - (2) 5 inches to 20 inches DBH trees - 5-foot radius of the tree trunk with a minimum of 3-foot depth.
 - (3) Over 20 inches DBH trees - 7-foot radius of the tree trunk with a minimum of 3-foot depth.
 - (4) When bridging, tunneling, drawings, drilling or boring underneath existing trees, said Work will be accomplished directly beneath the center of the tree trunk.

B. Health and Safety.

1. Project Health and Safety.

- a. Contractor has sole and complete responsibility for implementation of a safety program. The Contractor's safety program must, at a minimum, meet the requirements of the "Chicago Airport Systems Construction Safety Manual", which is incorporated by reference and made a part of this Contract. The Contractor's safety program must include the Work of all the Contractor's Subcontractors. The

Contractor's Safety Program must be submitted to the Commissioner for review and approval at least thirty (30) days before start of the Work.

- b. The Contractor shall designate a safety representative for the project. This person shall be present whenever work is being performed at the site or at any staging area on the Airport property. The safety representative shall have the project safety responsibilities as his or her exclusive responsibility and not have any other responsibilities regarding this project unless the Commissioner specifies otherwise in Part 1 of the Contract Documents. The safety representative must have the authority and the experience level to fulfill the duties stated in the "Chicago Airport Systems Construction Safety Manual".
- c. Although the Construction Manager and Commissioner will observe construction and give the Contractor opinions and suggestions about safety defects and deficiencies, the Construction Manager and Commissioner will not be responsible for any unsafe working conditions. The Construction Manager's or Commissioner's suggestions on safety will in no way relieve the Contractor of its responsibility for safety on the project. The Contractor has sole responsibility for safety.
- d. The Contractor must comply with the requirements of Regulations 29 CFR Part 1926 (Originally CFR Part 1518) - Safety and Health Regulations for Construction of the Williams-Steiger Occupational Safety and Health Act of 1970 (Federal, OSHA). Copies may be obtained from the Regional Administrator of the Department of Labor, Federal Office Building, and Chicago, Illinois.

The Contractor's attention is directed to the "Health and Safety Act" of the State of Illinois. The rules pursuant to this Act are on file with the Secretary of State of Illinois and are identical in every respect with the standards in effect under the Federal, OSHA, and law, pursuant to orders of the Illinois Industrial Commission. The Federal and State standards require that the Contractor provide reasonable protection to the lives, health, and safety of all persons employed under the Contract. Such act and rules and the applicable parts thereof will be considered as part of these specifications.

- e. The Contractor must comply with all local safety laws including, but not limited to, blasting or use of explosives, and those set forth in Title 15 of the Municipal Code of Chicago, Ch. 15-4, Art.5, and Ch. 15-20, Art.1.
- f. The Contractor must take any precautions that may be necessary to render all portions of the Work secure in every respect or to decrease the liability of accidents from any cause, or to avoid contingencies which are liable to delay the completion of the Work. The Contractor will furnish and install, subject to the approval of the Commissioner, all necessary facilities to provide safe means of access to all points where Work is being performed and make all necessary provisions to insure the safety of workers and of engineers and inspectors during the performance of said Work.
- g. The Contractor must keep on the site of the Work, completely equipped first aid kits readily accessible at all times. The Contractor will designate a person on each shift, acceptable to the Commissioner, to be in charge of first aid and will cause such person to receive proper instructions therein.
- h. The Contractor must furnish and place, in all buildings connected with the Work, a sufficient number of fire extinguishers, of a type and capacity approved by the Illinois Inspection and Rating Bureau.
- i. Only such materials and equipment as are necessary for the construction of the Work under this Contract, as determined by the Commissioner, will be placed, stored or

allowed to occupy any such space at the site of the Work. If gasoline, flammable oils, or other highly combustible materials must be stored at the site, they will be stored in closed safety containers and placed where directed by the Commissioner.

2. Fire Protection: Fire protection must comply with all fire regulations and with all specific regulations of the Commissioner and other City officials who have jurisdiction, and will include the following:
 - a. An ample number of suitable, fully charged fire extinguishers will be provided as approved. Also provide water type fire extinguishers for combustible materials in case of fire prior to daily removal of debris from the site.
 - b. All tarpaulins or other protective coverings will be of approved flame retardant material.
 - c. Not more than one (1) day's supply of flammable liquid including oil, gasoline, paint or solvent will be brought to the site at any one time. All 110 degree F., or below, flash point liquids will be confined to "U.L." approved safety cans. No open fires of any type will be permitted.
 - d. The Contractor must prohibit all lighting of fires about the premises and all smoking in restricted areas where posted with "NO SMOKING" signs and must use due diligence to see that such prohibition is enforced. "NO SMOKING" signs must be furnished and posted by the Contractor. Smoking is prohibited everywhere on the AOA.
 - e. No debris or waste materials, including hazardous materials, will be burned at the construction site.
 - f. During construction, all cutting or welding operations will be carried out with all precautions taken to prevent fires resulting from sparks or hot slag. Extreme care will be exercised to determine that such sparks or embers do not fall into any combustible materials, even if such material is stored on lower floors. Sheet metal windscreens will be provided around the lead-melting furnaces whether building is enclosed or not. Portable fire extinguishers will be provided at and below all locations where cutting or welding or melting operations are being performed or, if such operations are extensive, a hose from the stand pipe system or fire hydrant will be placed nearby.
 - g. All combustible material, including but not limited to, wood, crates, excelsior paper, rags or flammable solvents will not be allowed to accumulate, but will be removed to a safe location and disposed of immediately after they have served their purpose.
 - h. If there is a concentration of gas vapors at the Project site, the Contractor will be responsible for clearing the area, and notifying the Commissioner and the gas Utility Company. All operations in the area will be suspended until the source of such vapors has been located and corrected.
 - i. The Contractor will arrange for the installation of necessary fire protection lines and equipment as required by the Chicago Fire Department and as necessary to properly protect the building under construction. Permanent fire protection facilities may be used for this purpose as soon as they are installed, tested, and approved for use by the Commissioner in writing for temporary use.
 - j. Salamander heaters or similar forms of uncontrolled heaters will not be used except with the special written permission of the Commissioner and City fire marshal and then only when each salamander is maintained under constant supervision.

3. Environmental Compliance: As provided in Section C, "Compliance with Environmental Laws", below, in performing the Work under the Contract, the Contractor must comply with all Environmental Laws, including but not limited to those relating to preventing pollution of air, water, soil, and groundwater due to its construction and other operations, must eliminate excessive noise, and must otherwise conduct its operations in a manner protective of public health and safety. If the Contractor causes the release or threatened release of Hazardous Materials into the air, soil, water, or groundwater at the airport or exacerbates any existing environmental condition at the Airport, the removal of such Hazardous Materials and the remediation of any contamination must be performed in the manner and time frame determined by the Commissioner, and by applicable Environmental Laws, at the Contractor's sole expense.

The Contractor must also comply with the CDA Stormwater Pollution Prevention Plan (SWPPP), Spill Prevention Control & Countermeasure Program (SPCC), and the Best Management Practices Manual. These documents are meant to supplement existing federal, state, or local regulatory requirements with additional best practice environmental strategies and considerations. These documents are available on the CDA website: <http://www.flychicago.com/OHare/EN/AboutUs/Sustainability/2012-Annual-Sustainability-Report.aspx>.

4. Clean Up:
 - a. During the construction, the Contractor must keep the site of the Work and adjacent premises as free from material, debris, and rubbish as is practicable and when directed, will immediately remove same entirely when, in the opinion of the Commissioner, such material, debris, or rubbish constitutes a nuisance, a safety hazard, or is objectionable in any way to the public. Haul roads, streets, and public areas will be swept daily.
 - b. Contractor is solely responsible for and will assume all liability associated with off-site disposal of Hazardous Materials at a properly permitted disposal facility generated as a result of Contractor's construction activities.
 - c. Before Final Completion of the Project, the Contractor must remove from the site of the Work and adjacent premises all machinery, equipment, surplus materials, falsework, excavated and useless materials, rubbish, temporary buildings, barricades and signs and will restore the site to the same general conditions that existed prior to the commencement of its operations. The cost of final cleaning up will not be paid for under any specific scheduled item but will be included in the prices bid for the various items or included in the Contract lump sum price as the case may be.
 - d. The Contractor must clean off all cement streaks or drippings, paint smears or drippings, rust stains, oil, grease, dirt and any other foreign materials deposited or accumulated on any portion of its Work, or existing Work, due to its operations.
5. Snow and Ice Removal: Contractor must remove snow and ice which may impair progress of Work, be detrimental to workers, or impair trucking to and from point of delivery at job site, all subject to no interference whatsoever to aircraft, to other operations at the airport and subject to whatever directions the Commissioner may give to the Contractor.
6. Glass Breakage: All glass broken or damaged during construction will be replaced by the Contractor or Subcontractor responsible for the breakage or damage. In the event responsibility cannot be determined, the Contractor will make all such replacements without additional cost to the City.
7. Sanitation.

- a. The Contractor must enforce among its employees such regulations in regard to cleanliness and the disposal of garbage and wastes including Hazardous Materials as will be conducive to their health and tend to prevent the inception and spread of contagious and infectious disease among them and will provide an ample supply of suitable, pure drinking water and will take such means as the Commissioner may direct to effectively prevent the creation of a nuisance on any part of the site of the Work or adjacent streets or property.
- b. Necessary sanitary conveniences for the use of the laborers on the Work, properly secluded from public observation, will be constructed and maintained by the Contractor in such manner and at such points as will be approved and their use will be strictly enforced. Whenever manholes have been used for sanitary purposes, they will be thoroughly flushed and cleaned when no longer needed.
- c. The manner of disposing of waste will be such that all waste is legally disposed of at properly permitted facilities without creating a public nuisance or health hazard and in accordance with EPA, Illinois EPA and Illinois Department of Public Health Circular No. 815 or Educational Health Circular No. 4.001 and the City of Chicago Municipal Code.
- d. The Contractor must also comply with all rules and regulations of the Federal and State Governments and Chicago Health Department.

8. Public Convenience.

The Contractor will be held responsible for all damage or injury, even though barricades, signs, lights, reflectors and flagmen are furnished as herein specified.

- a. All hauling and operations of equipment and all other necessary operations under this Contract must be so conducted as to cause a minimum of noise, vibration and inconvenience to the normal activities of the occupants of property and buildings in the vicinity of the Work. Whenever the Commissioner determines that any type of operation constitutes a nuisance, the Contractor must, immediately, proceed to conduct its operations in an approved manner.
- b. The Contractor must, at all times, conduct the Work in such a manner as to insure the least obstruction to vehicular and pedestrian traffic. Normal vehicular and pedestrian traffic on all adjacent streets, bridges, overpass structures and ramps will be maintained at all times during the performance of the Work under this Contract. Whenever such obstruction or interference is unavoidable, attention is called to the necessity of obtaining permits from the appropriate municipal or public agency before proceeding with the Work. Wherever necessary, the Contractor, at its expense, must provide all temporary facilities that may be required to maintain vehicular and pedestrian traffic and access to all property.
- c. Whenever any part of a street is obstructed or closed to traffic, the Contractor must provide, erect, and maintain at its own cost and expense all of the approved barricades, signs, lights and reflectors necessary to provide safe and convenient public travel. The Contractor must also provide, at its expense, any flagmen that may be required for warning and directing traffic.
- d. The Commissioner may at any time require additional provisions if such are deemed necessary for public safety or convenience.

The Contractor will be held responsible for all damage or injury, even though

barricades, signs, lights, reflectors and flagmen are furnished as herein specified.

C. Compliance with Environmental Laws.

1. The Contractor must comply with all Environmental Laws including without limitation, those relating to fines, orders, injunctions, penalties, damages, contribution, cost recovery compensation, losses or injuries resulting from the release or threatened release of Hazardous Materials, special wastes or other contaminants into the environment and to the generation, use, storage, contaminants into the environment and to the generation, use, storage, transportation, or illegal disposal of solid wastes, Hazardous Materials, special wastes or other contaminants including, without limitation, the Comprehensive Environmental Response and Compensation and Liability Act (42 U.S.C. 9601 et seq.), the Hazardous Material Transportation Act (49 U.S.C. 1801 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 et seq.), the Clean Water Act (33 U.S.C. 1251 et seq.), the Clean Air Act (42 U.S.C. 7401 et seq.), the Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.), the Safe Drinking Water Act (42 U.S.C. 300f), the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.), the Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001 et seq.), the Illinois Environmental Protection Act (Ill. Rev. Stat. Ch. 415 ILCS 5/1 through 5/56.6), and the Municipal Code of Chicago, each as amended or supplemented, and any analogous future or present local, state or Federal statutes, rules and regulations promulgated thereunder or pursuant thereto, and any other present or future law, ordinance, rule, regulation, permit or permit condition, order or directive regulating, relating to or imposing liability or standards of conduct concerning any Hazardous Materials or by Federal government, any state or any political subdivision thereof, or any agency, court or body of the Federal government, any state or any political subdivision thereof, exercising executive, legislative, judicial, regulatory or administrative functions (collectively, "Environmental Laws").
2. If any Environmental Laws require the Contractor to file any notice or report of a release or threatened release of Hazardous Materials or special wastes on, under or about any premises used by Contractor to perform the services required hereunder, the Contractor must provide a copy of such report or notice to the Commissioner. In the event of a release or threatened release of Hazardous Materials, special waste or other contaminants into the environment or in the event any claim, demand, action or notice is made against the Contractor regarding the Contractor's failure or alleged failure to comply with any Environmental Laws, the Contractor will immediately notify the Commissioner and the City's Corporation Counsel in writing and will provide them with copies of any written claims, demands, notices or actions so made.
3. If the Contractor fails to comply with any Environmental Laws, the City may terminate this contract in accordance with the default provisions of this contract.
4. For purposes of this provision, the following definitions will apply:
 - a. "Hazardous Materials" means friable asbestos or asbestos-containing materials, polychlorinated biphenyls (PCB's), chlorofluorocarbon (CFC) refrigerator gas, petroleum or crude oil or any fraction thereof, natural gas, source material, special nuclear materials; and by product materials regulated under the Atomic Energy Act (42 U.S.C. 2011, et seq.) pesticides regulated under the Federal Insecticide Fungicide and Rodenticide Act (7 U.S.C. 136, et seq.), and any hazardous waste, toxic or dangerous substance or related material, including any material defined or treated as "hazardous substance", "hazardous waste", "toxic substance", or contaminant (or comparable term) under any of the Environmental Laws.
 - b. "Special Wastes" means those substances as defined in 415 ILCS 5/3.45, and as further referred to in Section 809.13 of 35 Illinois Code, Subtitle G. Ch. 1.

D. Environmental Permits.

1. The Contractor must show evidence of, and keep current throughout the term of this Contract, all waste hauling, special waste hauling, disposal permits and insurance certificates issued by the applicable Federal, State, City and other local governmental body and agency's Environmental Laws, including but not limited to, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Department of Transportation Regulations, the Hazardous Materials Transportation Act, the Clean Air Act, and the Clean Water Act, the Illinois Environmental Protection Act, the Municipal Code of the City of Chicago, currently in effect, and as amended during the course of this contract period.
2. When requested by the Chief Procurement Officer, the Contractor must submit copies of all required hauling permits as required by Environmental Law. Copies of all permits and insurance certificates that require periodic renewal must be forwarded to the Chief Procurement Officer throughout the duration of this Contract. Non-compliance with this requirement may be cause for rejection of bid and/or termination of this Contract.

E. Disposal of Materials, Construction Debris, Soil and Waste.

1. The Contractor is responsible for the legal disposal of all materials, construction debris, soil and other waste items. Hauling and disposal by a subcontractor does not relieve the Contractor from the responsibility of legal disposal. Disposal of all materials, construction debris, soil, and other wastes will be at a disposal site that is properly licensed and permitted to accept the particular materials, construction debris, soil and other wastes delivered to it in accordance with all applicable Environmental Laws, including but not limited to City of Chicago MCC 2-92-595 and Illinois EPA 35 IAC 1100.
2. The Contractor must provide the Commissioner or his designated representative with copies of all dump tickets, manifests, bills of lading, scale tickets, etc. When requested by the Chief Procurement Officer, the Contractor will provide copies of all permits and/or licenses for the transfer station and/or landfill they are proposing. In the event the transfer station and/or landfill proposed for use by the Contractor does not possess the necessary permits and/or licenses to accept the materials, construction debris, soil, or other wastes, the Contractor will replace the transfer station and/or landfill submitted as part of their bid proposal at no additional cost to the City. If the Contractor is found disposing of materials, construction debris, soil or other wastes at a site which is not in compliance with all applicable laws, the Contractor will be responsible for all costs associated with the removal of the waste to a properly licensed/permitted landfill or disposal site at no additional cost to the City.
3. The Contractor accepts responsibility for being in compliance with all applicable Environmental Laws and other applicable Federal, State, City and other local government and agency laws, ordinances, rules, regulations and codes currently in effect and as amended during the course of this contract.
4. The Contractor must notify the Commissioner within 24 hours of receipt, of any environmental problems, complaints, fines, citations, violations or issues, by any governmental body or regulatory agency against the contractor relating to the loading, hauling or disposal of materials, construction debris, soil and other wastes. The Contractor will provide evidence to the Commissioner that these problems and issues have been satisfactorily addressed.
5. The Contractor must supply notice of any community meetings, media involvement or media coverage related to the loading, hauling or disposal of materials, construction debris, soil and other wastes under this contract in which Contractor is asked to

participate.

6. The Contractor must provide periodic verification as requested by the Commissioner that all materials, construction debris, and other waste accepted by the Contractor, from the City of Chicago, has been disposed of in compliance with all Environmental Laws.
7. In accordance with Section 11-4-1600(e) of the Municipal Code of Chicago, Contractor warrants and represents that it, and to the best of its knowledge, its Subcontractors have not violated and are not in violation of the following sections of the Code (collectively, the Waste Sections).

7-28-390	Dumping on public way – Violation – Penalty;
7-28-440	Dumping on real estate without permit;
11-4-1410	Disposal in waters prohibited;
11-4-1420	Ballast tank, bilge tank or other discharge;
11-4-1450	Gas manufacturing residue;
11-4-1500	Treatment and disposal of solid or liquid waste;
11-4-1530	Compliance with rules and regulations required;
11-4-1550	Operational requirements;
11-4-1560	Screening requirements; and any other sections listed in Section 11-4-1600 (e) as it may be amended from time to time.
11-4-1905	Construction or Demolition Waste Recycling; and any other sections listed in Section 11-4-1600 (e) as it may be amended from time to time.

During the period while this Contract is executory, Contractor's or any Subcontractor's violation of the Waste Sections, whether or not relating to the performance of this Contract, constitutes a breach of and an event of default under this Contract, for which the opportunity to cure, if curable, will be granted only at the sole designation of the Chief Procurement Officer. Such breach and default entitles the City to all remedies under the Contract, at law or in equity.

8. This section does not limit the Contractor's and its Subcontractor's duty to comply with all applicable federal, state, county and municipal Environmental Laws, statutes, ordinances and executive orders, in effect now or later, and whether or not they appear in this Contract.
9. Non-compliance with these terms and conditions may be used by the City as grounds for the termination of this contract, and may further affect the Contractor's eligibility for future contract awards.

F. Equipment and Environmental Control During Transport.

1. The Contractor must haul materials, construction debris, soil and other wastes in vehicles and/or containers complying with all applicable Environmental Laws. All equipment used to transfer materials; construction debris, soil and other wastes will be designed to prevent spillage during the hauling operation. Contractor's equipment will fully comply with all City, State and Federal regulations, laws and ordinances pertaining to size, load weight, and safety. The City will not be liable for any violation committed on the part of the Contractor in the handling, hauling, disposal or transportation (by any method) of materials, construction debris, soil and other waste. The Contractor must fully comply with all applicable Environmental Laws, including but not limited to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Department of Transportation Regulations, the Hazardous Materials Transportation Act, the Clean Air Act, and the Clean Water Act, the Illinois Environmental Protection Act, the Municipal Code of the City of Chicago, currently in effect and as amended during the course of this contract period.

G. Environmental Records and Reports.

1. The Contractor must prepare and maintain proper, accurate and complete records of accounts of all transactions related to the operations of this contract, including, but not limited to the following:
 - a. Vehicle maintenance records.
 - b. Safety and accident reports.
 - c. IEPA manifests.
 - d. Disposal records, including disposal site used, date, truck number, and disposal weight.
 - e. Permit documentation and all other documentation and transactions pertaining to all environmental rules and regulations.

H. Ultimate Disposal Site

1. The Contractor must at the time of submitting its bid, identify approved disposal site(s) or privately owned transfer station(s) to which he has contractual access and for which proper, sanitary landfill permits and/or licenses have been obtained by the operators.
2. Disposal sites submitted must be of sufficient capacity to insure acceptance of the volume of materials, construction debris, soil, and other wastes received for the period of this contract. The disposal site(s) must meet all applicable permitting, licensing and zoning requirements.
3. The Contractor must designate by name and location the disposal site(s) as supplemental information on the Proposal Page. Failure to identify disposal site(s) for materials, construction debris, soil and other wastes or to submit this information when requested by the Chief Procurement Officer may be cause to reject the bid as non-responsive.
4. When requested by the Chief Procurement Officer, the Contractor must submit copies of all contractual agreements, sanitary landfill permits and/or licenses for those disposal site(s) proposed by the Contractor.

I. Open Dumping Prohibited.

1. The removal of all recyclable materials and garbage, refuse or other waste material, including but not limited to, broken concrete, bricks, rock, paving asphalt and incidental debris generated from all construction or demolition activities performed under this contract, must be transported to a facility that is zoned and permitted to accept such material pursuant to Section 11-4 of the City of Chicago Municipal Code and all Environmental Laws.

J. Services and Use of Site.

1. Work Area: Part Three of the Contract Documents may assign areas for the Contractor's Field Office staging areas and areas for material storage. After award of Contract, the Contractor may request assignment of a working area. If this assigned working area is not of sufficient size, the Contractor must secure other space away from the Project site at its own expense. The period of use of the assigned working area may not exceed the number of calendar days for completion of the Work as specified in Part One or until Final Completion of the Project.
2. Temporary Services and Utilities.
 - a. General:

- (1) The Contractor is responsible for arranging for and providing all general services and temporary facilities as specified herein and as required for the proper and expeditious prosecution of the Work. The Contractor must pay all costs for such general services and temporary facilities.
- (2) Temporary connections for water, electricity, and heat (including installation, maintenance and removal of such facilities) will be at the Contractor's expense.
- (3) The Contractor must pay the cost of all temporary utilities including, electricity, gas, water, and telephone during the construction period.

b. Water:

- (1) The Contractor must provide temporary water connections as required for drinking and construction purposes.
- (2) The Contractor will note that the Commissioner reserves the right to regulate the use of water, and may impose restriction on the use in the event water is being used carelessly by the Contractor.
- (3) Water and facilities for obtaining water for sanitary purposes, drinking, mixing concrete and for all other purposes will be provided by and at the expense of the Contractor. The water must be obtained from the mains of the Chicago Water System, except as may be provided in the Detail Specifications. Except with special permission from the Commissioner and the Department of Water Management, connections for water will not be made to the City's fire hydrants.

- c. Light and Power: The Contractor must furnish the electrical energy and must furnish and install all wiring, electrical services, lighting units, insulated supports for wiring and all other electrical equipment together with all other incidental and collateral Work necessary for the furnishing of the temporary power and lighting facilities for the Work to be done under this Contract, all at no additional cost to the City.

3. Temporary Heating During Construction.

- a. The Contractor must provide temporary closures or enclosures for all exterior doors, windows, roof or other types of exterior openings as required to provide protection from the elements during construction. It is the Contractor's responsibility to keep water in pipes from freezing and to maintain temporary heat in areas where finish Work is being performed at not less than 50 F. Finish work includes, but is not limited to: masonry, plastering, painting, millwork, and other temperature sensitive work. Heating period will be from approximately October 1 to May 30 unless conditions warrant otherwise.
- b. The Contractor must furnish, install, operate and maintain all required temporary heating equipment, and will provide and pay all fuel costs. Oil fired or gas heating units will be self-contained units, which will be furnished, in sufficient number and adequate capacity to conform with the requirements for temporary heat stated above. Each oil-fired or gas-fired unit will be properly vented as required to dissipate noxious fumes and prevent discoloration of building construction. Temporary electrical connection will be provided by the Contractor.

4. Temporary Construction Facilities.

- a. General: Unless otherwise specified, the following temporary construction and temporary facilities must be provided and maintained by the Contractor throughout the

- construction period and remove same at the completion of the Work.
- b. Toilets: The Contractor must provide portable chemical toilet facilities at the site for all workers employed on the Project as soon as construction operations commence. Toilet facilities must be serviced twice weekly, which will include draining tank, refilling, disinfecting the interior of each toilet unit, and keeping each unit stocked with toilet paper. Toilet facilities must be maintained during the term of the construction period and removed upon completion of the Work.
5. Contractor's Field Office.
- a. When required by Part Three of the Contract, the Contractor must provide a temporary building or mobile type field office, for its own use, of such size and containing such equipment as its Contractor deems necessary to conduct the operations. The Field Office must be provided with a telephone for Contractor's superintendent and telephone for use by others during the entire period of construction.
 - b. The Contractor's authorized agent must be present at its field office at all times while its Work is progress. Readily accessible copies of both the Contract Documents, Contract Modifications and the latest approved working drawings and Shop Drawings must be kept at this field office.
 - c. When required by Part Three of the Contract, the Contractor must supply the field office, furnishings, equipment, supplies and vehicles specified in Part Three of the Contract for the City's field supervision staff.
6. Working Space.
- a. The Contractor shall provide, on the premises, working space for its use and for each of its Subcontractors requiring on-site working space. The Contractor must also provide sufficient space for benches, tools, material storage and for such other purposes as may be required to properly perform and expedite the Work. Allocation of such Work areas shall be approved by the Commissioner.
 - b. The Contractor must maintain, throughout the construction period, all Work areas in a clean and orderly condition and take whatever precautions may be necessary adjacent to the Work. Where construction materials are to be stored or Work performed in working space outside a building, the Contractor must provide necessary protection for walks, pavement, etc. Any damage to Work due to improper protection must be cleaned, repaired, or replaced by the Contractor at no additional expense to the City.
7. Parking Restrictions.
- a. Except to the extent that the Commissioner has made parking available, the Contractor must, at all times, require its employees to park their automobiles in the customer parking lots at the airports or at non-airport locations.
 - b. The Contractor's and Subcontractor's employees must not at any time park their automobiles, no matter how short the duration, in any drive, road, or any other location within the boundaries of the airports.
 - c. The Commissioner may authorize parking at the Contractor's designated storage area if existing conditions permit.
8. Project Sign: A Project sign is to be erected by the Contractor, when required by Technical Specifications, at a location designated by the Commissioner. Upon project completion the sign must be removed by the Contractor. The Project sign will be

constructed of treated exterior grade plywood; painted, installed and placed as directed by the Commissioner.

9. Heaters in temporary offices and sheds must be properly installed and precautions taken to protect combustible walls, floors, and roof.

K. Storage.

1. Storage of Materials.

- a. If it is necessary to store materials, they must be protected in such a manner as to insure the preservation of their quality and fitness for the Work. All stored materials will be inspected at the time of use in the Work even though they may have been inspected and approved before being placed in storage. The Contractor must store materials in the areas provided as working areas by the Contract Documents. If no areas are provided, or if the areas provided are insufficient, the space required will be provided by the Contractor at its expense. Upon completion of the Work, storage sites and working areas must be cleaned and restored to their original condition by the Contractor at its expense.
 - b. All materials and equipment must be received at the Work undamaged. The Commissioner will have the right to reject any method of packing and shipping which, in the Commissioner's opinion, will not adequately protect the materials and equipment against damage while they are in transit or storage or which will damage existing structures.
 - c. Only such materials and equipment as are necessary for the construction of the Work, as determined by the Commissioner, will be placed, stored, or allowed to occupy any space at the site of the Work. If gasoline, flammable oils, or other highly combustible materials are to be stored at the site, they will be stored in approved safety containers and placed where directed by the Commissioner. Compressed gas cylinders must also be properly secured and stored.
 - d. All materials or plant used in the construction of the Work must be so placed as to allow free access to all fire hydrants, water valves, gas valves, manholes that are part of electric, telephone and telegraph conduit lines and all fire alarm and police call boxes in the vicinity.
 - e. No material or equipment may be stored or staged on the Aircraft Operations Area without written permission from the Commissioner. If allowed, the material and equipment must be stored and/or staged subject to the directions of the Commissioner.
2. Storage Sheds: The Contractor and each Subcontractor must provide suitable watertight storage sheds for their own use as required. The Contractor and each Subcontractor must be responsible and pay for extending electric services to their storage shed; however, such electrical Work will be performed by an electrical Subcontractor. Materials stored in the open will be arranged in an orderly manner and properly protected.

L. Equipment and Falsework.

1. Equipment: All equipment owned or controlled by the Contractor, which is proposed to be used on the Work, must conform to the specifications for specific items of equipment. If not specified, equipment to be used on the Work is subject to the approval of the Commissioner under the provisions of the Section XIV.K.2, "Construction Procedure, Methods and Equipment."

2. Welding:

- a. No welding, flame cutting, or other operations involving use of flame, arcs, or sparking devices, will be allowed without adequate protection, subject to approval of the Commissioner.
- b. All combustible or flammable material must be removed from immediate working area. If removal is impossible, all flammable or combustible materials will be protected with a fire blanket or suitable non-combustible shield to prevent sparks, flames, or hot metal from reaching flammable or combustible materials.
- c. The Contractor must provide necessary personnel and equipment to control incipient fires resulting from welding, flame cutting, or other sources involving use of flame, arcs, or sparking devices. All welders must be certified within the last eighteen months.
- d. A Hot Work Permit, as listed in the Safety Manual must be displayed for all welding work.

3. Temporary Stairs, Ladders and Equipment:

- a. The Contractor must furnish and maintain all equipment such as temporary ladders, ramps, runways, hoists, scaffold, and similar items required for proper execution of Work. All such apparatus, equipment and construction will meet all requirements of federal, state and local laws concerning the safety and protection of employees. Also, any and all rules, regulations and directions of the CDA, applicable thereto, and all other authorities having jurisdiction over same will be followed.
- b. No hoist, scaffolding or other equipment may be erected at such location as will interfere with or affect general construction or progress of other trades.
- c. Hoists, scaffolding or other equipment must be located at sufficient distance from exterior walls to prevent staining or marring of any permanent Work.
- d. All suspended scaffolding and staging must be lowered to ground level at the end of each workday.

4. Temporary Barricades and Enclosures:

- a. The Contractor must provide temporary barricades or enclosures as required during the progress of the Work to protect personnel and separate work areas from the balance of building and other areas.
- b. Temporary work screens or enclosures must be provided, erected and maintained by the Contractor, to separate pedestrian or vehicular traffic and building areas free of noise, debris, dirt, etc. resulting from this Work, including provisions of all required protection for passers by and building occupants against all danger of injury, as approved by the Commissioner.
- c. All protective measures must be erected and maintained in accordance with the requirements of City, State and Federal authorities and as directed by the Commissioner, inclusive of all night and warning lighting as hereinafter required under Section XV.B, "Airport Operations."

M. Cooperation Among Contractors.

1. Unless otherwise provided in the General Conditions, if separate contracts are let for Work within or adjacent to the Project site as may further be detailed in the Contract Documents, each contractor must conduct its Work so as not to interfere with or hinder the progress of completion of the Work being performed by other contractors.
2. Each contractor involved will assume all liability, financial or otherwise, in connection with its Contract, and must protect and save harmless the City from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the Contractor because of the presence and operations of other contractors working within the limits of the same improvement. Each contractor must assume all responsibility for all Work not completed or accepted because of the presence and operations of other contractors.
3. The Contractor must arrange its Work and placement and disposal of the materials being used so as not to interfere with the operations of other contractors within or adjacent to the limits of the project site. The Contractor must join its Work with that of others in an acceptable manner and will perform it in proper sequence to that of others.

N. Injuries To Contractor's Employees.

Contractor agrees to assume entire liability for all personal injury claims suffered by its own employees asserted by persons allegedly injured on the Project; waives any limitation of liability defense based upon Worker's Compensation Act, court interpretations of said Act or otherwise; and agrees to indemnify and defend the City and its design professionals and their agents, employees and consultants (the "Indemnities") from and against all such loss, expense, damage or injury, including reasonable attorneys' fees, that the Indemnities may sustain as a result of such claims, except to the extent that Illinois law prohibits indemnity for the Indemnities' own negligence. Contractor further agrees to require all of its subcontractors to agree to this contract provision.

END OF XIV

XV. AIRPORT SECURITY AND OPERATIONS

A. Airport Security and Badging

1. This Agreement is expressly subject to 49 U.S.C. Chapter 449, Security, the provisions of which, and all rules and regulations promulgated thereunder, are hereby incorporated by reference. Contractor must comply, and must cause its subcontractors, guests and invitees to comply, with all such rules and regulations as they apply to them and any other applicable rules and regulations governing the conduct and operation of the City's Airports which may be promulgated from time to time by the Transportation Security Administration, the FAA or the Commissioner of Aviation.

If Contractor, or any Subcontractor or individual employed by Contractor, in the performance of this Agreement, has (i) unescorted access or regular escorted access to aircraft located on or at the City's Airport; (ii) unescorted access or regular escorted access to secured areas of the Airport, or (iii) capability to allow others to have unescorted access to secured areas, Contractor is subject to, and further must conduct with respect to its Subcontractors and the respective employees of each, such investigations (including the submission of fingerprints to the City to conduct criminal history record checks) as the Federal Aviation Administration ("FAA"), the Transportation Security Administration ("TSA") and the City may consider necessary. All such individuals that pass the requisite investigation will be required to participate in a security awareness program and will be issued an identification badge that must be visibly displayed at all times while on the airfield or other secured areas of the airport, consistent with federal requirements and Aviation regulations. They will further be required to report suspected security violations in accordance with rules and regulations promulgated by the Secretary of the United States Department of Transportation, by the Under Secretary of the TSA, and by the City.

Failure to comply with applicable rules and regulations may result in administrative actions and/or judicial prosecution. The Contractor will be jointly liable for any fines imposed for violation of rules and regulations by its employees and those of its Subcontractors, guests, and invitees.

2. The Contractor must apply for a CDA Airport Security Badge for each of its employees, Subcontractors, material suppliers, invitees, consultants or other persons the Contractor employs during the progress of the Work. Each person requiring regular access to airside areas of the Airport must submit a signed, completed "Access Control Photo ID Badge and Fingerprint Application", to the CDA to receive an Airport Security Badge, which may include authorization to drive on the Aircraft Operations Areas (AOA). However, if the person does not go through security to the airside more often than seven (7) days, over the duration of the project, that person may be escorted by an individual with an airport security badge.
3. Airport Security Badges: Each person requiring regular access to Airside areas of the Airport must submit a signed, completed "Access Control Photo ID Badge and Fingerprint Application," to the CDA to receive an Airport Security Badge, which may include authorization to drive on the AOA. Prior to issuance of the Airport Security Badge, the employee must complete the TSA required training class.

The Federal Aviation Administration, TSA, and City requires employees of Contractors and all Subcontractors to provide fingerprints for a criminal history check conducted by the Federal Bureau of Investigation as a requirement to apply for an Airport Security Badge.

Employees without proper credentials will be removed from the AOA or any secured area of the airport.

4. Airfield Access Vehicle Permits: In order for the Contractor to be issued Airfield Access Vehicle Permits for operation of a vehicle on the AOA, the Contractor must submit a "Company Vehicle Access Form – AIRFIELD." The Contractor is responsible for requesting and completing these forms for all vehicles to be used on the project site.

Vehicles without proper credentials will be removed from the AOA or any secured area of the airport.

5. The following rules related to Security Badges, Vehicle Permits, Driver's Licenses must be adhered to:
 - a. Each person must wear and display an Airport Security Badge issued to that person on his or her outer apparel, above the waist, at all times.
 - b. Contractor must ensure that its employees needing an ORD or MDW badge have met the security background checks and training requirements of the Airport Certification Manual and FAR Part 139. This includes, but may not be limited to:
 - i. 10-year employee background check (contractor responsibility).
 - ii. Finger printing (completed at ORD or MDW).
 - iii. On all Airside Projects: During the badging process, but prior to receiving ORD/MDW ID badge, all employees shall complete Part 303 (2 hours) training, the cost for which is incidental to the Contract.
 - a. Annual 303 Training. This training is required for all construction personnel that will be issued a ORD or MDW identification badge, except when issued a red badge. If an employee is issued a green badge, with or without driving privileges (yellow stripe), this training must be completed prior to application for the initial badge and repeated annually prior to badge renewal. This requirement applies to all Contractors and Sub-Contractors.
 - iv. Vehicle driver testing (completed at ORD and/or MDW)
 - c. All individuals operating a vehicle on the AOA must be familiar and comply with motor driving regulations and procedures of the State of Illinois, the City of Chicago, and the CDA. The operator must be in possession of a valid, state-issued Motor Vehicle Operator's Driver Licenses. All individuals operating a vehicle on the AOA without an escort must also be in possession of a valid Airport Security Badge that includes authorization to drive on the Airside. In order to receive a badge authorizing operation of a vehicle on the AOA, the individual must attend mandatory training and pass a written examination.
 - d. All vehicles and mobile construction equipment which are to be in use on the AOA for more than seven (7) days over the duration of the project, must have an Airfield Access Vehicle Permit affixed to the vehicle at all times while operating on the Airport. All vehicles and construction equipment are subject to search as they enter the AOA or any time thereafter. In addition, all required City stickers and State Vehicle Inspection stickers must be valid.
 - e. Escorted vehicles or equipment that will be in use on the AOA for less than seven (7) days over the duration of the Project, that do not have an Airfield Access Vehicle Permit are required by the TSA to be inspected as they enter the AOA.
6. Access to the Work sites will be as shown or designated on the Contract Document drawings. The Contractor will use only designated access gates, service roads or haul roads

- while on Airport property.
7. Whenever the Contractor receives permission to enter airport property in areas, which are exit/entering points, not secured by Airport Security police, the Contractor will be required to provide gates that comply with Airport design and construction standards. Two (2) bonded security guards will be required at the gates when the gates are in use. The locks will be provided by Airport Security. Failure to provide the necessary security will result in an immediate closure by Airport personnel of the point of access. No extension of time will be allowed for the execution of Work if the Contractor is required to gain access through Airport Security exit/entry points.
 8. The Commissioner will determine areas in which the Contractor may stockpile materials, and park equipment, or vehicles, and any conditions related thereto.
 9. Damage to any security fencing, gates, or alarms caused by the Contractor must be manned by a bonded security guard of the Contractor until restored and must be restored to its original condition within an eight (8) hour period from the time of notice given by the Commissioner.
 10. Temporary removal of any security fencing, gate or alarm to permit construction must be approved by the Commissioner and must be manned by a bonded security guard of the Contractor on a twenty-four (24) hour basis during the period of temporary removal and must be restored to its original condition when construction is completed.
 11. Weapons, alcohol, illegal drugs, or other contraband are not allowed on the Airport.
 12. All Contractor's personnel and vehicles working within the airport security limits will be properly identified. All Airfield Access Vehicle Permits and Airport Security Badges will be issued to the Contractor by the Commissioner, as required. Return of all Permits and Badges to the Commissioner after completion of the Project is the responsibility of the Contractor. Final Contract Payment will not be made until all Permits and Badges issued have been returned to Aviation Airport Security at the Airport.
 13. The Contractor must place signage that identifies the Project, on all vehicles and equipment used at the Airport. The size of the signage and information to be provided will be determined by the Commissioner.
 14. Certified Flagger Training; Under the requirements of Advisory Circular (AC) 150-5370-2F, all personnel flagging on an airport must be familiar with the specific requirements and limitations of the construction project and taxiway crossing areas. All Contractor flaggers are required to attend the Airport flagger training program.

B. Airport Operations.

1. The Airport will be in operation while construction under this Contract is taking place. Time and coordination of the Work is an essential feature of this Contract, and the Commissioner will require the completion of all Work herein specified so as to offer the least obstruction and/or impediment to Airport traffic and the general operation of the Airport. All existing utilities serving the Airport will remain in continuous operation during the prosecution of the Work. The Commissioner reserves the right to place sections of the Work required under this Contract in use upon written direction to the Contractor.
2. The Contractor's attention is called to the fact that existing runways, taxiways, vehicular roadways, loadways, loading aprons, and passenger right-of-ways at the Airport are being used for scheduled and unscheduled aircraft. Arrivals and departures are under the control of the FAA Air Traffic Control Tower. Use of the Airport by all aircraft and Airport Operations will have precedence over all Contractor's operations.

3. The Contractor must cooperate fully with the CDA Airport Operations and the Commissioner in all matters pertaining to public safety and airport operations. No compensation will be allowed for any delays as a result of Airport Operations, which require that Work must be interrupted or moved from one part of the site to another.
4. Prior to start of the Project, the Construction Manager will provide specific requirements and/or instructions, which are applicable to the particular building site areas.
 - a. Federal Aviation Regulations (FAR) 139 Training (303 Training) is available through the CDA. No employee of Contractor, or Subcontractors, or Vendors shall be permitted to enter Airfield Operations Area (AOA) lacking successful completion of training for any reason.
5. The Contractor must not permit or allow its employees, subcontractors, material suppliers, invitees or any other persons over whom the Contractor has control to enter or remain upon, or to bring or permit any equipment or materials to remain upon, any part of the runways, taxi-ways, vehicular roadways, aprons, and passenger right-of-ways if any hazard to aircraft or to airport maintenance and operation, on or off the ground, would be created in the opinion of either the Commissioner or the CDA Airport Operations.
6. The Contractor must plan its construction operations so that material, equipment, supplies, and working personnel necessary to do the Work will enter and leave the Contract site via the gates and routes designated on the Contract Documents. No personal vehicles will be permitted within the AOA. The Contractor will be responsible for the construction, repair, and/or maintenance of all haul roads to and from the designated entrance to various Work sites.
7. All equipment and materials on the AOA must be marked with red obstruction lights, of a type acceptable to the Commissioner and Airport Operations. All obstruction lights will be kept on continuously, twenty-four hours a day, seven days a week.
8. Each vehicle and piece of equipment on the AOA must have a yellow rotating beacon or strobe light, in operation at all times, mounted on the roof.
9. The Contractor, through the Commissioner and City Aviation and FAA Airport Operations Personnel, must be in constant communications to insure safe operations on the airfield. The Contractor will notify the Commissioner forty-eight (48) hours prior to requesting the closing of any area so that the Airport Operations Personnel can properly coordinate the activities of the Airport and the Contractor.
10. All Vehicles and equipment must be kept within the work areas established for that work shift unless traveling to or from the project site. Under no circumstances shall vehicles or equipment be parked outside these areas. At no time shall any vehicles be parked, staged, or operated within the object free area (OFA) of an open taxiway. Work is permitted in the object free area of a runway while the runway is open, however, all equipment and material must be moved or relocated outside the OFA at the completion of the work day. Excavations are permitted within the OFA but all stockpiles must be removed. At no time shall any vehicles or equipment be parked within one hundred sixty (160) feet of the centerline of an operational taxiway segment or within four hundred (400) feet of the centerline of an operational runway (object free area) during periods other than the work shifts.
11. Extreme care must be taken when locating existing underground utilities. Contractor shall properly complete FAA Locate Request forms, submit them to the FAA Technical Operations office and simultaneously transmit a copy to the Construction Manager. Contractor shall designate an on-site person to monitor utility locating activities. Hand excavation and appropriate equipment shall be utilized wherever and whenever

- appropriate. DIGGER, JULIE, FAA and AGI shall be consulted to insure that utility locations are correctly marked.
12. The Contractor must maintain existing utilities in operation at all times except when specific permission is given by the Commissioner to shut down such utilities for the purpose of making connections thereto. When such utility service must be taken out of operation, the Contractor will notify the Commissioner at least seventy-two (72) hours in advance of such time, and will obtain the Commissioner's approval for such shut down prior to interrupting the service. Interruption of service on all utilities will be kept to an absolute minimum, and the Commissioner will have the right to require the Contractor to perform Work which occasions such interruptions in stages in order to reduce time of each interruption. Interruptions in electrical services and the length of services outage will be kept to a minimum and in any case service must be placed in operation prior to sunset of the same day.
 13. The Contractor must take the utmost care in construction operations such as trenching, jacking of pipe and casing, excavations of all types, grading and movement of vehicles over and around FAA facilities, equipment and structures. All such facilities are critical to the operation of the air traffic control function of the Airport. Failure of these facilities due to construction activity would be dangerous. The FAA regards the prospect of this event with the utmost gravity. IT MUST NOT HAPPEN.
 14. Any cable or other existing utility lines that is damaged during the performance of this Contract must be repaired immediately by the Contractor, under the Commissioner's direction and at the Contractor's expense. During the period of time that the above types of cables or utilities are out of service due to the Contractor's operations, all Work must be suspended unless otherwise directed by the Commissioner. The Commissioner may order, in writing, the Contractor to halt all operations until service is restored. The Contractor will not be allowed to make claims for extra costs or time extensions due to stoppages of the Work based on the Commissioner's order.
 15. Open trenches and excavations at the construction site must be prominently marked with barricades and lighted with flashing or steady burning red obstruction lighting as directed by the Commissioner and of a type acceptable to the Commissioner. The lighting must remain on twenty-four hours a day, seven days a week. Under no circumstances are flare pots to be used.
 16. The Contractor must provide and maintain lighted barricades and all signs required to control construction traffic. The exact location and spacing of all barricades will be determined by the Commissioner. Lights on barricades must be double faced or 360 degree visibility with flashing red lights.
 17. All the Work under this Contract is in restricted areas. The Contractor cannot cross any active runways or taxiways to deliver materials or workers without escorts and expressed permission of the Commissioner. The Contractor's attention is called to the fact that access to certain contract areas may be limited and/or refused for limited periods of time. The Contractor must cooperate with Airport authorities to keep the Airport in operation.
 18. No requirements of this Contract with respect to precautions required or omitted will be deemed to limit or impair any obligations assumed by the Contractor under or in connection with this Contract. The Contractor must at all times maintain adequate protection to safeguard aircraft, the public, and all persons engaged in the Work without interference with aircraft, the public, and maintenance or operations of the Airport.
 19. Notwithstanding anything to the contrary contained in the Contract Documents, the Contractor and all subcontractors, material suppliers, laborers, invitees and all other persons under the control of the Contractor must immediately comply, strictly, with any and all rules, regulations and directions which the Commissioner from time to time, issues during

the life of the Contract with regard to safety, security, maintenance, and operations of the Airport.

20. Contractor must use "Airport Barricades" as shown on the Contract Drawings to prevent Aircraft from entering construction areas.
21. All cranes or booms used for construction Work must be lowered to ground level during all hours of darkness and during all daylight hours when the aircraft ceiling is below the minimums specified in the FAA 7460 airspace study response letter and moved outside the object free area for all open runways and taxiways. The Contractor must lower any cranes or booms when notified by Airport Operations personnel.
22. Attention must be given to reduce the noise of heavy construction equipment and to the control of dust, smoke and fumes from construction equipment and other operations on the Work site and the dirt and noise created by heavy truck operations over City streets in accordance with ordinances of the City and orders of the Commissioner. The discharge of oily, greasy and/or chemical materials or Hazardous Materials into waterways or City sewers will not be permitted.
23. The Contractor must establish a proactive Foreign Object Debris (FOD) Program including monitoring the Work Site on a continuous basis to prevent FOD from entering the AOA.
24. It is important that all contractors and sub-contractors are familiar with and knowledgeable of the rules, regulations, and procedures of the Chicago Department of Aviation (CDA) Spill Prevention and Control Program (SPCP). These procedures apply to all personnel working on the project. All spills, including but not limited to: fuel, oil, deicing chemicals, and solvents, regardless of volume, must be reported to the O'Hare Communication Center (OCC) and O'Hare Airport Operations. The OCC will dispatch the Chicago Fire Department (CFD) to determine the severity of the spill, assist with spill containment, cleanup, and/or oversight if necessary. The CFD will issue the official volume of product released for the responsible party's use in notifying the appropriate agencies, if required.

The Contractor will take all necessary precautions to prevent spilled fluids from reaching any surrounding sewers or waterways if it can be done without harm to any personnel. Any spill must be surrounded immediately with approved containment materials, the site secured, and the OCC contacted.

All personnel shall handle hazardous materials according to the guidelines as defined by the product Safety Data Sheets (SDS), formerly referred to as MSD sheets. Extra attention must be paid during all fueling operations.

Any person that causes or witnesses a spill anywhere on the airfield must first report it to the OCC. All contractors are required to have clean up and spill kits on site at all times when equipment is in use. Kits are to be of adequate size to handle fuel or oil spills for the size and amount of equipment in use on the project at any specific time. The Contractor must develop and submit a spill prevention and control plan and incorporate the procedures into the project-specific Safety Plan Compliance Document (SPCD).

25. All runway safety areas are to remain clear of all personnel and equipment while the runway is open and available for use. NO WORK SHALL TAKE PLACE IN THE RSA OR TSA UNLESS THE RUNWAY IS CLOSED TO AIR TRAFFIC OPERATIONS.
26. Work is permitted in the runway and taxiway object free area. However, at the completion of each work day, no stockpiles, material, or equipment are permitted within the Runway Object Free Area (ROFA). Excavations are allowed provided they are barricaded and protected to a level approved by the Commissioner.

27. All excavation will be protected with snow fence or equivalent and barricades with red 360 degree visible lights.
28. Vehicles, equipment, material and stockpiles allowed to remain outside the ROFA will not penetrate Federal Aviation Regulations (FAR) Part 77 imaginary surfaces (particular, but not limited to the Primary Surface and Transition Slope).

C. Construction Notices to Federal Aviation Administration.

1. The CDA will submit a preliminary Federal Aviation Administration Form 7460-1.
2. The Contractor must cooperate with the CDA in the preparation and filing of the final Federal Aviation Administration FAA Form 7460-1 including the heights and locations of equipment to be used for the construction.
3. The Contractor will submit the final Federal Aviation Administration, FAA Form 7460-1, required for notice of proposed construction, including heights and locations of equipment to be used for the construction on or near an airport under Part 77, of the "Regulations of the Federal Aviation Administration" on or before the date of the Notice To Proceed.
4. The CDA will also file with the Federal Aviation Administration on or before the date of the Notice To Proceed, a notice advising the exact date of commencement of Work.
5. Upon receipt of the Notice of Proceed, it is the Contractor's responsibility to obtain from the Commissioner a copy of the Federal Aviation Administration's acknowledgment of the filing of FAA Form 7460-1 and a copy of the Work commencement date advisory notice aforesaid. No Work will be performed by the Contractor until it is in receipt of the foregoing documents unless otherwise allowed by the Commissioner.
6. In addition to the 7460 application, the CDA will submit a Construction Safety Phasing Plan (CSPP) for the project. The Contractor is required to review the CSPP and submit a Safety Plan Compliance Document (SPCD). Work within the AOA is not permitted to begin until the SPCD has been reviewed and approved by CDA.

D. Confidentiality of Project Data.

Unless agreed otherwise by the Commissioner in writing, all Deliverables, data, findings or information in any form prepared, assembled or encountered by or provided to or by Contractor in connection with this Contract (collectively, "Project Data") are property of the City and are confidential. Contractor agrees that, except as specifically authorized by the Commissioner in writing or as may be required by law, Project Data will be made available only to the Commissioner, his designees, and, on a need-to-know basis, Contractor's employees, Subcontractors, material suppliers and consultants. Contractor acknowledges that Project Data may contain information vital to the security of the airport ("Airport Security Data"). If Contractor fails to safeguard the confidentiality of Airport Security Data, Contractor is liable for the reasonable costs of actions taken by the City, the airlines, the Federal Aviation Administration ("FAA"), or the Transportation Security Administration ("TSA") that the applicable entity, in its sole discretion, determines to be necessary as a result, including without limitation the design and construction of improvements, procurement and installation of security devices, and posting of guards. All Subcontracts or purchase orders entered into by the Contractor, with parties providing material, labor or services to complete the Work, must contain the language of this section. If the Contractor fails to incorporate the required language in all Subcontracts or purchase orders, the provisions of this section are deemed incorporated in all Subcontracts or purchase orders.

E. Confidentiality of Airport Security Data.

Contractor acknowledges that information vital to the security of the airport ("Airport Security

Data”), including but not limited to Sensitive Security Information as defined by 49 CFR Part 1520, may be prepared, assembled, encountered by, or provided to Contractor in connection with this Contract. Contractor has an ongoing duty to protect confidential information, including but not limited to any Airport Security Data. If Contractor fails to safeguard the confidentiality of Airport Security Data, Contractor is liable for the reasonable costs of actions taken by the City, the airlines, the Federal Aviation Administration (“FAA”), or the Transportation Security Administration (“TSA”) that the applicable entity, in its sole discretion, determines to be necessary as a result, including without limitation the design and construction of improvements, procurement and installation of security devices, and posting of guards. All Subcontracts or purchase orders entered into by the Contractor, with parties providing material, labor or services in relationship to this Contract, must contain the language of this section. If the Contractor fails to incorporate the required language in all Subcontracts or purchase orders, the provisions of this section are deemed incorporated in all Subcontracts or purchase orders.

END OF XV

XVI. INSURANCE, INDEMNITY AND BONDS

A. Indemnity.

1. The Contractor agrees to protect, defend, indemnify, and hold the City, the Construction Manager, and their respective officers, officials, representatives, and employees (hereafter "the Indemnified Parties"), free and harmless from and against any and all claims, damages, demands, injury or death, in consequence of the granting of this Contract or arising out of or being in any way connected with the Contractor's performance under this Contract except as otherwise provided in 740 ILCS 35. The indemnification provided herein will be effective to the maximum extent permitted by applicable law. This indemnity extends to all legal costs including without limitation: attorney fees, costs, liens, judgments, settlements, penalties, professional fees, or other expenses incurred by the City, including but not limited to, fines and penalties imposed by public bodies and the reasonable settlement of such claims. This indemnification is not limited by any amount of insurance required under this Contract. Further, the indemnity contained in this section will survive the expiration or termination of this Contract.

To the extent permissible by law, Contractor waives any limits to the amount of its obligations to indemnify, defend or contribute to any sums due under any losses, including any claim by an employee of Contractor that may be subject to the Workers Compensation Act, 820 ILCS 305/1 et seq or any other law or judicial decision (such as, *Kotecki v. Cyclops Welding Corporation*, 146 Ill. 2d 155 (1991)). The City, however, does not waive any limitations it may have on its liability under the Illinois Pension Code.

2. The Contractor shall be solely responsible for the defense of any and all claims, demands, or suits against the Indemnified Parties, including without limitation, claims by an employee, subcontractors, agents, or servants of Contractor even though the claimant may allege that the Indemnified Parties were in charge of the Work or allege negligence on the part of the Indemnified Parties. The City will have the right, at its sole option, to participate in the defense of any such suit, without relieving the Contractor of its obligations hereunder.
3. "Injury" or "damage" as these words are used in this section will be construed to include, but shall not be limited to, injury or damage consequent upon the failure of or use or misuse by Contractor, its subcontractors, agents, servants, or employees, of any scaffolding, hoist cranes, stays, ladders, supports, rigging, blocking or any and all other kinds of items of equipment, whether or not the same be owned, furnished, or loaned by the indemnified Parties.
4. The Contractor will promptly provide, or cause to be provided, to the Commissioner and City Corporation Counsel copies of such notices as Contractor may receive of any claims, actions, or suits as may be given or filed in connection with the Contractor's performance or the performance of any Subcontractor and for which the Indemnified Parties are entitled to indemnification hereunder and to give the Indemnified Parties authority, information, and assistance for the defense of any claim or action.

B. Performance and Labor & Material Payment Bonds.

1. The Contractor will, within five (5) calendar days of receipt of written notice from the City, deliver to the Chief Procurement Officer a Performance and Payment Bond in the amount of 100% of the Contract value. Such bond shall comply with the provisions of 30 ILCS 550/1 et seq., as amended, and of Chapter 2, Section 2-92-030 of the Municipal Code of Chicago, as amended. The surety or sureties issuing the bond must be acceptable to the City Comptroller and the bond must be in the form attached to Part One. The surety for the bond must appear on the listing of sureties approved by the U.S. Department of Treasury in its Circular 570 and shall be a Best's Key Rating Guide of "B+", Class XI, or greater. The surety

must have bonding capacity per Circular 570 equal to or in excess of the Contract Price without need for reinsurance. The bond shall remain in effect for the warranty period required by the Contract. Contractor may not change its surety without prior written consent of the Chief Procurement Officer

2. If at any time the surety or sureties, or any one of them, upon such bond become insolvent, or shall be in the opinion of the Chief Procurement Officer be unsatisfactory or unable to respond in damages in case of liability on such bond, the Chief Procurement Officer will notify the Contractor and direct that a satisfactory surety or sureties be provided forthwith.
3. No payment shall be made on account of Work done by the Contractor until satisfactory sureties have been provided as directed. In case of neglect, failure, or refusal of the Contractor to provide satisfactory sureties when so directed within ten (10) days after such notification, the Chief Procurement Officer may declare this Contract forfeited, but such forfeiture shall not release the Contractor or its surety or sureties from any liability which may have accrued prior to, on or after the date of forfeiture.

C. Insurance.

The Contractor must procure and maintain at all times, at Contractor's own expense, until Final Acceptance of the Work, during the warranty period, and during the time period following final acceptance, if Contractor is required to return and perform additional work for any reason, the types of insurance specified in Part One of the Contract Documents, with insurance companies authorized to do business in the State of Illinois covering all operations under this Contract, whether performed by the Contractor or by Subcontractors. If the Contractor returns to do any Work on the Project after final acceptance, including Warranty or any other repair work, the Contractor and any Subcontractors must procure the insurance coverages required by Part One of the Contract, and provide certificates of insurance for the coverages to the Commissioner, prior to beginning the work. Upon written request by the Commissioner, the Contractor will allow the Commissioner to review and copy any original insurance policies that the Contractor is obligated to maintain under this Contract.

1. The Contractor hereby waives any and every claim for recovery from the City for any and all injuries and losses arising under this Contract or in any way related to the Work, including but not limited to any claim for personal injury loss of or damage to the Work or to the contents thereof, which injury, loss, or damage is covered or should be covered pursuant to the insurance requirement of this Contract. As this waiver will preclude the assignment of any claim by subrogation (or otherwise) to an insurance company (or any other person), the Contractor agrees to give each insurance company which has issued, or in the future may issue, its policies of insurance, written notice of the terms of this waiver, and to have said insurance policies properly endorsed, if necessary, to prevent the invalidation of insurance coverage by reason of said waiver. The Contractor must require each Subcontractor to include similar waivers of subrogation in favor of the City.

2. The City Risk Management Department reserves the right to change, modify, or delete these requirements, including without limitation the right to request that the Contractor provide additional types of insurance.

END OF XVI

XVII. CLAIMS AND DISPUTES

A. Claims.

1. This provision of the Contract applies to Change Claims under Article X and all other claims made under the Contract (collectively, "Claims").
2. Any claim made by the Contractor regarding the Project must be made in accordance with the requirements stated below.
 - a. The Contractor expressly consents to both the time requirements and notice content requirements for making a Claim or Dispute under this Section XVII. The Contractor acknowledges that the notice requirements set forth in this Section XVII will be strictly enforced and agrees that any failure on the part of the Contractor to provide notice strictly in accordance with the requirements of this Section XVII will constitute a waiver of the Contractor's right to make a Claim or submit a Dispute to the Chief Procurement Officer. The Contractor further understands and agrees that, notwithstanding any case law decision to the contrary, the notice requirements of this Section XVII will not be subject to or diminished by any claim on the part of the Contractor that the Commissioner or Chief Procurement Officer or any person acting on behalf of either of them had actual or constructive knowledge of any Claim or Dispute or any facts or circumstances supporting any such Claim or Dispute.
 - b. The Contractor must notify in writing the Construction Manager of any Claim of site conditions differing materially from those indicated in the Contract documents as required by Article III.
 - c. The Contractor must provide a Notice of Claim, in writing, to the Construction Manager of any Change Claim as required by Section X.
 - d. The Contractor must provide Notice of Claim in writing to the Construction Manager of any claim related to time as required by Article VIII.
 - e. The Contractor must provide a "Notice of Claim" to the Construction Manager within ten (10) days of being notified by the Construction Manager that a payment deduction will be made for placement of asphalt or concrete, based on the percent within limits calculation in the Technical Specifications if the Contractor does not agree to the payment deduction.
 - f. The Contractor must provide notice in writing to the Construction Manager of any other Claim that may be made, within five (5) days after starting the work that is affected by the Claim. The Notice of Claim shall be referenced as a Notice of Claim Related Work and must state the nature of the Claim, the Work that is affected by the claim, and the anticipated duration of the Work.
 - g. If the Contractor and Construction Manager are unable to agree on the adjustment of Contract price and/or Contract Completion Date in connection with a Notice of Claim, the Contractor must, within fifteen (15) days of completing the related work, provide written notice to the Construction Manager of the amount of adjustment in Contract Price and/or Substantial Completion Date sought by the Contractor and the contractual and factual basis for each. The Contractor will also designate this document "Notice of Claim."
 - h. The Construction Manager will, within thirty (30) days from the date of receipt of the Notice of Claim, respond by: requesting a meeting with the Contractor; making a written request for additional information from the Contractor including but not limited to

a general statement of the basis for the Notice of Claim, the facts underlying the Notice of Claim, the notice to the Construction Manager of the event that gave rise to the Notice of Claim, reference to the applicable Contract provisions, and all documentation that describes, relates to and supports the Notice of Claim; taking other action to attempt to resolve the Notice of Claim; and/or advising the Contractor in writing that it should file a Claim with the Commissioner. Any steps taken by the Construction Manager to resolve the Notice of Claim will not exceed sixty (60) days from receipt of the Notice of Claim unless the Contractor agrees to an additional amount of time in writing. The Contractor and Construction Manager may agree on a proposed adjustment of Contract Price and/or Contract time in resolution of a Notice of Claim, which proposal is subject to approval by the City in a Contract Modification under the requirements of Section X.D.

- i. If the Notice of Claim cannot be resolved between the Contractor and the Construction Manager within the time frame stated in Section X.G.3 for a Notice of Claim for a Change Claim or Section XVII.A.2.g for all other Notices of Claim, the Contractor must file a Claim with the Commissioner within ten (10) days of being advised to do so by the Construction Manager.
- j. The Claim will include: a general statement of the basis for the Claim, all the facts underlying the Claim, of copy of the Notice of Claim to the Construction Manager of the event that gave rise to the Claim, reference to the applicable Contract provisions, and all documentation that describes, relates to and supports the Claim. The claim must be certified by the Contractor. A "certified claim" shall be made under oath by a person duly authorized by the claimant, and shall contain a statement that:
 - 1. The claim is made in good faith;
 - 2. The claim's supporting data are accurate and complete to the best of the person's knowledge and belief;
 - 3. The amount of the claim accurately reflects the amount that the claimant believes is due from the City, and
 - 4. The certifying person is duly authorized by the claimant to certify the claim.
- k. The Claim must be sent by the Contractor to the Commissioner and copied to the Construction Manager.
- l. The Commissioner has fifteen (15) days from receipt of the Claim to render a written "final decision of the Commissioner" stating the Commissioner's factual and contractual basis for the decision. However, the Commissioner may take an additional period, not to exceed ten (10) days, to render the "final decision". If the Commissioner does not render a "Final Decision of the Commissioner" within the prescribed time frame, then the claim shall be deemed denied by the Commissioner.
- m. After receiving the Commissioner's final decision, the Contractor must accept the final decision of the Commissioner or file a Dispute with the Chief Procurement Officer within thirty (30) days in accordance with Section XVII.B, "Disputes".
- n. If the Contractor accepts a final decision of the Commissioner which includes an adjustment in Contract Price and/or Contract Completion Date, it is subject to execution of a Contract Modification in accordance with Section X.D.
- o. If the Contractor does not accept a final decision of the Commissioner and fails to file a Dispute with the Chief Procurement Officer within thirty (30) days, this will constitute a waiver of the claim and dispute. In the event of such waiver, the Commissioner may file a Dispute, pursuant to Section XVII.B, with the Chief Procurement Officer seeking a final decision as to the Claim.

B. Disputes.

1. Contractor's Request: In the event of any dispute between the Contractor and the Commissioner which the Contractor and the Commissioner have attempted, but been unable, to resolve including without limitation changes, time extensions, claims, allowable costs or any other issues of fact or Contract interpretation based upon, relating to, or arising under the Contract, a request for resolution must be submitted to the City Chief Procurement Officer by the Contractor for final determination; however, the default or termination of the Contractor are not matters that may be disputed under this provision of the Contract. The Contractor's failure to submit the dispute within thirty (30) days of final decision of the Commissioner is a waiver of the dispute. The Chief Procurement Officer may consider issues of Contract interpretation in connection with decisions to be made in resolving disputes.
2. Request Requirements: Requests for resolution of disputes must be made by the Contractor in writing, specifically referencing this section, and include: 1) the issue(s) presented for resolution; 2) a statement of the respective positions of the Contractor and Commissioner; 3) the facts underlying the dispute; 4) reference to the applicable provision of the Contract by page and section; 5) the identity of any other parties believed to be necessary to the resolution of the dispute; 6) all documentation which describes and relates to the dispute and 7) if applicable, a statement explaining why the Contractor believes that prior to rendering a final decision, the Chief Procurement Officer should meet with the Contractor, Commissioner's representative or any other parties believed to be necessary to the resolution of the dispute. Copies of the request for resolution of the dispute must promptly be provided to the Commissioner and Construction Manager on the same day it is given to the Chief Procurement Officer. In addition, any correspondence that relates to the Dispute, which the Contractor provides to the Chief Procurement Officer, must be copied to the Commissioner and Construction Manager. The Commissioner shall have thirty (30) days to respond in writing to the Contractor's submission by supplementing the Contractor's submission or to provide its own submission to the Chief Procurement Officer and Contractor. However, the Commissioner may request and the Chief Procurement Officer may allow an additional period of time to respond. Failure by the Commissioner to respond shall not be deemed to be an admission of any allegations made in the request for dispute resolution, but may be deemed to constitute a waiver of the opportunity to respond to such allegation(s), if any, at this stage of the dispute. The Chief Procurement Officer's decision may thereafter be reached in accordance with such other information or assistance as may be deemed reasonable, necessary or desirable by the Chief Procurement Officer.
3. Chief Procurement Officer's Decision: The Chief Procurement Officer's final decision shall be rendered in writing no more than thirty-five (35) days after receipt of the response of the Commissioner was filed or was due unless the Chief Procurement Officer notifies the Contractor and Commissioner before the end of the thirty-five (35) day period that an additional period, not to exceed thirty (30) days, is needed for the Chief Procurement Officer to respond. The Chief Procurement Officer's decision shall be conclusive, final, and binding on all parties unless a judicial determination is sought in accordance with the provisions set forth below.
4. Implementation of Decision: The Chief Procurement Officer's final decision shall be implemented through a Contract Modification which shall be made a part of the Contract with or without the signature of the Contractor if the Contractor refuses to sign the Contract Modification.
5. Contractor's Remedy: If either the Contractor or Commissioner does not agree with the decision of the Chief Procurement Officer, the sole and exclusive remedy is judicial review by a common law writ of certiorari. Unless such review is sought within thirty-five (35) days of receipt of the Chief Procurement Officer's decision, all right to seek judicial review is waived.

6. Contractor's Performance of Work: The Contractor may not withhold performance of and must prosecute any Work required by the Commissioner during the dispute resolution period, including judicial resolution. The Contractor must prosecute all of its Work including any disputed Work with the same diligence and effort as if no dispute existed. The Chief Procurement Officer's written determination must be complied with pending final resolution, including judicial resolution of the dispute. Neither the Chief Procurement Officer's determination, nor the actions of the Contractor or the Commissioner in connection therewith, nor the continued performance by either party, shall constitute an admission as to any factual and/or legal position in connection with the dispute or a waiver of any rights under the Contract.
7. Administrative Appeal of Dispute: The Contractor must follow the procedures set out in this Article XVII, "Disputes and Claims", and receive the Chief Procurement Officer's final decision as a condition precedent to filing a judicial review of the decision.

END OF XVII

XVIII. EVENTS OF DEFAULT AND TERMINATION

Section 80-90 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with City termination of this contract due to default of the Contractor.

A. Chief Procurement Officer's Right.

The Commissioner may notify and recommend to the Chief Procurement Officer that in the Commissioner's opinion the Contractor has committed an event of default. The Chief Procurement Officer may, at his or her sole discretion, exercise the right to send the Contractor notice under paragraph C.1 or C.2 of this section.

B. Events of Default.

The Contractor shall be considered in default of his or her contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons if the Contractor:

1. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
2. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
3. Performs the work unsuitably or neglects or refuses to remove materials or to perform a new such work as may be rejected as unacceptable and unsuitable, or
4. Discontinues the execution of the work, or
5. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
6. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
7. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
8. Makes an assignment for the benefit of creditors, or
9. For any other cause whatsoever, fails to carry on the work in an acceptable manner, or
10. Fails to update its Economic Disclosure Statement to reflect any changes in information, including but not limited to changes in ownership, and to provide it to the City, or
11. Fails to be licensed as a "General Contractor" as required by Chapter 4-36 of the Chicago Municipal code, at all times throughout the term of the Contract or Contractor's loss of its general license, or
12. Is disqualified as a DBE or any joint venture partner, Subcontractor or supplier if its status as a DBE was a factor in the award of the Contract and such status was misrepresented by the Contractor, or
13. Defaults under any other City contract, or
14. Fails to comply with any other term of this Contract that states an event of default.

- C. Should the Chief Procurement Officer consider the Contractor in default of the contract for any reason above, the Chief Procurement Officer shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the City's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the City will, upon written notification from the Chief Procurement Officer of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The City may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Chief Procurement Officer (in consultation with the Commissioner who shall be advised by the Construction Manager as needed) will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the City, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the City the amount of such excess.

- D. Remedies.

Upon an event of default as defined in Section XVIII.B, the City may invoke any or all of the following remedies:

1. The right of set off against any payments due or to become due to the Contractor or the Retainage on this Contract or any other contract with the City.
2. The right to take over and complete the Work, or any part thereof, either directly or through others and to hold the Contractor liable for any amounts paid for such Work above those amounts that the City would have paid Contractor for that same Work.

The City may use the Contractor's Subcontractors, material and equipment to complete the Work. Upon the City's notification to the Contractor that it intends to invoke this remedy, any and all rights that the Contractor may have in or under its subcontracts must be assigned to the City based upon the collateral assignment required by General Conditions section V.C. The sole obligation accepted by the City under such Subcontracts shall be to pay for Work satisfactorily performed after the date of the assignment. In the event that a conditional assignment has not been executed, the Contractor must execute or cause to be executed any assignment, agreement, or other document which may be necessary, in the sole opinion of City's legal counsel, to evidence or effect compliance with this provision. The Contractor must promptly deliver such documents upon the City's request. In the case of any Subcontract so assigned and accepted by the City, the Contractor shall remain liable to the Subcontractors for any payment already invoiced to and paid by the City, and for any claim, suit, or cause of action based on or the result of any error, omission, negligence, fraud, willful or intentionally tortuous conduct, or any other act or omission, or breach of Contract by the Contractor, its officers, employees, agents, and other Subcontractors, arising prior to the date of assignment to the City, when such claim, suit, or cause of action has not been discharged, disposed of, or otherwise resolved as of that date. The Contractor must notify its Subcontractors of these requirements.

3. The right to terminate the Contract as to any or all of the Work yet to be performed. In the event of termination, all costs and changes incurred by the City, together with the cost of completing the Work, will be deducted from any moneys due or which may become due to the Contractor.

In case the expense so incurred by the City will be less than the sum which would have been payable under the Contract, if it had been completed by the Contractor and had not been forfeited by the Contractor, then the Contractor shall be entitled to receive the difference, subject to any claims or liens thereon, which may have been filed or any prior assignment filed with the City. In case the expense incurred by the City will exceed the sum which would have been payable under the Contract, the Contractor and the surety will be liable and will pay to the City the amount of such excess.

4. The right of specific performance, an injunction, or any other appropriate equitable remedy, as may be applicable.
5. The right of money damages, including but not limited to all expert witness or other consultant fees, court costs, and reasonable attorney's fees which the City may incur in connection with any claim, suit, or action based upon, related to, or arising from, directly or indirectly, an Event of Default hereunder.
6. The right to withhold all or any part of the Contractor's compensation.
7. The right to declare the Contractor or its Affiliate in default under any other City contract and to deem the Contractor non-responsible in future contracts to be awarded by the City.

E. Nonexclusivity.

The remedies under the terms of this Contract are not intended to be exclusive of any other remedies provided, but each and every such remedy shall be cumulative and shall be in addition to any other remedies, existing now or hereafter, at law, or in equity. No delay or omission to exercise any right or power accruing upon any Event of Default shall impair any such right or power, nor shall it be construed as a waiver of any Event of Default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient.

F. Court Determination.

In the event the Contractor is terminated by the City pursuant to paragraph C.1 or C.2 and it is subsequently determined by a Court of competent jurisdiction that such termination was not justified, such termination shall thereupon be deemed an Early Termination and the provisions of paragraph "H" shall apply.

G. Discretion of Chief Procurement Officer.

1. Whether to declare the Contractor in default is within the sole discretion of the Chief Procurement Officer and neither that decision nor the factual basis for it is subject to review or challenge under Article XVII, "Disputes and Claims" of the Contract's General Conditions.
2. In the event of termination of the Contract by the Chief Procurement Officer under Section XIII.C.1 or C.2, the Commissioner may use the material and equipment, whether owned or leased, which is within the scope of the Work or necessary for the completion thereof which has been paid for by the City (whether located on or off the site), to complete the Work and the Contractor shall receive no further payment until the Work is completed. Upon completion, if the unpaid balance of the price exceeds City's cost of completion, such excess shall be paid to the Contractor. However, if the cost of completion exceeds the unpaid balance of the price, the Contractor must pay the difference to the City immediately upon demand.

H. Early Termination.

1. The City, through the Chief Procurement Officer, reserves the absolute right to terminate the

Work of the Contractor, or any part thereof, by written notice stating the effective date of such termination. Immediately upon receipt of such notice, the Contractor must then provide similar written notice to the affected Subcontractor(s); whereupon such Contractor and Subcontractor(s) must, except for services necessary for the orderly termination of the Work: (i) stop all Work and place no further order or Subcontracts for materials, services, equipment or supplies; (ii) assign to the City, in the manner and to the extent directed, all of the rights of the Contractor(s) under Work orders, purchase orders and Subcontracts or sub-subcontracts relating to the portion of the Work that has been completed; (iii) terminate work orders, purchase orders, and Subcontracts outstanding to the extent that they relate to the Work and are not assigned to the City; (iv) take any action necessary to protect property in the Contractor's possession in which the City has or may acquire an interest; and (v) take any other action toward termination of the Work which the City may direct.

2. Contractor's compensation for all Work provided prior to the effective date of termination shall be on the same basis as provided in this Contract, but Contractor shall not be entitled to any lost profits on work that was terminated. The City shall also pay Contractor for any materials or equipment that were ordered in accordance with the approved Project CPM Schedule prior to Contractor's receipt of the notice of termination and that could not be cancelled, provided that the materials and equipment are delivered to the City and are found acceptable.

END OF XVIII

XIX. COMPLIANCE WITH ALL LAWS

A. General.

The Contractor will at all times observe and comply, and will cause its Subcontractors to observe and comply, with all applicable Federal, State and local laws, ordinances, rules, regulations, and executive orders, now existing or hereinafter in effect, which may in any manner affect the performance of the Contract. Provision(s) required by law, ordinance, rules, regulations, or executive orders to be inserted in this Contract will be deemed inserted, whether or not they appear in this Contract, or, upon application by either party, this Contract will forthwith be physically amended to physically make such insertion; however, in no event will the failure to insert such provision(s) prevent the enforcement of such provision(s) or this Contract.

B. Airport Rules and Regulations.

The Contractor will comply, and will use all reasonable efforts to cause its workers, Subcontractors, guests, and invitees to comply, with all rules and regulations governing the conduct and operation of the Airport which may be promulgated from time to time by the Commissioner.

C. Human Rights.

1. The Contractor in performing under the Contract, will not discriminate against any worker, employee or applicant, or any member of the public, because of race, color, religion, age, mental or physical handicap unrelated to ability to perform the duties of a particular job or position, sex, sexual orientation, marital status, ancestry or national origin, nor otherwise commit an unfair employment practice. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated without regard to their race, creed, color, religion, age, mental or physical handicap unrelated to ability to perform the duties of a particular job or position, sex, sexual orientation, marital status, ancestry or national origin during employment. Such action will include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post, or cause to be posted, in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
2. The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the City deems appropriate.
3. No person in the United States will, on the grounds of race, creed, religious belief, age, sex, sexual orientation, marital status, citizenship as applicable, political affiliation, national origin or ancestry, physical or mental handicap unrelated to ability to perform, or unfavorable discharge from military service, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity made possible by or resulting from this Contract.
4. Compliance with Nondiscrimination Requirements.
 - a. During the performance of this Contract, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following requirements of the Civil Rights Act of 1964, Title VI:

- (1) Compliance with Regulations. The Contractor will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract. (See below at 4.b, and FAA Order 1400.11.)
- (2) Nondiscrimination. The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- (3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
- (4) Information and Reports. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
- (5) Sanctions for Noncompliance. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Sponsor shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:
 - (a) Withholding of payments to the Contractor under the Contract until the Contractor complies, and/or
 - (b) Cancellation, termination, or suspension of the Contract, in whole or in part.

Incorporation of Provisions. The contractor will include the provisions of paragraphs one through six in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interest of the United States.

- b. Title VI List of Pertinent Nondiscrimination Authorities. During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest

(hereinafter referred to as the “contractor”) agrees to comply with the Title VI List of Pertinent Nondiscrimination Authorities (Source: Appendix E of Appendix 4 of FAA Order 1400.11, Nondiscrimination in Federally-Assisted Programs at the Federal Aviation Administration), as amended, including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

- c. Airport and Airway Improvement Act Of 1982, Section 520 - General Civil Rights Provisions. The Contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded

from participating in any activity conducted with or benefiting from Federal assistance. This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases, the provision obligates the party or any transferee for the longer of the following periods: (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

- d. The Contractor will additionally comply with all other applicable federal, state, and local non- discrimination laws, ordinances, rules and regulations and executive orders including without limitation:
 - (1) The provisions of 775 ILCS 10/0.01 et seq., as amended, prohibiting discrimination in public Contracts and incorporating the Illinois Human Rights Act, 775 ILCS 5/101 et seq. of the Illinois Revised Statutes, as amended, will apply.
 - (2) The provisions of the Human Rights Ordinance, of the Municipal Code of Chicago, as amended, will apply.

D. Affirmative Action, Equal Employment Opportunity, Goals and Timetables.

1. General.

Contractor assures that it will undertake an affirmative action program as required by 14 CFR Part 152, Subpart E, to insure that no person will on the grounds of race, creed, color, national origin, or sex be excluded from participation in any employment activities covered in 14 CFR Part 152, Subpart E. Contractor assures that no person will be excluded on these grounds from participation in or receiving the services or benefits of any program or activity covered by this subpart. Contractor assures that it will require that its covered sub- organizations provide assurance to Contractor that they similarly will undertake affirmative action programs and they will require assurances from their sub-organizations, as required by 14 CFR Part 152, Subpart E, to the same effect.

2. Notice of Requirement for Affirmative Action (41 CFR Part 60-2 and Executive Order 11246):

- a. The Offeror's or Bidders attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- b. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Minority Group Employment Goal for each trade = 19.6%

Female Employment Goal for each trade = 6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is

Federal or federally assisted) performed in the coverage area. If the Contractor performs construction work in a geographical area located outside of the covered area, it will apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 will be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the Contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract and in each trade; and the Contractor will make a good faith effort to employ minorities and woman evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals will be a violation of the Contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- c. The Contractor will provide written notification to the Commissioner of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract. The notification will list the name, address, and telephone number of the Subcontractor; employer identification number of the Subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
 - d. As used in this provision, the term "covered area" includes the City of Chicago, Cook, DuPage, Kane, Lake, McHenry, and Will Counties (Standard Metropolitan Statistical Area).
3. Equal Employment Opportunity (41 CFR Part 60-1.4 and Executive Order 11246). During the performance of this contract, the Contractor agrees as follows:
- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action will include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
 - b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
 - c. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No., 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor and shall post copies of the notice in conspicuous places

available to employees and applicants for employment.

- d. The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 - e. The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulation, and orders.
 - f. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies involved as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
 - g. The Contractor will include the provisions of the above Paragraphs (a) thorough (f) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the City or FAA may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a Subcontractor as a result of such direction by the City or FAA, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.
4. Standard Federal Equal Employment Opportunity Construction Contract Provisions (41 CFR Part 60-4.3 and Executive Order 11246):
- a. As used in this provision:
 - (1) "Covered Area" means City of Chicago, Cook, DuPage, Kane, Lake, McHenry, and Will Counties (Standard Metropolitan Statistical Area).
 - (2) "EEO Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the EEO Director delegates authority;
 - (3) "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - (4) "Minority" includes:
 - a) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin); and
 - b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race); and

- c) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- b. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the Work involving any construction trade, it will physically include in each subcontract in excess of \$10,000 these provisions and a notice which contains the applicable goals for minority and female participation set forth in this Contract.
- c. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) will be in accordance with the Plan for those trades which have unions participating in the Hometown Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Hometown Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Hometown Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Hometown Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Hometown Plan goals and timetables.
- d. The Contractor will implement the specific affirmative action standards provided in Section XIX.D. of the General Conditions. The goals set forth in this Contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract will apply the minority and female goals established for the geographical areas where the Work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting in goals in each craft during the period specified.
- e. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women will excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- f. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- g. The Contractor will take specific affirmative actions to ensure equal opportunity. The

evaluation of the Contractor's compliance with these specifications will be based upon its effort to achieve maximum results from its actions. The Contractor will document these efforts fully, and will implement affirmative action steps at least as extensive as the following:

- (1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor will specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- (2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record for the organization's responses.
- (3) Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.
- (4) Provide immediate written notification to the Commissioner when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- (5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor will provide notice of those programs to the sources compiled under Section XIX.D.4.g.(2) above.
- (6) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy of bulletin boards accessible to all employees at each location where construction work is performed.
- (7) Review, at least annually, the company's EEO policy and affirmative action obligations under those specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record will be made and maintained

- identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
 - (9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving in the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor will send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - (10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - (11) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - (12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - (13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - (14) Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - (15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - (16) Conduct a review, at least annually, of all supervisors, adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- h. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations Section XIX.D.4.g(1) through (16). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Section XIX.D.4.g(1) through (16) of these Specifications, provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive

impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation will not be a defense for the Contractor's noncompliance.

- i. A single goal for minorities and a separate single goal for women have been established. The Contractor, however is required to provide equal employment opportunity and to make affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.)
- j. The Contractor will not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- k. The Contractor will not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- l. The Contractor will carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties will be in violation of these specifications and Executive Order 11246, as amended.
- m. The Contractor, in fulfilling its obligations under these specifications, will implement specific affirmative action steps; at least as extensive as those standards prescribed in paragraph (g) of this provision, so as to achieve maximum results from its efforts to ensure goal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or this provision, the EEO Director will proceed in accordance with 41 CFR 60-4.8.
- n. The Contractor will designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records will at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- o. Nothing herein provided will be construed as a limitation upon the application of other laws, which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program.)

E. Illinois Human Rights Act.

The Contractor will comply with the provisions of the Illinois Human Rights Act, 775 ILCS 5/101 et seq., as amended, and the rules and regulations of the Illinois Department of Human Rights.

F. Disadvantaged Business Enterprise.

1. The Contractor acknowledges and agrees that certain portions of the Project are being funded by federal grants and that the Project is therefore subject to the special conditions regarding Disadvantaged Business Enterprises, implementing Provisions 511(a) and 520 of the Airport and Airway Improvement Act of 1982, and Executive Orders 11625, 12138, 12432, and the regulations promulgated pursuant thereto, including without limitation 49 CFR 26. The Contractor agrees that, in the performance of the Contract, it will abide by the "Special Conditions Regarding Disadvantaged Business Enterprise Commitment" attached hereto and included in the proposal.
2. Contractor is encouraged to utilize financial institutions owned and controlled by socially and economically disadvantaged individuals. Use of such institutions may be considered by the City as evidence of Contractor's willingness to do business with DBEs. Information about such institutions is available in the City of Chicago's DBE Program document, which is available on-line at www.cityofchicago.org/Purchasing; a hard copy of the DBE Program document is available at the City of Chicago, Procurement Services, Contracts and Supplies, City Hall, 121 N. LaSalle, Room 806, Chicago, IL 60602.
3. The requirements of 49 CFR part 26 apply to this contract. It is the policy of the City to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. The City encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.
4. Contract Assurance (§ 26.13) - The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.
5. Prompt Payment (§26.29) - The prime Contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than seven days from the receipt of each payment the prime contractor receives from City, as more specifically set out in the payment to subcontractors provisions of this contract. The prime contractor agrees further to return retainage payments to each subcontractor promptly after the subcontractor's work is satisfactorily completed, also as more specifically set out in the payment to subcontractors provisions of this contract; holding retainage on completed subcontractor work until all prime contractor retainage on the project is released is not permitted. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City. This clause applies to both DBE and non-DBE subcontractors.

G. Minimum Wage, Mayoral Executive Order 2014-1

Mayoral Executive Order 2014-1 provides for a fair and adequate Minimum Wage to be paid to employees of City contractors and subcontractors performing work on City contracts.

If this contract was advertised on or after October 1, 2014, Contractor must comply with Mayoral Executive Order 2014-1 and any applicable regulations issued by the CPO. As of July 1, 2016, the Minimum Wage to be paid pursuant to the Order is \$13.15 per hour and may be adjusted upward

each year effective on the first day of July. When applying an allowance for gratuities to the wage of City concessionaire employees in positions that customarily receive gratuities, the resulting rate is \$6.05 per hour. The Minimum Wage must be paid to:

- All employees, also including employees of City concessionaire, regularly performing work on City property or at a City jobsite.
- All employees whose regular work entails performing a service for the City under a City contract.

The Minimum Wage is not required to be paid to employees whose work is performed in general support of contractor's operations, does not directly relate to the services provided to the City under the contract, and is included in the contract price as overhead, unless that employee's regularly assigned work location is on City property or at a City jobsite. It is also not required to be paid by employers that are 501(c)(3) not-for-profits.

Except as further described, the Minimum Wage is also not required to be paid to categories of employees subject to subsection 4(a)(2), subsection 4(a)(3), subsection 4(d), subsection 4(e), or Section 6 of the Illinois Minimum Wage Law, 820 ILCS 105/1 et seq., in force as of the date of this Contract or as amended. Nevertheless, the Minimum Wage is required to be paid to those workers described in subsections 4(a)(2)(A) and 4(a)(2)(B) of the Illinois Minimum Wage Law.

Additionally, the Minimum Wage is not required to be paid to employees subject to a collective bargaining agreement that provides for different wages than those required by Mayoral Executive Order 2014-1, if that collective bargaining agreement was in force prior to October 1, 2014 or if that collective bargaining agreement clearly and specifically waives the requirements of the order.

If the payment of a Base Wage pursuant to MCC Sect. 2-92-610 is required for work or services done under this Contract, and the Minimum Wage is higher than the Base Wage, then the Contractor must pay the Minimum Wage. Likewise, if the payment of a prevailing wage is required and the prevailing wage is higher than the Minimum Wage, then the Contractor must pay the prevailing wage.

H. Living Wage Ordinance.

MCC Sect. 2-92-610 provides for a living wage for certain categories of workers employed in the performance of City contracts, specifically non-City employed security guards, parking attendants, day laborers, home and health care workers, cashiers, elevator operators, custodial workers, and clerical workers ("Covered Employees"). Accordingly, pursuant to MCC Sect. 2-92-610 and regulations promulgated thereunder:

if the Contractor has 25 or more full-time employees, and if at any time during the performance of the contract the Contractor and/or any subcontractor or any other entity that provides any portion of the Services (collectively "Performing Parties") uses 25 or more full-time security guards, or any number of other full-time Covered Employees, then The Contractor's obligation to pay, and to assure payment of, the Base Wage will begin at any time during the Contract term when the conditions set forth in (1) and (2) above are met, and will continue thereafter until the end of the Contract term.

As of July 1, 2016 the Base Wage is \$12.15. The current rate can be found on the Department of Procurement Services' website.

Note: As of July 1, 2016, the wage specified by Mayoral Executive Order 2014-1 is higher than the Base Wage rate. Therefore, the higher wage specified by the Executive Order (or other applicable rule or law) must be paid.

Each July 1st the Base Wage will be adjusted, using the most recent federal poverty guidelines for a family of four (4) as published annually by the U.S. Department of Health and Human Services, to

constitute the following: the poverty guidelines for a family of four (4) divided by 2000 hours or the current base wage, whichever is higher. At all times during the term of this Contract, Contractor and all other Performing Parties must pay the Base Wage (as adjusted in accordance with the above). If the payment of prevailing wages is required for work or services done under this Contract, and the prevailing wages for Covered Employees are higher than the Base Wage, then the Contractor must pay the prevailing wage rates.

The Contractor must include provisions in all subcontracts requiring its Subcontractors to pay the Base Wage to Covered Employees. The Contractor agrees to provide the City with documentation acceptable to the CPO demonstrating that all Covered Employees, whether employed by the Contractor or by a subcontractor, have been paid the Base Wage, upon the City's request for such documentation. The City may independently audit the Contractor and/or subcontractors to verify compliance herewith.

Failure to comply with the requirements of this Section will be an event of default under this Contract, and further, failure to comply may result in ineligibility for any award of a City contract or subcontract for up to three (3) years.

Not-for-Profit Corporations: If the Contractor is a corporation having Federal tax-exempt status under Section 501(c)(3) of the Internal Revenue Code and is recognized under Illinois not-for-profit law, then the provisions above do not apply.

I. Chicago Minimum Wage Ordinance.

On December 2, 2014, the City Council of the City of Chicago passed a new chapter of the Municipal Code, chapter 1-24, specifying a minimum wage of \$10.00 per hour to be paid to workers within the City of Chicago, effective July 1, 2015.

As of July 1, 2016, the minimum wage under chapter 1-24 of the Municipal Code is \$10.50 per hour. Every July 1 until 2019, these wages will increase. In 2017, the minimum rate for nontipped employees will be \$11.00/hour, in 2018, it will be \$11.50/hour, and in 2019, it will be \$12.00/hour. If the Contractor is required by Executive Order 2014-1, the Base Wage Ordinance, or any other law (e.g., the Prevailing Wage Act) to pay a higher rate, above the generally applicable Chicago minimum wage, the higher rate will apply.

J. Chicago Paid Sick Leave Ordinance

The Paid Sick Leave Ordinance, which is published in the June 22, 2016 Council Journal, pages 27188 – 27197 and which will be codified at MCC 1-24-045, becomes effective July 1, 2017. Contractor understands that, to the extent that the Ordinance applies to its activities, it must comply with the Ordinance when it becomes effective.

~~I.~~K. Davis-Bacon.

The Contractor agrees to comply and assures compliance with the requirements of 49 U.S.C. 5333(a), the Davis-Bacon Act, 40 U.S.C. 276 a(7), and implementing U.S. DOL regulation, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5. In addition to other requirements that may apply, the Contractor agrees to pay wages to laborers and mechanics performing contract work at a rate not less than the minimum wages specified in a wage determination issued by the U.S. Secretary of Labor and not less frequently than once a week. The Contractor agrees to place a copy of the current prevailing wage determination issued by the U.S. DOL in each solicitation for Subcontractor work under the Project, and agrees to refrain from awarding any affected subcontract until the subcontractor agrees to the required wage determination. The Contractor further agrees to report to FAA every suspected or reported violation of the Davis-

Bacon Act or its Federal implementing regulations.

J.L. Copeland "Anti-Kickback" Act.

The Contractor agrees to comply with the Copeland "Anti-Kickback" Act, 18 U.S.C. 874 and 40 U.S.C. 276c, and U.S. DOL regulations, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States," 29 C.F.R. Part 3. In addition to other requirements that may apply, the Contractor agrees that it will not induce, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which that employee is otherwise entitled. The Contractor further agrees to report every suspected or reported violation of the Copeland "Anti-Kickback" Act or its Federal implementing regulations to FAA.

K.M. No Exclusionary or Discriminatory Specifications.

Apart from inconsistent requirements imposed by Federal statute or regulations, the Contractor agrees that it will comply with the requirements of 49 U.S.C. 5323(b)(2) by refraining from using any Federal assistance to support subcontractors procured using exclusionary or discriminatory specifications.

L.N. Economic Disclosure Statement and Contractor's Affidavit (EDS).

1. Prior to Contract award: The Contractor must complete EDS(s) in which the Contractor (and its parent entities, if applicable) identifies all persons with 7.5% or more ownership interest and in which Contractor certifies (among other things) that the Contractor, its agents, employees, officers and any subcontractors: a) have not been engaged in or been convicted of bribery or attempted bribery of a public officer or employee of the City of Chicago, the State of Illinois, any agency of the federal government or any state or local government in the United States or engaged in or been convicted of bid-rigging or bid-rotation activities as defined in this section as required by the Illinois Criminal Code; b) do not owe any debts to the State of Illinois, in accordance with Section 65 ILCS 5/11-42.1-1 of the Illinois Municipal Code and c) are not presently debarred or suspended from public contracts.
2. Updates: Until Final Completion of the Project, the Contractor must provide, without need for request by the City, an updated EDS(s) if there is any change in ownership or change in any other circumstance that would render the EDS(s) then currently on file inaccurate or obsolete. Failure to provide an updated EDS(s) when required is an event of default. Any change in ownership that is within the Contractor's reasonable control (such as the sale of an ownership interest in a non-publicly traded entity) is subject to the prior written consent by the Commissioner and Chief Procurement Officer, and Contractor's failure to obtain such prior written consent is an event of default. In the event of a change in ownership outside of the Contractor's reasonable control (such as acquisition of controlling interest in Contractor through purchase of shares on a public exchange), the City shall have the right to invoke the "Early Termination" provision if the Chief Procurement Officer determines such termination to be in the City's best interest.

M.O. Anti-Scofflaw (Section 2-92-380 of the Chicago Municipal Code).

1. In accordance with Section 2-92-380 of the Municipal Code of Chicago and in addition to any other rights and remedies (including any of set-off) available to the City of Chicago (City) under the Contract or permitted at law or in equity, the City will be entitled to set off a portion of the Contract Price or compensation due under the Contract, in an amount equal to the amount of the fines and penalties for each outstanding parking violation complaint and/or the amount of any debt owed by the contracting party to the City.
2. For purposes of this provision, "outstanding parking violation complaint" means a parking

ticket, notice of parking violation, or parking violation complaint on which no payment has been made or appearance filed in the Circuit Court of Cook County within the time specified on the complaint. "Debt" means a specified sum of money owed to the City for which the period granted for payment has expired.

3. Notwithstanding 1 above, no such debt(s) or outstanding violation complaint (s) will be off set from the Contract Price or compensation due under the Contract if one or more of the following conditions are met:
 - a. The Contractor has entered into an agreement with the Department of Revenue, or other appropriate City department, for the payment of all outstanding parking complaints and/or debts owed to the City and the Contracting party is in compliance with the agreement; or
 - b. The Contractor is contesting liability for the amount of the debt in a pending administrative or judicial proceeding; or
 - c. The Contractor has filed a petition in bankruptcy and the debts owed in the City are dischargeable in bankruptcy.

~~N.P.~~ Americans with Disabilities Act.

Any and all Work performed must comply with all Federal, State, and Local laws and regulations regarding accessibility standards for disabled or environmentally limited persons including, but not limited to, the following: Americans with Disabilities Act, P.L. 101-336 (1990) and the Uniform Federal Accessibility Guidelines for Buildings and Facilities ("ADAAG") and, the Illinois Environmental Barriers Act, 410 ILCS 25/1 et seq. (1991), and the regulations promulgated thereto at 71 Ill. Adm. Code Ch. 1, Sec. 400.100. In the event that the above cited standards are inconsistent, the Contractor will comply with the standard providing greater Accessibility.

~~Q.Q.~~ Section 2-92-586 of the Municipal Code.

The City encourages Contractors to use Subcontractors that are firms owned or operated by individuals with disabilities, as defined by Section 2-92-586 of the Municipal Code of the City of Chicago, where not otherwise prohibited by federal or state law.

~~P.R.~~ False or Fraudulent Statements and Claims:

1. The Contractor recognizes that the requirements of the Program Fraud Civil Remedies Act of 1986, as amended, 49 U.S.C. 3081 et. seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to the Project. Accordingly, by signing the Contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, or it may take pertaining to the Contract. In addition to other penalties that may be applicable, the Contractor also acknowledges that if it makes a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986, as amended, on the Contractor to the extent the Federal Government deems appropriate.
2. The Contractor also acknowledge that if it makes a false, fictitious, or fraudulent claim, statement, submission, or certification to the City or Federal Government in connection with an urbanized area formula project financed with Federal assistance authorized by 49 U.S.C. 5307, the Government reserves the right to impose on the Contractor the penalties of 18 U.S.C. 1001 and 49 U.S.C. 5307(n)(1), to the extent the Federal Government deems appropriate.

~~Q.S.~~ Disclosure of Ownership.

Pursuant to Chapter 2-154-010, 2-154-020 and 2-154-030 of the Municipal Code of the City of

Chicago, any person, or business entity of agency submitting a bid proposal to or contracting with the City of Chicago will be required to complete Section I, Disclosure of Ownership Interests, in the EDS.

R.T. Employment of Illinois Laborers on Airport Projects.

Contractor will use only Illinois Laborers in the performance of this Contract, to the extent (i) required by the Employment of Illinois Laborers on Public Works Projects Act 30 ILCS 570/0.01 et seq., as amended from time to time and; (ii) otherwise permitted by law.

S.U. State Energy Conservation Plan.

The Contractor and subcontractor will comply with all standards and policies relating to energy efficiency and energy conservation plans issued by the State of Illinois in compliance with the Energy Policy and Conservation Act (Public Law 94-163), which are incorporated in this agreement by reference.

T.V. Environmental Requirements.

Without limiting the environmental requirements set forth in Article XIV, the Contractor acknowledges and agrees that many federal and state Environmental Laws imposing environmental and resource conservation requirements may apply to the Contract. Some, but not all, of the major federal Environmental Laws that may affect the Contract include: the National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq.; the Clean Air Act, as amended, 42 U.S.C. 7401 et seq.; various sections of 29 U.S.C.; the Clean Water Act, as amended; various sections of 33 U.S.C. and 12 U.S.C.; the Resource Conservation and Recovery Act, as amended, 42 U.S.C. 6901 et seq.; and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. 9601 et seq. The Contractor also recognizes U.S. EPA, U.S. DOT and other agencies of the federal government have issued and are expected in the future to issue regulations, guidelines, standards, orders, directives, or other requirements that may affect the Contract. The Contractor agrees to adhere to, and impose on its Subcontractors, any such environmental and resource conservation requirements as the federal government may now or in the future promulgate. Listed below are requirements of particular concern. The Contractor acknowledges that this list does not constitute the Contractor's entire obligation to meet all federal environmental and resource conservation requirements. The Contractor will include these provisions in all subcontracts.

1. Environmental Protection: The Contractor agrees to comply with the applicable requirements of the National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq. in accordance with Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, @ 59 Fed. Reg. 7629, Feb. 16, 1994; U.S. DOT statutory requirements on environmental matters at 49 U.S.C. 5324(b); Council of Environmental Quality regulations on compliance with the National Environmental Policy Act of 1969, as amended, 40 C.F.R. Part 1500 et seq.; and U.S. DOT regulations, Environmental Impact and Related Procedures, @ 23 C.F.R. Part 771 and 49 C.F.R. Part 622.
2. Air Quality: The Contractor agrees to comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq., relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114, and all other applicable standards, orders, regulations and guidelines issued thereunder. Specifically, the Contractor agrees to comply with applicable requirements of U.S. EPA regulations, "Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," 40 C.F.R. Part 51, Subpart T; and "Determining Conformity of Federal Actions to State or Federal Implementation Plans," 40 C.F.R. Part 93. The Contractor further

agrees to report and require each Subcontractor at any tier to report any violation of these requirements resulting from any Contract implementation activity to the City and the appropriate U.S. EPA Regional Office immediately upon discovery. Contractor must include the requirements of this paragraph in all subcontracts that exceed \$150,000.

3. Clean Water: The Contractor agrees to comply with all the requirements of Section 308 of the Clean Air Act, as amended, 33 U.S.C. 1251 et seq., relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 308 of the Acts, and all other applicable standards, orders, regulations and guidelines issued thereunder. The Contractor further agrees to report and require each subcontractor at any tier to report any violation of these requirements resulting from any Contract implementation activity to the City and the appropriate U.S. EPA Regional Office immediately upon discovery. Contractor must include the requirements of this paragraph in all subcontracts that exceed \$150,000.
4. List of Violating Facilities: The Contractor agrees that any facility to be used in the performance of the Contract or Subcontract or to benefit from the Contract is not and will not be listed on the U.S. EPA List of Violating Facilities ("List"), and the Contractor will promptly notify the City if the Contractor receives any communication from the U.S. EPA that a facility to be used for the performance of or benefit from the contract is under consideration for inclusion on the List.

~~U.W.~~ Buy American.

For Contracts funded in whole or in part under the Aviation and Safety Capacity Expansion Act of 1990 (the "Act") or the Airport Improvement Program, Contractor will comply with the requirements of Section 9129 of the Act, "Buy American", 40 U.S.C. 10a., and the regulations issued thereunder (49 CFR Part 661), which generally require that all steel and each manufactured product to be provided hereunder is produced in the United States unless otherwise approved by the FAA. Components of unknown origin are considered to have been produced or manufactured outside the United States. Fraudulent use of "Made in America" labels may result in ineligibility for Federal contracts pursuant to Section 9130 of the Act.

~~V.X.~~ Foreign Trade Restrictions (49 CFR Part 30.13):

1. The Contractor or Subcontractor certifies that it:
 - a. 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 State Trade Representatives (USTR);
 - b. 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.
 - c. 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.
2. Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 C.F.R. 30.17, no contract may be awarded to a Subcontractor who is unable to certify to the above. If the Contractor knowingly procures or subcontracts for the supply of any product or service of foreign country on said list for use on the Project, the Federal Aviation Administration may direct, through the City, cancellation of the Contract at no cost to the Government or City.

3. Further, the Contractor agrees that it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The Contractor may rely on the certification of a prospective Subcontractor unless it has knowledge that the certification is erroneous.
4. The Contractor shall provide immediate written notice to the Sponsor if the Contractor learns that its certification or that of a Subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Subcontractor agrees to provide written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.
5. This certification is material representation of fact upon which reliance was placed when making the Contract award. If it is later determined that the Contractor or any Subcontractor of any tier knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through the City, cancellation of the Contract or subcontract for default at no cost to the Government or City.
6. Nothing contained in the foregoing will be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. This certification concerns a matter within the jurisdiction of an agency of the United States of American and the making of a false, fictitious, or fraudulent certification may render the make subject to prosecution under Title 18, United States Code, Provision 1001.

W.Y. Veterans Preference (49 USC 4711 (c)).

The Contractor will insure that the following provision is inserted in all contracts entered into with any Subcontractors and labor organizations which furnish skilled, unskilled and craft union skilled labor, or which may provide any material, labor, or services in connection with this Agreement. "The contractor will comply with the provisions of 330 ILCS 55/0.01 et. seq., which requires that a preference be given to veterans in the employment and appointment to fill positions in the construction, addition, or alteration of all public works. In the employment of labor (except executive, administrative and supervisory positions) preference will be given to veterans of the Vietnam era and disabled veterans as defined in provision 515(c)(1) and (2) of the Airport and Airway Improvement Act of 1982. However, this preference will apply only where the individuals are available and qualified to perform the Work to which the employment relates."

X.Z. Office of Inspector General and Legislative Inspector General (Chapter 2-56 and 2-55 of the Municipal Code):

1. It will be the duty of any bidder, proposer, contractor, all subcontractors and every applicant for certification of eligibility for a City contract or program, and all officers, directors, agents, partners and employees of any bidder, proposer, contractor or such applicant to cooperate with the Inspector General in any investigation or hearing undertaken pursuant to Chapter 2-56 of the Chicago Municipal Code and with the Legislative Inspector General in any investigation or hearing undertaken pursuant to Chapter 2-55. The Contractor understands and will abide by all provisions of Chapters 2-56 and 2-55 of the Municipal Code of Chicago.
2. All Subcontracts or purchase orders entered into by the Contractor with parties providing materials, labor or services to complete the Work, must contain the following statement regarding Chapters 2-56 and 2-55 of the Chicago Municipal Code, Office of the Inspector General, and Office of the Legislative Inspector General, respectively. If the Contractor fails to incorporate the required language in all Subcontracts or purchase orders, the provisions

of these Sections are deemed to be incorporated in all Subcontracts or Purchase Orders.

"The Subcontractor, (material supplier or other entity) its officers, directors, agents, partners and employees must cooperate with the Inspector General and Legislative Inspector General in any investigation or hearing undertaken pursuant to Chapter 2-56 or Chapter 2-55 of the Chicago Municipal Code and the Subcontractor (material supplier or other entity) understands and will abide by all provisions of these sections of the Municipal Code."

~~Y-AA.~~ City Hiring Plan Prohibitions

1. The City is subject to the June 16, 2014 "City of Chicago Hiring Plan" (the "2014 City Hiring Plan") entered in *Shakman v. Democratic Organization of Cook County*, Case No 69 C 2145 (United States District Court for the Northern District of Illinois). Among other things, the 2014 City Hiring Plan prohibits the City from hiring persons as governmental employees in non-exempt positions on the basis of political reasons or factors.
2. Contractor is aware that City policy prohibits City employees from directing any individual to apply for a position with Contractor, either as an employee or as a subcontractor, and from directing Contractor to hire an individual as an employee or as a subcontractor. Accordingly, Contractor must follow its own hiring and contracting procedures, without being influenced by City employees. Any and all personnel provided by Contractor under this Contract are employees or subcontractors of Contractor, not employees of the City of Chicago. This Contract is not intended to and does not constitute, create, give rise to, or otherwise recognize an employer-employee relationship of any kind between the City and any personnel provided by Contractor.
3. Contractor will not condition, base, or knowingly prejudice or affect any term or aspect of the employment of any personnel provided under this Contract, or offer employment to any individual to provide services under this Contract, based upon or because of any political reason or factor, including, without limitation, any individual's political affiliation, membership in a political organization or party, political support or activity, political financial contributions, promises of such political support, activity or financial contributions, or such individual's political sponsorship or recommendation. For purposes of this Contract, a political organization or party is an identifiable group or entity that has as its primary purpose the support of or opposition to candidates for elected public office. Individual political activities are the activities of individual persons in support of or in opposition to political organizations or parties or candidates for elected public office.
4. In the event of any communication to Contractor by a City employee or City official in violation of paragraph 2 above, or advocating a violation of paragraph 3 above, Contractor will, as soon as is reasonably practicable, report such communication to the Hiring Oversight Section of the City's Office of the Inspector General, and also to the head of the relevant City Department utilizing services provided under this Contract. Contractor will also cooperate with any inquiries by OIG Hiring Oversight.

~~Z-BB.~~ Governmental Ethics Ordinance (Chapter 2-156 of the Municipal Code).

1. The Contractor must comply with Chapter 2-156 of the Municipal Code of Chicago, "Governmental Ethics", including but not limited to Section 2-156-120 pursuant to which no payment, gratuity or offer of employment will be made in connection with any City contract, by or on behalf of a subcontractor to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.
2. Any contract negotiated, entered into, or performed in violation of any of the provisions of this

chapter will be voidable as to the City.

AA-CC. Business Relationship with Elected Officials

1. Pursuant to Section 2-156-030(b) of the Municipal Code of the City of Chicago, it is illegal for any elected official of the City, or any person acting at the direction of such official, to contact, either orally or in writing, any other City official or employee with respect to any matter involving any person with whom the elected official has a business relationship, or to participate in any discussion in any City Council committee hearing or in any City Council meeting or to vote on any matter involving the person with whom an elected official has a business relationship. Violation of Section 2-156-030(b) by any elected official with respect to this Contract shall be grounds for termination of this Contract. The term business relationship is defined as set forth in Section 2-156-080 of the Municipal Code of Chicago.
2. Section 2-156-080 defines a "business relationship" as any contractual or other private business dealing of an official, or his or her spouse, or of any entity which entitles an official to compensation or payment in the amount of \$2,500 or more in a calendar year; provided, however, a financial interest shall not include: (i) Any ownership through purchase at fair market value or inheritance of less than one percent of the share of a corporation, or any corporate subsidiary, parent or affiliate thereof, regardless of the value of or dividends on such share, if such shares are registered on a securities exchange pursuant to the Securities Exchange Act of 1934, as amended; (ii) the authorized compensation paid to an official or employee for his office or employment; (iii) any economic benefit provided equally to all residents of the City; (iv) a time or demand deposit in a financial institution; or (v) an endowment or insurance policy or annuity contract purchased from an insurance company. A "contractual or other private business dealing" shall not include any employment relationship of an official's spouse with an entity when such spouse has no discretion concerning or input relating to the relationship between that entity and the City.

BB-DD. Conflict of Interest.

1. No member of the governing body of the City or other units of government and no other officer, employee, or agent of the City or other unit of government who exercises any functions or responsibilities in connection with the Services to which this Contract pertains, will have any personal interest, direct, or indirect, in this Contract. No member of or delegate to the Congress of the United States (pursuant to 41 U.S.C. ' 22) or the Illinois General Assembly and no alderman of the City or City employee will be permitted to any share or part of this Contract or to any financial benefit to arise from it. The Contractor covenants that it, its officers, directors and employees, and the officers, directors and employees of each of its members if a joint venture, and subcontractors, presently have no interest and will acquire no interest, direct or indirect, in the Project which would conflict in any manner or degree with the performance of the Work hereunder. The Contractor further covenants that in the performance of this Contract, no person having any such interest will be employed. The Contractor agrees that if the City, by the Commissioner in his or her reasonable judgment, determines that any of Contractor's work for others conflicts with the Work, the Contractor will terminate such other services immediately upon request of the City.

CC-EE. Steel Products.

1. This Contract is subject to all provisions of the "Steel Products Procurement Act," 30 ILCS 565/1 et seq. as it may be amended from time to time. Steel Products issued or supplied in the performance of this Contract or any subcontract thereto must be manufactured or produced in the United States.
2. For purposes of this Provision "United States" means the United States and any place subject to the jurisdiction thereof and "Steel Products" means products rolled, formed,

shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed or processed by a combination of two or more such operations, from Steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making processes. Knowing violation of this Provision may result in the filing and prosecution of a complaint by the Attorney General of the State of Illinois and will subject violators to a fine of the greater of \$5,000 or the payment price received as a result of such violation.

~~DD~~-FF. Preference for Recycled Products.

To the extent practicable and economically feasible and to the extent that it does not reduce or impair the quality of the work, the Contractor agrees to use recycled products in the Project pursuant to U.S. Environmental Protection Agency (U.S. EPA) guidelines at 40 C.F.R. Parts 247- 253, which implement section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. 6962.

FF. Cargo Preference – Use of United States Flag Vessels.

The Contractor agrees to comply with U.S. Marine Administration regulations, “Cargo Preference - U.S. Flag Vessels,” 49 C.F.R. Part 381, to the extent those regulations apply to the Project. Specifically, the Contractor agrees to include the clauses required by those regulations, modified as necessary to identify the affected parties, in each subcontract or subagreement involving equipment, materials, or commodities suitable for transport by ocean vessel.

~~EE~~-GG. Patent Rights.

1. General. If any inventions, improvement, material, or discovery of the Contractor is conceived or first actually reduced to practice in the course of or under the Project, and that invention, improvement, material or discovery is patentable under the laws of the United States of America or any foreign country, the Contractor agrees to notify City immediately and provide a detailed report.
2. Federal Rights. Unless the Federal Government later makes a contrary determination in writing, the rights and responsibilities of the City, Contractor, and the Federal Government pertaining to that invention, improvement, material, or discovery will be determined in accordance with applicable Federal and City laws and regulations, including any waiver thereof. Unless the Federal Government later makes a contrary determination in writing, the Contractor agrees that, irrespective of its status or the status of any subcontractor at any tier, (i.e., a large business, small business, non-profit organization, institution or higher education, individual, etc.) the Contractor agrees it will transmit to the Federal Government those rights due the Federal Government in any invention resulting from the contract.

~~FF~~-HH. Rights in Data and Copyrights.

1. Definition. The term “subject data” used in this section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the Contract. Examples include, but are not limited, to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term “subject data” does not include financial reports, cost analyses, and similar information incidental to Project administration.
2. Federal Restrictions. The following restrictions apply to all subject data first produced in the performance of the Contract. Except as provided in the Contract and except for its own internal use, the Contractor may not publish or publicly reproduce subject data in whole or in part, or in any manner or form, nor may the Contractor authorize others to do so, without the written consent of the Federal Government, until such times as the Federal Government

may have either released or approved the release of such data to the public.

3. Federal Rights in Data and Copyrights. Contractor agrees that any copyrightable subject data generated in performance of this Contract are deemed “works for hire” and the City or Federal Government will own all copyrights therein. In accordance with 49 C.F.R. 18.34 and 49 C.F.R. 19.36, the City and the Federal Government reserve a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for City or Federal Government purposes, the types of other subject data described below. Without the copyright owner’s consent, the City and Federal government may not extend their license to other parties.
 - a. Any subject data developed under the Contract to the extent that a copyright has not been obtained by the City or Federal Government; and
 - b. Any previously copyrighted subject data which the Contractor purchases with federal assistance.
4. Special Federal Rights for Planning, Research, and Development Projects. When the Federal Government provides financial assistance for a planning, research, development, or a demonstration Project, its general intention is to increase public knowledge rather than limit the benefits of the Project to participants in the Project. Therefore, unless the Federal Government determines otherwise, the Contractor on a planning, research, development, or a demonstration Project agrees that, in addition to the rights in data and copyrights set forth above, the City or Federal Government may make available to any third party, either a license in the copyright to the subject data or a copy of the subject data. If the Project is not completed for any reason whatsoever, all data developed under the Project will become subject data and will be delivered as the City or Federal Government may direct. This subsection, however, does not apply to adaptations of automatic data processing equipment or programs for the City’s use whose costs are financed with Federal transportation funds for capital projects.
5. Hold Harmless. Unless prohibited by state law, upon request by the Federal Government, the Contractor agrees to indemnify, save, and hold harmless the City and the Federal Government and their officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use or disposition or any data furnished or used under the Contract. The Contractor will not be required to indemnify the City or Federal Government for any such liability arising out of the wrongful acts of employees or agents of the City or Federal Government.
6. Restrictions on Access to Patent Rights. Nothing contained in this section on rights in data will imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.
7. Application on Materials Incorporated into Project. The requirements of Subsections 2,3, and 4 of this Section do not apply to material furnished by the City and incorporated into the work.

GG-II. Licensing of General Contractors.

The Contractor must comply with all requirements of Chapter 4-36, Licensing of General Contractors, of the Chicago Municipal Code.

HH-JJ. Prohibition on Certain Contributions (Mayoral Executive Order No. 2011-4).

1. No Contractor or any person or entity who directly or indirectly has an ownership or beneficial interest in Contractor of more than 7.5 percent ("Owners"), spouses and domestic partners of such Owners, Contractor's Subcontractors, any person or entity who directly or indirectly has an ownership or beneficial interest in any Subcontractor of more than 7.5 percent ("Sub-owners") and spouses and domestic partners of such Sub-owners (Contractor and all the other preceding classes of persons and entities are together, the "Identified Parties"), shall make a contribution of any amount to the Mayor of the City of Chicago (the "Mayor") or to his political fund-raising committee during (i) the bid or other solicitation process for this Contract or Other Contract, including while this Contract or Other Contract is executory, (ii) the term of this Contract or any Other Contract between City and Contractor, and/or (iii) any period in which an extension of this Contract or Other Contract with the City is being sought or negotiated.
2. Contractor represents and warrants that since the date of public advertisement of the specification, request for qualifications, request for proposals or request for information (or any combination of those requests) or, if not competitively procured, from the date the City approached the Contractor or the date the Contractor approached the City, as applicable, regarding the formulation of this Contract, no Identified Parties have made a contribution of any amount to the Mayor or to his political fund-raising committee.
3. Contractor shall not: (a) coerce, compel or intimidate its employees to make a contribution of any amount to the Mayor or to the Mayor's political fund-raising committee; (b) reimburse its employees for a contribution of any amount made to the Mayor or to the Mayor's political fund-raising committee; or (c) bundle or solicit others to bundle contributions to the Mayor or to his political fund-raising committee.
4. The Identified Parties must not engage in any conduct whatsoever designed to intentionally violate this provision or Mayoral Executive Order No. 2011-4 or to entice, direct or solicit others to intentionally violate this provision or Mayoral Executive Order No. 2011-4.
5. Violation of, non-compliance with, misrepresentation with respect to, or breach of any covenant or warranty under this provision or violation of Mayoral Executive Order No. 2011-4 constitutes a breach and default under this Contract, and under any Other Contract for which no opportunity to cure will be granted. Such breach and default entitles the City to all remedies (including without limitation termination for default) under this Contract, under Other Contract, at law and in equity. This provision amends any Other Contract and supersedes any inconsistent provision contained therein.
6. If Contractor violates this provision or Mayoral Executive Order No. 2011-4 prior to award of the Contract resulting from this specification, the Chief Procurement Officer may reject Contractor's bid.
7. For purposes of this provision:

"Other Contract" means any agreement entered into between the Contractor and the City that is (i) formed under the authority of MCC Ch. 2-92; (ii) for the purchase, sale or lease of real or personal property; or (iii) for materials, supplies, equipment or services which are approved and/or authorized by the City Council.

"Contribution" means a "political contribution" as defined in MCC Ch. 2-156, as amended.

"Political fundraising committee" means a "political fundraising committee" as defined in MCC Ch. 2-156, as amended.

~~4-KK.~~ Federal Ineligible Contractors.

Contractor warrants and represents that neither Contractor nor any Affiliate of Contractor appears on the Specially Designated Nationals List, the Denied Persons List, the Unverified List, the Entity List, or the Debarred List as maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury or by the Bureau of Industry and Security of the U.S. Department of Commerce (or their successors), or on any other list of persons or entities with which the City may not do business under any applicable law, rule, regulation, order or judgment.

~~JJ.LL.~~ False Statements.

False statements made in connection with this Contract, including statements in, omissions from and failures to timely update the EDS, as well as in any other affidavits, statements or contract documents constitute a material breach of the Contract. Any such misrepresentation renders the Agreement voidable at the option of the City, notwithstanding any prior review or acceptance by the City of any materials containing such misrepresentation. In addition, the City may debar Contractor, assert any contract claims or seek other civil or criminal remedies as a result of a misrepresentation (including costs of replacing a terminated Contractor pursuant to Chicago Municipal Ordinance 1-21-010).

~~KK.MM.~~ Ineligibility to do Business with the City.

Failure by the Contractor or any controlling person (as defined in Section 1-23-010 of the Municipal Code of Chicago) thereof to maintain eligibility to do business with the City of Chicago as required by Section 1-23-30 of the Municipal Code of Chicago shall be grounds for termination of this Contract.

~~LL.NN.~~ Project Labor Agreement.

Pursuant to an Ordinance passed by City Council, effective as of February 22, 2011, the City has entered into the Project Labor Agreement ("PLA"), which is hereby referenced and included in the Contract Documents, with various trades regarding projects as described in the PLA, together with a list of signatory unions. Contractor acknowledges familiarity with the requirements of the PLA and its applicability to any Work under this Contract, and shall comply in all respects with the PLA.

~~MM.OO.~~ Clean Diesel Fleet (Section 2-92-595 of the Chicago Municipal Code).

If this Contract is for construction, demolition, restoration, repair, renovation, environmental remediation or environmental abatement of any building, structure, tunnel, excavation, roadway, bridge, transit station or parcel of land and the estimated value of this Contract is \$2,000,000 or more:

- A. Contractor must comply with the Clean Diesel Contracting Ordinance, MCC Section 2-92-595.
- B. Contractor and any Subcontractor(s) must utilize Ultra Low Sulfur Diesel Fuel (ULSD) for any heavy-duty diesel-powered vehicle, non-road vehicle or non-road equipment used in the performance of the Contract.
- C. Contractor and any Subcontractor(s) must minimize idling of motor vehicles and non-road vehicles used in the performance of the Contract during periods of inactivity, and must comply with the anti-idling requirements imposed by any applicable federal, state, or local law.
- D. Contractor and any Subcontractor(s), may not use any of the following vehicles and equipment in the performance of the contract:

1. any heavy-duty diesel vehicle not meeting or exceeding the US EPA's emission standards for heavy-duty diesel vehicles for the 1998 engine model year, unless such vehicle is fitted with a verified diesel emission control retrofit device; or
2. any non-road vehicle or non-road equipment not meeting or exceeding the US EPA's Tier 1 Non-road Diesel Standards, unless such vehicle or equipment is fitted with a verified diesel emission control retrofit device.

E. Any heavy-duty diesel vehicles, non-road vehicles and non-road equipment used in the performance of this Contract must incorporate such engine or retrofit technology so that the Contractor, through such engine or retrofit technology used directly by the Contractor and all subcontractors, shall have a minimum of 3.0 clean fleet score per a reporting period, as calculated by using the methodology described in MCC subsection 2-92-595(c)(5). Contractor may exclude from the calculation of the clean fleet score up to fifty percent of all of the heavy-duty diesel vehicles, non-road vehicles and non-road equipment used in the performance of the contract during a reporting period that are owned or leased by any firm that the CPO has granted a clean fleet score annual waiver certificate pursuant to MCC subsection 2-92-595 (f). However, pursuant to MCC subsection 2-92-595(b)(6), if this contract is advertised after January 1, 2020, the minimum clean fleet score is increased to 4.0, and Contractor may exclude from the calculation up to only twenty five percent of vehicles owned or leased by a firm that has received a clean fleet score waiver certificate instead of fifty percent.

~~E. Any heavy-duty diesel vehicles, non-road vehicles, and non-road equipment used in the performance of this Contract must incorporate such engine or retrofit technology so that the Contractor, through such engine or retrofit technology used directly by the Contractor and all subcontractors, shall have a minimum of 2.1 clean fleet score per a reporting period, as calculated by using the methodology described in MCC subsection 2-92-595(c)(5). Contractor may exclude from the calculation of the clean fleet score all of the heavy-duty diesel vehicles, non-road vehicles, and non-road equipment used in the performance of the contract during a reporting period that are owned or leased by any firm that the CPO has granted a clean fleet score annual waiver certificate pursuant to MCC subsection 2-92-595(f).~~

F. The City may conduct an audit of the Contractor or inspect any vehicle or equipment used in the performance of the Contract to ensure compliance with the requirements specified above. In the event that Contractor or any Subcontractor fails to utilize ULSD or fails to minimize idling or comply with antiidling requirements, Contractor will be subject to liquidated damages of \$5,000 per day for each violation and each day of noncompliance will be a separate violation; provided, however, the damages will not exceed \$50,000 for any one vehicle or piece of equipment, as specified in MCC Section 2-92-595(e). Such liquidated damages are imposed not as a penalty but as an estimate of the damages that the City will sustain from delay in completion of the project and inspection and other enforcement costs, as well as the resultant damages to the public health of its citizens, which damages by their nature are not capable of precise proof. The City is authorized to withhold and deduct from monies otherwise payable to the contractor the amount of liquidated damages due to the City.

Contractor understands that pursuant to MCC subsection 2-92-595(e)(6), any person knowingly making a false statement of material fact to any City department with respect to compliance with the contract provisions specified in MCC subsection 2-92-595(e) Chicago may be fined not less than \$1,000 or more than \$5,000 for each statement.

NN-PP. Duty to Report Corrupt or Unlawful Activity.

Pursuant to MCC 2-156-018, it is the duty of the Contractor to report to the Inspector General, directly

and without undue delay, any and all information concerning conduit which it knows to involve corrupt activity. "Corrupt activity" means any conduct set forth in Subparagraph (a)(1), (2), or (3) of Section 1-23-020 of the MCC. Knowing failure to make such a report will be an event of default under this Contract. Reports may be made to the Inspector General's toll free hotline, 866-IG-TIPLINE (866-448-4754).

~~OO.QQ.~~ Equal Pay Act.

The Contractor will comply with all applicable provisions of the Equal Pay Act of 1963, 29 U.S.C. 206(d) and the Illinois Equal Pay Act of 2003, 820 ILCS 112/1, et. seq., as amended, and all applicable related rules and regulations including but not limited to those set forth in 29 CFR Part 1620 and 56 Ill. Adm. Code Part 320.

~~PP.RR.~~ Texting When Driving.

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

The Contractor must promote policies and initiatives for employees and other work personnel that decrease crashes by distracted drivers, including policies to ban text messaging while driving. The Contractor must include these policies in each third party subcontract involved on this project.

~~QQ.SS.~~ Electronic Mail Communication.

Electronic mail communication between Contractor and City employees must relate only to business matters between Contractor and the City.

~~RR.TT.~~ EDS Update Obligation.

Contractor is required to notify the City and update the EDS whenever there is a change in circumstances that makes any certification or information provided in an EDS inaccurate, obsolete or misleading. Failure to notify the City and update the EDS is grounds for declaring the Contractor in default, termination of the Contract for default, and declaring that the Contractor is ineligible for future contracts.

~~SS.UU.~~ Wheel Tax (City Sticker).

Contractor must pay all Wheel Tax required by Chapter 3-56 of the MCC, as amended from time to time. Contractor should take particular notice of MCC 3-56-020 and MCC 3-56-125 which relate to payment of the tax for vehicles that are used on City streets or on City property by City residents. For the purposes of Chapter 3-56, any business that owns, leases or otherwise controls a place of business within the City wherein motor vehicles or semi-trailers are stored, repaired, serviced, or loaded or unloaded in connection with the business is also considered to be a City resident.

~~TT.VV.~~ Energy Conservation Requirements.

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201et seq).

~~UU.WW.~~ Procurement of Recovered Materials.

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at:
www.epa.gov/epawaste/conserve/tools/cpg/products/.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

~~XX.XX.~~ Prohibition of Segregated Facilities

- 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.

~~XX.XY.~~ Seismic Safety

The contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

END OF XIX

XX. MISCELLANEOUS

A. General Provisions.

1. Counterparts: This Contract is comprised of several identical counterparts, each to be fully executed by the parties and each to be deemed an original having identical legal effect.
2. Amendments: No changes, amendments, modifications, cancellation, or discharge of this Contract, or any part thereof, will be valid unless in writing and signed by the parties hereto, or their respective successors and assigns, in accordance with all applicable laws.
3. Governing Law and Jurisdiction: This Contract will be governed in accordance with the laws of the State of Illinois, without regard to choice of law principles. The Contractor hereby irrevocably submits, and will cause its Subcontractors to submit, to the original jurisdiction of those State or Federal courts located within the County of Cook, State of Illinois, with regard to any controversy arising out of, relating to, or in any way concerning the execution or performance of this Contract. The Contractor agrees that service of process on the Contractor may be made, at the option of the City, either by registered or certified mail addressed to the applicable office as provided for in this Contract, by registered or certified mail addressed to the office actually maintained by the Contractor, or by personal delivery on any officer, director, or managing or general agent of the Contractor.
4. Consent to Service of Process: The Contractor agrees that service of process on the Contractor may be made, at the option of the City, either by registered or certified mail addressed to the applicable office as provided for in this Contract, by registered or certified mail addressed to the office actually maintained by the Contractor, or by personal delivery on any officer, director, or managing or general agent of the Contractor. The Contractor designates and appoints the representative identified on the signature page hereto under the heading "Designation of Agent for Service Process", as its agent in Chicago, Illinois, to receive on its behalf service of all process (which representative will be available to receive such service at all times), such service being hereby acknowledged by such representative to be effective and binding service in every respect. Said agent may be changed only upon the giving of written notice by the Contractor to the City of the name and address of a new Agent for Service of Process who works within the geographical boundaries of the City of Chicago. Nothing herein will affect the right to serve process in any other manner permitted by law or will limit the right of the City to bring proceedings against the Contractor in the courts of any other jurisdiction.
5. Assigns: All of the terms and conditions of this Contract are binding upon and inure to the benefit of the parties hereto and their respective legal representatives, successors, transferees, and assigns.
6. Co-operation by Parties: The parties hereby agree to act in good faith in the performance of this Contract and to co-operate with each other in the completion of the Work hereunder. The Contractor further agrees to implement such measures as may be necessary to ensure that its staff and its subcontractors will be bound by the provisions of this Contract. The City will be expressly identified as a third party beneficiary in the subcontracts and granted a direct right of enforcement thereunder.
7. Joint and Several Liability: In the event that Contractor, or its successors or assigns, if any, is comprised of more than one individual or other legal entity (or a combination thereof), then and in that event, each and every obligation or undertaking herein stated to be fulfilled or performed by Contractor will be the joint and several obligation or undertaking of each such individual or other legal entity.
8. No Third Party Beneficiaries: The parties agree that this Contract is solely for the benefit of the parties and nothing herein is intended to create any third party beneficiary rights for subcontractors or other third parties.

B. Notices of Events of Default and Termination Under Article XVIII.

1. Notices of events of default and termination pursuant to Article XVIII will be in writing and may be delivered personally or by placing in the United States mail, first class and certified, return receipt requested, with postage prepaid and addressed as follows:
 - a. If to the City: Commissioner of Aviation, AMF O'Hare, P.O. Box 66142, 10510 W. Zemke Road, Chicago, IL 60666
 - b. With Copies to: Chief Procurement Officer, 121 North LaSalle Street, City Hall Room 806, Chicago, IL 60602
 - c. If to the Contractor: The address identified on its Bid
 - d. With Copies to: The Surety
2. Notices delivered by mail will be deemed effective three (3) days after mailing in accordance with this section. Notices delivered personally will be deemed effective upon receipt. The addresses stated herein may be revised without need for modification or amendment of this Contract, provided written notification is given in accordance with this section.

C. Authority.

1. Contractor: Execution of this Contract by the Contractor is authorized and signature(s) of each person signing on behalf of the Contractor have been made with complete and full authority to commit the Contractor to all terms and conditions of this Contract, including each and every representation, certification, and warranty contained herein, attached hereto and collectively incorporated by reference herein, or as may be required by the terms and conditions hereof. If other than a sole proprietorship, Contractor must provide satisfactory evidence that the execution of the Contract is authorized in accordance with the business entities rules and procedures.

D. No Waiver of Legal Rights.

1. Neither the acceptance of the City, or any representative of the City, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the City, shall operate as a waiver by the City of any portion of the Contract, or of any power herein reserved or any right of the City to damages herein provided. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.
2. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach. Whenever under this Contract the City by a proper authority waives the Contractor's performance in any respect or waives a requirement or condition to either the City's or the Contractor's performance, the waiver so granted, whether express or implied, shall only apply to the particular instance and will not be deemed a waiver forever or for subsequent instance of the performance, requirement, or condition. No such waiver shall be construed as a modification of this Contract regardless of the number of times the City may have waived the performance, requirement, or condition.
3. No Federal Obligations to Third Parties: The Contractor agrees that, absent the Federal Government's express written consent, the Federal Government will not be subject to any obligations or liabilities to any contractor or any other person not a party to the grant agreement or cooperation agreement between the City and the Federal Government. Notwithstanding any concurrence provided by the Federal Government in or approval or any solicitation, agreement, or contract, the Federal Government continues to have no obligations to any party, including the Contractor.

END OF XX

PASSENGER SECURITY CHECKPOINT EXPANSION PROJECT M9185.12

FOR

CHICAGO DEPARTMENT OF AVIATION MIDWAY INTERNATIONAL AIRPORT

ISSUED FOR BID

June 1, ~~2016~~2017

The following listed documents comprise the Project Manual for the project listed above. Where numerical sequence of sections is interrupted, such interruptions are intentional.

The complete Project Manual for this Project consists of this entire Volume, which must not be separated for any reason. The Architect and Owner disclaim any responsibility for any assumptions made by a Contractor or Subcontractor who does not receive a complete Project Manual, including all sections listed in the table of contents.

00 00 10	Table of Contents	00 00 10 – 1 Thru 6
00 31 32	Geotechnical Data	00 31 32 – 1 Thru 1
	Geotechnical Report (by ECS dated 11/22/16)	1 Thru 41

DIVISION 1 – GENERAL REQUIREMENTS

	<u>Pages</u>
01 00 10	Project Requirements
01 11 10	Air Quality– Equipment Emissions
01 32 33	Photographic Documentation
01 33 20	Field Verification and Reporting
01 35 16	Alteration Project Procedures
01 35 50	Local/Regional Materials
01 35 60	Recycled Content
01 36 00	Sustainable Temporary Construction Materials
01 45 00	Contractor Quality Control Program
01 55 26	Traffic Control
	Appendix “A” IDOT Special Provisions (8 pages)
01 56 39	Temporary Tree & Plant Protection
01 58 00	Project Identification
01 71 13	Mobilization
01 73 29	Cutting and Patching
01 74 19	Construction Waste Management
01 79 00	Demonstration and Training
01 01 00 – 1	Thru 8
01 11 10 – 1	Thru 10
01 32 33 – 1	Thru 4
01 33 20 – 1	Thru 2
01 35 16 – 1	Thru 11
01 35 50 – 1	Thru 5
01 35 60 – 1	Thru 6
01 36 00 – 1	Thru 6
01 45 00 – 1	Thru 18
01 55 26 – 1	Thru 7
01 56 39 – 1	Thru 5
01 58 00 – 1	Thru 5
01 71 13 – 1	Thru 2
01 73 29 – 1	Thru 8
01 74 19 – 1	Thru 12
01 79 00 – 1	Thru 5

DIVISION 2 – EXISTING CONDITIONS

02 41 13.33	Utility Removal	02 41 23.33 – 1 Thru 3
02 41 13.43	Abandoning Existing Storm-Sanitary Sewer System and Structures	02 41 13.43 – 1 Thru 6
02 41 19	Selective Structure Demolition	02 41 19 – 1 Thru 4

02 41 20	Selective Demolition	02 41 20 – 1 Thru 9
DIVISION 3 - CONCRETE		
03 01 30.41	Structural Repair of Concrete	03 01 30.41 – 1 Thru 10
03 11 00	Concrete Forming	03 11 00 – 1 Thru 9
03 15 15	Elastomeric Bearing Pads	03 15 15 – 1 Thru 6
03 20 00	Concrete Reinforcement	03 20 00 – 1 Thru 7
03 20 15	Headed Reinforcement	03 20 15 – 1 Thru 2
03 21 16.13	Drill and Epoxy Grout Bars and Anchors	03 21 16.13 – 1 Thru 2
03 21 20	Bar Splicer	03 21 20 – 1 Thru 1
03 31 00	Structural Concrete	03 31 00 – 1 Thru 19
03 31 15	Concrete Sealer	03 31 15 – 1 Thru 1
03 49 00	Glass-Fiber-Reinforced Concrete (GFRC)	03 49 00 – 1 Thru 10
03 93 00	Externally Bonded Carbon Wrap	03 49 00 – 1 Thru 9
DIVISION 4 - MASONRY		
04 20 00	Unit Masonry	04 20 00 – 1 Thru 19
DIVISION 5 - METALS		
05 12 00	Structural Steel Framing ("SB" Series Drawing Sheets)	05 12 00 – 1 Thru 12
05 12 03	Structural Steel Framing ("S" Series Drawing Sheets)	05 12 03 – 1 Thru 12
05 12 43	Prefabricated Rolled Beam Bridge	05 12 43 – 1 Thru 6
05 21 00	Steel Joist Framing	05 21 00 – 1 Thru 9
05 31 00	Steel Decking	05 31 00 – 1 Thru 7
05 40 00	Cold-Formed Metal Framing	05 40 00 – 1 Thru 14
05 50 00	Metal Fabrications	05 50 00 – 1 Thru 11
05 51 16	Metal Floor Plate Stairs	05 51 16 – 1 Thru 6
05 52 13	Pipe and Tube Railings	05 52 13 – 1 Thru 8
05 53 16	Plank Gratings	05 53 16 – 1 Thru 5
05 58 19	Heating-Cooling Unit Covers	05 58 19 – 1 Thru 7
05 73 13	Glazed Decorative Metal Railings	05 73 13 – 1 Thru 10
05 75 00	Decorative Formed Metal	05 75 00 – 1 Thru 9
DIVISION 6 - WOOD, PLASTICS AND COMPOSITES		
06 10 53	Miscellaneous Rough Carpentry	06 10 53 – 1 Thru 6
06 16 00	Sheathing	06 16 00 – 1 Thru 5
06 41 19	Plastic-Laminate-Clad Architectural Millwork	06 41 19 – 1 Thru 6
DIVISION 7 - THERMAL AND MOISTURE PROTECTION		
07 01 50.19	Preparation for Re-Roofing	07 01 50.19 – 1 Thru 4
07 21 00	Thermal Insulation	07 21 00 – 1 Thru 5
07 27 26	Fluid-Applied Membrane Air Barriers	07 27 26 – 1 Thru 8
07 42 13.23	Metal Composite Material Wall Panels	07 42 13.23 – 1 Thru 10
07 42 93	Soffit Panels	07 42 93 – 1 Thru 9
07 54 19	Polyvinyl-Chloride (PVC) Roofing	07 54 19 – 1 Thru 12
07 62 00	Sheet Metal Flashing and Trim	07 62 00 – 1 Thru 12
07 72 00	Roof Accessories	07 72 00 – 1 Thru 9
07 81 00	Applied Fireproofing	07 81 00 – 1 Thru 7
07 81 23	Intumescent Fireproofing	07 81 23 – 1 Thru 6

07 84 13	Penetration Firestopping	07 84 13 – 1 Thru 6
07 84 43	Joint Firestopping	07 84 43 – 1 Thru 6
07 91 00	Preformed Joint Seals	07 91 00 – 1 Thru 8
07 92 00	Joint Sealants	07 92 00 – 1 Thru 13
07 95 13.13	Interior Expansion Joint Cover Assemblies	07 95 13.13 – 1 Thru 6
07 95 13.16	Exterior Expansion Joint Cover Assemblies	07 95 13.16 – 1 Thru 5
07 95 70	Disc Bearings	07 95 70 – 1 Thru 4

DIVISION 8 - OPENINGS

08 11 13	Hollow Metal Doors and Frames	08 11 13 – 1 Thru 10
08 11 19	Stainless-Steel Doors and Frames	08 11 19 – 1 Thru 9
08 31 13	Access Doors and Frames	08 31 13 – 1 Thru 4
08 44 13	Glazed Aluminum Curtain Walls	08 44 13 – 1 Thru 11
08 44 23	Structural-Sealant-Glazed Curtain Walls	08 44 23 – 1 Thru 13
08 71 00	Door Hardware	08 71 00 – 1 Thru 22
08 80 00	Glazing	08 80 00 – 1 Thru 14
08 87 13	Decorative Window Films	08 87 13 – 1 Thru 5
08 91 19	Fixed Louvers	08 91 19 – 1 Thru 7

DIVISION 9 - FINISHES

09 21 16.23	Gypsum Board Shaft Wall Assemblies	09 21 16.13 – 1 Thru 6
09 22 16	Non-Structural Metal Framing	09 22 16 – 1 Thru 9
09 22 26.23	Metal Suspension Systems	09 22 26.23 – 1 Thru 6
09 27 13	Glass-Fiber-Reinforced Plaster Fabrications	09 27 13 – 1 Thru 5
09 29 00	Gypsum Board	09 29 00 – 1 Thru 7
09 51 13	Acoustical Panel Ceilings	09 51 13 – 1 Thru 8
09 58 00	Integrated Ceiling Assemblies	09 58 00 – 1 Thru 7
09 65 13	Resilient Base and Accessories	09 65 13 – 1 Thru 5
09 66 23	Resinous Matrix Terrazzo Flooring	09 66 23 – 1 Thru 10
09 68 13	Tile Carpeting	09 68 13 – 1 Thru 6
09 78 16	Stone-Faced Interior Wall Paneling	09 78 16 – 1 Thru 7
09 83 16	Acoustical Plaster Finish System	09 83 16 – 1 Thru 3
09 91 13	Exterior Painting	09 91 13 – 1 Thru 6
09 91 23	Interior Painting	09 91 23 – 1 Thru 6

DIVISION 10 – SPECIALTIES

10 14 00	Signage	10 14 00 – 1 Thru 19
10 14 19	Dimensional Letter Signage	10 14 19 – 1 Thru 8
10 14 53	Traffic Signs	10 14 53 – 1 Thru 3
10 22 15	Fixed Glass Panel Partitions	10 22 15 – 1 Thru 7
10 22 39.13	Folding Glass-Panel Partitions	10 22 39.13 – 1 Thru 7
10 26 00	Wall and Door Protection	10 26 00 – 1 Thru 3
10 44 13	Fire Protection Cabinets	10 44 13 – 1 Thru 5
10 44 16	Fire Extinguishers	10 44 16 – 1 Thru 3
10 74 13	Exterior Clocks	10 74 13 – 1 Thru 6

DIVISION 11 – EQUIPMENT

11 24 20	Facility Fall Protection	11 24 20 – 1 Thru 4
----------	--------------------------	---------------------

DIVISION 14 – SPECIAL CONSTRUCTION

14 21 23.16	Machine Room-Less Electric
-------------	----------------------------

14 31 00	Traction Passenger Elevators Escalators	14 21 23.16 – 1 Thru 11 14 31 00 – 1 Thru 8
----------	--	--

DIVISION 21 – FIRE SUPPRESSION

21 05 00	Common Work Results for Fire Suppression	21 05 00 – 1 Thru 9
21 10 00	Water Based Fire Suppression Systems	21 10 00 – 1 Thru 22

DIVISION 22 - PLUMBING

22 01 00	Basic Plumbing Requirements	22 01 00 – 1 Thru 16
22 05 00	Common Work Results for Plumbing	22 05 00 – 1 Thru 11
22 05 13	Common Motor Requirements for Plumbing Equipment	22 05 13 – 1 Thru 4
22 05 16	Expansion Fittings and Loops for Plumbing	22 05 16 – 1 Thru 7
22 05 23	General-Duty Valves for Plumbing Piping	22 05 23 – 1 Thru 8
22 05 29	Hangers & Supports for Plumbing Piping & Equipment	22 05 29 – 1 Thru 10
22 05 53	Identification for Plumbing Piping & Equipment	22 05 53 – 1 Thru 7
22 07 00	Plumbing Insulation	22 07 00 – 1 Thru 26
22 11 16	Domestic Water Piping	22 11 16 – 1 Thru 18
22 11 19	Domestic Water Piping Specialties	22 11 19 – 1 Thru 7
22 13 16	Sanitary Waste & Vent Piping	22 13 16 – 1 Thru 10
22 13 29	Sanitary Sewage Pumps	22 13 29 – 1 Thru 6
22 14 13	Facility Storm Drainage Piping	22 14 13 – 1 Thru 8
22 14 23	Storm Drainage Piping Specialties	22 14 23 – 1 Thru 6

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

23 01 00	Basic Mechanical Requirements	23 01 00 – 1 Thru 20
23 05 03	General Provisions for HVAC Work	23 05 03 – 1 Thru 9
23 05 05	Basic HVAC Materials and Methods	23 05 05 – 1 Thru 18
23 05 13	Common Motor Requirements for HVAC Equipment	23 05 13 – 1 Thru 9
23 05 16	Expansion Fittings and Loops for HVAC Piping	23 05 16 – 1 Thru 7
23 05 19	Meters and Gauges for HVAC Piping	23 05 19 – 1 Thru 9
23 05 23	General-Duty Valves for HVAC Piping	23 05 23 – 1 Thru 10
23 05 29	Hangers and Supports for Piping and Equipment	23 05 29 – 1 Thru 15
23 05 48	Vibration Controls for HVAC Piping and Equipment	23 05 48 – 1 Thru 12
23 05 53	Identification for HVAC Piping and Equipment	23 05 53 – 1 Thru 12
23 05 93	Testing, Adjusting, and Balancing for HVAC	23 05 93 – 1 Thru 39
23 07 00	HVAC Insulation	23 07 00 – 1 Thru 38
23 09 20	Building Automation System – General	23 09 20 – 1 Thru 32
23 09 21	Building Automation System – Exhibit & Definitions	23 09 21 – 1 Thru 11
23 09 22	Building Automation System – Communication Device	23 09 22 – 1 Thru 3
23 09 23	Building Automation System – Operator Interfaces	23 09 23 – 1 Thru 6
23 09 24	Building Automation System – Control Materials	23 09 24 – 1 Thru 46
23 09 25	Building Automation System – Software Programming	23 09 25 – 1 Thru 26
23 09 26	Building Automation System – General Sequence	23 09 26 – 1 Thru 9
23 09 27	Building Automation System – Controls Commissioning	23 09 27 – 1 Thru 13
23 09 28	Building Automation System (BAS) – Motors - Variable Frequency Controllers	23 09 28 – 1 Thru 15
23 21 13	Hydronic Piping	23 21 13 – 1 Thru 19
23 21 23	Hydronic Pumps	23 21 23 – 1 Thru 10

23 25 00	HVAC Water Treatment	23 25 00 – 1 Thru 14
23 31 13	Metal Ducts	23 31 13 – 1 Thru 15
23 33 00	Air Duct Accessories	23 33 00 – 1 Thru 12
23 34 16	Centrifugal HVAC Fans	23 34 16 – 1 Thru 17
23 36 00	Air Terminal Units	23 36 00 – 1 Thru 6
23 37 13	Diffusers, Registers, and Grilles	23 37 13 – 1 Thru 5
23 41 00	Particulate Air Filtration	23 41 00 – 1 Thru 13
23 72 00	Air-To-Air Energy Recovery Equipment	23 72 00 – 1 Thru 7
23 73 13	Modular Indoor Central-Station Air-Handling Units	23 73 13 – 1 Thru 18
23 81 23	Computer-Room Air-Conditioners	23 81 23 – 1 Thru 8
23 82 36	Finned-Tube Radiation Heaters	23 82 36 – 1 Thru 5
23 82 39.13	Cabinet Unit Heaters	23 82 36.13 – 1 Thru 6
23 82 39.16	Propeller Unit Heaters	23.82.36.15 – 1 Thru 4
23 83 18	Radiant-Heating Hydronic Panels	23 83 18 – 1 Thru 5

DIVISION 26 - ELECTRICAL

26 05 03	General Requirements for Electrical Systems	26 05 03 – 1 Thru 20
26 05 05	Basic Electrical Materials and Methods	26 05 05 – 1 Thru 14
26 05 11	Conductors and Cables for Electrical Systems	26 05 11 – 1 Thru 12
26 05 26	Grounding and Bonding for Electrical Systems	26 05 26 – 1 Thru 10
26 05 29	Hangers and Supports for Electrical Systems	26 05 29 – 1 Thru 14
26 05 33	Raceways and Boxes for Electrical Systems	26 05 33 – 1 Thru 14
26 05 35	Electric Snow Melt System	26 05 35 – 1 Thru 7
26 05 39	Underfloor Raceways for Electrical Systems	26 05 39 – 1 Thru 8
26 05 53	Identification for Electrical Systems	26 05 53 – 1 Thru 14
26 05 73	Overcurrent Protective Device Coordination Study	26 05 73 – 1 Thru 7
26 08 00	Commissioning for Electrical	26 08 00 – 1 Thru 5
26 08 13	Testing of Electrical Systems	26 08 13 – 1 Thru 5
26 09 23	Lighting Control Devices	26 09 23 – 1 Thru 9
26 09 43	Network Lighting Controls	26 09 43 – 1 Thru 8
26 22 00	Low-Voltage Transformers	26 22 00 – 1 Thru 10
26 23 00	Low Voltage Switchgear	26 23 00 – 1 Thru 17
26 24 16	Panelboards	26 24 16 – 1 Thru 13
26 27 26	Wiring Devices	26 27 26 – 1 Thru 10
26 28 13	Fuses	26 28 13 – 1 Thru 5
26 28 16	Enclosed Switches and Circuit Breakers	26 28 16 – 1 Thru 11
26 33 53	Static Uninterruptible Power Supply	26 33 53 – 1 Thru 22
26 41 13	Lightning Protection for Structures	26 41 13 – 1 Thru 6
26 51 10	Interior Lighting Fixtures, Lamps, and Ballasts	26 51 10 – 1 Thru 16
26 56 00	Exterior Lighting	26 56 00 – 1 Thru 14

DIVISION 27 – COMMUNICATIONS

27 05 00	Common Work Results for Communications Systems	27 05 00 – 1 Thru 8
27 05 26	Grounding and Bonding for Communications Systems	27 05 26 – 1 Thru 17
27 05 28	Pathways for Communications Systems	27 05 28 – 1 Thru 8
27 05 53	Identification for Communications Systems	27 05 53 – 1 Thru 7
27 11 00	Communications Equipment Room Fittings	27 11 00 – 1 Thru 6
27 13 23	Communications Optical Fiber Backbone Cabling	27 13 23 – 1 Thru 25
27 15 00	Communications Horizontal Cabling	27 15 00 – 1 Thru 10

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

28 05 00	Common Work Results for Electronic Safety and Security	28 05 00 – 1 Thru 5
28 05 13	Conductors and Cables for Electronic Safety and Security	28 05 13 – 1 Thru 9
28 13 00	Access Control System	28 13 00 – 1 Thru 26
28 23 10	Digital Video Surveillance System and Components	28 23 10 – 1 Thru 22
<u>28 26 09</u>	<u>Rescue Assistance Systems</u>	<u>28 26 09 – 1 Thru 6</u>
28 31 00	Fire Detection and Alarm	28 31 00 – 1 Thru 22

DIVISION 31 – EARTHWORK

31 23 19	Dewatering	31 23 19 – 1 Thru 5
31 23 20	Control of Water	31 23 20 – 1 Thru 5
31 23 23.33	Controlled Low Strength Material (CLSM)	31 23 23.33 – 1 Thru 3
31 23 33	Trench Backfill	31 23 33 – 1 Thru 5
31 23 50	Earthwork	31 23 50 – 1 Thru 7
31 25 00	Temporary Air and Water Pollution, Soil Erosion, and Sediment Control	31 25 00 – 1 Thru 15
31 41 00	Shoring	31 41 00 – 1 Thru 4
31 63 26	Drilled Caissons	31 63 26 – 1 Thru 9
31 63 33	Drilled Micropiles	31 63 33 – 1 Thru 6

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 01 01	Pavement Removal	32 01 01 – 1 Thru 3
32 01 02	Pavement Repair	32 01 02 – 1 Thru 3
32 05 19	Geotextiles	32 05 19 – 1 Thru 5
32 11 23	Aggregate Base Course	32 11 23 – 1 Thru 2
32 13 13	Concrete Paving	32 13 13 – 1 Thru 6
32 17 23	Pavement Marking	32 17 23 – 1 Thru 2
32 91 00	Plant Preparation	32 91 00 – 1 Thru 5
32 91 09	Top Soil	32 91 09 – 1 Thru 4
32 92 19	Seeding and Hydro-Mulching	32 92 19 – 1 Thru 4

DIVISION 33 – UTILITIES

33 11 00	Water Distribution	33 11 00 – 1 Thru 21
33 12 00	Meter Vaults and Valve Basins	33 12 00 – 1 Thru 9
33 41 00	Storm Sewer	33 41 00 – 1 Thru 6
33 49 00	Manholes and Catch Basins	33 49 00 – 1 Thru 6

END OF TABLE OF CONTENTS

METAL COMPOSITE MATERIAL WALL PANELS

SECTION 07 42 13.23

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes:
 - 1. Metal composite material wall panels.
 - 2. Metal Composite material wall panels to be glazed into curtainwall system.
 - 3. All support structure components.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal composite material panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment assembly, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of the flashing, trim and anchorage, at a scale of not less than 1-1/2 inches per 12 inches.
- C. Samples for Initial Selection: For each type of metal composite material panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Metal Composite Material Panels: 12 inches long by actual panel width. Include fasteners, closures, and other metal composite material panel accessories.

1.04 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Fabricator and Installer.
- B. Product Test Reports: For each product, tests performed by a qualified testing agency.
- C. Sample Warranties: For special warranties.

1.05 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal composite material panels to include in maintenance manuals.

1.06 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 1. Build mockup of typical metal composite material panel assembly 100 square feet, including corner, supports, attachments, and accessories.
 - a. Include mockup of metal composite material panel installation in curtainwall mockup.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Commissioner specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal composite material panels, and other manufactured items so as not to be damaged or deformed. Package metal composite material panels for protection during transportation and handling.

- B. Unload, store, and erect metal composite material panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal composite material panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal composite material panels to ensure dryness, with positive slope for drainage of water. Do not store metal composite material panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal composite material panels during installation.

1.08 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal composite material panels to be performed according to manufacturers' written instructions and warranty requirements.

1.09 COORDINATION

- A. Coordinate metal composite material panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

- A. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal composite material panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal composite material panel systems including sub framing support structure capable of withstanding the effects of the following loads, based on testing according to ASTM E 330:
 - 1. Wind Loads: As indicated on Drawings.
- B. Metal composite material panels glazed into the curtain wall system shall meet the performance requirements for air and water tightness as indicated in Section 08 44 13 "Glazed Aluminum Curtain Walls"
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- D. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- E. Fire Propagation Characteristics: Metal composite material wall panel system passes NFPA 285 testing.

2.02 METAL COMPOSITE MATERIAL WALL PANEL

- A. Metal Composite Material Wall Panel Systems: Provide factory-formed and -assembled, metal composite material wall panels fabricated from two metal facings that are bonded to a solid, extruded thermoplastic core; formed into profile for installation method indicated. Include attachment assembly components, panel stiffeners, and accessories required for weathertight system.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- a. Alcoa Architectural Products (USA).
- b. Alcotex Inc.
- c. ALPOLIC Materials; Mitsubishi Plastics Composites America.
- d. ALUCOBOND; 3A Composites USA, Inc.
- e. Alucoil North America.
- f. CENTRIA Architectural Systems.
- g. Citadel Architectural Products, Inc.
- h. Protean Construction Products, Inc.

2. Fabricators:

- a. Metal Specialty Systems Inc.
- b. Chris Challenger (cchallenger@live.com)
- c. G&L Associates
- d. Jeff Toth (jbt@gandlassociates.com)
- e. East Coast Metal Systems
- f. Bob Nixon (mixon@ecmsinc.net)
- g. Miller Clapperton
- h. Zeke Miller (Zeke.miller@millerclapperton.com)
- i. CEI Composite Materials, LLC.
- j. Kendall Jones (kendall.jones@ceicomposites.com)
- k. John W. McDougall Company, Inc.
- l. Larry Farris (lfarris@jwmcd.com)
- m. Engineered Wall Systems
(info@ewspanels.com)
- n. Architectural Metals North America
Jim Schiltz (jschiltz@neo.rr.com)
- o. Metal Erector, Inc.
Jay Derby (JDerby@metalerectorsinc.com)
- p. Fabral
Aaron Christine (ACChristine@fabral.com)

B. Aluminum-Faced Composite Wall Panels: Formed with 0.020-inch-thick, coil-coated aluminum sheet facings.

1. Panel Thickness:

- a. Wall Panels: 4 mm.
- b. Curtain Wall Panels: 6mm.

2. Core: Fire retardant.

3. Exterior Finish: FEVE fluoropolymer.

- a. Color: As selected by Commissioner from manufacturer's full range.

C. Attachment Assembly Components: Formed from extruded aluminum.

D. Attachment Assembly: Rainscreen principle system.

2.03 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet ASTM A 653/A 653M, G90 coating designation or ASTM A 792/A 792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal composite material panel system.
- B. Panel Accessories: Provide components required for a complete panel system including trim, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal composite material panels unless otherwise indicated.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal composite material panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal composite material panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal composite material panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
- E. Panel Sealants: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal composite material panels and remain weathertight; and as recommended in writing by metal composite material panel manufacturer.

2.04 FABRICATION

- A. General: Fabricate and finish metal composite material panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
4. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.05 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Aluminum Panels and Accessories:
 1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal composite material panel supports, and other conditions affecting performance of the Work.

1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal composite material wall panel manufacturer.
2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal composite material wall panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and assemblies penetrating metal composite material panels to verify actual locations of penetrations relative to seam locations of metal composite material panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal composite material panel manufacturer's written recommendations.

3.03 METAL COMPOSITE MATERIAL PANEL INSTALLATION

- A. General: Install metal composite material panels according to manufacturer's written instructions in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to supports unless otherwise indicated. Anchor metal composite material panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal composite material panels.
 2. Flash and seal metal composite material panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal composite material panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal composite material panel work proceeds.
 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

7. Align bottoms of metal composite material panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Aluminum Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
 2. Copper Panels: Use copper, stainless-steel or hardware-bronze fasteners.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal composite material panel manufacturer.
- D. Attachment Assembly, General: Install attachment assembly required to support metal composite material wall panels and to provide a complete weathertight wall system, including subgirts, perimeter extrusions, tracks, drainage channels, panel clips, and anchor channels.
1. Include attachment to supports, panel-to-panel joinery, panel-to-dissimilar-material joinery, and panel-system joint seals.
- E. Subgirt-and-Spline Installation: Install support assembly at locations, spacings, and with fasteners recommended by manufacturer. Use manufacturer's standard subgirts and splines that provide support and complete secondary drainage assembly, draining to the exterior at horizontal joints.
- F. Rainscreen-Principle Installation: Install using manufacturer's standard assembly with vertical channel that provides support and secondary drainage assembly, draining at base of wall. Notch vertical channel to receive support pins. Install vertical channels supported by channel brackets or adjuster angles and at locations, spacings, and with fasteners recommended by manufacturer. Attach metal composite material wall panels by inserting horizontal support pins into notches in vertical channels and into flanges of panels. Leave horizontal and vertical joints with open reveal.
1. Install wall panels to allow individual panels to be installed and removed without disturbing adjacent panels.
 2. Do not apply sealants to joints unless otherwise indicated.
- G. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal composite material panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal composite material panel manufacturer; or, if not indicated, provide types recommended in writing by metal composite material panel manufacturer.
- H. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
1. Install exposed flashing and trim that is without buckling and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

3.04 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align metal composite material wall panel units within installed tolerance of 1/4 inch in 20 feet, non-accumulative, on level, plumb, and location lines as indicated, and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.05 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal composite material panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal composite material panel installation, clean finished surfaces as recommended by metal composite material panel manufacturer. Maintain in a clean condition during construction.
- B. After metal composite material panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal composite material panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 13.23

SOFFIT PANELS

SECTION 07 42 93

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes metal soffit panels and supporting framing.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
 - 1. Metal Panels: 12 inches long by actual panel width. Include fasteners, closures, and other metal panel accessories.
- D. Delegated-Design Submittal: For soffit panel system including all metal framing support components.
 - 1. Submittal shall include shop drawings and structural calculations and be signed and sealed by structural engineer licensed in the state of Illinois.

1.04 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, tests performed by a qualified testing agency.
- B. Sample Warranties: For special warranties.

1.05 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

1.06 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Build mockup of typical soffit as shown on Drawings; approximately four panels wide, including attachments and accessories.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Commissioner specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.08 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.09 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

- A. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified structural engineer licensed in the State of Illinois, to design steel support framing and attachment for soffit panel system including all components.
- B. Structural Performance: Provide metal panel systems and sub-framing capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:
 - 1. Wind Loads Including Negative Pressures: As indicated on Drawings.
 - 2. Deflection Limits: For wind loads, no greater than 1/240 of the span.

- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

2.02 METAL SOFFIT PANELS

- A. General: Provide metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners in side laps. Include accessories required for weathertight installation.

- B. Flush-Profile Metal Soffit Panels: Solid panels formed with vertical panel edges and a flat pan between panel edges; with flush joint between panels.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- a. AEP Span; A BlueScope Steel Company.
- b. CENTRIA Architectural Systems.
- c. Firestone Building Products.
- d. MBCI; a division of NCI Group, Inc.
- e. Petersen Aluminum Corporation.
- e-f. Fabral

2. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

- a. Nominal Thickness: 0.034 inch.
- b. Exterior Finish: Two-coat fluoropolymer.
- c. Color: As selected by Commissioner from manufacturer's full range.

3. Panel Coverage: 12 inches.
4. Panel Reveal: 1 inch.
5. Panel Height: 1 inch.

2.03 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 coating designation or ASTM A 792/A 792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 - 1. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch-thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
- E. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

2.04 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's

"Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
3. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal soffit panel manufacturer for application but not less than thickness of metal being secured.

2.05 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
 1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
 3. Color: As selected by Commissioner from Manufacturer's full color range.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 - 1. Examine framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal panel manufacturer.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.
 - 1. Soffit Framing: Wire tie furring channels to supports, as required to comply with requirements for assemblies indicated.

3.03 METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Shim or otherwise plumb substrates receiving metal panels.
 - 2. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 - 3. Install screw fasteners in predrilled holes.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Install flashing and trim as metal panel work proceeds.
 - 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
1. Apply panels and associated items true to line for neat and weathertight enclosure.
 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.
 3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
 4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
- E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal panel system including trim, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.
- F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
1. Install exposed flashing and trim that is without buckling, and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to achieve waterproof performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be waterproof, form expansion joints of intermeshing hooked flanges, not less than 1-inch-deep, filled with mastic sealant (concealed within joints).

3.04 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 93

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:

1. Manufactured reglets with counterflashing.
2. Formed low-slope roof sheet metal fabrications.
3. Formed wall sheet metal fabrications.

- B. Related Requirements:

1. Section 06 10 53 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 07 54 19 "Polyvinyl-Chloride (PVC) Roofing" for materials and installation of sheet metal flashing and trim integral with roofing.
3. Section 07 72 00 "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.
4. Section 07 95 13.13 "Interior Expansion Joint Cover Assemblies" for manufactured expansion-joint cover assemblies for interior floors, walls, and ceilings.
5. Section 07 95 13.16 "Exterior Expansion Joint Cover Assemblies" for manufactured expansion-joint cover assemblies for exterior building walls, soffits, and parapets.

1.03 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.04 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review special conditions that affect sheet metal flashing and trim.
3. Review sheet metal flashing observation and repair procedures after flashing installation.

1.05 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Include details of termination points and assemblies.
7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
8. Include details of special conditions.
9. Include details of connections to adjoining work.
10. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches.

C. Samples for Verification: For each type of exposed finish.

1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.

3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.

1.06 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Sample Warranty: For special warranty.

1.07 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.08 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
 - 1. For copings and roof edge flashings that are FM Approvals approved, shop shall be listed as able to fabricate required details as tested and approved.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.10 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
- b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
- c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. FM Approvals Listing: Manufacture and install copings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-90. Identify materials with name of fabricator and design approved by FM Approvals.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.02 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
 - 1. Finish: 2D (dull, cold rolled).

- C. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation; prepainted by coil-coating process to comply with ASTM A 755/A 755M.

1. Surface: Smooth, flat.
2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
3. Color: As selected by Commissioner from manufacturer's full range.
4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.

2.03 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Carlisle Residential; a division of Carlisle Construction Materials.
 - b. Henry Company.
 - c. Owens Corning.
 - d. Protecto Wrap Company.
 - e. SDP Advanced Polymer Products Inc.
2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.

2.04 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal

flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - 2. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
 - 3. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- F. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

2.05 MANUFACTURED SHEET METAL FLASHING AND TRIM

- A. Custom Through Wall Reglets: Units of type, material, and profile required, formed to provide secure interlocking of through wall reglet and counterflashing pieces, with factory-mitered and -welded corners and junctions and with interlocking counterflashing on exterior face, of same metal as reglet.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fry Reglet Corporation.
 - b. Heckmann Building Products, Inc.
 - c. Hickman Company, W. P.

- d. Hohmann & Barnard, Inc.
 - e. Keystone Flashing Company, Inc.
 - f. National Sheet Metal Systems, Inc.
 - g. Sandell Manufacturing Co., Inc.
 - ~~g-h.~~ Fabral
- 2. Material: Stainless steel, 0.019 inch thick.
 - 3. Custom Through Wall Type: Provide with upturned fastening flange and extension leg of length to match thickness of applied finish materials.
 - 4. Accessories:
 - a. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.
 - 5. Finish: Mill.
- B. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
- 1. Stainless Steel: 0.019 inch thick.
 - 2. Finish: Mill.

2.06 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
- 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 2. Obtain field measurements for accurate fit before shop fabrication.
 - 3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 - 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
 - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.
- G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.
- H. Do not use graphite pencils to mark metal surfaces.

2.07 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 - 1. Coping Profile: Fig 3-4A according to SMACNA's "Architectural Sheet Metal Manual."
 - 2. Joint Style: Butted with expansion space and 6-inch-wide, exposed cover plate.
 - 3. Fabricate from the Following Materials:
 - a. Galvanized Steel: 0.040 inch thick.

2.08 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in Frame Construction: Fabricate head, sill, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch-high, end dams. Fabricate from the following materials:

1. Stainless Steel: 0.016 inch thick.

2.09 MISCELLANEOUS SHEET METAL FABRICATIONS

- A. Equipment Support Flashing: Fabricate from the following materials:

1. Stainless Steel: 0.019 inch thick.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
 1. Verify compliance with requirements for installation tolerances of substrates.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

3.03 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of sealant.
 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 3. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 4. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
1. Coat concealed side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
 2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
 2. Prepare joints and apply sealants to comply with requirements in Section 07 92 00 "Joint Sealants."

3.04 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Copings: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.

3.05 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Custom through Wall Reglets and Counterflashing: Extend flashing across airspace behind finished wall face, and up face of sheathing at least 2 inches. Apply weather resistive barrier flashing over face of vertical leg of reglet flashing once secured to backup wall surface, lapping at least 4 inches.
- C. Opening Flashings in Frame Construction: Install continuous head, sill, and similar flashings to extend 4 inches beyond wall openings.

3.06 MISCELLANEOUS FLASHING INSTALLATION

- A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.07 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.08 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean off excess sealants.

- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

PENETRATION FIRESTOPPING

SECTION 07 84 13

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:
 - 1. Penetrations in fire-resistance-rated walls.
 - 2. Penetrations in horizontal assemblies.
- B. Related Requirements:
 - 1. Section 07 84 43 "Joint Firestopping" for joints in or between fire-resistance-rated construction, at exterior curtain-wall/floor intersections, and in smoke barriers.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.

1.04 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each penetration firestopping system, for tests performed by a qualified testing agency.

1.05 CLOSEOUT SUBMITTALS

- A. **Installer Certificates:** From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.06 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide firestopping System Design Listing by a testing agency in accordance with the appropriate ASTM Standard(s) per article 1.04. A nationally recognized testing agency may be UL, ULC, FM Approvals, Intertek Testing Services, or another agency performing testing and follow-up inspection services for firestop materials that is acceptable to the authority having jurisdiction.
- B. Contractor Qualifications: Acceptable installer firms shall be:
1. FM Approved in accordance with FM Standard 4991 – Approval of Firestop Contractors, or.
 2. UL Qualified Firestop Contractor, or;
 3. Firestop Contractors International Association Contractor Member in good standing.
 4. Licensed by the State or local authority, where applicable.
 5. Shown to have successfully completed not less than 5 comparable scale projects.
- C. Special Inspection Agency Qualifications: Special Inspection agencies shall be:
1. IAS AC 291 Accredited for Firestop Systems.
- D. Special Inspectors Credentials: Special inspectors shall pass at 80%, either:
1. FM Firestop Exam, Or
 2. UL/ULC Firestop Exam
- E. Single Source Responsibility: Obtain firestop systems for each kind of penetration and construction condition indicated from a single primary firestop systems manufacturer, to the greatest extent possible.
1. Materials of different manufacture than allowed by the tested and listed system shall not be intermixed in the same firestop system or opening.
 2. Tested and listed, classified firestop systems are to be used. If another manufacturer has a tested and listed system, then that system shall be used prior to an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFRR).

F. Field Constructed Mockup: Prior to installing firestopping, erect mockups for each different firestop system indicated to verify selections made and to demonstrate qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final installations.

1. Locate mockups on site in locations indicated or, if not indicated, as directed by Architect. Include mockup for each type of system.
2. Notify Architect in advance of the dates and times when mockups will be installed.
3. Obtain Architect and AHJ's acceptance of mockups before start of Work.
4. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging completed unit of Work. Accepted mockups in an undisturbed condition at time of Substantial Completion may become part of completed unit of Work.

4.061.07 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping system when ambient or substrate temperatures are outside limits permitted by penetration firestopping system manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping materials per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

4.071.08 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping systems.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:
 1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.

2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."

2.02 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. 3M Fire Protection Products.
 - b. A/D Fire Protection Systems Inc.
 - c. Hilti, Inc.
 - d. Tremco, Inc.
- B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
 1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
 1. F-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated.
 2. T-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
- D. Exposed Penetration Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, per ASTM E 84.

- E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.
1. Permanent forming/damming/backing materials.
 2. Substrate primers.
 3. Collars.
 4. Steel sleeves.

2.03 FILL MATERIALS

- A. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer sleeve lined with an intumescent strip, a flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.
- B. Latex Sealants: Single-component latex formulations that do not re-emulsify after cure during exposure to moisture.
- C. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- D. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced intumescent elastomeric sheet bonded to galvanized-steel sheet.
- E. Intumescent Putties: Nonhardening, water-resistant, intumescent putties containing no solvents or inorganic fibers.
- F. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.
- G. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- H. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.
- I. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- J. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants.

2.04 MIXING

- A. Penetration Firestopping Materials: For those products requiring mixing before application, comply with penetration firestopping system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning: Before installing penetration firestopping systems, clean out openings immediately to comply with manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping materials.
 - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping materials. Remove loose particles remaining from cleaning operation.
 - 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.03 INSTALLATION

- A. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.

- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.
 - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- C. Install fill materials by proven techniques to produce the following results:
 - 1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
 - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 - 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.04 IDENTIFICATION

- A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," using lettering not less than 3 inches high and with minimum 0.375-inch strokes.
 - 1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 feet from end of wall and at intervals not exceeding 30 feet.

3.05 FIELD QUALITY CONTROL

A. Provide either of the following:

- 1. CERTIFICATE OF CONFORMANCE – Firestopping shall be installed by an FM 4991 Approved Firestop Contractor and/or UL Qualified Firestop Contractor. The installer shall issue to AHJ or Owner a Certificate of Conformance confirming that the work has been carried out in accordance with specifications.

AND/OR

- 2. INSPECTION – Independent inspection agency employed and paid by owner, will examine penetration firestopping in accordance with ASTM E – 2174, "Standard Practice for On-Site Inspection of Installed Fire Stops and ASTM E-2393, "Standard Practice for On-Site Inspection of Installed Fire Stop Joint Systems.

3.053.06 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping material and install new materials to produce systems complying with specified requirements.

END OF SECTION 07 84 13

JOINT FIRESTOPPING

SECTION 07 84 43

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:

- 1. Joints in or between fire-resistance-rated constructions.
 - 2. Joints at exterior curtain-wall/floor intersections.

- B. Related Requirements:

- 1. Section 07 84 13 "Penetration Firestopping" for penetrations in fire-resistance-rated walls, horizontal assemblies, and smoke barriers.
 - 2. Section 07 95 13.13 "Interior Expansion Joint Cover Assemblies" for fire-resistive manufactured expansion-joint cover assemblies for interior floors, walls, and ceilings.
 - 3. Section 07 95 13.16 "Exterior Expansion Joint Cover Assemblies" for fire-resistive manufactured expansion-joint cover assemblies for exterior building walls, soffits, and parapets.
 - 4. Section 09 22 16 "Non-Structural Metal Framing" for firestop tracks for metal-framed partition heads.

1.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each joint firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing agency.

1.04 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

- B. Product Test Reports: For each joint firestopping system, for tests performed by a qualified testing agency.

1.05 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that joint firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.06 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide firestopping System Design Listing by a testing agency in accordance with the appropriate ASTM Standard(s) per article 1.04. A nationally recognized testing agency may be UL, ULC, FM Approvals, Intertek Testing Services, or another agency performing testing and follow-up inspection services for firestop materials that is acceptable to the authority having jurisdiction.

- B. Contractor Qualifications: Acceptable installer firms shall be:

1. FM Approved in accordance with FM Standard 4991 – Approval of Firestop Contractors, or.
2. UL Qualified Firestop Contractor, or;
3. Firestop Contractors International Association Contractor Member in good standing.
4. Licensed by the State or local authority, where applicable.
5. Shown to have successfully completed not less than 5 comparable scale projects.

- C. Special Inspection Agency Qualifications: Special Inspection agencies shall be:

1. IAS AC 291 Accredited for Firestop Systems.

- D. Special Inspectors Credentials: Special inspectors shall pass at 80%, either:

1. FM Firestop Exam, Or
2. UL/ULC Firestop Exam

- E. Single Source Responsibility: Obtain firestop systems for each kind of penetration and construction condition indicated from a single primary firestop systems manufacturer, to the greatest extent possible.

1. Materials of different manufacture than allowed by the tested and listed system shall not be intermixed in the same firestop system or opening.
2. Tested and listed, classified firestop systems are to be used. If another manufacturer has a tested and listed system, then that system shall be

used prior to an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFRR).

F. Field Constructed Mockup: Prior to installing firestopping, erect mockups for each different firestop system indicated to verify selections made and to demonstrate qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final installations.

1. Locate mockups on site in locations indicated or, if not indicated, as directed by Architect. Include mockup for each type of system.
2. Notify Architect in advance of the dates and times when mockups will be installed.
3. Obtain Architect and AHJ's acceptance of mockups before start of Work.
4. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging completed unit of Work. Accepted mockups in an undisturbed condition at time of Substantial Completion may become part of completed unit of Work.

1.061.07 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install joint firestopping systems when ambient or substrate temperatures are outside limits permitted by joint firestopping system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Install and cure joint firestopping systems per manufacturer's written instructions using natural means of ventilation or, where this is inadequate, forced-air circulation.

1.071.08 COORDINATION

- A. Coordinate construction of joints to ensure that joint firestopping systems can be installed according to specified firestopping system design.
- B. Coordinate sizing of joints to accommodate joint firestopping systems.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:
 1. Perform joint firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.

2. Test per testing standards referenced in "Joint Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Joint firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."

2.02 JOINT FIRESTOPPING SYSTEMS

- A. Joint Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which joint firestopping systems are installed. Joint firestopping systems shall accommodate building movements without impairing their ability to resist the passage of fire and hot gases.
- B. Joints in or between Fire-Resistance-Rated Construction: Provide joint firestopping systems with ratings determined per ASTM E 1966 or UL 2079.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. 3M Fire Protection Products.
 - b. A/D Fire Protection Systems Inc.
 - c. Blazeframe Industries.
 - d. Hilti, Inc.
 - e. Nelson Firestop; a brand of Emerson Industrial Automation.
 - f. Roxul Inc.
 - g. Thermafiber, Inc.; an Owens Corning company.
 - h. Tremco, Inc.
 2. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of the wall, floor, or roof in or between which it is installed.
- C. Joints at Exterior Curtain-Wall/Floor Intersections: Provide joint firestopping systems with rating determined per ASTM E 2307.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. 3M Fire Protection Products.
 - b. Hilti, Inc.
 - c. Industrial Insulation Group, LLC (IIG-LLC).
 - d. Nelson Firestop; a brand of Emerson Industrial Automation.
 - e. Roxul Inc.

- f. Thermafiber, Inc.; an Owens Corning company.
 - g. Tremco, Inc.
- 2. F-Rating: Equal to or exceeding the fire-resistance rating of the floor assembly.
- D. Exposed Joint Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Accessories: Provide components of fire-resistive joint systems, including primers and forming materials, that are needed to install elastomeric fill materials and to maintain ratings required. Use only components specified by joint firestopping system manufacturer and approved by the qualified testing agency for conditions indicated.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for joint configurations, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning: Before installing fire-resistive joint systems, clean joints immediately to comply with fire-resistive joint system manufacturer's written instructions and the following requirements:
 - 1. Remove from surfaces of joint substrates foreign materials that could interfere with adhesion of elastomeric fill materials or compromise fire-resistive rating.
 - 2. Clean joint substrates to produce clean, sound surfaces capable of developing optimum bond with elastomeric fill materials. Remove loose particles remaining from cleaning operation.
 - 3. Remove laitance and form-release agents from concrete.
- B. Prime substrates where recommended in writing by joint firestopping system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.03 INSTALLATION

- A. General: Install fire-resistive joint systems to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming materials and other accessories of types required to support elastomeric fill materials during their application and in position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
 - 1. After installing elastomeric fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of fire-resistive joint system.
- C. Install elastomeric fill materials for fire-resistive joint systems by proven techniques to produce the following results:
 - 1. Elastomeric fill voids and cavities formed by joints and forming materials as required to achieve fire-resistance ratings indicated.
 - 2. Apply elastomeric fill materials so they contact and adhere to substrates formed by joints.
 - 3. For elastomeric fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.04 IDENTIFICATION

- A. Joint Identification: Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove or joint firestopping system. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
 - 1. The words "Warning - Joint Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 - 2. Contractor's name, address, and phone number.
 - 3. Designation of applicable testing agency.
 - 4. Date of installation.
 - 5. Manufacturer's name.
 - 6. Installer's name.

3.05 FIELD QUALITY CONTROL

A. Provide either of the following:

1. CERTIFICATE OF CONFORMANCE – Firestopping shall be installed by an FM 4991 Approved Firestop Contractor and/or UL Qualified Firestop Contractor. The installer shall issue to AHJ or Owner a Certificate of Conformance confirming that the work has been carried out in accordance with specifications.

AND/OR

2. INSPECTION – Independent inspection agency employed and paid by owner, will examine penetration firestopping in accordance with ASTM E – 2174, “Standard Practice for On-Site Inspection of Installed Fire Stops and ASTM E-2393, “Standard Practice for On-Site Inspection of Installed Fire Stop Joint Systems.

3.053.06 CLEANING AND PROTECTION

- A. Clean off excess elastomeric fill materials adjacent to joints as the Work progresses by methods and with cleaning materials that are approved in writing by joint firestopping system manufacturers and that do not damage materials in which joints occur.
- B. Provide final protection and maintain conditions during and after installation that ensure joint firestopping systems are without damage or deterioration at time of Substantial Completion. If damage or deterioration occurs despite such protection, cut out and remove damaged or deteriorated fire-resistive joint systems immediately and install new materials to produce fire-resistive joint systems complying with specified requirements.

3.063.07 JOINT FIRESTOPPING SYSTEM SCHEDULE

- A. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHBN or Category XHDG.

END OF SECTION 07 84 43

HOLLOW METAL DOORS AND FRAMES

SECTION 08 11 13

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes hollow-metal work.
- B. Related Requirements:
 - 1. Section 08 71 00 "Door Hardware" for door hardware for hollow-metal doors.

1.03 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.04 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.05 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door type.

2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 4. Locations of reinforcement and preparations for hardware.
 5. Details of each different wall opening condition.
 6. Details of anchorages, joints, field splices, and connections.
 7. Details of accessories.
 8. Details of moldings, removable stops, and glazing.
 9. Details of conduit and preparations for power, signal, and control systems.
- C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.06 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Ceco Door; ASSA ABLOY.
 2. Curries Company; ASSA ABLOY.
 3. LaForce, Inc.
 - 3-4. Mesker

4-5. Republic Doors and Frames.

- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.02 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
 - 1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

2.03 INTERIOR DOORS AND FRAMES

- A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3..
 - 1. Physical Performance: Level A according to SDI A250.4.
 - 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches.
 - c. Face: Uncoated, cold-rolled steel sheet, minimum thickness of 0.053 inch.
 - d. Edge Construction: Model 2, Seamless.
 - e. Core: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.
 - 3. Frames:
 - a. Materials: Uncoated, steel sheet, minimum thickness of 0.053 inch.
 - b. Construction: Full profile welded.
 - 4. Exposed Finish: Prime.

2.04 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3.
 - 1. Physical Performance: Level A according to SDI A250.4.
 - 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A40 coating.
 - d. Edge Construction: Model 2, Seamless.
 - e. Core: Polyurethane.
 - 1) Thermal-Rated Doors: Provide doors fabricated with thermal-resistance value (R-value) of not less than 2.1 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.
 - 3. Frames:
 - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A40 coating.
 - b. Construction: Full profile welded.
 - 4. Exposed Finish: Prime.

2.05 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
 - 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
 - 3. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
 - 4. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
 - 1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
 - 2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

2.06 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- C. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
- G. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.07 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
2. Fire Door Cores: As required to provide fire-protection ratings indicated.
3. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
4. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.
5. Bottom Edge Closures: Close bottom edges of doors with end closures or channels of same material as face sheets.
6. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
7. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 16 inches from top and bottom of frame. Space anchors not more than 32 inches o.c., to match coursing, and as follows:
 - 1) Two anchors per jamb up to 60 inches high.
 - 2) Three anchors per jamb from 60 to 90 inches high.
 - 3) Four anchors per jamb from 90 to 120 inches high.

- 4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.
 - b. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high.
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
 - c. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.08 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.09 ACCESSORIES

- A. Louvers: Provide louvers for interior doors, where indicated, which comply with SDI 111C, with blades or baffles formed of 0.020-inch-thick, cold-rolled steel sheet set into 0.032-inch-thick steel frame.
 - 1. Sightproof Louver: Stationary louvers constructed with inverted-V or inverted-Y blades.
 - 2. Lightproof Louver: Stationary louvers constructed with baffles to prevent light from passing from one side to the other.
 - 3. Fire-Rated Automatic Louvers: Louvers constructed with movable blades closed by actuating fusible link, and listed and labeled for use in fire-rated door assemblies of type and fire-resistance rating indicated by same qualified testing and inspecting agency that established fire-resistance rating of door assembly.
- B. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
- C. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.03 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install door silencers in frames before grouting.
 - d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - f. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 - 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
 - 4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 - 5. Concrete Walls: Solidly fill space between frames and concrete with mineral-fiber insulation.
 - 6. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.

- d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Non-Fire-Rated Steel Doors:
 - a. Between Door and Frame Jambs and Head: 1/8 inch plus or minus 1/32 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch to 1/4 inch plus or minus 1/32 inch.
 - c. At Bottom of Door: 3/4 inch plus or minus 1/32 inch.
 - d. Between Door Face and Stop: 1/16 inch to 1/8 inch plus or minus 1/32 inch.
 - 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

3.04 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13

DOOR HARDWARE

SECTION 08 71 00

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Part One "Instructions and Execution Documents, Part Two "General Conditions" and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
 - 3. Automatic operators.
- C. Related Requirements:
 - 1. Section 08 11 13 "Hollow Metal Doors and Frames".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. NFPA 70 - National Electrical Code.
 - 3. NFPA 80 - Fire Doors and Windows.
 - 4. NFPA 101 - Life Safety Code.
 - 5. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series
 - 2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.03 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
 - 1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate

between manufacturer-installed and field-installed wiring. Include the following:

- a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Keying Schedule: After a keying meeting with the Commissioner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Commissioner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- E. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.04 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with substantial experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: Engage qualified Installers with substantial experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with substantial experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing

facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Commissioner concerning both standard and electromechanical door hardware and keying.

- D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
- F. Keying Conference: Conduct keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
- G. Pre-Submittal Conference: Conduct coordination conference with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 - 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 - 3. Review sequence of operation narratives for each unique access controlled opening.
 - 4. Review and finalize construction schedule and verify availability of materials.
 - 5. Review the required inspecting, testing, commissioning, and demonstration procedures

- H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Commissioner via registered mail or overnight package service. Instructions for delivery to the Commissioner shall be established at the "Keying Conference".

1.06 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.07 WARRANTY

- A. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Commissioner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
 2. Faulty operation of the hardware.
 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 4. Electrical component defects and failures within the systems operation.
- B. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- C. Special Warranty Periods:
1. Ten years for mortise locks and latches.
 2. Five years for exit hardware.
 3. Twenty five years for manual surface door closer bodies.
 4. Two years for electromechanical door hardware.

1.08 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Commissioner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.01 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
- C. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

2.02 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches
 - b. Three Hinges: For doors with heights 61 to 90 inches
 - c. Four Hinges: For doors with heights 91 to 120 inches
 - d. For doors with heights more than 120 inches provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches
 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3 foot 0 inches: 4-1/2 inch standard or heavy weight as specified.
 - b. Sizes from 3 foot 1 inch to 4 foot 0 inch: 5 inch standard or heavy weight as specified.
 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
 - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
 5. Acceptable Manufacturers:
 - a. Allegion plc.
 - b. Bommer Industries, Inc.
 - c. Hager Companies.
 - d. McKinney Products.
- B. Pin and Barrel Continuous Hinges: ANSI/BHMA A156.26 Grade 1-600 certified pin and barrel continuous hinges with minimum 14 gauge Type 304 stainless steel hinge leaves, concealed teflon coated stainless pin, and twin self-lubricated nylon bearings at each knuckle separation. Factory trim hinges to suit door height and prepare for electrical cut-outs.
1. Acceptable Manufacturers:
 - a. Markar Products.

- b. McKinney Products.
- c. Pemko Manufacturing.

2.03 POWER TRANSFER DEVICES

- A. Electrified Quick Connect Continuous Geared Transfer Hinges: Provide electrified transfer continuous geared hinges with a 12" removable service panel cutout accessible without de-mounting door from the frame. Furnish with Molex type standardized plug connectors with sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

- 1. Acceptable Manufacturers:

- a. Allegion plc.
- b. Bommer Industries, Inc.
- c. McKinney Products
- d. Pemko Manufacturing

- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

2.04 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have substantial experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
- C. Cylinders: Original manufacturer cylinders complying with the following:
 - 1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
 - 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.

3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
 4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 5. Keyway: Match Facility Standard.
- D. Keying System: Each type of lock and cylinders to be factory keyed.
1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Commissioner.
 3. Existing System: Key locks to Commissioner's existing system.
- E. Key Quantity: Provide the following minimum number of keys:
1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
- F. Key Registration List (Bitting List):
1. Provide keying transcript list to Commissioner's representative in the proper format for importing into key control software.
 2. Provide transcript list in writing or electronic file as directed by the Commissioner.
- G. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.
1. Acceptable Manufacturers:
 - a. Lund Equipment.
 - b. MMF Industries.
 - c. Telkee.

2.05 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
1. Acceptable Manufacturers:

- a. Corbin Russwin Hardware – ML2000 Series.
- ~~b.~~ Dorma M9000 Series
- ~~b-c.~~ Sargent Manufacturing (SA) – 8200 Series.
- ~~c-d.~~ Schlage (SC) – L9000 Series.
- ~~d-e.~~ Yale Locks and Hardware (YA) – 8800FL Series.

2.06 ELECTROMECHANICAL LOCKING DEVICES

- A. Electromechanical Mortise Locksets, Grade 1 (Heavy Duty): Subject to same compliance standards and requirements as mechanical mortise locksets, electrified locksets to be of type and design as specified below.
 - 1. Electrified Lock Options: Where indicated in the Hardware Sets, provide electrified options including: outside door lock/unlock trim control, latchbolt and lock/unlock status monitoring, deadbolt monitoring, and request-to-exit signaling. Support end-of-line resistors contained within the lock case. Unless otherwise indicated, provide electrified locksets standard as fail secure.
 - 2. Energy Efficient Design: Provide lock bodies which have a holding current draw of 15mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.
 - 3. Acceptable Manufacturers:
 - a. Allegion plc.
 - b. Corbin Russwin Hardware - ML20900 Series.
 - c. Sargent Manufacturing - 8200 Series.

2.07 AUXILIARY LOCKS

- A. Mortise Deadlocks, Small Case: ANSI/BHMA A156.36, Grade 1, small case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. Steel or stainless steel bolts with a 1" throw and hardened steel roller pins. Deadlocks to be products of the same source manufacturer and keyway as other specified locksets.
 - 1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware - DL4100 Series.
 - b. Sargent Manufacturing - 4870 Series.
 - c. Yale Locks and Hardware - 350 Series.

2.08 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 - 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 - 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 - 4. Dustproof Strikes: BHMA A156.16.

2.09 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
 - 1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
 - 2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
 - 3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
 - 4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
 - 5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

- a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
6. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
 7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
 8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
 9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware - ED4000 / ED5000 Series.
 - b. Dorma 9000 Series
 - ~~b.c.~~ Sargent Manufacturing - 80 Series.
 - ~~c.d.~~ Von Duprin - 35A/98 XP Series.

2.10 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
 4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.

5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware – DC6000 Series.
 - b. Dorma 8900 Series
 - ~~b.c.~~ LCN Closers - 4040 Series.
 - ~~c.d.~~ Sargent Manufacturing - 351 Series.
 - ~~d.e.~~ Norton Door Controls - 7500 Series.

2.11 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
4. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
5. Acceptable Manufacturers:
 - a. Burns Manufacturing.

- b. Rockwood Manufacturing.
- c. Trimco.

2.12 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 - 1. Acceptable Manufacturers:
 - a. Burns Manufacturing.
 - b. Rockwood Manufacturing.
 - c. Trimco.
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 - 1. Acceptable Manufacturers:
 - a. Rixson Door Controls.
 - b. Rockwood Manufacturing.
 - c. Sargent Manufacturing.

2.13 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Acceptable Manufacturers:
 1. National Guard Products.
 2. Pemko Manufacturing.
 3. Reese Enterprises, Inc.

2.14 ELECTRONIC ACCESSORIES

- A. Power Supplies: Provide Nationally Recognized Testing Laboratory Listed 12VDC or 24VDC (field selectable) filtered and regulated power supplies. Include battery backup option with integral battery charging capability in addition to operating the DC load in event of line voltage failure. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
 1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware – 782.
 - b. Sargent Manufacturing – 3500 Series.
 - c. Securitron - BPS Series.

2.15 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.03 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of

surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 FIELD QUALITY CONTROL

- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.05 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.06 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Commissioner occupancy.

3.07 DEMONSTRATION

- A. Instruct Commissioner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.08 DOOR HARDWARE SETS

A. Manufacturer Abbreviations

MK - McKinney
MR - Markar
RO - Rockwood
RF - Rixson
SA - Sargent
AD - Adams Rite
NO - Norton
PE - Pemko
SU - Securitron

Hardware Schedule

Set: AC1.0

1 Continuous Hinge	MCK-12HD SER-12	CL	MK
1 Fail Secure Electric Lock	LX RX 8271-12V LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Concealed Overhead Stop	1-X36	630	RF
1 Door Closer	7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
3 Silencer	608		RO
1 ElectroLynx Harness	QC-C1500		MK
1 ElectroLynx Harness	QC-C1500P		MK
1 Card Reader	By security Contractor		
1 Power Supply	BPS-12/24-1		SU

Notes: Door normally closed and locked presenting valid credential to reader will release lever allowing entry. Upon egress lever has integral request to exit shunting any alarm. Lockset has integral latch bolt monitor to monitor if latch is engaged to strike when door closed.

Set: AC2.0
Doors: A-232a

5 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Hinge (heavy weight)	T4A3786 QC12 4-1/2" x 4-1/2"	US26D	MK
2 Flush Bolt	2805	US32D	RO
1 Fail Secure Electric Lock	LX RX 8271-12V LNB	US32D	SA
2 Cylinder Core	Match Owners Existing	32d	
1 Coordinator	2672	Black	RO
2 Concealed Overhead Stop	1-X36	630	RF
2 Door Closer	7500	689	NO
2 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1 Weather Stripping	Integral with Hollow Metal Frame		
2 Sweep	315CN		PE
1 Astragal	303AS		PE
1 ElectroLynx Harness	QC-C206P		MK
1 ElectroLynx Harness	QC-C1500P		MK
1 Card Reader	By security Contractor		
1 Power Supply	BPS-12/24-1		SU

Set: E1.0
Doors: A-216a, A-217a

1 Continuous Hinge	MCK-12HD	CL	MK
1 Lockset	By Owner	32d	
1 Door Closer	7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1 Wall Stop	400	US26D	RO
3 Silencer	608		RO

Notes: Door normally closed and by lockset provided by owner. Always free for egress.

Set: 1.00
Doors: ST-2-08a

3 Continuous Hinge	FM300 x HT required	630	MR
2 Exit Device	12 NB 19 43 MD8613 ETB	US32D	SA
1 Exit Device	12 19 43 8813 ETB	US32D	SA
3 Cylinder Core	Match Owners Existing	32d	
3 Concealed Overhead Stop	1-X36	630	RF
3 Door Closer	PRO PR7500	689	NO
3 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
2 Gasketing	S88BL		PE
1 Astragal	S772C 8'		PE

Set: 1.01

Doors: ST-2-04b, ST-2-05b, ST-2-06b, ST-2-07b

3	Continuous Hinge	FM300 x HT required	630	MR
2	Exit Device	12 NB 19 43 MD8613 ETB	US32D	SA
1	Exit Device	12 19 43 8813 ETB	US32D	SA
3	Cylinder Core	Match Owners Existing	32d	
3	Concealed Overhead Stop	1-X36	630	RF
3	Door Closer	PRO PR7500	689	NO
2	Threshold	278x292AFGPK		PE
3	Sweep	315CN		PE
2	Astragal	303AS		PE

Set: 2.01

Doors: A-204a

6	Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1	Flush Bolt	2805	US32D	RO
1	Storeroom Lock	76 8204 LNB	US32D	SA
1	Cylinder Core	Match Owners Existing	32d	
1	Coordinator	2672	Black	RO
2	Concealed Overhead Stop	1-X36	630	RF
2	Door Closer	7500	689	NO
2	Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1	Weather Stripping	Integral with Hollow Metal Frame		
2	Sweep	315CN		PE
2	Astragal	303AS		PE

Set: 2.02

1	Continuous Hinge	FM300 x HT required	630	MR
1	Storeroom Lock	8204 LNB	US32D	SA
1	Cylinder Core	Match Owners Existing	32d	
1	Door Closer	UNI7500	689	NO
1	Threshold	278x292AFGPK		PE
1	Weather Stripping	Integral with Hollow Metal Frame		
1	Sweep	315CN		PE

Set: 2.03

Doors: A-204b, A-303a

1 Continuous Hinge	FM300 x HT required	630	MR
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Concealed Overhead Stop	1-X36	630	RF
1 Door Closer	7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1 Threshold	278x292AFGPK		PE
1 Weather Stripping	Integral with Hollow Metal Frame		
1 Sweep	315CN		PE

Set: 2.04

Doors: A-229a

4 Pull	RM3301-60	US32D-316	RO
2 Glass door Hardware	By Glass Door Manufacturer	32d	

Set: 3.00

Doors: A-205a, A-205b, A-205c, A-205d, A-205e, A-205f, A-205g, A-205h, A-205i, A-205j, A-205k, A-205l

2 Pivot Set	370	626	RF
2 Pivot	H340 3/4" Longer Pivot Pin	626	RF
1 Mortise Deadlock	70 4876	US32D	SA
2 Roller Latch	593	US26D	RO
2 Cylinder Core	Match Owners Existing	32d	
2 Flush Pull	RM782	US26D	RO

Set: 4.00

Doors: A-208a, A-209a, A-215a, A-231a

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	7500	689	NO
1 Wall Stop	400	US26D	RO
1 Gasketing	S88BL		PE

Set: 4.01

Doors: A-301a, B-102a, C-103a, C-104a

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	PR7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1 Wall Stop	400	US26D	RO
1 Gasketing	S88BL		PE

Set: 4.02

Doors: A-302a, B-101a

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	CPS7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
1 Gasketing	S88BL		PE

Set: 4.03

Doors: A-223a, A-301b

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Concealed Overhead Stop	1-X36	630	RF
1 Door Closer	7500	689	NO
1 Kick Plate	K1050 8" high 4BE CSK	US32D	RO
3 Silencer	608		RO

Set: 4.04

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	7500	689	NO
1 Wall Stop	400	US26D	RO
1 Gasketing	S88BL		PE

Set: 4.05

Doors: A-210a, A-211a, A-212Aa, A-213a, A-214a

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Wall Stop	400	US26D	RO
3 Silencer	608		RO

Set: 4.06

Doors: B-122a

1 Existing Hardware	To Be Salvaged and Reused		
---------------------	---------------------------	--	--

Set: 4.07

Doors: A-303b

1 Continuous Hinge	FM300 x HT required	630	MR
1 Mortise Deadlock	4874	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Concealed Overhead Stop	1-X36	630	RF
1 Gasketing	S88BL		PE

Set: 5.00

Doors: A-212Ba

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Office Lock	8205 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	7500	689	NO
1 Wall Stop	400	US26D	RO
3 Silencer	608		RO

Set: 6.00
Doors: A-205m, A-206b

1 Continuous Hinge	MCK-12HD	CL	MK
1 Storeroom Lock	76 8204 LNB	US32D	SA
1 Cylinder Core	Match Owners Existing	32d	
1 Door Closer	UNI7500	689	NO
1 Threshold	278x292AFGPK		PE
1 Sweep	345AV		PE

Set: 6.01
Doors: A-205n

1 All Hardware By Door Manufacturer

Set: 6.02
Doors: A-206a

1 All Hardware By Door Manufacturer

END OF SECTION 08 71 00

RESCUE ASSISTANCE SYSTEMS

SECTION 28 26 09

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes requirements for rescue assistance system components including, but not limited to, the following:
 - 1. Area stations.
 - 2. Controls, amplifiers, and terminal equipment.
 - 3. Power supplies.
 - 4. Wiring.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Wiring diagrams, detailing wiring for power, signal, and control, differentiating clearly between manufacturer-installed wiring and field-installed wiring. Identify terminals to facilitate installation, operation and maintenance.
- C. Maintenance Data: For inclusion in Emergency, Operations, and Maintenance Manuals.
- D. Test Reports: Final copies of reports of startup and testing procedures.

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who is a factory-authorized service representative to perform the work of this Section.
- B. Electrical Component Standard: Provide work complying with applicable requirements of City of Chicago Electrical Code.
- C. Preinstallation Conference: Conduct conference at Project site.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in factory containers. Store in clean, dry space in original containers. Protect products from fumes and construction traffic. Handle carefully to avoid damage.

1.05 SYSTEM DESCRIPTION

- A. General: Rescue assistance system remote stations shall be as indicated on the Drawings. Remote stations to be compatible with existing system and have the ability to be seamlessly added to the existing rescue assistance system. Refer to, and coordinate with, architectural drawings for exact locations of all AORs.
- B. Functional Performance: Components and system features and functions shall include, but are not limited to, the following:
 - 1. Pressing the "PUSH FOR HELP" button at any area station actuates a red light on the area station beside an engraved phrase "HELP REQUESTED" and sends a signal to the master station indicating the location of the call. An audible alarm will sound at both the area and master stations.
 - 2. System provides voice communication between area stations and master station. If person in rescue area cannot respond to voice communication from the master station, the "HELP COMING" light on the area station is automatically turned on by the response from the master station. Audible alarm signal shuts off at area and master station when master station responds to area station call.
 - 3. System shall be reset by keyed reset switch at area station and master station.
 - 4. Audible and visual circuit wiring shall be supervised.
- C. Coordinate system to operate in two (2) configuration modes.
 - 1. System shall always be on.
 - 2. System shall operate only when the fire alarm is initiated. (This mode avoids nuisance alarms by students walking by in stairwell).

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products compatible with existing rescue assistance system.

2.02 SYSTEM REQUIREMENTS

- A. General: Provide complete and fully functional rescue assistance remote stations compatible with the existing system using materials and equipment of types, sizes, ratings, and performances as indicated. Use materials and equipment that comply with referenced standards and manufacturers' standard design and construction, in accordance with published product information. Coordinate the features of all materials and equipment so they form an integrated system, with components and interconnections matched for optimum performance of specified functions.

2.03 REMOTE STATIONS

A. Stainless Steel Remote Station:

1. Each remote station shall be provided with an internally illuminated Area of Refuge sign.
2. The remote call station shall be vandal resistant and have one momentary switch with LED and loudspeaker.
3. The station shall have hands free voice communication with the annunciator.
4. The station shall be flush wall mounted on a 2-gang stainless steel plate with large push button.
5. The remote station shall contain an amber "call-placed" indicator and a red acknowledge indicator, a 3.5-inch 45ohm speaker and a cancel button on a stainless-steel panel.
6. Screw terminals shall be provided for wire connections.
7. Stations must be mounted so the highest operable part or component is no higher than 48-inches off the finished floor.
8. The push-button on each area station shall be heavy-duty stainless steel, vandal resistant, 3 inch in diameter, domed button. It shall be easy to push and shall not be obscured by other parts of the enclosure. The push-button shall have "Push for Help" lettering engraved in a contrasting color.

2.04 REMOTE CALL INDICATOR

- A. The remote call indicator shall contain a bulb with a translucent plastic cover mounted on a two gang, plastic faceplate.
- B. The white cover shall be removable without the use of tools and the bulb shall be bayonet mount to allow ease of bulb replacement.

2.05 REMOTE TONE LIGHT INDICATOR

- A. The remote tone light indicator shall contain a tone signaling device and a “call” indicator LED mounted on a single gang, ABS plastic faceplate.
- B. Wiring shall be via plug-in connector.
- C. Call indications shall be a steady LED and tone every 8 seconds.

2.06 OPERATIONAL PLACARD

- A. The operation instructions shall be mounted adjacent to each remote station.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine existing conditions and systems, with the Installer and Owner present, for compliance with requirements and other conditions affecting the performance of the rescue assistance system work.

3.02 INSTALLATION

- A. General: Install system in accordance with the Chicago Building Code and manufacturer's written instructions.
- B. Wiring Methods: Install wiring in a raceway system in accordance with Division 26 Section “Raceways and Boxes for Electrical Systems.” Raceways are to be concealed.
- C. Impedance and Level Matching: Carefully match input and output impedances and signal levels at signal interfaces. Provide matching networks where required.
- D. Control Circuit Wiring: Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.
- E. Splices, Taps, and Terminations: Make splices, taps and terminations on numbered terminal strips in junction, pull, and outlet boxes, terminal cabinets and equipment enclosures.
- F. Identification of Conductors and Cables: Use color coding of conductors and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams.

- G. Weatherproofing: Provide weatherproof enclosures for items to be mounted outdoors or exposed to weather.
- H. Repairs: Wherever walls, ceilings, floors, or other building finishes are cut for installation, those surfaces and materials shall be repaired, restored, and refinished in accordance with Division 01 Section "Cutting and Patching." The finished surface shall match adjacent surfaces, materials, textures, and finishes and shall have no visual evidence of repairs.
- I. GROUNDING
- J. Provide equipment grounding connections for rescue assistance systems as indicated. Tighten connections to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounds.
- K. Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk, and other impairments. Provide 5-ohm ground at main equipment location. Measure, record, and report ground resistance.

3.03 PROTECTION AND CLEANING

- A. Provide protective measures, in accordance with manufacturer's recommendations, during remainder of construction period to ensure that rescue assistance system components, including remote and central stations, will be free of damage at time of Preliminary Acceptance or Substantial Completion.
- B. Immediately prior to Preliminary Acceptance or Substantial Completion, remove temporary protective films and clean system components in accordance with manufacturer's instructions.

3.04 CONTRACTOR STARTUP AND REPORTING

- A. Pretesting: Upon completing installation of the system, align, adjust, and balance the system and perform complete pretesting. Determine, through pretesting, the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed in pretesting. Replace malfunctioning or damaged items with new and retest until satisfactory performance and conditions are achieved.
- B. Testing: Upon completion of pretesting, notify the Architect a minimum of 10 days in advance, of acceptance test performance schedule and conduct tests in his presence. Provide a written record of test results.

- C. Operational Test: Perform an operational system test to verify conformance of system to these Specifications.
- D. Inspection: Make observations to verify that units and controls are properly labeled, and interconnecting wires and terminals are identified. Provide a list of final tap settings of paging speaker line matching transformers.
- E. Retesting: Rectify deficiencies indicated by tests and completely retest work affected by such deficiencies at Contractor's expense. Verify by the system test that the total system meets the Specifications and complies with applicable standards.

3.05 DEMONSTRATION AND TRAINING

- A. Occupancy Adjustments: When requested by the Architect within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels, resetting matching transformer taps, and adjusting controls to suit actual occupied conditions. Provide up to three visits to the site for this purpose.

END OF SECTION 28 26 09