Project Order Modification (P.O.M.) #01 for Project Order 107

PROJECT NAME:	MIA - Terminal H FL2 Area A - Smoke Evacuation System (U023A)	PROJECT ORDER No:	107
CONTRACT TITLE:	Miscellaneous Construction Contracts, MCC-8-10	DATE:	01/21/2021
CONTRACTOR:	MCM Corporation	PAGES:	66

The contractor is hereby authorized to make the following changes to the current contract and perform the work subject to all contract stipulations and covenants. Except as otherwise specifically set forth herein, the terms and conditions for the Project Order remain unchanged.

RWP # - 3

AMOUNT: $ 0.00

DESCRIPTION OF WORK: This is an excusable non-compensable Project Order Modification (POM) extending the contract time to completion by an additional 121 calendar days.

REASON FOR CHANGE: UNFORESEEABLE CHANGE

JUSTIFICATION: The following issues affected the schedule unfavorably:

- Due to the poor condition of some of the existing equipment, it was decided by the A/E and the County that a pressurization test of the existing equipment was advisable. The time to prepare, coordinate, and perform this test was not included in the original time estimate.
- Some field conflicts were found that required re-location of some of the existing equipment within the above-ceiling space of the work area before the new equipment could be installed.
- A change from the originally submitted exhaust duct damper was required (from electrically operated to pneumatically operated). This unforeseen change required a re-submittal of the damper specifications and a delay in the ordering of the damper.
- The COVID19 pandemic caused delays in the production and the installation of some of the equipment. Manufacturers and sub-contractors for several of the critical trades involved were negatively affected by this, creating unforeseen delays.

METHOD OF PAYMENT: N/A

MCM and its subcontractors agree to make no claim for damages for delay on account of this Project Order Modification whether occasioned by any act or omission of the OWNER or any of its representatives (whether it is an Excusable Delay or otherwise) and MCM agrees that any such claim shall be compensated solely by a non-compensable excusable delay of time to complete performance of the Work.

SUMMARY OF PROJECT ORDER (P.O.) AMOUNT

REASON FOR CHANGE:			
	ORIGINAL P.O. AMOUNT	$	1,268,197.13
Regulatory Change	COST OF CONSTRUCTION CHANGES PREVIOUSLY ORDERED	$	0.00
Other Agency Requested Change	ADJUSTED P.O. AMOUNT PRIOR TO THIS P.O.M.	$	1,268,197.13
Design Errors Change	COST OF CONSTRUCTION CHANGES THIS P.O.M.	$	0.00
Design Omission Change	ADJUSTED P.O. AMOUNT INCLUDING THIS P. O. M.	$	1,268,197.13
County Requested Change			
Unforeseeable Change	PERCENT INCREASE, THIS P.O. M.		0.00 %
Other	TOTAL PERCENT INCREASE TO DATE		0.00 %

EXTENSION OF TIME ALLOWED BY THIS CHANGE 121 CALENDAR DAYS TO 05/24/2021

A/E CERTIFYING STATEMENT: *I hereby certify that the supporting cost data included is, in my considered opinion, accurate; that the prices quoted are fair and reasonable and in proper ratio to the cost of the original work contracted for under benefit competitive bidding.*

By: _____ 1/25/21
ACCEPTED: GENERAL CONTRACTOR DATE
PRINT NAME: Juan Munilla

By: _____ 1-25-21
APPROVED: PROJECT CONSULTANT DATE
PRINT NAME: INNOVATIVE ENGINEERING GROUP

By: _____ 1/26/21
APPROVED MDAD PROJECT MANAGER DATE
PRINT NAME: Reinaldo Abrahante

By: Pedro Gordo Digitally signed by Pedro Gordo Date: 2021.01.28 14:18:26 -05'00'
APPROVED: CONSULTING ENGINEER (HNTB) DATE
PRINT NAME: Pedro Gordo

By: _____ 2/1/21
APPROVED: MDAD CHIEF OF CONSTRUCTION DATE
PRINT NAME: Enrique Perez

By: _____ 2/1/21
APPROVED: MDAD AST. DIRECTOR OF FAC. DEV. DATE
PRINT NAME: Pedro F. Hernández, P.E.

By: Sergio San Miguel Digitally signed by Sergio San Miguel DN: cn=Sergio San Miguel, o=MDAD, ou=Finance, email=ssanmiguel@miami-airport.com, c=US Date: 2021.02.03 16:09:46 -05'00'
APPROVED: MDAD CHIEF FINANCIAL OFFICER DATE
PRINT NAME: Sergio San Miguel

MIAMI – DADE COUNTY, FLORIDA AVIATION DEPARTMENT – Facilities Dev. Management Div.

Project Order # 107

PROJECT NAME: MIA - Terminal H FL2 Area A - Smoke Evacuation System PROJECT NO: U023A

CONTRACT TITLE: Miscellaneous Construction Contract (MCC)-8-10 DATE: 4/15/20

TO CONTRACTOR: Magnum Construction Management (MCM) LLC. ATTACHED PAGES: 16

You are hereby requested to make the following changes to the contract and perform the work subject to all contract stipulations and covenants.

SCOPE: Installation of one new exhaust fan, eleven (11) smoke handling fans, twelve (12) Variable Frequency Drive units, selective demolition of existing ductwork, selective removal of electric equipment and conduits, new roofing curb and new duct opening, fire proofing, removal and re-installation of sprinkler heads and smoke detectors; new power feeders and connections for all fans, manual dampers and grills; commissioning, and test and balance of new system.

JUSTIFICATION: Work is required to closeout an outstanding Fire Department Notice of Violation at Terminal H Second Floor.

LIQUIDATED DAMAGES: na

TIME OF COMPLETION: 230 calendar days from effective date of Notice to Proceed

REFERENCE DOCUMENTS: Drawings titled: "Terminal H Second Floor Area A Smoke Evacuation System dated 9/17/20".

IN CONSIDERATION FOR PERFORMANCE IN ACCORDANCE WITH TERMS AND CONDITIONS OF THIS PROJECT ORDER, THE COUNTY HEREBY AGREES TO PAY THE CONTRACTOR AN AMOUNT COMPUTED BY THE LUMP SUM METHOD. THE PRICE TO BE PAID, REGARDLESS OF THE METHOD(S) INDICATED, SHALL NOT EXCEED THE SUM OF: **$1,268,197.13 (One Million Two Hundred and Sixty-Eight Thousand one hundred and ninety-seven dollars and thirteen cents.** WHICH INCLUDES A DEDICATED ALLOWANCE ACCOUNT No. 1 IN THE AMOUNT OF $12,000.00 (Twelve Thousand Dollars and no cents), A GENERAL ALLOWANCE ACCOUNT IN THE AMOUNT OF **$106,654.00 (One Hundred and Six Thousand Six Hundred and Fifty Four Dollars and no cents)**, INCLUDING A **7.96% MARKUP** AND PRECONSTRUCTION COSTS OF **$1,616.80,** UNLESS THIS SUM IS INCREASED/DECREASED BY A PROJECT ORDER MODIFICATION.

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE CAUSED THIS PROJECT ORDER TO BE EXECUTED BY THEIR APPROPRIATED OFFICIALS AS OF THE DATE FIRST ABOVE WRITTEN.

By: 4/20/20
ACCEPTED: GENERAL CONTRACTOR DATE
PRINT NAME: A. CALDERIN

By: 4-22-20
APPROVED: PROJECT CONSULTANT DATE
PRINT NAME: INNOVATIVE ENG. GROUP

By: N/A
APPROVED MDAD MGR-MINORITY AFF DATE
PRINT NAME:

By: 4/21/20
RECOMMENDED: MDAD PROJECT MANAGER DATE
PRINT NAME: K. ABRAHANTE

By: 4/28/20
APPROVED: MDAD CHIEF FINANCIAL OFFICER DATE
PRINT NAME: Pedro Hernandez, P.E., Assit Aviat Dir.

By: 4-27-20
RECOMMENDED: SECTION CHIEF DATE
PRINT NAME: ENRIQUE PEREZ

By: 5/4/20
APPROVED: MDAD Chief Financial Officer
PRINT NAME: Sergio San Miguel

cc: MDAD Project Control, MCM Corp., Project File, Fac. Dev. Document Control

Purchase Order

AVIATION DEPARTMENT

4200 NW 36TH Street
Miami FL 33102
United States

Supplier: 0000016621
MUNILLA CONSTRUCTION MANAGEMENT, LLC
6201 SW 70TH ST.
ATTN: VIRGINIA MIRABAL
MIAMI FL 33143

CHANGE ORDER **Dispatch via Print**

Purchase Order	Date	Revision	Page
AVIAT-1000017705	04/23/2020	2 - 02/02/2021	1

Payment Terms	Freight Terms	Ship Via
N30	Destination	Common Carrier

Buyer	Phone	Currency
VIVIAN Reina GONZALEZ-MD		

Ship To: 1C30401C
Warehouse Bldg 3040
4331 NW 22nd Street
Miami FL 33122
United States

Attention: Not Specified

Bill To: Accounts Payable
P.O. Box 526624
MIAMI FL 33152-6624
United States

Tax Exempt? Y **Tax Exempt ID:** 59-6000573 **Replenishment Option:** Standard

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	Project Order 107 - MIA Terminal H, FL 2-Area A, Smoke Evacuation System POM1 Time Extension EA501 AV3201 Acct942100 O&M 436		1.00	EA	1,268,197.13	1,268,197.13	04/23/2020

Contract ID: MCC-8-10 Contract Line: 4 Category Line: 0 Release: 286

Item Total 1,268,197.13

Total PO Amount 1,268,197.13

Note: All Chemical and hazardous material orders must be delivered with a copy of the most recent available MSDS for the product. Failure to do so, may result in the refusal of acceptance of the material or product.

Authorized Signature

Vivian R. Gonzalez

Digitally signed by Vivian R. Gonzalez
DN: cn=Vivian R. Gonzalez, o=MDAD, ou=Program Controls, email=vgonzalez@miami-airport.com, c=US
Date: 2021.02.02 13:32:31 -05'00'

From: Abrahante, Reinaldo (Aviation)
To: McCudden, Natalie A. (Aviation); Martin, Belinda (TOP)
Cc: Tatis Rios, Francis (TOP); Tude, Eduardo (TOP); DocControl FacilitiesDevelopment
Subject: Re: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3
Date: Friday, January 15, 2021 2:25:34 PM
Attachments: image003.png
image004.png
image005.png
image006.png

Natalie,
Reason for change: Unforeseeable change.
Justification: The following issues affected the schedule unfavorably:

- Due to the poor condition of some of the existing equipment, it was decided by the A/E and the County that a pressurization test of the existing equipment was advisable. The time to prepare, coordinate, and perform this test was not included in the original time estimate.
- Some field conflicts were found that required re-location of some of the existing equipment within the above-ceiling space of the work area before the new equipment could be installed.
- A change from the originally submitted exhaust duct damper was required (from electrically operated to pneumatically operated). This unforeseen change required a re-submittal of the damper specifications and a delay in the ordering of the damper.
- The COVID19 pandemic caused delays in the production and the installation of some of the equipment. Manufacturers and sub-contractors for several of the critical trades involved were negatively affected by this, creating unforeseen delays.

Thanks.

From: McCudden, Natalie A. (Aviation) <T-NMcCudden@miami-airport.com>
Sent: Friday, January 15, 2021 11:31 AM
To: Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>; Martin, Belinda (TOP) <T-BMartin@miami-airport.com>
Cc: Tatis Rios, Francis (TOP) <T-FTatisRios@miami-airport.com>; Tude, Eduardo (TOP) <T-ETude@miami-airport.com>; DocControl FacilitiesDevelopment <DocControlFacilitiesDev@miami-airport.com>
Subject: RE: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3

Thank you Reinaldo,
Please send me the reason for change (selected from the list below), and the justification for the time extension.

REASON FOR CHANGE:
Regulatory Change
Other Agency Requested Change
Design Errors Change
Design Omission Change
County Requested Change
Unforeseeable Change
Other

Justification: ?

Eduardo and Frances, can you please give me the new date?

EXTENSION OF TIME ALLOWED BY THIS CHANGE ____121____ CALENDAR DAYS TO __?__

Thank you,

Natalie McCudden
Cost Engineer I Program Controls
3030, 4331 NW 22nd St
Miami, FL 33142

w.305.869.4205
e. t-nmccudden@miami-airport.com

From: Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>
Sent: Friday, January 15, 2021 9:19 AM
To: Martin, Belinda (TOP) <T-BMartin@miami-airport.com>; McCudden, Natalie A. (Aviation) <T-NMcCudden@miami-airport.com>
Cc: Tatis Rios, Francis (TOP) <T-FTatisRios@miami-airport.com>; Tude, Eduardo (TOP) <T-ETude@miami-airport.com>; DocControl FacilitiesDevelopment <DocControlFacilitiesDev@miami-airport.com>
Subject: Re: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3

Hi, Natalie and Belinda,

I am in agreement, please, proceed.
Thanks.

From: Martin, Belinda (TOP) <T-BMartin@miami-airport.com>
Sent: Monday, January 11, 2021 3:49 PM
To: McCudden, Natalie A. (Aviation) <T-NMcCudden@miami-airport.com>; Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>
Cc: Tatis Rios, Francis (TOP) <T-FTatisRios@miami-airport.com>; Tude, Eduardo (TOP) <T-ETude@miami-airport.com>; DocControl FacilitiesDevelopment <DocControlFacilitiesDev@miami-airport.com>
Subject: RE: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3

Natalie,
If the PM agrees with this RWP, let's do this thru a POM
Thanks

Best regards,

Belinda Martin
Cost Engineer
(305) 869-3328
t-bmartin@miami-airport.com


Please consider the environment before printing this e-mail. Think Green.

From: McCudden, Natalie A. (Aviation) <T-NMcCudden@miami-airport.com>
Sent: Monday, January 11, 2021 3:43 PM
To: Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>
Cc: Martin, Belinda (TOP) <T-BMartin@miami-airport.com>; Tatis Rios, Francis (TOP) <T-FTatisRios@miami-airport.com>; Tude, Eduardo (TOP) <T-ETude@miami-airport.com>; DocControl FacilitiesDevelopment <DocControlFacilitiesDev@miami-airport.com>
Subject: FW: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3

Good afternoon Reinaldo,

Please review the attached RWP#3 for a time extension of

From: Leticia Green <lgreen@mcm-us.com>
Sent: Monday, January 11, 2021 12:10 PM
To: Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>
Cc: Martin, Belinda (TOP) <T-BMartin@miami-airport.com>; McCudden, Natalie A. (Aviation) <T-NMcCudden@miami-airport.com>; Victor Camps <vcamps@mcm-us.com>; Jose E. Morales <jmorales@mcm-us.com>; vmirabal@mcm-us.com
Subject: MCC-8-10 - U023A - MIA – Terminal H FL2 Area A – Smoke Evacuation System - RWP #3

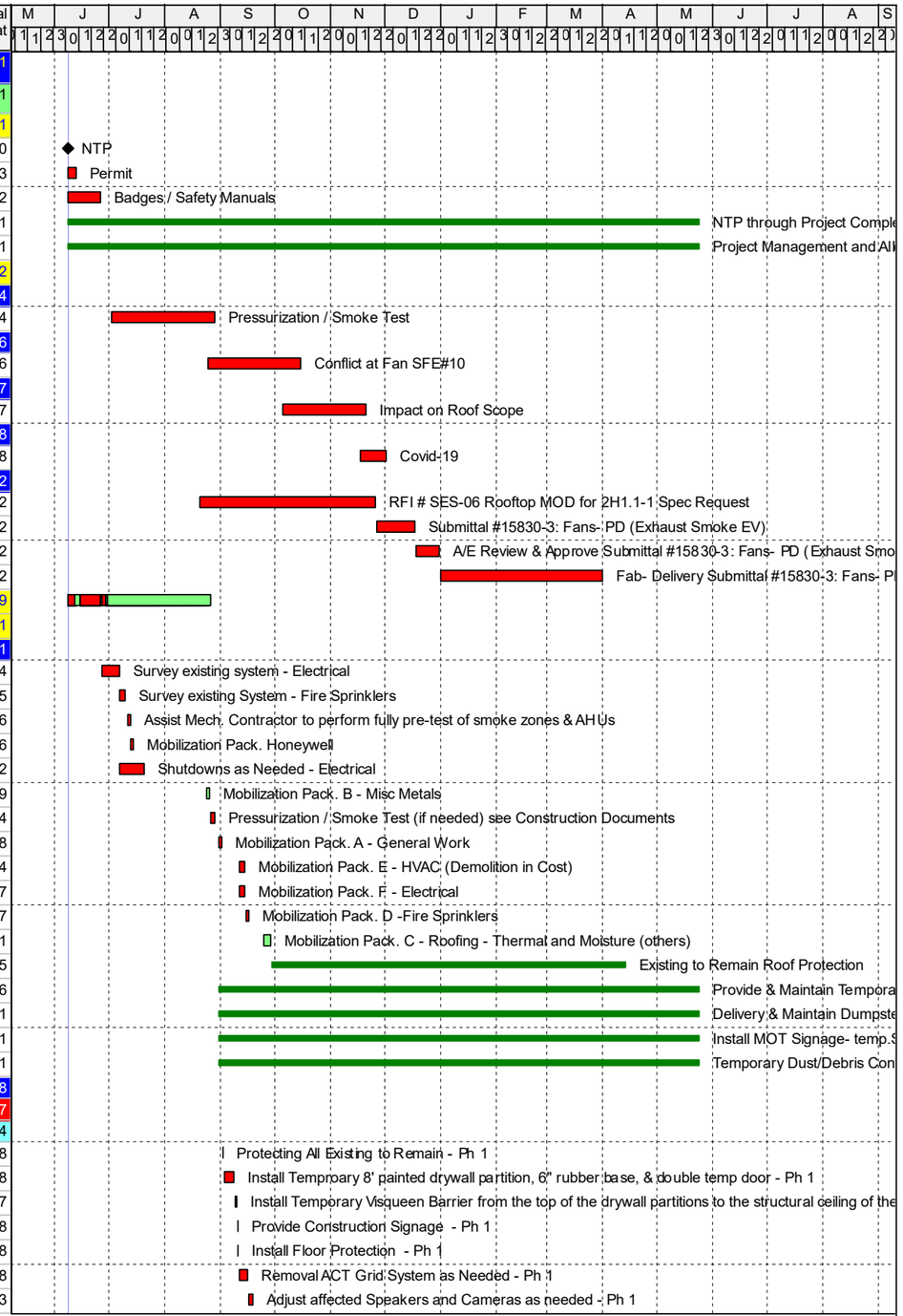
This is an EXTERNAL email. **Exercise Caution**. DO NOT open attachments or click links from unknown senders or unexpected emails. Please use your Report Spam button if this is a suspicious message.

Hi Reinaldo,

Attached please find RWP #3 for your review/approval.
Regards,

LETICIA GREEN
MCM BUILDING EXCELLENCE
PH: 305-541-0000 Ext 235 | DL: 305-869-4580 | M: (786)267-4906 | FAX: 305-869-4566
6201 SW 70 ST, Miami, FL 33143 www.mcm-us.com
Please consider the environment before printing.
A reminder from MCM, Building Excellence.
Follow us!

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	24-May-21	351	-121
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELINE		08-Jun-20	24-May-21	351	-121
GENERAL CONDITIONS		08-Jun-20	24-May-21	351	-121
GC 100	NTP	08-Jun-20		0	-50
GC 130	Permit	08-Jun-20	12-Jun-20	5	-13
GC 110	Badges / Safety Manuals	08-Jun-20	26-Jun-20	15	-32
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	24-May-21	351	-121
GC 220	Project Management and Allowance	08-Jun-20	24-May-21	351	-121
SCHEDULE IMPACTS		02-Jul-20	31-Mar-21	273	-122
EVENT DELAY #1 PRESSURIZATION & SMOKE TEST		02-Jul-20	28-Aug-20	58	-94
SI 100	Pressurization / Smoke Test	02-Jul-20*	28-Aug-20	58	-94
EVENT DELAY #2 CONFLICT AT FAN SFE#10		25-Aug-20	15-Oct-20	52	-106
SI 110	Conflict at Fan SFE#10	25-Aug-20*	15-Oct-20	52	-106
EVENT DELAY #3 COVID-19 IMPACT		05-Oct-20	20-Nov-20	47	-27
SI 120	Impact on Roof Scope	05-Oct-20*	20-Nov-20	47	-27
EVENT DELAY #4 COVID-19 IMPACT		17-Nov-20	01-Dec-20	15	-98
SI 130	Covid-19	17-Nov-20*	01-Dec-20	15	-98
EVENT DELAY #5 ROOF PNEUMATIC DAMPER		20-Aug-20	31-Mar-21	224	-122
SI 140	RFI # SES-06 Rooftop MOD for 2H1.1-1 Spec Request	20-Aug-20*	25-Nov-20	98	-122
SI 150	Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	26-Nov-20	17-Dec-20	22	-122
SI 160	A/E Review & Approve Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	18-Dec-20	31-Dec-20	14	-122
SI 170	Fab- Delivery Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	01-Jan-21	31-Mar-21	90	-122
SUBMITTALS		08-Jun-20	26-Aug-20	80	149
CONSTRUCTION		08-Jun-20	24-May-21	351	-121
MOBILIZATION		27-Jun-20	24-May-21	332	-121
MOB F 260	Survey existing system - Electrical	27-Jun-20	06-Jul-20	10	-44
MOB C 221	Survey existing System - Fire Sprinklers	07-Jul-20	09-Jul-20	3	-15
MOB X 220	Assist Mech. Contractor to perform fully pre-test of smoke zones & AHUs	11-Jul-20	12-Jul-20	2	-6
MOB X 210	Mobilization Pack. Honeywell	13-Jul-20	14-Jul-20	2	-6
MOB F 270	Shutdowns as Needed - Electrical	07-Jul-20	20-Jul-20	14	-42
MOB B 180	Mobilization Pack. B - Misc Metals	24-Aug-20	25-Aug-20	2	99
MOB E160	Pressurization / Smoke Test (if needed) see Construction Documents	26-Aug-20	28-Aug-20	3	-94
MOB A 170	Mobilization Pack. A - General Work	31-Aug-20	01-Sep-20	2	-68
MOB E 240	Mobilization Pack. E - HVAC (Demolition in Cost)	11-Sep-20	14-Sep-20	2	-64
MOB F 250	Mobilization Pack. F - Electrical	11-Sep-20	14-Sep-20	2	-67
MOB C 220	Mobilization Pack. D -Fire Sprinklers	15-Sep-20	16-Sep-20	2	-57
MOB R 200	Mobilization Pack. C - Roofing - Thermal and Moisture (others)	25-Sep-20	28-Sep-20	2	11
MOB B 190	Existing to Remain Roof Protection	29-Sep-20	13-Apr-21	197	-85
MOB A140	Provide & Maintain Temporary First Aid Facilities & Safety Board	31-Aug-20	24-May-21	187	-86
MOB A 150	Delivery & Maintain Dumpsters Throughout Project	31-Aug-20	24-May-21	267	-121
MOB A 175	Install MOT Signage- temp.Storage	31-Aug-20	24-May-21	267	-121
MOB A 185	Temporary Dust/Debris Control/ Finish Protection	31-Aug-20	24-May-21	267	-121
2ND FLOOR		02-Sep-20	29-Mar-21	209	-68
PHASE 1 CL 15-17		02-Sep-20	30-Oct-20	59	-107
DEMOLITION		02-Sep-20	28-Sep-20	27	-84
M-2 A 360	Protecting All Existing to Remain - Ph 1	02-Sep-20	02-Sep-20	1	-68
M-2 A 200	Install Temproary 8' painted drywall partition, 6" rubber base, & double temp door - Ph 1	03-Sep-20	08-Sep-20	3	-68
ADD2 A 370	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl -	09-Sep-20	09-Sep-20	1	-97
ADD3 A 200	Provide Construction Signage - Ph 1	10-Sep-20	10-Sep-20	1	-68
ADD2 A 380	Install Floor Protection - Ph 1	10-Sep-20	10-Sep-20	1	-68
A1 A 160	Removal ACT Grid System as Needed - Ph 1	11-Sep-20	15-Sep-20	3	-68
E-1 F 201	Adjust affected Speakers and Cameras as needed - Ph 1	16-Sep-20	18-Sep-20	3	-53



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

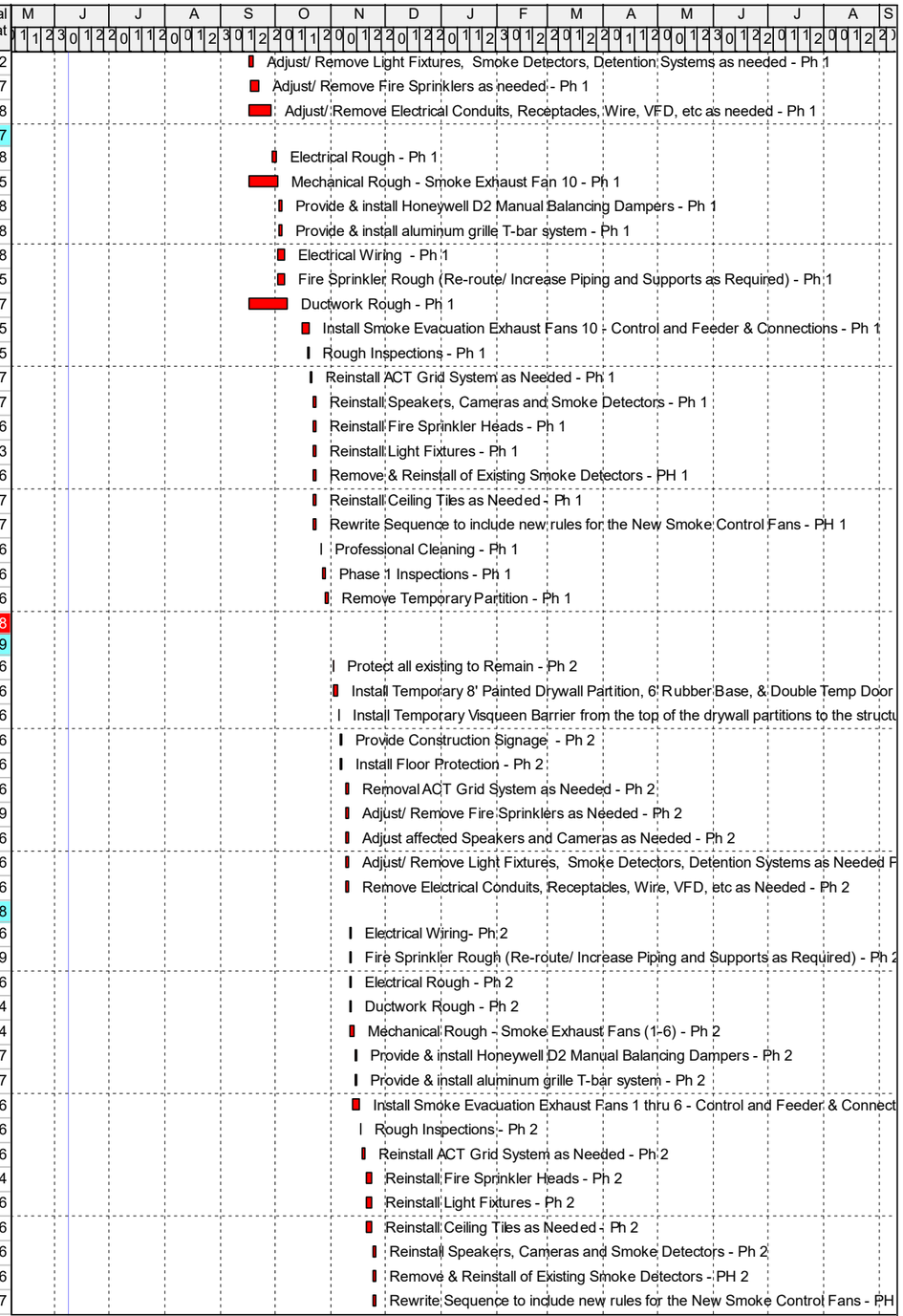
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELINE
MCM - IMPACTED Schedule

Data Date 08-Jun-20

MCM BUILDING EXCELLENCE

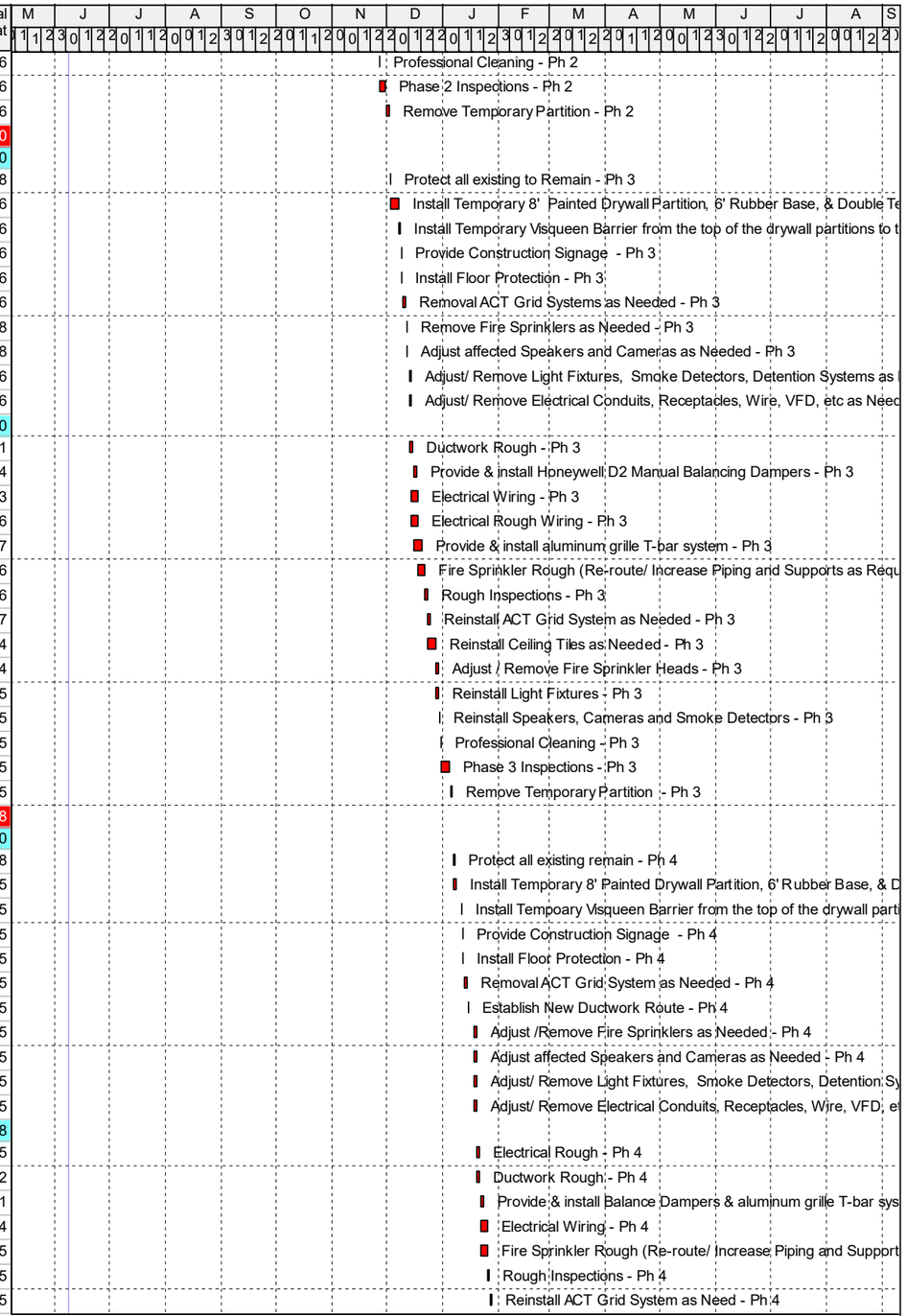
20-Jan-21

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
E-1 F 210	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as needed - Ph 1	16-Sep-20	18-Sep-20	3	-62
FP-1 C 180	Adjust/ Remove Fire Sprinklers as needed - Ph 1	17-Sep-20	21-Sep-20	3	-57
E-1 F 220	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as needed - Ph 1	16-Sep-20	28-Sep-20	9	-68
NEW WORK		16-Sep-20	30-Oct-20	45	-107
E-2 F 140	Electrical Rough - Ph 1	29-Sep-20	01-Oct-20	3	-68
M-2 E 150	Mechanical Rough - Smoke Exhaust Fan 10 - Ph 1	16-Sep-20	02-Oct-20	13	-65
M-2 E 160	Provide & install Honeywell D2 Manual Balancing Dampers - Ph 1	03-Oct-20	04-Oct-20	2	-88
M-2 E 230	Provide & install aluminum grille T-bar system - Ph 1	03-Oct-20	04-Oct-20	2	-88
E-2 F 120	Electrical Wiring - Ph 1	02-Oct-20	06-Oct-20	3	-68
FP-1 C 200	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - Ph 1	02-Oct-20	06-Oct-20	3	-65
M-2 E 170	Ductwork Rough - Ph 1	16-Sep-20	07-Oct-20	16	-67
E-5 F 190	Install Smoke Evacuation Exhaust Fans 10 - Control and Feeder & Connections - Ph 1	16-Oct-20	19-Oct-20	2	-75
FP-1 C 330	Rough Inspections - Ph 1	19-Oct-20	19-Oct-20	1	-75
E-1 A 160	Reinstall ACT Grid System as Needed - Ph 1	20-Oct-20	21-Oct-20	2	-107
E-1 F 130	Reinstall Speakers, Cameras and Smoke Detectors - Ph 1	22-Oct-20	23-Oct-20	2	-107
FP-1 C 190	Reinstall Fire Sprinkler Heads - Ph 1	22-Oct-20	23-Oct-20	2	-76
E-1 F 171	Reinstall Light Fixtures - Ph 1	22-Oct-20	23-Oct-20	2	-73
M-2 X180	Remove & Reinstall of Existing Smoke Detectors - PH 1	22-Oct-20	23-Oct-20	2	-76
E-1 A 210	Reinstall Ceiling Tiles as Needed - Ph 1	22-Oct-20	23-Oct-20	2	-107
M-2 X 240	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 1	22-Oct-20	23-Oct-20	2	-107
A02.9 A 430	Professional Cleaning - Ph 1	26-Oct-20	26-Oct-20	1	-76
M-2 F 220	Phase 1 Inspections - Ph 1	27-Oct-20	28-Oct-20	2	-76
ADD2 A 300	Remove Temporary Partition - Ph 1	29-Oct-20	30-Oct-20	2	-76
PHASE 2 CL 18-19		02-Nov-20	02-Dec-20	31	-108
DEMOLITION		02-Nov-20	10-Nov-20	7	-69
M-2 A 370	Protect all existing to Remain - Ph 2	02-Nov-20	02-Nov-20	1	-76
M-2 A 210	Install Temporary 8' Painted Drywall Partition, 6' Rubber Base, & Double Temp Door - Ph 2	02-Nov-20	04-Nov-20	3	-76
ADD2 A 390	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl -	05-Nov-20	05-Nov-20	1	-76
ADD3 A 210	Provide Construction Signage - Ph 2	06-Nov-20	06-Nov-20	1	-76
ADD2 A 400	Install Floor Protection - Ph 2	06-Nov-20	06-Nov-20	1	-76
A1 A 170	Removal ACT Grid System as Needed - Ph 2	09-Nov-20	10-Nov-20	2	-76
FP-1 C 340	Adjust/ Remove Fire Sprinklers as Needed - Ph 2	09-Nov-20	10-Nov-20	2	-69
E-1 F 380	Adjust affected Speakers and Cameras as Needed - Ph 2	09-Nov-20	10-Nov-20	2	-76
E-1 F 390	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed Ph 2	09-Nov-20	10-Nov-20	2	-76
E-1 F 401	Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - Ph 2	09-Nov-20	10-Nov-20	2	-76
NEW WORK		11-Nov-20	02-Dec-20	22	-108
E-2 F 160	Electrical Wiring- Ph 2	11-Nov-20	12-Nov-20	2	-76
FP-1 C 350	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - Ph 2	11-Nov-20	12-Nov-20	2	-69
E-2 F 150	Electrical Rough - Ph 2	11-Nov-20	12-Nov-20	2	-76
M-2 E 410	Ductwork Rough - Ph 2	11-Nov-20	12-Nov-20	2	-74
M-2 E 420	Mechanical Rough - Smoke Exhaust Fans (1-6) - Ph 2	11-Nov-20	13-Nov-20	3	-74
M-2 E 560	Provide & install Honeywell D2 Manual Balancing Dampers - Ph 2	14-Nov-20	15-Nov-20	2	-97
M-2 E 620	Provide & install aluminum grille T-bar system - Ph 2	14-Nov-20	15-Nov-20	2	-97
E-5 F 170	Install Smoke Evacuation Exhaust Fans 1 thru 6 - Control and Feeder & Connections - Ph 2	13-Nov-20	16-Nov-20	2	-76
FP-1 C 360	Rough Inspections - Ph 2	17-Nov-20	17-Nov-20	1	-76
E-1 A 220	Reinstall ACT Grid System as Needed - Ph 2	18-Nov-20	19-Nov-20	2	-76
FP-1 C 370	Reinstall Fire Sprinkler Heads - Ph 2	20-Nov-20	23-Nov-20	2	-74
E-1 F 181	Reinstall Light Fixtures - Ph 2	20-Nov-20	23-Nov-20	2	-76
E-1 A 230	Reinstall Ceiling Tiles as Needed - Ph 2	20-Nov-20	23-Nov-20	2	-76
E-1 F 140	Reinstall Speakers, Cameras and Smoke Detectors - Ph 2	24-Nov-20	25-Nov-20	2	-76
M-2 X 430	Remove & Reinstall of Existing Smoke Detectors - PH 2	24-Nov-20	25-Nov-20	2	-76
M-2 X 830	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 2	24-Nov-20	25-Nov-20	2	-107



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
A02.9 A 440	Professional Cleaning - Ph 2	27-Nov-20	27-Nov-20	1	-76
M-2 F 230	Phase 2 Inspections - Ph 2	27-Nov-20	30-Nov-20	2	-76
ADD2 410	Remove Temporary Partition - Ph 2	01-Dec-20	02-Dec-20	2	-76
PHASE 3 CL 19-20		03-Dec-20	06-Jan-21	35	-110
DEMOLITION		03-Dec-20	14-Dec-20	12	-110
M-2 A 380	Protect all existing to Remain - Ph 3	03-Dec-20	03-Dec-20	1	-108
M-2 A 240	Install Temporary 8' Painted Drywall Partition, 6' Rubber Base, & Double Temp Door - Ph 3	03-Dec-20	07-Dec-20	3	-76
ADD2 A 420	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl -	08-Dec-20	08-Dec-20	1	-76
ADD3 A 220	Provide Construction Signage - Ph 3	09-Dec-20	09-Dec-20	1	-76
ADD2 A 430	Install Floor Protection - Ph 3	09-Dec-20	09-Dec-20	1	-76
A1 A 180	Removal ACT Grid Systems as Needed - Ph 3	10-Dec-20	11-Dec-20	2	-76
FP-1 C 380	Remove Fire Sprinklers as Needed - Ph 3	12-Dec-20	12-Dec-20	1	-108
E-1 F 420	Adjust affected Speakers and Cameras as Needed - Ph 3	12-Dec-20	12-Dec-20	1	-108
E-1 F 430	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - Ph 3	14-Dec-20	14-Dec-20	1	-76
E-1 F 410	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - Ph 3	14-Dec-20	14-Dec-20	1	-76
NEW WORK		14-Dec-20	06-Jan-21	24	-110
M-2 E 440	Ductwork Rough - Ph 3	14-Dec-20	15-Dec-20	2	-71
M-2 E 570	Provide & install Honeywell D2 Manual Balancing Dampers - Ph 3	16-Dec-20	17-Dec-20	2	-94
E-2 F 180	Electrical Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-73
E-2 F 170	Electrical Rough Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-76
M-2 E 640	Provide & install aluminum grille T-bar system - Ph 3	16-Dec-20	20-Dec-20	5	-97
FP-1 C 420	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - Ph 3	18-Dec-20	22-Dec-20	2	-76
FP-1 C 430	Rough Inspections - Ph 3	22-Dec-20	23-Dec-20	1	-76
E-1 A 240	Reinstall ACT Grid System as Needed - Ph 3	23-Dec-20	25-Dec-20	2	-107
E-1 A 250	Reinstall Ceiling Tiles as Needed - Ph 3	23-Dec-20	28-Dec-20	2	-74
FP-1 C 440	Adjust / Remove Fire Sprinkler Heads - Ph 3	28-Dec-20	29-Dec-20	1	-74
E-1 F 191	Reinstall Light Fixtures - Ph 3	28-Dec-20	29-Dec-20	2	-75
E-1 F 150	Reinstall Speakers, Cameras and Smoke Detectors - Ph 3	30-Dec-20	30-Dec-20	1	-75
A02.9 A 450	Professional Cleaning - Ph 3	31-Dec-20	31-Dec-20	1	-75
M-2 C 240	Phase 3 Inspections - Ph 3	31-Dec-20	04-Jan-21	2	-75
ADD2 A 310	Remove Temporary Partition - Ph 3	05-Jan-21	06-Jan-21	2	-75
PHASE 4 - CL 20-21		07-Jan-21	05-Feb-21	30	-108
DEMOLITION		07-Jan-21	19-Jan-21	13	-110
M-2 A 390	Protect all existing remain - Ph 4	07-Jan-21	07-Jan-21	1	-108
M-2 A 270	Install Temporary 8' Painted Drywall Partition, 6' Rubber Base, & Double Temp Door - Ph 4	07-Jan-21	08-Jan-21	2	-75
ADD2 A 440	Install Tempoary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl - I	11-Jan-21	11-Jan-21	1	-75
ADD3 A 230	Provide Construction Signage - Ph 4	12-Jan-21	12-Jan-21	1	-75
ADD2 A 450	Install Floor Protection - Ph 4	12-Jan-21	12-Jan-21	1	-75
A1 A 190	Removal ACT Grid System as Needed - Ph 4	13-Jan-21	14-Jan-21	2	-75
M-2 A 280	Establish New Ductwork Route - Ph 4	15-Jan-21	15-Jan-21	1	-75
FP-1 C 390	Adjust /Remove Fire Sprinklers as Needed - Ph 4	18-Jan-21	19-Jan-21	2	-75
E-1 F 450	Adjust affected Speakers and Cameras as Needed - Ph 4	18-Jan-21	19-Jan-21	2	-75
E-1 F 460	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - Ph 4	18-Jan-21	19-Jan-21	2	-75
E-1 F 440	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - Ph 4	18-Jan-21	19-Jan-21	2	-75
NEW WORK		20-Jan-21	05-Feb-21	17	-108
E-2 F 190	Electrical Rough - Ph 4	20-Jan-21	21-Jan-21	2	-75
M-2 E 470	Ductwork Rough - Ph 4	20-Jan-21	21-Jan-21	2	-72
M-2 E 660	Provide & install Balance Dampers & aluminum grille T-bar system - Ph 4	22-Jan-21	23-Jan-21	2	-101
E-2 F 200	Electrical Wiring - Ph 4	22-Jan-21	25-Jan-21	2	-74
FP-1 C 450	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - Ph 4	22-Jan-21	25-Jan-21	2	-75
FP-1 C 460	Rough Inspections - Ph 4	26-Jan-21	26-Jan-21	1	-75
E-1 A 260	Reinstall ACT Grid System as Need - Ph 4	27-Jan-21	28-Jan-21	2	-75



Remaining Level of Effort
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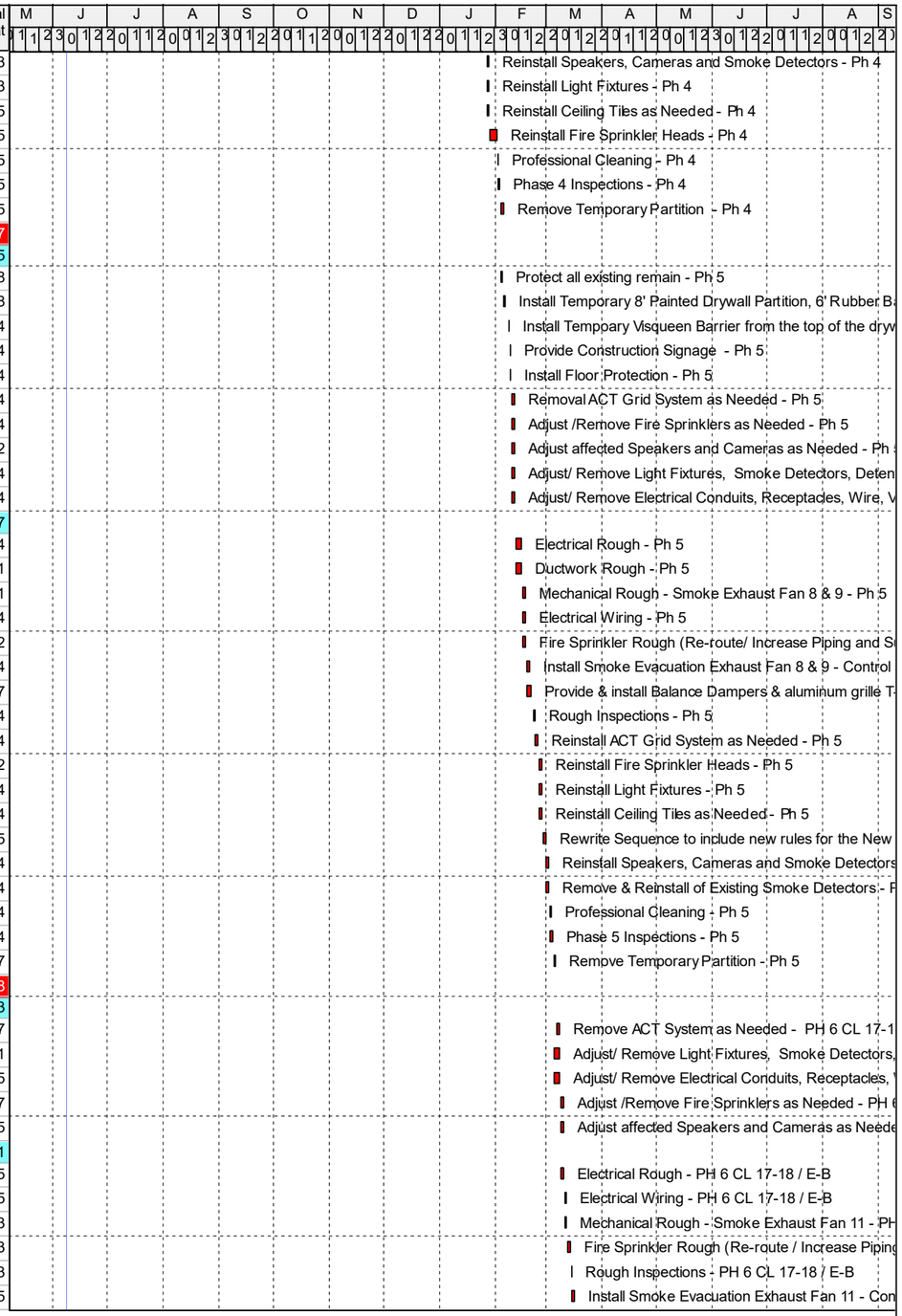
Milestone

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
E-1 F 160	Reinstall Speakers, Cameras and Smoke Detectors - Ph 4	27-Jan-21	28-Jan-21	2	-73
E-1 F 205	Reinstall Light Fixtures - Ph 4	27-Jan-21	28-Jan-21	2	-73
E-1 A 270	Reinstall Ceiling Tiles as Needed - Ph 4	27-Jan-21	28-Jan-21	2	-75
FP-1 C 470	Reinstall Fire Sprinkler Heads - Ph 4	29-Jan-21	01-Feb-21	2	-75
A02.9 A 460	Professional Cleaning - Ph 4	02-Feb-21	02-Feb-21	1	-75
M-2 F 250	Phase 4 Inspections - Ph 4	02-Feb-21	03-Feb-21	2	-75
ADD2 A 190	Remove Temporary Partition - Ph 4	04-Feb-21	05-Feb-21	2	-75
PHASE 5 - CL 15d- 17, CL 18-20		04-Feb-21	06-Mar-21	31	-107
DEMOLITION		04-Feb-21	11-Feb-21	8	-105
M-2 A 400	Protect all existing remain - Ph 5	04-Feb-21	04-Feb-21	1	-108
M-2 A 300	Install Temporary 8' Painted Drywall Partition, 6' Rubber Base, & Double Temp Door - Ph 5	05-Feb-21	06-Feb-21	2	-108
ADD2 A 460	Install Tempoary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl -	08-Feb-21	08-Feb-21	1	-74
ADD3 A 240	Provide Construction Signage - Ph 5	09-Feb-21	09-Feb-21	1	-74
ADD2 A 470	Install Floor Protection - Ph 5	09-Feb-21	09-Feb-21	1	-74
A1 A 200	Removal ACT Grid System as Needed - Ph 5	10-Feb-21	11-Feb-21	2	-74
FP-1 C 400	Adjust /Remove Fire Sprinklers as Needed - Ph 5	10-Feb-21	11-Feb-21	2	-74
E-1 F 480	Adjust affected Speakers and Cameras as Needed - Ph 5	10-Feb-21	11-Feb-21	2	-72
E-1 F 490	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - Ph 5	10-Feb-21	11-Feb-21	2	-74
E-1 F 470	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - Ph 5	10-Feb-21	11-Feb-21	2	-74
NEW WORK		12-Feb-21	06-Mar-21	23	-107
E-2 F 210	Electrical Rough - Ph 5	12-Feb-21	15-Feb-21	2	-74
M-2 E 500	Ductwork Rough - Ph 5	12-Feb-21	15-Feb-21	2	-71
M-2 E 510	Mechanical Rough - Smoke Exhaust Fan 8 & 9 - Ph 5	16-Feb-21	17-Feb-21	2	-71
E-2 F 220	Electrical Wiring - Ph 5	16-Feb-21	17-Feb-21	2	-74
FP-1 C 480	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - Ph 5	16-Feb-21	17-Feb-21	2	-72
E-5 F 240	Install Smoke Evacuation Exhaust Fan 8 & 9 - Control and Feeder & Connections - Ph 5	18-Feb-21	19-Feb-21	2	-74
M-2 E 680	Provide & install Balance Dampers & aluminum grille T-bar system - Ph 5	18-Feb-21	20-Feb-21	3	-97
FP-1 C 490	Rough Inspections - Ph 5	22-Feb-21	22-Feb-21	1	-74
E-1 A 280	Reinstall ACT Grid System as Needed - Ph 5	23-Feb-21	24-Feb-21	2	-74
FP-1 C 500	Reinstall Fire Sprinkler Heads - Ph 5	25-Feb-21	26-Feb-21	2	-72
E-1 F 211	Reinstall Light Fixtures - Ph 5	25-Feb-21	26-Feb-21	2	-74
E-1 A 290	Reinstall Ceiling Tiles as Needed - Ph 5	25-Feb-21	26-Feb-21	2	-74
M-2 X 840	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 5	27-Feb-21	28-Feb-21	2	-105
E-1 F 170	Reinstall Speakers, Cameras and Smoke Detectors - Ph 5	01-Mar-21	02-Mar-21	2	-74
M-2 X 520	Remove & Reinstall of Existing Smoke Detectors - PH 5	01-Mar-21	02-Mar-21	2	-74
A02.9 A 470	Professional Cleaning - Ph 5	03-Mar-21	03-Mar-21	1	-74
M-2 F 260	Phase 5 Inspections - Ph 5	03-Mar-21	04-Mar-21	2	-74
ADD2 A 240	Remove Temporary Partition - Ph 5	05-Mar-21	06-Mar-21	2	-107
PHASE 6		08-Feb-21	29-Mar-21	50	-68
DEMOLITION - PH 6 CL 17-18 E-B - OVERHEAD		05-Mar-21	10-Mar-21	6	-63
M-2 A 410	Remove ACT System as Needed - PH 6 CL 17-18 / E-B	07-Mar-21	08-Mar-21	2	-107
E-1 F 540	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - PH 6 CL 17-18 / E-B	05-Mar-21	08-Mar-21	2	-71
E-1 F 550	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - PH 6 CL 17-18 / E-B	05-Mar-21	08-Mar-21	2	-45
M-2 C 450	Adjust /Remove Fire Sprinklers as Needed - PH 6 CL 17-18 / E-B	09-Mar-21	10-Mar-21	2	-107
E-1 F 530	Adjust affected Speakers and Cameras as Needed - PH 6 CL 17-18 / E-B	09-Mar-21	10-Mar-21	2	-45
NEW WORK - PH 6 CL 17-18 E-B - OVERHEAD		09-Mar-21	19-Mar-21	11	-61
E-2 F 250	Electrical Rough - PH 6 CL 17-18 / E-B	09-Mar-21	10-Mar-21	2	-45
E-2 F 260	Electrical Wiring - PH 6 CL 17-18 / E-B	11-Mar-21	12-Mar-21	2	-45
E-2 F 290	Mechanical Rough - Smoke Exhaust Fan 11 - PH 6 - CL 17-18 / E-B	11-Mar-21	12-Mar-21	2	-63
M-2 C 460	Fire Sprinkler Rough (Re-route / Increase Piping and Supports as Required) - PH 6 CL 17-18 / E-B	13-Mar-21	14-Mar-21	2	-63
M-2 C 480	Rough Inspections - PH 6 CL 17-18 / E-B	15-Mar-21	15-Mar-21	1	-63
E-5 F 260	Install Smoke Evacuation Exhaust Fan 11 - Control and Feeder & Connections - PH 6 CL 17-18 / E-B	15-Mar-21	16-Mar-21	2	-45



Remaining Level of Effort
Actual Level of Effort
Actual Work
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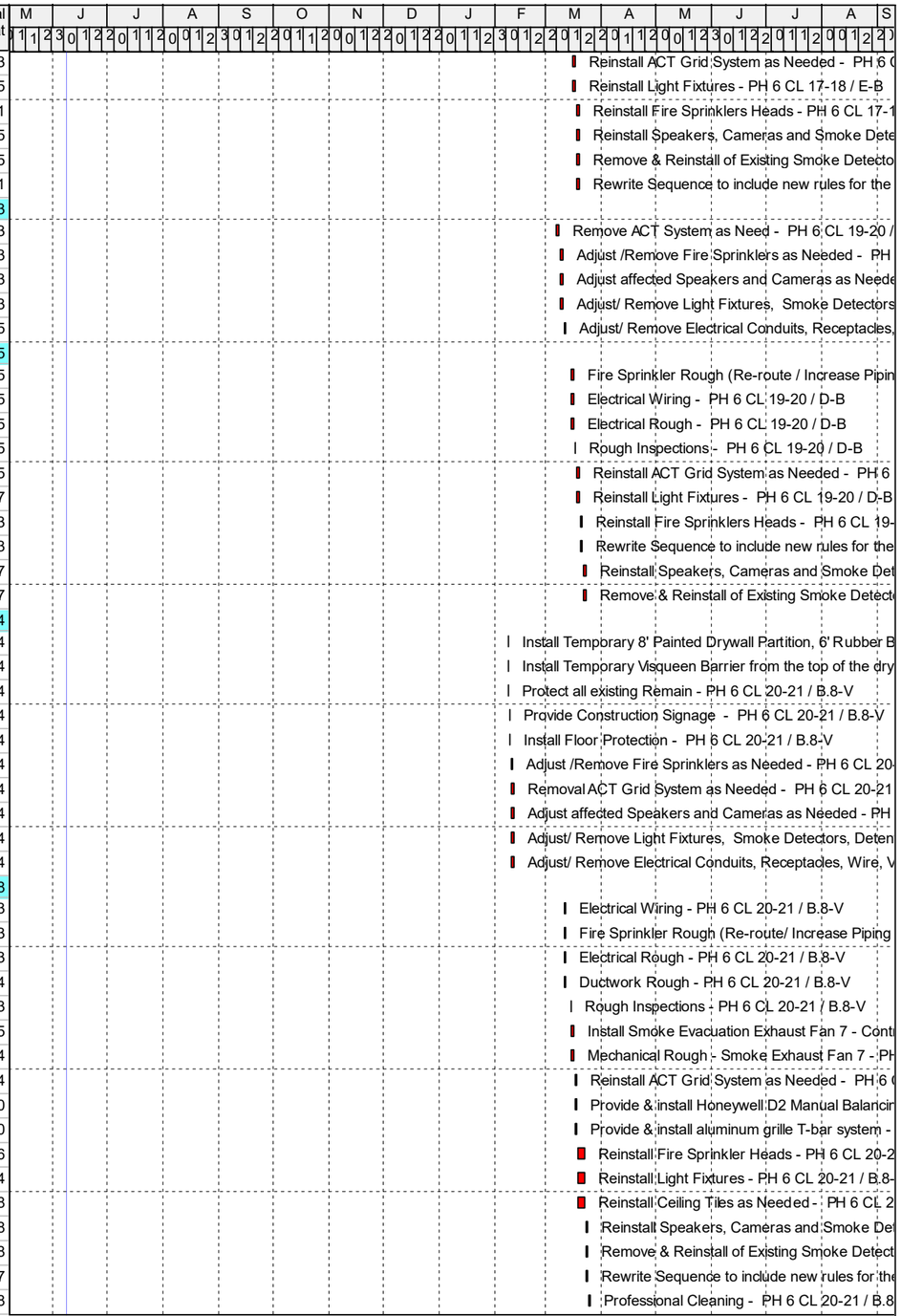
Critical Remaining Work
Milestone

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
M-2 A 420	Reinstall ACT Grid System as Needed - PH 6 CL 17-18 / E-B	16-Mar-21	17-Mar-21	2	-63
E-1 F 230	Reinstall Light Fixtures - PH 6 CL 17-18 / E-B	16-Mar-21	17-Mar-21	2	-45
M-2 C 470	Reinstall Fire Sprinklers Heads - PH 6 CL 17-18 / E-B	18-Mar-21	19-Mar-21	2	-61
E-1 F 190	Reinstall Speakers, Cameras and Smoke Detectors - PH 6 CL 17-18 / E-B	18-Mar-21	19-Mar-21	2	-45
M-2 X 810	Remove & Reinstall of Existing Smoke Detectors - PH 6 CL 17-18 / E-B	18-Mar-21	19-Mar-21	2	-45
M-2 X 850	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 6 CL 17-18 / E-B	18-Mar-21	19-Mar-21	2	-61
DEMOLITION - PH 6 CL 19-20 D-B - OVERHEAD		07-Mar-21	12-Mar-21	6	-63
M-2 A430	Remove ACT System as Need - PH 6 CL 19-20 / D-B	07-Mar-21	08-Mar-21	2	-63
M-2 C 520	Adjust /Remove Fire Sprinklers as Needed - PH 6 CL 19-20 / D-B	09-Mar-21	10-Mar-21	2	-63
E-1 F 560	Adjust affected Speakers and Cameras as Needed - PH 6 CL 19-20 / D-B	09-Mar-21	10-Mar-21	2	-43
E-1 F 570	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - PH 6 CL 19-20 / D-B	09-Mar-21	10-Mar-21	2	-43
E-1 F 580	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - PH 6 CL 19-20 / D-B	11-Mar-21	12-Mar-21	2	-45
NEW WORK - PH 6 CL 19-20 D-B - OVERHEAD		15-Mar-21	23-Mar-21	9	-65
M-2 C 490	Fire Sprinkler Rough (Re-route / Increase Piping and Supports as Required) - PH 6 CL 19-20 / D-B	15-Mar-21	16-Mar-21	2	-65
E-2 F 280	Electrical Wiring - PH 6 CL 19-20 / D-B	15-Mar-21	16-Mar-21	2	-45
E-2 F 270	Electrical Rough - PH 6 CL 19-20 / D-B	15-Mar-21	16-Mar-21	2	-45
M-2 C 510	Rough Inspections - PH 6 CL 19-20 / D-B	17-Mar-21	17-Mar-21	1	-65
M-2 A 440	Reinstall ACT Grid System as Needed - PH 6 CL 19-20 / D-B	18-Mar-21	19-Mar-21	2	-65
E-1 F 240	Reinstall Light Fixtures - PH 6 CL 19-20 / D-B	18-Mar-21	19-Mar-21	2	-47
M-2 C 500	Reinstall Fire Sprinklers Heads - PH 6 CL 19-20 / D-B	20-Mar-21	21-Mar-21	2	-63
M-2 X 860	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 6 CL 19-20 / D-B	20-Mar-21	21-Mar-21	2	-63
E-1 F 200	Reinstall Speakers, Cameras and Smoke Detectors - PH 6 CL 19-20 / D-B	22-Mar-21	23-Mar-21	2	-47
M-2 X 820	Remove & Reinstall of Existing Smoke Detectors - PH 6 CL 19-20 / D-B	22-Mar-21	23-Mar-21	2	-47
DEMOLITION - PH 6 CL 20-21 B.8-V		08-Feb-21	11-Feb-21	4	-54
M-2 A 330	Install Temporary 8' Painted Drywall Partition, 6' Rubber Base, & Double Temp Door - PH 6 CL 20-21 / B.8-V	08-Feb-21	08-Feb-21	1	-54
ADD2 A 480	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl -	08-Feb-21	08-Feb-21	1	-54
M-2 A 570	Protect all existing Remain - PH 6 CL 20-21 / B.8-V	08-Feb-21	08-Feb-21	1	-54
ADD3 A 250	Provide Construction Signage - PH 6 CL 20-21 / B.8-V	09-Feb-21	09-Feb-21	1	-54
ADD2 A 490	Install Floor Protection - PH 6 CL 20-21 / B.8-V	09-Feb-21	09-Feb-21	1	-54
FP-1 C 410	Adjust /Remove Fire Sprinklers as Needed - PH 6 CL 20-21 / B.8-V	10-Feb-21	10-Feb-21	1	-54
A1 A 210	Removal ACT Grid System as Needed - PH 6 CL 20-21 / B.8-V	10-Feb-21	11-Feb-21	2	-54
E-1 F 510	Adjust affected Speakers and Cameras as Needed - PH 6 CL 20-21 / B.8-V	10-Feb-21	11-Feb-21	2	-54
E-1 F 520	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - PH 6 CL 20-21 / B.8-V	10-Feb-21	11-Feb-21	2	-54
E-1 F 500	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as Needed - PH 6 CL 20-21 / B.8-V	10-Feb-21	11-Feb-21	2	-54
NEW WORK- PH 6 CL 20-21 B.8-V		11-Mar-21	29-Mar-21	19	-68
E-2 F 240	Electrical Wiring - PH 6 CL 20-21 / B.8-V	11-Mar-21	12-Mar-21	2	-73
FP-1 C 510	Fire Sprinkler Rough (Re-route/ Increase Piping and Supports as Required) - PH 6 CL 20-21 / B.8-V	11-Mar-21	12-Mar-21	2	-73
E-2 F 230	Electrical Rough - PH 6 CL 20-21 / B.8-V	11-Mar-21	12-Mar-21	2	-73
M-2 E 530	Ductwork Rough - PH 6 CL 20-21 / B.8-V	11-Mar-21	12-Mar-21	2	-74
FP-1 C 520	Rough Inspections - PH 6 CL 20-21 / B.8-V	15-Mar-21	15-Mar-21	1	-73
E-5 F 250	Install Smoke Evacuation Exhaust Fan 7 - Control and Feeder & Connections - PH 6 CL 20-21 / B.8-V	15-Mar-21	16-Mar-21	2	-45
M-2 E 540	Mechanical Rough - Smoke Exhaust Fan 7 - PH 6 CL 20-21 / B.8-V	15-Mar-21	16-Mar-21	2	-74
E-1 A 310	Reinstall ACT Grid System as Needed - PH 6 CL 20-21 / B.8-V	17-Mar-21	18-Mar-21	2	-74
M-2 E 600	Provide & install Honeywell D2 Manual Balancing Dampers - PH 6 CL 20-21 / B.8-V	17-Mar-21	18-Mar-21	2	-60
M-2 E 700	Provide & install aluminum grille T-bar system - PH 6 CL 20-21 / B.8-V	17-Mar-21	18-Mar-21	2	-60
FP-1 C 530	Reinstall Fire Sprinkler Heads - PH 6 CL 20-21 / B.8-V	19-Mar-21	22-Mar-21	2	-46
E-1 F 221	Reinstall Light Fixtures - PH 6 CL 20-21 / B.8-V	19-Mar-21	22-Mar-21	2	-74
E-1 A 300	Reinstall Ceiling Tiles as Needed - PH 6 CL 20-21 / B.8-V	19-Mar-21	22-Mar-21	2	-48
E-1 F 180	Reinstall Speakers, Cameras and Smoke Detectors - PH 6 CL 20-21 / B.8-V	23-Mar-21	24-Mar-21	2	-48
M-2 X 550	Remove & Reinstall of Existing Smoke Detectors - PH 6 CL 20-21 / B.8-V	23-Mar-21	24-Mar-21	2	-48
M-2 X 870	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 6 CL 20-21 / B.8-V	23-Mar-21	24-Mar-21	2	-107
A02.9 A 480	Professional Cleaning - PH 6 CL 20-21 / B.8-V	25-Mar-21	25-Mar-21	1	-48



Remaining Level of Effort
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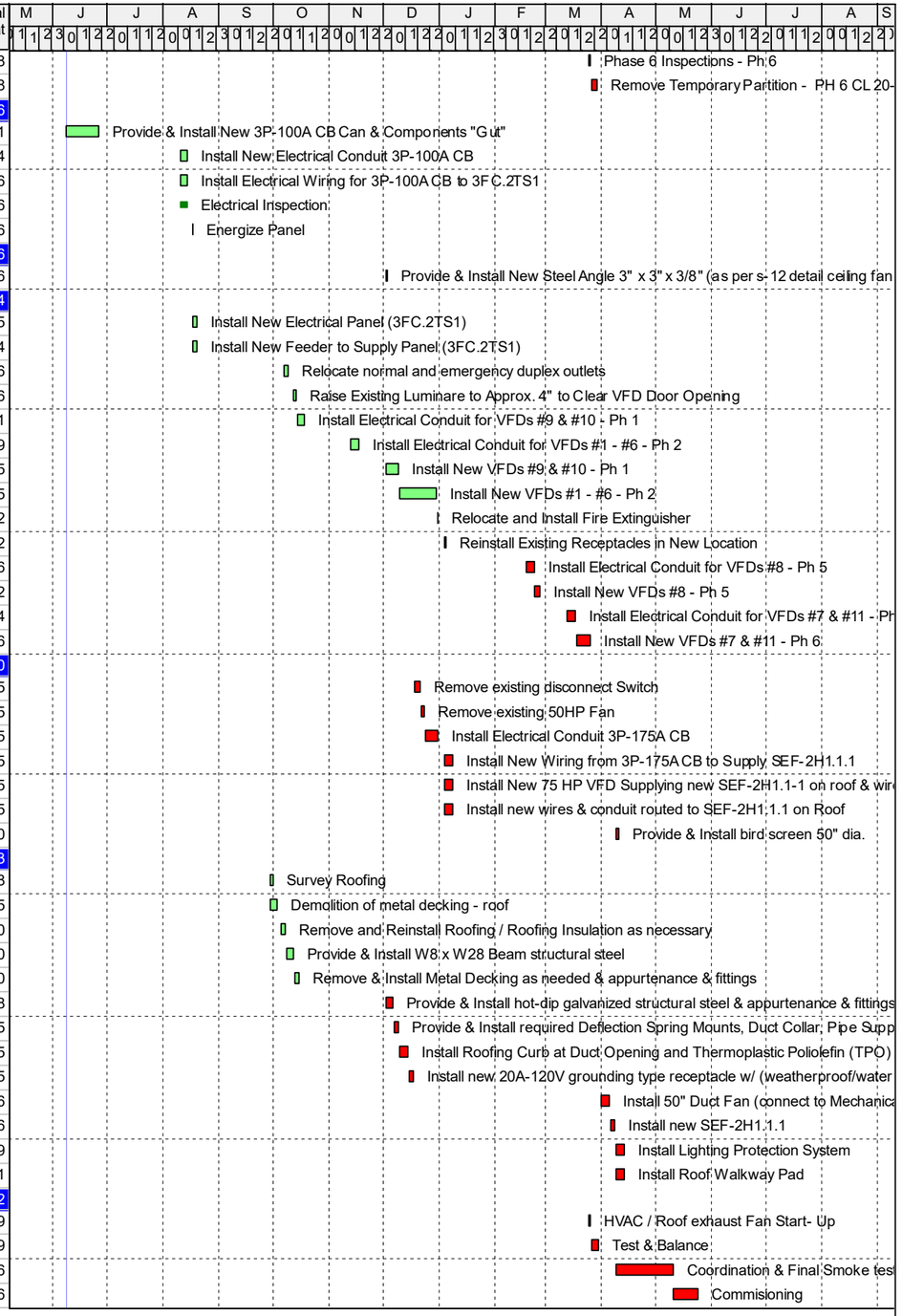
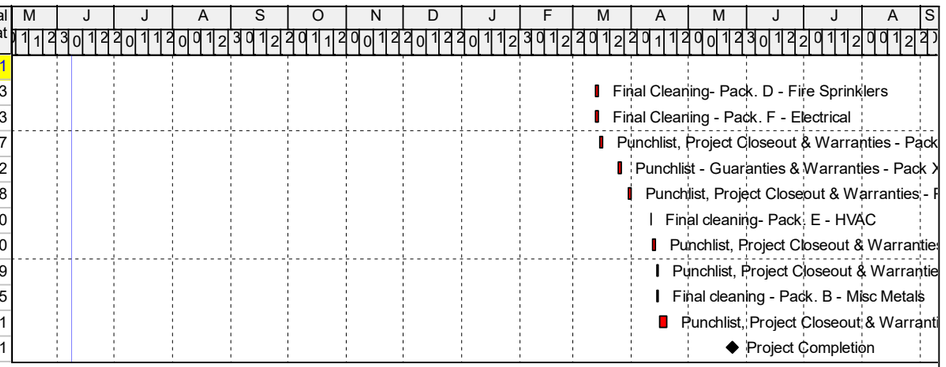
Milestone

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
M-2 F 270	Phase 6 Inspections - Ph 6	25-Mar-21	25-Mar-21	1	-48
ADD2 A 290	Remove Temporary Partition - PH 6 CL 20-21 / B.8-V	26-Mar-21	29-Mar-21	2	-48
2ND FLOOR - ELECTRICAL ROOM - H20320		08-Jun-20	17-Aug-20	51	106
A1 F I320	Provide & Install New 3P-100A CB Can & Components "Gut"	08-Jun-20	26-Jun-20	15	141
A1 F I290	Install New Electrical Conduit 3P-100A CB	10-Aug-20	14-Aug-20	5	104
A1 F I300	Install Electrical Wiring for 3P-100A CB to 3FC.2TS1	10-Aug-20	14-Aug-20	5	106
A1 F I310	Electrical Inspection	10-Aug-20	14-Aug-20	5	106
A1 F I330	Energize Panel	17-Aug-20	17-Aug-20	1	106
2ND FLOOR - SEF STEEL ANGLE		02-Dec-20	03-Dec-20	2	46
S-1 B 180	Provide & Install New Steel Angle 3" x 3" x 3/8" (as per s-12 detail ceiling fan hanger elevation detail)	02-Dec-20	03-Dec-20	2	46
3RD FLOOR - ELECTRICAL ROOM - H30206		17-Aug-20	25-Mar-21	221	-64
A1 F I270	Install New Electrical Panel (3FC.2TS1)	17-Aug-20	19-Aug-20	3	105
A1 F I280	Install New Feeder to Supply Panel (3FC.2TS1)	17-Aug-20	19-Aug-20	3	104
M-2 F 221	Relocate normal and emergency duplex outlets	07-Oct-20	09-Oct-20	3	36
M-2 F 210	Raise Existing Luminare to Approx. 4" to Clear VFD Door Opening	12-Oct-20	13-Oct-20	2	36
E-4 F 200	Install Electrical Conduit for VFDs #9 & #10 - Ph 1	14-Oct-20	18-Oct-20	5	51
E-4 F 290	Install Electrical Conduit for VFDs #1 - #6 - Ph 2	13-Nov-20	17-Nov-20	5	29
E-4 F 190	Install New VFDs #9 & #10 - Ph 1	02-Dec-20	09-Dec-20	6	5
E-4 F 170	Install New VFDs #1 - #6 - Ph 2	10-Dec-20	30-Dec-20	14	5
E-3 A 170	Relocate and Install Fire Extinguisher	31-Dec-20	31-Dec-20	1	12
M-2 F 200	Reinstall Existing Receptacles in New Location	04-Jan-21	04-Jan-21	1	12
E-4 F 300	Install Electrical Conduit for VFDs #8 - Ph 5	18-Feb-21	22-Feb-21	5	-46
E-4 F 180	Install New VFDs #8 - Ph 5	23-Feb-21	25-Feb-21	3	-32
E-4 F 310	Install Electrical Conduit for VFDs #7 & #11 - Ph 6	13-Mar-21	17-Mar-21	5	-64
E-4 F 210	Install New VFDs #7 & #11 - Ph 6	18-Mar-21	25-Mar-21	6	-46
5TH FLOOR/MECHANICAL PENTHOUSE		18-Dec-20	10-Apr-21	114	-80
E-4 F 240	Remove existing disconnect Switch	18-Dec-20	21-Dec-20	2	-25
M-2 E 171	Remove existing 50HP Fan	22-Dec-20	23-Dec-20	2	-25
E-4 F 280	Install Electrical Conduit 3P-175A CB	24-Dec-20	31-Dec-20	5	-25
E-4 F 220	Install New Wiring from 3P-175A CB to Supply SEF-2H1.1.1	04-Jan-21	08-Jan-21	5	-25
E-4 F 260	Install New 75 HP VFD Supplying new SEF-2H1.1-1 on roof & wires	04-Jan-21	08-Jan-21	5	-25
E-4 F 270	Install new wires & conduit routed to SEF-2H1.1.1 on Roof	04-Jan-21	08-Jan-21	5	-25
S-2 E 156	Provide & Install bird screen 50" dia.	09-Apr-21	10-Apr-21	2	-80
ROOF		29-Sep-20	13-Apr-21	197	-83
S-1 B 170	Survey Roofing	29-Sep-20	30-Sep-20	2	18
S-1 A 190	Demolition of metal decking - roof	29-Sep-20	03-Oct-20	5	15
S-1 R 190	Remove and Reinstall Roofing / Roofing Insulation as necessary	05-Oct-20	07-Oct-20	3	10
S-2 B 130	Provide & Install W8 x W28 Beam structural steel	08-Oct-20	12-Oct-20	3	10
S-2 B 110	Remove & Install Metal Decking as needed & appurtenance & fittings	13-Oct-20	15-Oct-20	3	10
S-2 B 170	Provide & Install hot-dip galvanized structural steel & appurtenance & fittings	02-Dec-20	06-Dec-20	5	-38
S-2 B 140	Provide & Install required Deflection Spring Mounts, Duct Collar, Pipe Support, etc	07-Dec-20	09-Dec-20	3	-25
S-2 R 150	Install Roofing Curb at Duct Opening and Thermoplastic Poliolefin (TPO) Membrane at Tube Wraps	10-Dec-20	14-Dec-20	3	-25
S-2 F 120	Install new 20A-120V grounding type receptacle w/ (weatherproof/water resistance enclosure)	15-Dec-20	17-Dec-20	3	-25
M-2 E 400	Install 50" Duct Fan (connect to Mechanical penthouse below)	01-Apr-21	05-Apr-21	3	-86
S-2 E 310	Install new SEF-2H1.1.1	06-Apr-21	08-Apr-21	3	-86
E-2 F 130	Install Lighting Protection System	09-Apr-21	13-Apr-21	3	-59
S-2 R 160	Install Roof Walkway Pad	09-Apr-21	13-Apr-21	3	-61
TEST AND CERTIFICATION		25-Mar-21	24-May-21	61	-122
PC E 115	HVAC / Roof exhaust Fan Start- Up	25-Mar-21	25-Mar-21	1	-69
PC E 125	Test & Balance	26-Mar-21	30-Mar-21	5	-69
PC X 102	Coordination & Final Smoke test with MDFD	09-Apr-21	10-May-21	22	-86
PC X 122	Commisioning	11-May-21	24-May-21	10	-86



Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
PROJECT CLOSE-OUT		13-Mar-21	24-May-21	73	-121
PC C 125	Final Cleaning- Pack. D - Fire Sprinklers	13-Mar-21	14-Mar-21	2	-53
PC F 140	Final Cleaning - Pack. F - Electrical	13-Mar-21	14-Mar-21	2	-53
PC C 135	Punchlist, Project Closeout & Warranties - Pack. D - Fire Sprinklers	15-Mar-21	16-Mar-21	2	-37
PC X 112	Punchlist - Guaranties & Warranties - Pack X - Fire Alarm	25-Mar-21	26-Mar-21	2	-62
PC A 100	Punchlist, Project Closeout & Warranties - Pack. A - General Work	30-Mar-21	31-Mar-21	2	-48
PC E 135	Final cleaning- Pack. E - HVAC	11-Apr-21	11-Apr-21	1	-80
PC E 145	Punchlist, Project Closeout & Warranties- Pack. E - HVAC	12-Apr-21	13-Apr-21	2	-80
PC F 150	Punchlist, Project Closeout & Warranties - Pack. F - Electrical	14-Apr-21	15-Apr-21	2	-59
PC B 105	Final cleaning - Pack. B - Misc Metals	14-Apr-21	15-Apr-21	2	-85
PC B 115	Punchlist, Project Closeout & Warranties - Pack. B - Misc Metals	16-Apr-21	19-Apr-21	2	-61
PC 310	Project Completion		24-May-21	0	-121



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Transmittal #2

MCM

Project: 2020-764 - Term H FL2 Area A Smoke Evac
MIA Airport
Miami, Florida 33166
Phone: 3055410000

RWP #3

TO: **Reinaldo Abrahante (Miami Dade Aviation Department)**
PO BOX 025504 MIA - BUILDING 3030 2ND FLOOR, B-WING
Miami, Florida 33166

FROM: **Leticia Green (MCM)**
6201 SW 70th Street, 2nd Floor
Miami, Florida 33143

CREATED DATE: 01/11/2021

COPIES TO:

TRANSMIT:	VIA:	FOR:	ACTION:
Attached	Attached	Approval	

Transmittal Items

DESCRIPTION	FORMAT	DATE	COPIES
RWP #3	Other	01/11/ 2021	1

Comments

Emailed 1/11/2021

BY **DATE** **COPIES TO**

January 6, 2021

Mr. Reinaldo Abrahante
Project Manager
Miami Dade Aviation Department
P.O. Box 025504
Miami, FL 33102-5504

Re: MIA – Terminal H FL2 Area A – Smoke Evacuation System
MCC-U-023A

REQUEST FOR WORK ORDER/PROJECT ORDER MODIFICATION #3

Dear Mr. Abrahante:

Enclosed please find our cost breakdown for necessary work to be performed at the subject project. This proposal is for a Time Extension of 121 days for events that led to a delay in the construction schedule. Please find attached breakdown of these delays.

An extension of time is required, please include an extension of **121 days** as part of the additional work.

Subcontractor(s)	Scope of Work	Amount
MCM	See Attached	$0
	MCC Fee (7.96%)	$0
	TOTAL	**$0**

The attached subcontractor breakdown has been reviewed by Munilla Construction Management, LLC (MCM) and is found to be in accordance with current industry standards for the task on hand.

Once approval is finalized, please issue a Work Order/Project Order Modification reflecting the above. A change order to the above subcontractor(s) will follow from MCM.

Should you have any questions regarding this matter, please contact me as soon as possible.

Sincerely,

1/6/21

Juan Munilla
MIA MCC–8-10
General Manager

Cc: File

BUILDING EXCELLENCE

PROJECT:
MIA –TERMINAL H FL2 AREA A-SMOKE EVACUATION SYSTEM

TIME IMPACT ANALYSIS #1

MCC-8-10
MISCELLANEOUS CONSTRUCTION CONTRACT

MUNILLA CONSTRUCTION
3050 NW 20 STREET, 2ND FLOOR
MIAMI, FLORIDA 33126

MCM ASSISTANT PROJECT MANAGER:
JOSE MORALES
Jmorales@mcm-us.com

PHONE: (305) 541-0000
FAX: (305) 541-9771

MDAD PROJECT MANAGER:
REINALDO ABRAHANTE

Date:
1/6/2021

TABLE OF CONTENTS

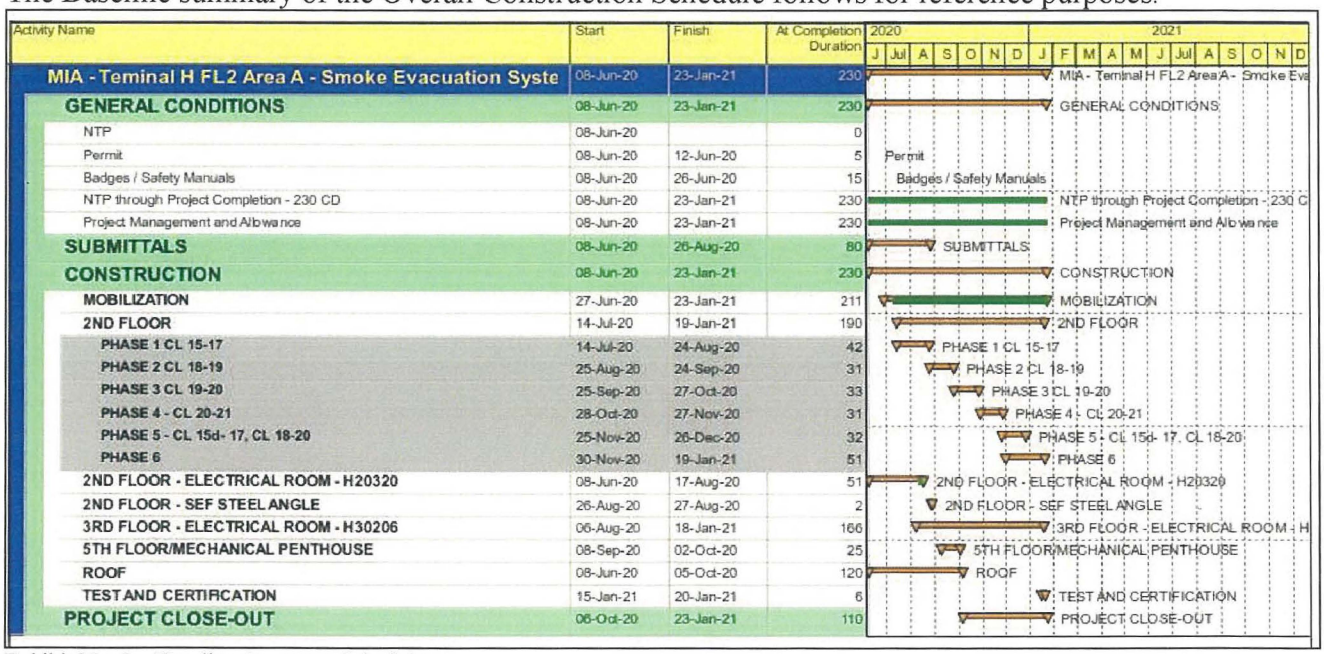
1.0 - INTRODUCTION

The Project consist of, but not limited to: one new exhaust fan, eleven (11) smoke handling fans, twelve (12) variable frequency drive units.

- Detailed scope of work is as follows:
  - Selective demolition of existing ductwork.
  - Selective removal of electric equipments and conduits.
  - Construction, installation and demolition of temporary partitions for each of the six phases.
  - Fabrication and installation of above ceiling metal ductwork.
  - Fabrication and installation of roof mounted smoke exhaust evacuation ductwork.
  - Purchase and installation of smoke handling fans and smoke exhaust fan.
  - Purchase and installation of a variable frequency drive for each fan motor.
  - Smoke test of the completed system.
  - New roofing curb and new duct opening.
  - Fire proofing.
  - Removal and re-installation of sprinkler heads and smoke detectors.
  - Power feeders and connections for all new fans.
  - Manual Dampers and grills.
  - Commissioning and balance of new system.

Project NTP was issued on June 8th , 2020. The original project completion was scheduled on January 23rd , 2021, representing a duration of 230 calendar days. See Exhibit 1.

The Baseline summary of the Overall Construction Schedule follows for reference purposes.



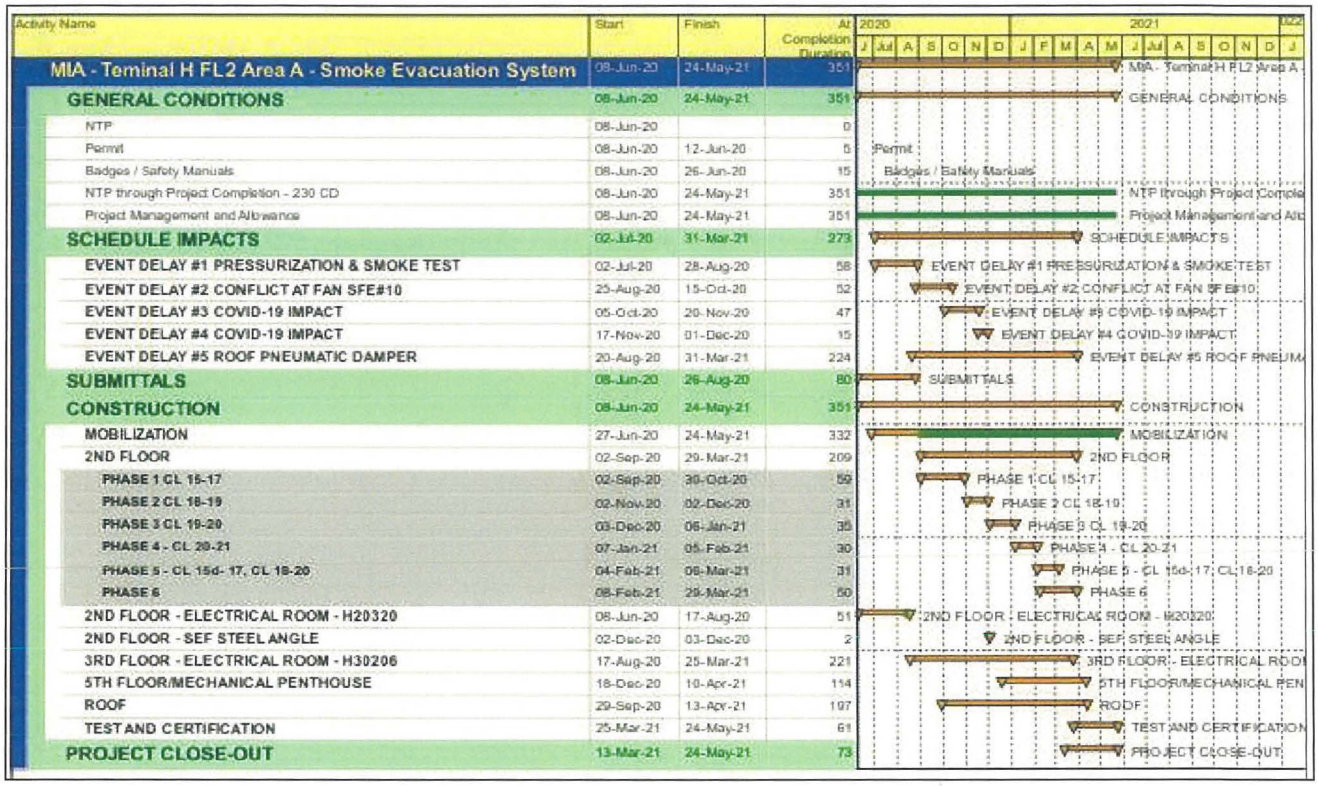
Activity Name	Start	Finish	At Completion Duration
MIA - Teminal H FL2 Area A - Smoke Evacuation Syste	08-Jun-20	23-Jan-21	230
GENERAL CONDITIONS	08-Jun-20	23-Jan-21	230
NTP	08-Jun-20		0
Permit	08-Jun-20	12-Jun-20	5
Badges / Safety Manuals	08-Jun-20	26-Jun-20	15
NTP through Project Completion - 230 CD	08-Jun-20	23-Jan-21	230
Project Management and Allowance	08-Jun-20	23-Jan-21	230
SUBMITTALS	08-Jun-20	26-Aug-20	80
CONSTRUCTION	08-Jun-20	23-Jan-21	230
MOBILIZATION	27-Jun-20	23-Jan-21	211
2ND FLOOR	14-Jul-20	19-Jan-21	190
PHASE 1 CL 15-17	14-Jul-20	24-Aug-20	42
PHASE 2 CL 18-19	25-Aug-20	24-Sep-20	31
PHASE 3 CL 19-20	25-Sep-20	27-Oct-20	33
PHASE 4 - CL 20-21	28-Oct-20	27-Nov-20	31
PHASE 5 - CL 15d- 17, CL 18-20	25-Nov-20	26-Dec-20	32
PHASE 6	30-Nov-20	19-Jan-21	51
2ND FLOOR - ELECTRICAL ROOM - H20320	08-Jun-20	17-Aug-20	51
2ND FLOOR - SEF STEEL ANGLE	26-Aug-20	27-Aug-20	2
3RD FLOOR - ELECTRICAL ROOM - H30206	06-Aug-20	18-Jan-21	166
5TH FLOOR/MECHANICAL PENTHOUSE	08-Sep-20	02-Oct-20	25
ROOF	08-Jun-20	05-Oct-20	120
TEST AND CERTIFICATION	15-Jan-21	20-Jan-21	6
PROJECT CLOSE-OUT	06-Oct-20	23-Jan-21	110

Exhibit No. 2 – Baseline Summary Schedule

2.0 ANALYSIS METHODOLOGY

The Time Impact Analysis method used for this project, involves the insertion of activities indicating delays or changes into the updated schedule representing progress up to the point when a delay event occurred to determine the impact of those delay activities. The delays resulted from the events discussed in this analysis are added to the updated Schedule, and the impact on the project duration is calculated.

The impacted updated schedule below, reflects how the substantial completion date has been impacted as a result of the events described in this report. In this analysis, each delay has been added to the updated schedule as a single event and its effects.



Activity Name	Start	Finish	At Completion Duration
MIA - Terminal H FL2 Area A - Smoke Evacuation System	08-Jun-20	24-May-21	351
GENERAL CONDITIONS	08-Jun-20	24-May-21	351
NTP	08-Jun-20		0
Permit	08-Jun-20	12-Jun-20	5
Badges / Safety Manuals	08-Jun-20	26-Jun-20	15
NTP through Project Completion - 230 CD	08-Jun-20	24-May-21	351
Project Management and Allowance	08-Jun-20	24-May-21	351
SCHEDULE IMPACTS	02-Jul-20	31-Mar-21	273
EVENT DELAY #1 PRESSURIZATION & SMOKE TEST	02-Jul-20	28-Aug-20	58
EVENT DELAY #2 CONFLICT AT FAN SFE#10	25-Aug-20	15-Oct-20	52
EVENT DELAY #3 COVID-19 IMPACT	05-Oct-20	20-Nov-20	47
EVENT DELAY #4 COVID-19 IMPACT	17-Nov-20	01-Dec-20	15
EVENT DELAY #5 ROOF PNEUMATIC DAMPER	20-Aug-20	31-Mar-21	224
SUBMITTALS	08-Jun-20	26-Aug-20	80
CONSTRUCTION	08-Jun-20	24-May-21	351
MOBILIZATION	27-Jun-20	24-May-21	332
2ND FLOOR	02-Sep-20	29-Mar-21	209
PHASE 1 CL 15-17	02-Sep-20	30-Oct-20	59
PHASE 2 CL 18-19	02-Nov-20	02-Dec-20	31
PHASE 3 CL 19-20	03-Dec-20	06-Jan-21	35
PHASE 4 - CL 20-21	07-Jan-21	05-Feb-21	30
PHASE 5 - CL 15d- 17, CL 18-20	04-Feb-21	08-Mar-21	31
PHASE 6	08-Feb-21	29-Mar-21	50
2ND FLOOR - ELECTRICAL ROOM - H20320	08-Jun-20	17-Aug-20	51
2ND FLOOR - SEF STEEL ANGLE	02-Dec-20	03-Dec-20	2
3RD FLOOR - ELECTRICAL ROOM - H30206	17-Aug-20	25-Mar-21	221
5TH FLOOR/MECHANICAL PENTHOUSE	18-Dec-20	10-Apr-21	114
ROOF	29-Sep-20	13-Apr-21	197
TEST AND CERTIFICATION	25-Mar-21	24-May-21	61
PROJECT CLOSE-OUT	13-Mar-21	24-May-21	73

Exhibit No. 3 – Impacted Schedule with delays

This time analysis is to request a time extension due to various unforeseen conditions extending the project completion to May 24th, 2021.

BASIS OF THE CLAIM / DELAY EVENTS:

3.0 – EVENT DELAY NO. 1: PRESSURIZATION TEST

Prior to start of work, the Architect requested a pressurization test report for the existing equipment (AHU-2H-1.1, and adjoining area AHUs...) associated with the smoke evacuation and a smoke test report to submit to MDAD. Architect also requested control shop drawings, including control dampers and air handling units location and operations, as well as complete sequence of operation under normal and smoke evacuation modes. (See Exhibit No. 4)

3.1 - TIME IMPACT ANALYSIS OF EVENT DELAY #1

Due to unforeseen conditions, the Pressurization/smoke test of the existing system took longer than anticipated. impacting Phase 1 scope of work. This is a concurrent delay of 56 days.

3.2 - OVERALL IMPACT ON SCHEDULE

The Pressurization test impacted the following activities:
MOB A 170- Mobilization Pack. A- General Work and Phase 1 demolition work and new work.

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	20-Mar-21	286	-56
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELINE		08-Jun-20	20-Mar-21	286	-56
GENERAL CONDITIONS		08-Jun-20	20-Mar-21	286	-56
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	20-Mar-21	286	-56
SCHEDULE IMPACTS		02-Jul-20	28-Aug-20	58	-52
EVENT DELAY #1		02-Jul-20	28-Aug-20	58	-52
SI 100	Pressurization / Smoke Test	02-Jul-20*	28-Aug-20	58	-52
CONSTRUCTION		26-Aug-20	20-Oct-20	56	-56
MOBILIZATION		26-Aug-20	01-Sep-20	7	-54
MOB E160	Pressurization / Smoke Test (if needed) see Construction Documents	26-Aug-20	28-Aug-20	3	-52
MOB A 170	Mobilization Pack. A- General Work	31-Aug-20	01-Sep-20	2	-38
2ND FLOOR		09-Sep-20	20-Oct-20	42	-56
PHASE 1 CL 15-17		09-Sep-20	20-Oct-20	42	-56
DEMOLITION		09-Sep-20	28-Sep-20	20	-55
ADD2 A 370	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl	09-Sep-20	09-Sep-20	1	-55
ADD2 A 380	Install Floor Protection - Ph 1	10-Sep-20	10-Sep-20	1	-38
A1 A 160	Removal ACT Grid System as Needed - Ph 1	11-Sep-20	15-Sep-20	3	-38
E-1 F 220	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as needed - Ph 1	16-Sep-20	28-Sep-20	9	-38
NEW WORK		16-Sep-20	20-Oct-20	35	-56
M-2 E 150	Mechanical Rough - Smoke Exhaust Fan 10 - Ph 1	16-Sep-20	02-Oct-20	13	-35
M-2 E 170	Ductwork Rough - Ph 1	16-Sep-20	07-Oct-20	16	-37
E-2 F 140	Electrical Rough - Ph 1	29-Sep-20	01-Oct-20	3	-38
E-2 F 120	Electrical Wiring - Ph 1	02-Oct-20	06-Oct-20	3	-38
E-5 F 190	Install Smoke Evacuation Exhaust Fans 10 - Control and Feeder & Connections - Ph 1	07-Oct-20	08-Oct-20	2	-38
FP-1 C 330	Rough Inspections - Ph 1	08-Oct-20	08-Oct-20	1	-38
E-1 A 160	Reinstall ACT Grid System as Needed - Ph 1	09-Oct-20	10-Oct-20	2	-55
E-1 F 130	Reinstall Speakers, Cameras and Smoke Detectors - Ph 1	11-Oct-20	12-Oct-20	2	-55
E-1 A 210	Reinstall Ceiling Tiles as Needed - Ph 1	11-Oct-20	12-Oct-20	2	-55
A02.9 A 430	Professional Cleaning - Ph 1	14-Oct-20	14-Oct-20	1	-39
ADD2 A 300	Remove Temporary Partition - Ph 1	19-Oct-20	20-Oct-20	2	-39
PROJECT CLOSE-OUT		20-Mar-21	20-Mar-21	0	-56
PC 310	Project Completion		20-Mar-21	0	-56

Exhibit No. 5 – Event delay 1 Pressurization Test

4.0 – EVENT DELAY NO. 2: CONFLICT AT FAN SFE#10

During Phase 1 demolition, three items were in conflict. Coordination was necessary with the various entities. One fiber optic 2" pipe, and two fire alarms needed to be relocated. One near three elevator banks and single elevator bank, and 1" phone jack conduit in process to be relocated. (See Exhibit No.6)

4.1 - TIME IMPACT ANALYSIS OF EVENT DELAY #2

The 1" phone jack relocation had to be approved by MDAD. The phone jack pipe was in conflict with the connection of the new fan #10 to the ductwork. This is a concurrent delay of 51 calendar days.

4.2 - OVERALL IMPACT ON SCHEDULE

The conflict during the demolition at Fan SFE #10 impacted the following activities:

E-5 F 190 Install Smoke Evacuation Exhaust Fan 10- control and feeder connections
E-1 A 160 Reinstall ACT grid system as needed

E-1 A 210 Reinstall Ceiling tiles as needed
E-1 F 130 Reinstall speakers, cameras and smoke detectors

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		25-Aug-20	15-Oct-20	52	-64
EVENT DELAY #2		25-Aug-20	15-Oct-20	52	-64
SI 110	Conflict at Fan SFE#10	25-Aug-20*	15-Oct-20	52	-64
CONSTRUCTION		16-Oct-20	02-Nov-20	18	-68
2ND FLOOR		16-Oct-20	02-Nov-20	18	-68
PHASE 1 CL 15-17		16-Oct-20	30-Oct-20	15	-66
NEW WORK		16-Oct-20	30-Oct-20	15	-66
E-5 F 190	Install Smoke Evacuation Exhaust Fans 10 - Control and Feeder & Connections - Ph 1	16-Oct-20	19-Oct-20	2	-45
FP-1 C 330	Rough Inspections - Ph 1	19-Oct-20	19-Oct-20	1	-45
E-1 A 160	Reinstall ACT Grid System as Needed - Ph 1	20-Oct-20	21-Oct-20	2	-66
E-1 F 130	Reinstall Speakers, Cameras and Smoke Detectors - Ph 1	22-Oct-20	23-Oct-20	2	-66
FP-1 C 190	Reinstall Fire Sprinkler Heads - Ph 1	22-Oct-20	23-Oct-20	2	-47
M-2 X180	Remove & Reinstall of Existing Smoke Detectors - PH 1	22-Oct-20	23-Oct-20	2	-47
E-1 A 210	Reinstall Ceiling Tiles as Needed - Ph 1	22-Oct-20	23-Oct-20	2	-66
M-2 X 240	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 1	22-Oct-20	23-Oct-20	2	-66
A02 9 A 430	Professional Cleaning - Ph 1	26-Oct-20	26-Oct-20	1	-47
M-2 F 220	Phase 1 Inspections - Ph 1	27-Oct-20	28-Oct-20	2	-47
ADD2 A 300	Remove Temporary Partition - Ph 1	29-Oct-20	30-Oct-20	2	-47
PHASE 2 CL 18-19		02-Nov-20	02-Nov-20	1	-47
DEMOLITION		02-Nov-20	02-Nov-20	1	-47
M-2 A 370	Protect all existing to Remain - Ph 2	02-Nov-20	02-Nov-20	1	-47
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69

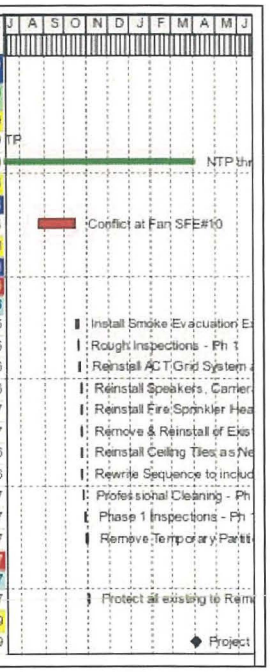


Exhibit No. 7 – Event delay 2 – Conflict at SFE#10

5.0 – EVENT DELAY NO. 3 : IMPACT ON ROOF SCOPE

On 10/5/20, the metals package subcontractor (Fleites) reported an impact on the procurement of the metals supports. The galvanization plant stopped operations due to an internal reported Covid-19 case. Their plant shut down for two weeks. The roof was also impacted by rain days, as the month of November recorded several rain days.

5.1 - TIME IMPACT ANALYSIS OF EVENT DELAY #3

The fabrication and delivery of the metal supports were impacted due to the reported Covid-19 case. Rain days on 11/5, 11/8,11/12, 11/20 also impacted the roof scope. This is a concurrent delay of 47 days.

5.2 - OVERALL IMPACT ON SCHEDULE

The impact on roof scope affected the following activities:

S-2 B 170 Install hot-dip galvanized structural steel & appurtenances & fittings

S-2 B 140 Install required deflection spring mounts, duct collar, pipe support

S-2 R 150 Install roofing curb at duct opening and thermoplastic polyolefin membrane at tube wraps

S-2 F 120 Install New 20A- 120V grounding receptacle w/ (weatherproof/water restistance enclosure)

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		05-Oct-20	20-Nov-20	47	0
EVENT DELAY #3		05-Oct-20	20-Nov-20	47	0
SI 120	Impact on Roof Scope	05-Oct-20*	20-Nov-20	47	0
CONSTRUCTION		02-Dec-20	18-Jan-21	48	2
5TH FLOOR/MECHANICAL PENTHOUSE		18-Dec-20	23-Dec-20	4	0
E-4 F 240	Remove existing disconnect Switch	18-Dec-20	21-Dec-20	2	0
M-2 E 171	Remove existing 50HP Fan	22-Dec-20	23-Dec-20	2	0
ROOF		02-Dec-20	18-Jan-21	48	2
S-2 B 170	Provide & Install hot-dip galvanized structural steel & appurtenance & fittings	02-Dec-20	06-Dec-20	5	0
S-2 B 140	Provide & Install required Deflection Spring Mounts, Duct Collar, Pipe Support, etc	07-Dec-20	09-Dec-20	3	0
S-2 R 150	Install Roofing Curb at Duct Opening and Thermoplastic Polioletin (TPO) Membrane at Tu	10-Dec-20	14-Dec-20	3	0
M-2 E 400	Install 50" Duct Fan (connect to Mechanical penthouse below)	10-Dec-20	14-Dec-20	3	17
S-2 F 120	Install new 20A-120V grounding type receptacle w/ (weatherproof/water resistance enclo	15-Dec-20	17-Dec-20	3	0
S-2 E 310	Install new SEF-2H1.1.1	11-Jan-21	13-Jan-21	3	0
E-2 F 130	Install Lighting Protection System	14-Jan-21	18-Jan-21	3	2
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69

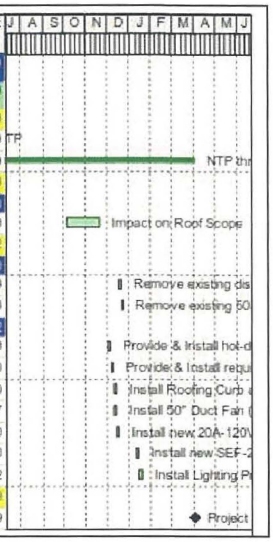


Exhibit No. 9 – Event delay 3 – Impact on Roof Scope

6.0 – EVENT DELAY NO.4 : COVID-19

The ongoing pandemic affected progress on the project. Two seperated subcontractors had to stop work after having at least one of their workers test positive for Covid-19. (See Exhibit No.9)

6.1 - TIME IMPACT ANALYSIS OF EVENT DELAY #4

The electrical subcontractor (Thevenin Entreprises) stopped work from November 17th, 2020 to November 30th, 2020 due to Covid-19. The Metals package subcontractor (Fleites Construction) stopped work from November 20th to December 1st, 2020 due to Covid-19.

6.2 - OVERALL IMPACT ON SCHEDULE

This impacted the following ongoing Phase 3 new work of the Electrical subcontractor with:
E-1 F 420 Adjsut affected speakers and cameras as needed.
E-1 F 430 Adjust/ Remove light fixtures, smoke detectors, detention systems as needed.
E-2 F 170 Electrical Rough wiring.

The Covid-19 impacted the following Metal subcontractor actvities with:
S-1 B 180 Provide & Install New Steel Angle.
S-2 B 170 Provide and Install hot dip galvanized structural steel & appurtenance & fittings.

Overall impact on schedule is 14 days. This is a concurrent delay.

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		17-Nov-20	01-Dec-20	15	-56
EVENT DELAY #4		17-Nov-20	01-Dec-20	15	-56
SI 130	Covid-19	17-Nov-20*	01-Dec-20	15	-56
CONSTRUCTION		02-Dec-20	17-Mar-21	106	-58
2ND FLOOR		12-Dec-20	25-Dec-20	14	-68
PHASE 3 CL 19-20		12-Dec-20	25-Dec-20	14	-68
DEMOLITION		12-Dec-20	14-Dec-20	3	-68
E-1 F 420	Adjust affected Speakers and Cameras as Needed - Ph 3	12-Dec-20	12-Dec-20	1	-66
E-1 F 430	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - Ph 3	14-Dec-20	14-Dec-20	1	-47
NEW WORK		14-Dec-20	25-Dec-20	11	-68
E-2 F 180	Electrical Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-44
E-2 F 170	Electrical Rough Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-47
E-1 A 240	Reinstall ACT Grid System as Needed - Ph 3	23-Dec-20	25-Dec-20	2	-68
2ND FLOOR - SEF STEEL ANG LE		02-Dec-20	03-Dec-20	2	46
S-1 B 180	Provide & Install New Steel Angle 3" x 3" x 3/8" (as per s-12 detail ceiling fan hanger eleva	02-Dec-20	03-Dec-20	2	46
3RD FLOOR - ELECTRICAL ROOM - H30206		02-Dec-20	17-Mar-21	106	-64
E-4 F 190	Install New VFDs #9 & #10 - Ph 1	02-Dec-20	09-Dec-20	6	5
E-4 F 300	Install Electrical Conduit for VFDs #8 - Ph 5	18-Feb-21	22-Feb-21	5	-46
E-4 F 310	Install Electrical Conduit for VFDs #7 & #11 - Ph 6	13-Mar-21	17-Mar-21	5	-64
ROOF		02-Dec-20	14-Dec-20	13	0
S-2 B 170	Provide & Install hot-dip galvanized structural steel & appurtenance & fittings	02-Dec-20	06-Dec-20	5	0
S-2 B 140	Provide & Install required Deflection Spring Mounts, Duct Collar, Pipe Support, etc	07-Dec-20	09-Dec-20	3	0
S-2 R 150	Install Roofing Curb at Duct Opening and Thermoplastic Pololefin (TPO) Membrane at Tu	10-Dec-20	14-Dec-20	3	0
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69

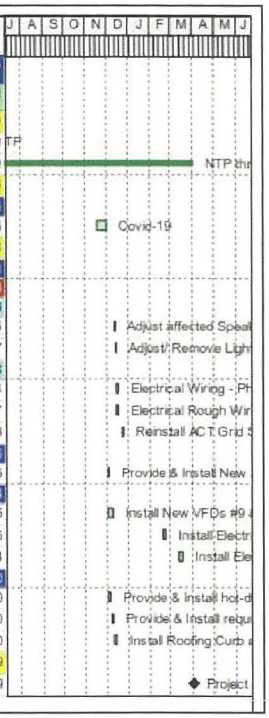


Exhibit No. 11 – Event Delay 4 Covid-19

7.0 – EVENT DELAY NO. 5 : ROOF PNEUMATIC DAMPER

The Mechanical Subcontractor submitted RFI #SES-06, requesting clarification (Type,model, Manufacture) for Motorized damper at rooftop gridline.

7.1 - TIME IMPACT ANALYSIS OF EVENT DELAY #5

On 8/20/20, The Mechanical Subcontractor (Gamma Air Systems) submitted RFI #SES-06, requesting clarification (Type, model, Manufacture) for Motorized damper at rooftop gridline. The mechanical contractor was instructed to provide a quote with time and money impact for both damper systems: electrical and pneumatic. On 11/25/20, following Architect's suggestion, it was decided to install the pneumatic dampers. On 12/17/20, the Mechanical subcontractor provided the submittals to A/E for approval. The pneumatic damper is currently under review. Following approval, the lead time for material delivery is estimated for end of March 2021. (See Exhibit No.11)

7.2 - OVERALL IMPACT ON SCHEDULE

This is impacting the following Roof work activities:

M-2 E 400 Install 50" Duct Fan
S-2 E 310 Install New SEF-2H1.1.1
S-2 R 160 Intall Roof Walkway pad

Overall impact on schedule is 121 days. This is a critical delay.

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	24-May-21	351	-121
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED		08-Jun-20	24-May-21	351	-121
GENERAL CONDITIONS		08-Jun-20	08-Jun-20	0	-50
GC 100	NTP	08-Jun-20		0	-50
SCHEDULE IMPACTS		20-Aug-20	31-Mar-21	224	-122
EVENT DELAY #5 ROOF PNEUMATIC DAMPER		20-Aug-20	31-Mar-21	224	-122
SI 140	RFI # SES-06 Rooftop MOD for 2H1.1-1 Spec Request	20-Aug-20*	25-Nov-20	98	-122
SI 150	Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	26-Nov-20	17-Dec-20	22	-122
SI 160	A/E Review & Approve Submittal #15830-3: Fans- PD (Exhaust Smoke E\	18-Dec-20	31-Dec-20	14	-122
SI 170	Fab- Delivery Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	01-Jan-21	31-Mar-21	90	-122
CONSTRUCTION		01-Apr-21	24-May-21	38	-86
ROOF		01-Apr-21	13-Apr-21	9	-59
M-2 E 400	Install 50" Duct Fan (connect to Mechanical penthouse below)	01-Apr-21	05-Apr-21	3	-86
S-2 E 310	Install new SEF-2H1.1.1	06-Apr-21	08-Apr-21	3	-86
E-2 F 130	Install Lighting Protection System	09-Apr-21	13-Apr-21	3	-59
TEST AND CERTIFICATION		09-Apr-21	24-May-21	32	-86
PC X 102	Coordination & Final Smoke test with MDFD	09-Apr-21	10-May-21	22	-86
PC X 122	Commisioning	11-May-21	24-May-21	10	-86
PROJECT CLOSE-OUT		14-Apr-21	24-May-21	41	-121
PC F 150	Punchlist, Project Closeout & Warranties - Pack. F - Electrical	14-Apr-21	15-Apr-21	2	-59
PC 310	Project Completion		24-May-21	0	-121

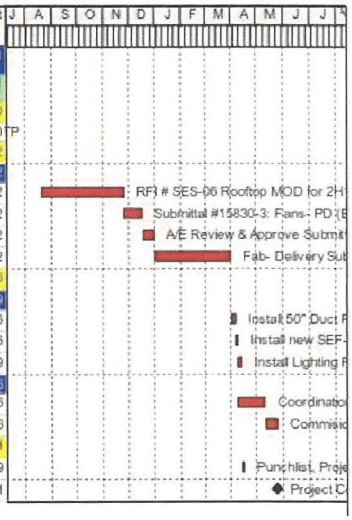


Exhibit No. 13 – Event Delay 5: Roof Pneumatic Damper

8.0 – CONCLUSION

It is concluded from this report that the completion date of the project has been negatively impacted due to delay events beyond the contractor's control. These delays should be considered as excusable delays as per the General Conditions paragraph 7.5.02. Exhibit 14 Delay Event Occurrence Graph and Exhibit 15 Project Delay Timeline Graph are graphic summaries of these delays effect in the Project's timeline.

The contractor hereby is currently requesting an excusable time extension in the amount of 121 calendar days for TERMINAL H FL 2 AREA 2- SMOKE EVACUATION SYSTEM. As a result of the time extension, the project's final completion date has been moved from January 23rd , 2021 to May 24th , 2021.

9.0– EXHIBITS

- EXHIBITS

1 1 PROJECT NOTICE TO PROCEED
2 PROJECT SUMMARY BASELINE SCHEDULE
3 PROJECT IMPACTED SCHEDULE WITH DELAYS
4 EVENT DELAY No .1 - PRESSURIZATION TEST
5 EVENT DELAY No .1 - PRESSURIZATION TEST IMPACTED SCHEDULE
6 EVENT DELAY No. 2 - CONFLICT AT FAN SFE #10
7 EVENT DELAY No. 2 - CONFLICT AT FAN SFE #10 IMPACTED SCHEDULE
8 EVENT DELAY No. 3 - IMPACT ON ROOF SCOPE IMPACTED SCHEDULE
9 EVENT DELAY No. 4 - COVID-19
10 EVENT DELAY No. 4 - COVID-19 IMPACTED SCHEDULE
11 EVENT DELAY No. 5 - ROOF PNEUMATIC DAMPER
12 EVENT DELAY No. 5 - ROOF PNEUMATIC DAMPER IMPACTED SCHEDULE
13 DELAY EVENT OCCURRENCE GRAPH
14 PROJECT DELAY TIMELINE GRAPH

NOTICE TO PROCEED

MIAMI-DADE COUNTY, FLORIDA AVIATION DEPARTMENT – FACILITIES DIVISION

MCM, LLC
JUN 04 2020
MCC-8-10

NOTICE TO PROCEED

PROJECT NAME: MIA – Terminal H Smoke Evacuation Upgrades

JOB LOCATION: MIA Concourse H PROJECT No: U-023-A

A/E CONSULTANT Innovative Engineering CONTRACT AMT: $1,268,197.13

CONTRACTOR: MCM Corporation

CONTRACTOR ADDRESS: 4450 NW 20th Miami Florida 33126, Suite 3050

This is your Notice to Proceed with the work as set forth in the Contract Documents. You are hereby directed to commence work on the **8th** day of **June, 2020**. The Contract Time of Completion is **230** calendar days and the Contract Completion Date is January 23rd, 2021.

SUBMITTED:

MDAD/DAC Project Manager	Reinaldo Abrahante Printed Name	6/8/2020 Date

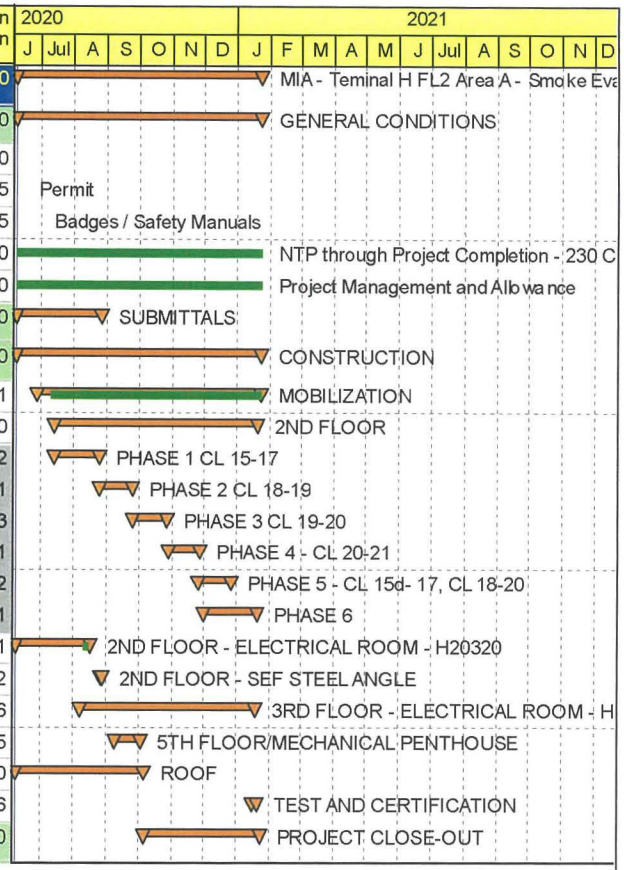
APPROVED:

Consultant (Innovative Engineering Group)	Sudhir Gupta Printed Name	Not Available Date
Consulting Engineer (HNTB)	Printed Name	NA Date
MDAD Chief of Construction/Design	Enrique Perez Printed Name	6-4-20 Date
Assistant Aviation Dir, Capital Facilities Development	Pedro Hernandez Printed Name	Date

Attachment: MCC Project Order #107, Purchase Order

Distribution: Document Control; Administrative Services & Minority Affairs; MDAD Project Manager; Project File

Activity Name	Start	Finish	At Completion Duration
MIA - Teminal H FL2 Area A - Smoke Evacuation Syste	08-Jun-20	23-Jan-21	230
GENERAL CONDITIONS	08-Jun-20	23-Jan-21	230
NTP	08-Jun-20		0
Permit	08-Jun-20	12-Jun-20	5
Badges / Safety Manuals	08-Jun-20	26-Jun-20	15
NTP through Project Completion - 230 CD	08-Jun-20	23-Jan-21	230
Project Management and Allowance	08-Jun-20	23-Jan-21	230
SUBMITTALS	08-Jun-20	26-Aug-20	80
CONSTRUCTION	08-Jun-20	23-Jan-21	230
MOBILIZATION	27-Jun-20	23-Jan-21	211
2ND FLOOR	14-Jul-20	19-Jan-21	190
PHASE 1 CL 15-17	14-Jul-20	24-Aug-20	42
PHASE 2 CL 18-19	25-Aug-20	24-Sep-20	31
PHASE 3 CL 19-20	25-Sep-20	27-Oct-20	33
PHASE 4 - CL 20-21	28-Oct-20	27-Nov-20	31
PHASE 5 - CL 15d- 17, CL 18-20	25-Nov-20	26-Dec-20	32
PHASE 6	30-Nov-20	19-Jan-21	51
2ND FLOOR - ELECTRICAL ROOM - H20320	08-Jun-20	17-Aug-20	51
2ND FLOOR - SEF STEEL ANGLE	26-Aug-20	27-Aug-20	2
3RD FLOOR - ELECTRICAL ROOM - H30206	06-Aug-20	18-Jan-21	166
5TH FLOOR/MECHANICAL PENTHOUSE	08-Sep-20	02-Oct-20	25
ROOF	08-Jun-20	05-Oct-20	120
TEST AND CERTIFICATION	15-Jan-21	20-Jan-21	6
PROJECT CLOSE-OUT	06-Oct-20	23-Jan-21	110



Remaining Level of Effort
Actual Level of Effort
Summary

EXHIBIT 02- PROJECT SUMMARY BASELINE

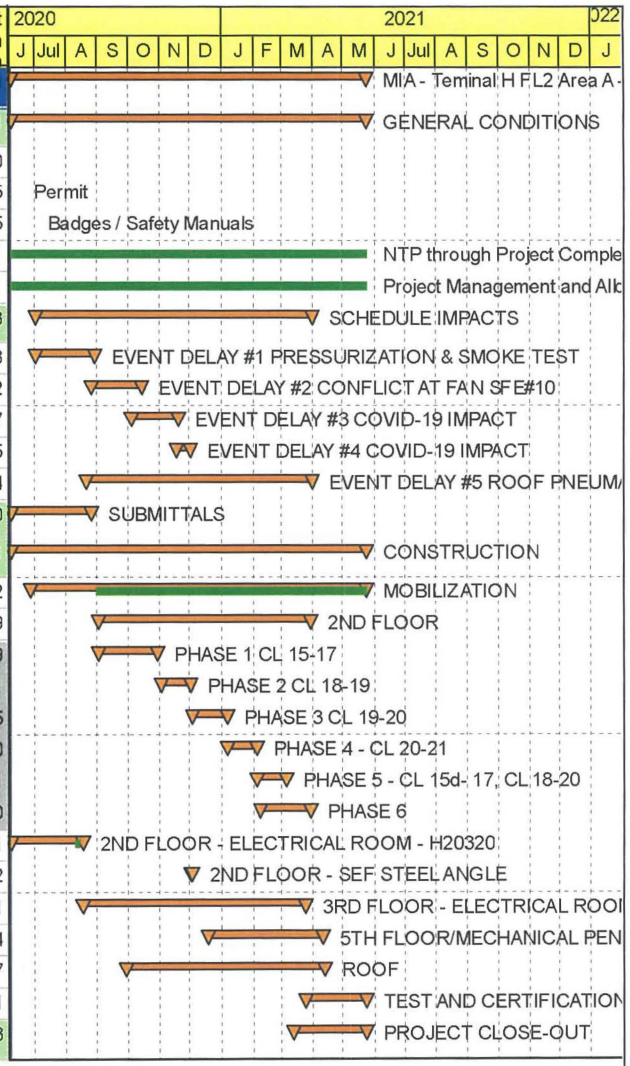
MIA - Teminal H FL2 Area A - Smoke Evacuation System
MCM- TIA Summary Schedule

MCM BUILDING EXCELLENCE

03-Dec-20

Data Date 08-Jun-20

Activity Name	Start	Finish	At Completion Duration
MIA - Teminal H FL2 Area A - Smoke Evacuation System	08-Jun-20	24-May-21	351
GENERAL CONDITIONS	08-Jun-20	24-May-21	351
NTP	08-Jun-20		0
Permit	08-Jun-20	12-Jun-20	5
Badges / Safety Manuals	08-Jun-20	26-Jun-20	15
NTP through Project Completion - 230 CD	08-Jun-20	24-May-21	351
Project Management and Allowance	08-Jun-20	24-May-21	351
SCHEDULE IMPACTS	02-Jul-20	31-Mar-21	273
EVENT DELAY #1 PRESSURIZATION & SMOKE TEST	02-Jul-20	28-Aug-20	58
EVENT DELAY #2 CONFLICT AT FAN SFE#10	25-Aug-20	15-Oct-20	52
EVENT DELAY #3 COVID-19 IMPACT	05-Oct-20	20-Nov-20	47
EVENT DELAY #4 COVID-19 IMPACT	17-Nov-20	01-Dec-20	15
EVENT DELAY #5 ROOF PNEUMATIC DAMPER	20-Aug-20	31-Mar-21	224
SUBMITTALS	08-Jun-20	26-Aug-20	80
CONSTRUCTION	08-Jun-20	24-May-21	351
MOBILIZATION	27-Jun-20	24-May-21	332
2ND FLOOR	02-Sep-20	29-Mar-21	209
PHASE 1 CL 15-17	02-Sep-20	30-Oct-20	59
PHASE 2 CL 18-19	02-Nov-20	02-Dec-20	31
PHASE 3 CL 19-20	03-Dec-20	06-Jan-21	35
PHASE 4 - CL 20-21	07-Jan-21	05-Feb-21	30
PHASE 5 - CL 15d- 17, CL 18-20	04-Feb-21	06-Mar-21	31
PHASE 6	08-Feb-21	29-Mar-21	50
2ND FLOOR - ELECTRICAL ROOM - H20320	08-Jun-20	17-Aug-20	51
2ND FLOOR - SEF STEEL ANGLE	02-Dec-20	03-Dec-20	2
3RD FLOOR - ELECTRICAL ROOM - H30206	17-Aug-20	25-Mar-21	221
5TH FLOOR/MECHANICAL PENTHOUSE	18-Dec-20	10-Apr-21	114
ROOF	29-Sep-20	13-Apr-21	197
TEST AND CERTIFICATION	25-Mar-21	24-May-21	61
PROJECT CLOSE-OUT	13-Mar-21	24-May-21	73



Remaining Level of Effort
Actual Level of Effort
Summary

EXHIBIT 03- PROJECT IMPACTED SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System
IMPACTED BASELINE
MCM- TIA Summary Schedule

MCM BUILDING EXCELLENCE

30-Dec-20

Certified Test; Adjust; Balance Report

PO Box 550831, Davie, FL 33355
Phone: (443) 458-8012
Website: www.caribeflow.com

Project:	**MIA Terminal H Smoke Evacuation**
Location:	**Miami, FL.**
Architect:	**-**
Engineer:	**Innovative Engineering Group, Inc.**
Contractor:	**Gamma**

Project Number - 2020095

This is to certify that Caribe Flow HVAC Engineers, Inc. has balanced the systems in accordance with the project plans and specifications and to the optimum performance capabilities of the equipment. Testing and balancing were performed in accordance to the standards published by the Associated Air Balance Council. The results of these tests are herein recorded.

Submitted & Certified By: **Caribe Flow HVAC Engineers, Inc**
Certification Number: **19-09-58**
Report Date:**23/3/2020**

AABC TBE Signature:

AABC

Associated Air Balance Council

Annual Membership Certificate

Awarded to

Caribe Flow HVAC Engineers Inc.

as a member in good standing of the Associated Air Balance Council for the year

2020

This member has met all requirements for membership and is entitled to all rights and privileges of AABC certification. This certificate is renewable on an annual basis and expires December 31, 2020.

Benjiman J. Link, *President*

ASSOCIATED AIR BALANCE COUNCIL
AABC
2020

Raymond R. Bert, *Executive Director*

AABC

Associated Air Balance Council

Annual Certificate

Awarded to

John Bryan

Caribe Flow HVAC Engineers, Inc.

In recognition of his qualifications as a

Certified Test and Balance Engineer

under the rules, regulations, and requirements of the Associated Air Balance Council. The above named is fully authorized to perform total system balance in accordance with the standards as established by the AABC and as a member of the Associated Air Balance Council for the year

2020

This registration number **19-09-58** *is fully recognized by the bylaws and charter of this professional association. Certification is renewable on an annual basis after examination of the agency's record for the preceding year. This certificate expires December 31, 2020.*

ASSOCIATED AIR BALANCE COUNCIL ★ AABC ★ 2020 ★

Benjiman J. Link, *President*

Raymond R. Bert, *Executive Director*

CARIBE FLOW HVAC ENGINEERS

AABC

CODE DESCRIPTION SHEET

CODE	DESCRIPTION
#	Number
ΔP	Differential Pressure
ΔT	Differential Temperature
%	Percent
°F	Degree Fahrenheit
@	At
ACT	Actual
ADJ	Adjustment
AHU	Air handling unit
AMPS	Amperage
AR	Anemometer Reading
BHP	Brake Horsepower
BTU	British thermal unit
CD	Ceiling Diffuser
CFM	Cubic feet per minute
CG	Ceiling grille
COND	Condenser
CR	Ceiling register
DB	Dry bulb temperature
DDC	Direct digital control
DES	Design
DHR	Direct Hood Reading
DIFF	Differential
DL	Drum louver
EAT	Entering air temperature
EF	Exhaust fan
EG	Exhaust grille
ER	Exhaust register
EWT	Entering water temperature
FPM	Feet per minute
FPVAV	Fan powered Variable air volume
Ft	Feet
GPM	Gallons per minute
Hz	Hertz
IN	Inches
KW	Kilowatts
LAT	Leaving air temperature
LD	Linear slot diffuser

CODE	DESCRIPTION
LT	Light troffer
LWT	Leaving water temperature
MAX	Maximum
MBH	Thousand British thermal unit hour
MIN	Minimum
N/A	Not Applicable
N/D	Not Determined
N/P	Not Provided
N/S	Not Specified
OED	Opened end duct
OA	Outside air
PCD	Perforated ceiling diffuser
PD	Pressure differential
PEG	Perforated exhaust grille
PRG	Perforated return grille
PSI	Pounds per square inch
RA	Return air
RG	Return air grille
RR	Return air register
REQ'D	Required
RPM	Revolutions per minute
SG	Supply air grille
SR	Supply air register
SOED	Screened open end duct
SP	Static pressure
SQ	Square
TDH	Total dynamic head
TD	Temperature differential
TE	Traverse exhaust
TEMP	Temperature
TOA	Traverse outside air
TR	Traverse return air
TS	Traverse supply air
VAV	Variable air volume
VOLTS	Voltages
VSC	Variable speed controller
WB	Wet bulb
ZD	Zone damper

CARIBE FLOW HVAC ENGINEERS

AABC

INSTRUMENT CALIBRATIONS

FUNCTION	MANUFACTURER	MODEL	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
Air Data Multimeter	Evergreen	S-PVF-1	1700340	2020-06-1	01 Jun 21
Clamp Multimeter	FLUKE	323	28430158WS	2020-01-08	08 Jan 21
Flowhood	Evergreen	CH-8D	1700288	2020-01-09	09 Jan 21
HydroData Multimeter	Evergreen	S-DP-125	1700170	2020-05-10	05 Sep 21
HydroData Multimeter	Shortridge	HDM-250	W13002	2020-08-01	01 Aug 21
Psychrometer	Evergreen	PR-T-1	1700382	2020-01-09	09 Jan 21
Rotating Vane Anemometer	EXTECH	AN300	1002010	2020-01-08	08 Jan 21
Tachometer	Extech	461891	Q058326	2020-01-03	03 Jan 21

This is the listing of the instruments used to obtain the reported data. All instruments comply with minimum function, range, accuracy, resolution and calibration interval requirements as per AABC Standards.

Summary

The scope of our work consists of testing the following equipment:

1) E2PF-1EX.
2) E3PF-1EX.
3) E4PF-1EX.

Procedures:

1) All systems were set to run per sequence of operation for testing.
2) All equipment was read with air data multimeter.

Results:

1) Systems tested at "As Is" conditions. All motorized dampers verified open and closed accordingly to sequence of operation.

MIA TERMINAL H SMOKE EVACUATION

SEQUENCY OF OPERATION & PRESSURIZATION TEST.

ZONE	EQUIPMENT	AHU		OAD		RAD	
2H1.1	AHU-2H1.1-1	ON	OFF				
1H1.1	AHU-1H1.1-1	ON	OFF	OP	CL	OP	CL
2H3	AHU-2H3-1	ON	OFF	OP	CL	OP	CL
3H1.2	AHU-3H1.2-1	ON	OFF	OP	CL	OP	CL
2H1.2 (PH2)	AHU-2H1.2-1	UNIT HAS NOT BEEN RUNNIG BY 9 YEARS					
3H1.4	AHU-3H1.4-1	ON	OFF	OP	CL	OP	CL
2C	AHU-2C (B313A)	ON	OFF	OP	CL	OP	CL
2F	AHU-2F (B313A)	UNIT NOT IN SEQUENCE OF OPERATION					
2H1.1	SEF-2H1.1	ON	OFF				
ELEV.1	E1PF-1	ON	OFF				
ELEV.2,3,4	E2/3/4PF-1	ON	OFF				

NOTE:

AHU-2H1.1-1

WORK TO DO DURING TEST : SHUT DOWN.

WORK DONE DURING TEST : SHUT DOWN CORRECT.

AHU-1H1.1-1

WORK TO DO DURING TEST : AHU (STAY RUNING) QAD (OPEN) RAD (CLOSE)

WORK DONE : AHU (STAY RUNING CORRECT); OAD (OPEN CORRECT); RAD (CLOSE CORRECT)

AHU-2H3-1

WORK TO DO DURING TEST : AHU (STAY RUNING) QAD (OPEN) RAD (CLOSE)

WORK DONE : AHU (STAY RUNING CORRECT); OAD (CLOSE INCORRECT); RAD (CLOSE CORRECT)

AHU-3H1.2-1

WORK TO DO DURING TEST : AHU (STAY RUNING) QAD (OPEN) RAD (CLOSE)

WORK DONE : AHU (STAY RUNING CORRECT); OAD (OPEN CORRECT); RAD (CLOSE CORRECT)

AHU-2H1.2-1

THIS UNIT HAS NOT BEEN RUNNING BY 9 YEARS.

AHU-3H1.4-1	
WORK TO DO DURING TEST : AHU (STAY RUNING) QAD (OPEN) RAD (CLOSE)	
WORK DONE : AHU (STAY RUNING CORRECT); OAD (OPEN CORRECT); RAD (CLOSE CORRECT)	
AHU-2C (B313A)	
WORK TO DO DURING TEST : AHU (STAY RUNING) QAD (OPEN) RAD (CLOSE)	
WORK DONE : AHU (STAY RUNING CORRECT); OAD (OPEN CORRECT); RAD (OPEN INCORRECT)	
AHU-2F (B313A)	
THIS UNIT IS NOT IN SEQUENCY OPERATION ACCORDING TO HONEYWELL	
SEF-2H1.1	
WORK TO DO DURING TEST : STAR RUNNING .	
WORK DONE DURING TEST : STAR RUNNING CORRECT.	
E1PF-1	
WORK TO DO DURING TEST : STAR RUNNING .	
WORK DONE DURING TEST : STAR RUNNING CORRECT.	
E2/3/4PF-1	
WORK TO DO DURING TEST : STAR RUNNING .	
WORK DONE DURING TEST : STAR RUNNING CORRECT.	

Table Of Contents

Floor

PROJECT: MIA Terminal H Smoke Evecuation
LOCATION: Miami, FL
PROJECT #: 2020095

DATE: 8/17/2020
CONTACT: Franklyn Andujar

SYSTEM/UNIT: E2PF-1EX. /EP-1/Floor-02

Test Data	
Des. Pressure	.05-.35
Act. Pressure	0.030
Des. Door Pull Pres	30
Des. Door Swing Pres	15

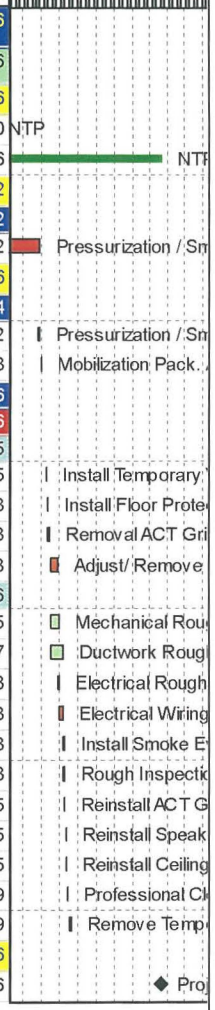
SYSTEM/UNIT: E3PF-1EX. /EP-1/Floor-02

Test Data	
Des. Pressure	.05-.35
Act. Pressure	0.030
Des. Door Pull Pres	30
Des. Door Swing Pres	15

SYSTEM/UNIT: E4PF-1 EX. /EP-01/Floor-02

Test Data	
Des. Pressure	.05-.35
Act. Pressure	0.030
Des. Door Pull Pres	30
Des. Door Swing Pres	15

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	20-Mar-21	286	-56
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELINE		08-Jun-20	20-Mar-21	286	-56
GENERAL CONDITIONS		08-Jun-20	20-Mar-21	286	-56
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	20-Mar-21	286	-56
SCHEDULE IMPACTS		02-Jul-20	28-Aug-20	58	-52
EVENT DELAY #1		02-Jul-20	28-Aug-20	58	-52
SI 100	Pressurization / Smoke Test	02-Jul-20*	28-Aug-20	58	-52
CONSTRUCTION		26-Aug-20	20-Oct-20	56	-56
MOBILIZATION		26-Aug-20	01-Sep-20	7	-54
MOB E160	Pressurization / Smoke Test (if needed) see Construction Documents	26-Aug-20	28-Aug-20	3	-52
MOB A 170	Mobilization Pack. A - General Work	31-Aug-20	01-Sep-20	2	-38
2ND FLOOR		09-Sep-20	20-Oct-20	42	-56
PHASE 1 CL 15-17		09-Sep-20	20-Oct-20	42	-56
DEMOLITION		09-Sep-20	28-Sep-20	20	-55
ADD2 A 370	Install Temporary Visqueen Barrier from the top of the drywall partitions to the structural ceiling of the 2nd Fl	09-Sep-20	09-Sep-20	1	-55
ADD2 A 380	Install Floor Protection - Ph 1	10-Sep-20	10-Sep-20	1	-38
A1 A 160	Removal ACT Grid System as Needed - Ph 1	11-Sep-20	15-Sep-20	3	-38
E-1 F 220	Adjust/ Remove Electrical Conduits, Receptacles, Wire, VFD, etc as needed - Ph 1	16-Sep-20	28-Sep-20	9	-38
NEW WORK		16-Sep-20	20-Oct-20	35	-56
M-2 E 150	Mechanical Rough - Smoke Exhaust Fan 10 - Ph 1	16-Sep-20	02-Oct-20	13	-35
M-2 E 170	Ductwork Rough - Ph 1	16-Sep-20	07-Oct-20	16	-37
E-2 F 140	Electrical Rough - Ph 1	29-Sep-20	01-Oct-20	3	-38
E-2 F 120	Electrical Wiring - Ph 1	02-Oct-20	06-Oct-20	3	-38
E-5 F 190	Install Smoke Evacuation Exhaust Fans 10 - Control and Feeder & Connections - Ph 1	07-Oct-20	08-Oct-20	2	-38
FP-1 C 330	Rough Inspections - Ph 1	08-Oct-20	08-Oct-20	1	-38
E-1 A 160	Reinstall ACT Grid System as Needed - Ph 1	09-Oct-20	10-Oct-20	2	-55
E-1 F 130	Reinstall Speakers, Cameras and Smoke Detectors - Ph 1	11-Oct-20	12-Oct-20	2	-55
E-1 A 210	Reinstall Ceiling Tiles as Needed - Ph 1	11-Oct-20	12-Oct-20	2	-55
A02.9 A 430	Professional Cleaning - Ph 1	14-Oct-20	14-Oct-20	1	-39
ADD2 A 300	Remove Temporary Partition - Ph 1	19-Oct-20	20-Oct-20	2	-39
PROJECT CLOSE-OUT		20-Mar-21	20-Mar-21	0	-56
PC 310	Project Completion		20-Mar-21	0	-56



Remaining Level of Effort ◆ ◆ Milestone

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

EXHIBIT 05- PRESSURIZATION TEST IMPACTED SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System
IMPACTED BASELINE
MCM- TIA IMPACTED Schedule

MCM BUILDING EXCELLENCE

Exhibit 6 - Conflict at SFE #10

From: Victor Camps <vcamps@mcm-us.com>
Sent: Tuesday, January 5, 2021 3:21 PM
To: Scheduling Gamax Consulting.com
Subject: FW: MCC-8 MCC-U-023A Smoke Evacuation System RWP #1 & RWP#2

Victor Camps
PH: 305-541-0000
M: (305)746-1081
www.mcm-us.com
From: Jose E. Morales
Sent: Wednesday, December 16, 2020 10:02 AM
To: 'Abrahante, Reinaldo (Aviation)' <RAbrahante@miami-airport.com>; Sudhir Gupta <engr93@gmail.com>
Cc: 'Manuel de Ovin (mdeovin@hntb.com)' <mdeovin@hntb.com>; Anais Torres <atorres@mcm-us.com>; Victor Camps <vcamps@mcm-us.com>; Ginny Mirabal <vmirabal@mcm-us.com>
Subject: RE: MCC-8 MCC-U-023A Smoke Evacuation System RWP #1 & RWP#2

Team ,
I concur with email below.

Thanks.

Jose E. Morales
PH: 305-541-0000 Ext 237
M: 305-345-9251
From: Abrahante, Reinaldo (Aviation) [mailto:RAbrahante@miami-airport.com]
Sent: Tuesday, December 15, 2020 3:13 PM
To: Sudhir Gupta
Cc: Jose E. Morales
Subject: Fw: MCC-8 MCC-U-023A Smoke Evacuation System RWP #1

CAUTION: This email originated from outside your organization. Exercise caution when

opening attachments or clicking links, especially from unknown senders.
Sudhir,
Please, take a look at each one of these and let me know if you agree, or want to suggest
changes to the merit and justification that I am proposing for each.
Jose,
Please, let me know if you see something that I didn't get right.

RWP 1: Shop fabrication of duct holder for a 50" diameter duct.
* Merit: This part is needed in order to properly support the referenced duct at the point it is
connected to the deflection springs.

* Justification: The design drawings are not specific as to the characteristics of the holder because it was assumed that it would be provided by the duct manufacturer as part of their assembly. As it turns out, neither the duct manufacturer nor the spring manufacturer provides this part. Therefore, at the department's request, the holder is being custom fabricated by the mechanical contractor, Fleites Construction Group, from a design provided by the A/E upon request, as an addition to the contractor's original scope.
* Scope: Fabrication and installation of a duct holder for a 50" diameter duct.
* Reason for change (Choose one): Unforeseeable change

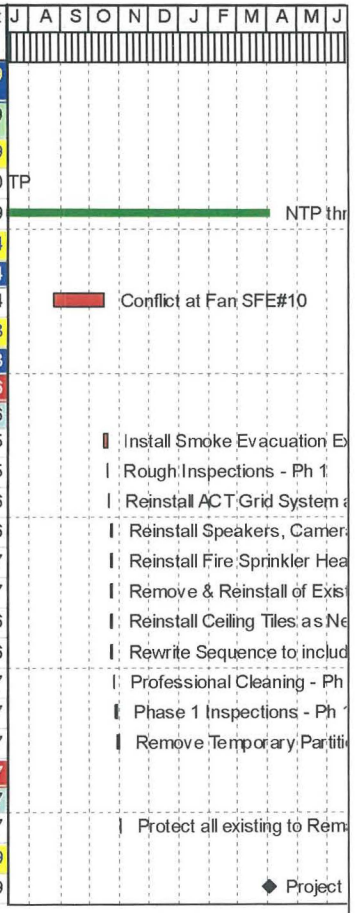
RWP 2: Fabrication and installation of roof curb.
* Merit The curb is required in order to provide proper sealing for a roof penetration that was made necessary by the installation of a smoke exhaust duct.
* Justification: This is normally an item that is provided by a roofing specialist. However, this project did not include a roofer as part of the specialties. The plan was to have all the roofing work for the project contracted separately through an in-house roofing contract, however, the roofing contractor did not include the curb in their proposal. As a result, the mechanical contractor, Fleites Construction, has been asked to fabricate and install the curb.
* Scope: Fabrication and installation of a 59" x 59" roof curb.
* Reason for change (Choose one): County requested change.

Thank you, both.

From: Abrahante, Reinaldo (Aviation) <RAbrahante@miami-airport.com>
Sent: Wednesday, December 2, 2020 3:35 PM
To: Sudhir Gupta <engr93@gmail.com>
Subject: Fw: MCC-8 MCC-U-023A Smoke Evacuation System RWP #1

Hi, Sudhir,
Please, take a look at the attached Request for Work Order I received from MCM (generated by Fleites Construction, their mechanical sub). As you can see, they are asking for extra charges for an item they state could not include in their bid price because it was not sufficiently detailed in the original drawings.

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		25-Aug-20	15-Oct-20	52	-64
EVENT DELAY #2		25-Aug-20	15-Oct-20	52	-64
SI 110	Conflict at Fan SFE#10	25-Aug-20*	15-Oct-20	52	-64
CONSTRUCTION		16-Oct-20	02-Nov-20	18	-68
2ND FLOOR		16-Oct-20	02-Nov-20	18	-68
PHASE 1 CL 15-17		16-Oct-20	30-Oct-20	15	-66
NEW WORK		16-Oct-20	30-Oct-20	15	-66
E-5 F 190	Install Smoke Evacuation Exhaust Fans 10 - Control and Feeder & Connections - Ph 1	16-Oct-20	19-Oct-20	2	-45
FP-1 C 330	Rough Inspections - Ph 1	19-Oct-20	19-Oct-20	1	-45
E-1 A 160	Reinstall ACT Grid System as Needed - Ph 1	20-Oct-20	21-Oct-20	2	-66
E-1 F 130	Reinstall Speakers, Cameras and Smoke Detectors - Ph 1	22-Oct-20	23-Oct-20	2	-66
FP-1 C 190	Reinstall Fire Sprinkler Heads - Ph 1	22-Oct-20	23-Oct-20	2	-47
M-2 X180	Remove & Reinstall of Existing Smoke Detectors - PH 1	22-Oct-20	23-Oct-20	2	-47
E-1 A 210	Reinstall Ceiling Tiles as Needed - Ph 1	22-Oct-20	23-Oct-20	2	-66
M-2 X 240	Rewrite Sequence to include new rules for the New Smoke Control Fans - PH 1	22-Oct-20	23-Oct-20	2	-66
A02.9 A 430	Professional Cleaning - Ph 1	26-Oct-20	26-Oct-20	1	-47
M-2 F 220	Phase 1 Inspections - Ph 1	27-Oct-20	28-Oct-20	2	-47
ADD2 A 300	Remove Temporary Partition - Ph 1	29-Oct-20	30-Oct-20	2	-47
PHASE 2 CL 18-19		02-Nov-20	02-Nov-20	1	-47
DEMOLITION		02-Nov-20	02-Nov-20	1	-47
M-2 A 370	Protect all existing to Remain - Ph 2	02-Nov-20	02-Nov-20	1	-47
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69



Remaining Level of Effort ◆ ◆ Milestone

Actual Level of Effort

Actual Work

Remaining Work

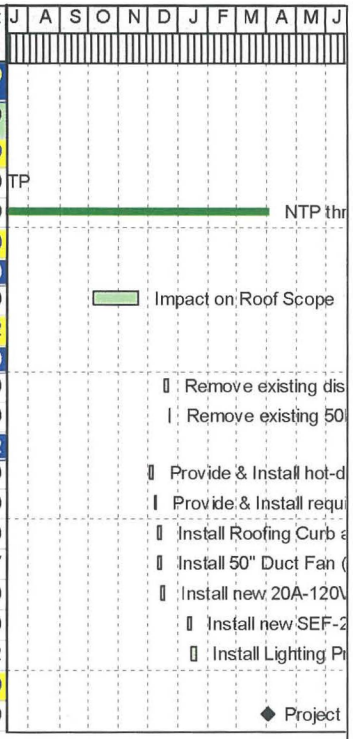
Critical Remaining Work

EXHIBIT 07- CONFLICT AT FAN SFE #10 SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System
IMPACTED BASELINE
MCM- TIA IMPACTED Schedule

MCM BUILDING EXCELLENCE

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		05-Oct-20	20-Nov-20	47	0
EVENT DELAY #3		05-Oct-20	20-Nov-20	47	0
SI 120	Impact on Roof Scope	05-Oct-20*	20-Nov-20	47	0
CONSTRUCTION		02-Dec-20	18-Jan-21	48	2
5TH FLOOR/MECHANICAL PENTHOUSE		18-Dec-20	23-Dec-20	4	0
E-4 F 240	Remove existing disconnect Switch	18-Dec-20	21-Dec-20	2	0
M-2 E 171	Remove existing 50HP Fan	22-Dec-20	23-Dec-20	2	0
ROOF		02-Dec-20	18-Jan-21	48	2
S-2 B 170	Provide & Install hot-dip galvanized structural steel & appurtenance & fittings	02-Dec-20	06-Dec-20	5	0
S-2 B 140	Provide & Install required Deflection Spring Mounts, Duct Collar, Pipe Support, etc	07-Dec-20	09-Dec-20	3	0
S-2 R 150	Install Roofing Curb at Duct Opening and Thermoplastic Poliolefin (TPO) Membrane at Tu	10-Dec-20	14-Dec-20	3	0
M-2 E 400	Install 50" Duct Fan (connect to Mechanical penthouse below)	10-Dec-20	14-Dec-20	3	17
S-2 F 120	Install new 20A-120V grounding type receptacle w/ (weatherproof/water resistance enclo	15-Dec-20	17-Dec-20	3	0
S-2 E 310	Install new SEF-2H1.1.1	11-Jan-21	13-Jan-21	3	0
E-2 F 130	Install Lighting Protection System	14-Jan-21	18-Jan-21	3	2
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69



Remaining Level of Effort ◆ ◆ Milestone

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

EXHIBIT 08- IMPACT ON ROOF SCOPE IMPACTED SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System

IMPACTED BASELINE

MCM- TIA IMPACTED Schedule

MCM BUILDING EXCELLENCE®

Exhibit 9 -Covid-19 -Fleites Construction Group Inc.

-----Original Message-----
From: humberto@fleitesconstructiongroup.com
Sent: Wednesday, November 25, 2020 1:34 PM
To: Ginny Mirabal <vmirabal@mcm-us.com>; Jose E. Morales <jmorales@mcm-us.com>
Cc: Victor Camps <vcamps@mcm-us.com>; Ruben DaGama <rdagama@mcm-us.com>; Juan Carlos

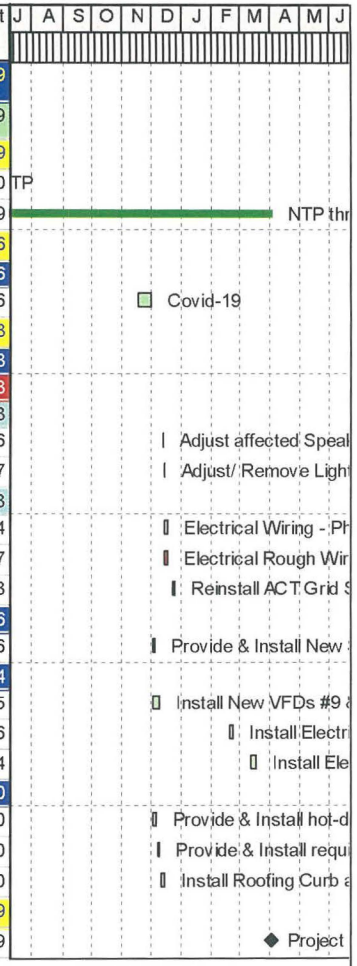
Llanes <jllanes@mcm-us.com>
Subject: Fleites Construction Group Inc.

Ginny,

This email is to inform you that some members of my crew including me are covid-19 positive. I was
infected with the virus back in November 2 and tested negative for the first time on November 21. Jose
A Mejia and Walter Enamorado are under heavy fever and in quarantine. At this moment I am avoiding
contact until I test it negative for a second time.

HUMBERTO M. FLEITES
FLEITES CONSTRUCTION GROUP, INC.
(305) 216-4027
CGC031573

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	02-Apr-21	299	-69
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED BASELIN		08-Jun-20	02-Apr-21	299	-69
GENERAL CONDITIONS		08-Jun-20	02-Apr-21	299	-69
GC 100	NTP	08-Jun-20		0	-20
GC 120	NTP through Project Completion - 230 CD	08-Jun-20	02-Apr-21	299	-69
SCHEDULE IMPACTS		17-Nov-20	01-Dec-20	15	-56
EVENT DELAY #4		17-Nov-20	01-Dec-20	15	-56
SI 130	Covid-19	17-Nov-20*	01-Dec-20	15	-56
CONSTRUCTION		02-Dec-20	17-Mar-21	106	-58
2ND FLOOR		12-Dec-20	25-Dec-20	14	-68
PHASE 3 CL 19-20		12-Dec-20	25-Dec-20	14	-68
DEMOLITION		12-Dec-20	14-Dec-20	3	-68
E-1 F 420	Adjust affected Speakers and Cameras as Needed - Ph 3	12-Dec-20	12-Dec-20	1	-66
E-1 F 430	Adjust/ Remove Light Fixtures, Smoke Detectors, Detention Systems as Needed - Ph 3	14-Dec-20	14-Dec-20	1	-47
NEW WORK		14-Dec-20	25-Dec-20	11	-68
E-2 F 180	Electrical Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-44
E-2 F 170	Electrical Rough Wiring - Ph 3	14-Dec-20	18-Dec-20	4	-47
E-1 A 240	Reinstall ACT Grid System as Needed - Ph 3	23-Dec-20	25-Dec-20	2	-68
2ND FLOOR - SEF STEEL ANGLE		02-Dec-20	03-Dec-20	2	46
S-1 B 180	Provide & Install New Steel Angle 3" x 3" x 3/8" (as per s-12 detail ceiling fan hanger eleva	02-Dec-20	03-Dec-20	2	46
3RD FLOOR - ELECTRICAL ROOM - H30206		02-Dec-20	17-Mar-21	106	-64
E-4 F 190	Install New VFDs #9 & #10 - Ph 1	02-Dec-20	09-Dec-20	6	5
E-4 F 300	Install Electrical Conduit for VFDs #8 - Ph 5	18-Feb-21	22-Feb-21	5	-46
E-4 F 310	Install Electrical Conduit for VFDs #7 & #11 - Ph 6	13-Mar-21	17-Mar-21	5	-64
ROOF		02-Dec-20	14-Dec-20	13	0
S-2 B 170	Provide & Install hot-dip galvanized structural steel & appurtenance & fittings	02-Dec-20	06-Dec-20	5	0
S-2 B 140	Provide & Install required Deflection Spring Mounts, Duct Collar, Pipe Support, etc	07-Dec-20	09-Dec-20	3	0
S-2 R 150	Install Roofing Curb at Duct Opening and Thermoplastic Poliolefin (TPO) Membrane at Tu	10-Dec-20	14-Dec-20	3	0
PROJECT CLOSE-OUT		02-Apr-21	02-Apr-21	0	-69
PC 310	Project Completion		02-Apr-21	0	-69



Remaining Level of Effort ◆ ◆ Milestone

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

EXHIBIT 10- COVID 19 IMPACTED SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System
IMPACTED BASELINE
MCM- TIA IMPACTED Schedule

MCM BUILDING EXCELLENCE

EXHIBIT 11- ROOF PNEUMATIC DAMPER

Print | Close Window

Subject: Fwd: Request for quote with 7 % Discount plus submittals for: MIA TERMINAL H 2ND FL AREA SMOKE EVAC SYSTEM MODIFICATION
From: edwardgammaair <edwardgammaair@aol.com>
Date: Wed, Dec 23, 2020 10:56 am
To: Daniella Vallejos <daniellav@gammaairsystems.com>
Attach: image002.jpg
image004.png
image006.jpg
67952 MIA TERM H 2ND FL AREA A SMOKE EV - Submittal.pdf

Sent from my iPad

Begin forwarded message:

> From: Itala Lavarello <Itala@cors-air.com>
> Date: December 22, 2020 at 8.15.42 AM EST
> To: edwardgammaair <edwardgammaair@aol.com>
> Cc: Christopher Tharp <Chris@cors-air.com>
> Subject: RE: Request for quote with 7 % Discount plus submittals for: MIA TERMINAL H 2ND FL AREA SMOKE EVAC SYSTEM MODIFICATION
>
>
> Good morning,
>
> 1pc GREENHECK #HCDR-250, 50" HEAVY DUTY ROUND INDUSTRIAL CONTROL DAMPER w/ PNEUMATIC ACTUATOR EXTERNALLY MOUNTED
> · STD LEAD TIME 9 WEEKS + SHIPPING TIME $3,505.00 (This damper is only available on std lead time)
>
>
>
> www.cors-air.com
>
>
> Regards,
> Itala Lavarello/Sales Assistant
>
> 2865 SW 30TH AVE
> Pembroke Park, FL 33009
> P: (954) 456-4300 | Ext: 6337
> F: (954)458-3702 | D: (954) 000-0000
>
>
>
>
> From: edwardgammaair [mailto:edwardgammaair@aol.com]
> Sent: Monday, December 21, 2020 6:05 PM
> To: Itala Lavarello <itala@cors-air.com>
> Cc: Christopher Tharp <chris@cors-air.com>
> Subject: Re: Request for quote with 7 % Discount plus submittals for: MIA TERMINAL H 2ND FL AREA SMOKE EVAC SYSTEM MODIFICATION
>
> What will be the price for this.
>
> Sent from my iPad
>
>
> On Dec 21, 2020, at 4:55 PM, Itala Lavarello <Itala@cors-air.com> wrote:
>
>
> Good afternoon
>
> Attached is the submittal let me know if you have any questions.

CORS-AIR

E.M. CORSON AND ASSOCIATES, INC.
Manufacturers' Representative
2865 SW 30TH AVENUE
PEMBROKE PARK FL 33009
Main: 954-456-4300 / FL Watts: 800-678-2424
Fax: 954-458-3702 / Est. Fax: 954-458-4843
E-Mail: info@cors-air.com / Web: www.cors-air.com

Bid

Bid #
67952 REVISION #01

Printed: 3/3/2020
Page: 1 of 1

To: **GAMMA AIR SYSTEMS INC**
Attn: **JESSICA VALDES**

Phone: 305-827-9610
Fax:

PROJECT:				LOCATION:	
MIA - TERMINAL H - 2ND FL AREA "A" - SMOKE EVACUATION SYSTEM MODICATION					
Date:	**ENGINEER:**	**DRWG DATE:**	**ADDENDUM NO:**	**PREPARED BY:**	**SALESPERSON:**
2/25/2020	INNOVATIVE ENGINEERING	9/17/2019		GUIDO	PP HOUSE

Qty	Description	Price
28 PCS	AIR DISTRIBUTION DEVICES WITH STANDARD WHITE FINISH & DAMPERS (TAG "B" ONLY) MULTIPLY AS NEEDED; PLASTER FRAME (1) 12X12 @ $20 ; (1) 24X24 @ $25 TRANSITIONS OR SQUARE TO ROUND BY OTHERS; NONE INCLUDED NO INSULATION / INSULATED BACKING INCLUDED	$1,710.00
11 PCS	FANS WITH ACCESSORIES (INLINE-AXIAL) - NO STARTERS OR CONTROLS (NO EXP)	$17,655.00
1 PCS	INLINE AXIAL FAN (SEF-2H1.1-1) W/ VFD, BACKDRAFT DAMPER AND ACCESSORIES	$16,390.00
1 PC	MOTORIZED DAMPERS WITH TWO-POSITION ELECTRIC ACTUATORS	$1,455.00

******* NOT INCLUDED: GOOSENECKS/CURBS, MOTOR STARTERS, CONTROLS, STATS, DUCTWORK, HANGER RODS, STRAPS, OFF-SETS, FLEX DUCT CONNECTIONS, INSTALLATION, WIRING, CUT & PATCH, TEST & BALANCE, OFF-LOAD AND SET IN PLACE, STANDING SEAM METAL ROOF CURBS, AND OR BURGLAR BARS.**
****ONLY QUOTING THE ABOVE ITEMS AND QUANTITIES AT THIS TIME. PLEASE CALL WITH CHANGES****
PRICES BASED ON DRAWINGS ONLY - NO SPECIFICATIONS

Exceptions: Any items not specifically expressed in this bid/quotation.
This bid/quote is valid for 60 days from the bid/quote date listed above.

Base Total **$37,210.00**

THIS QUOTE/BID IS BASED ON THE FOLLOWING TERMS AND CONDITIONS:

- This Bid is in accordance with plans and/or specifications.
- This Bid/Quote provides for standard lead time and standard delivery unless otherwise stated.
- The above is specially fabricated equipment. Upon release, any changes or cancellations will result in additional charges to the customer.
- Product only; no installation, coordination or commissioning. Standard manufacturers limited warranty available upon request.
- Price includes ground freight to South Florida.
- Prices are subject to all applicable taxes. Shipments are FOB factory freight allowed to South Florida unless noted otherwise.
- Louvers as quoted DO NOT meet MIAMI-DADE COUNTY product approval unless otherwise indicated.

SUBMITTAL

Job Name: **67952 MIA TERM H 2ND FL AREA A SMOKE EV**

Job Site: GAMMA AIR
7318 NW 79 TERRACE
MEDLEY, FL 33166
United States

Elevation: (ft) 10
Date: 12/21/2020
Submitted By: Chris Tharp
Agent Order#: 27018820012

CORS-AIR
2865 SW 30TH AVE
PEMBROKE PARK, FL 33009
US
Phone: (954)456-4300
Fax: (954)456-4387
Email Address: itala@cors-air.com

HCDR-250 Heavy duty round industrial control damper

APPLICATION & DESIGN

Model HCDR-250 is a heavy duty round control damper with a flanged style frame. It is designed to control airflow and provide shut off in HVAC or industrial process control systems.

RATINGS

Pressure:	Up to 13.5 in. wg
Velocity:	Up to 5,150 ft/min
Temperature:	-60 F to 600 F

PRODUCT DETAILS

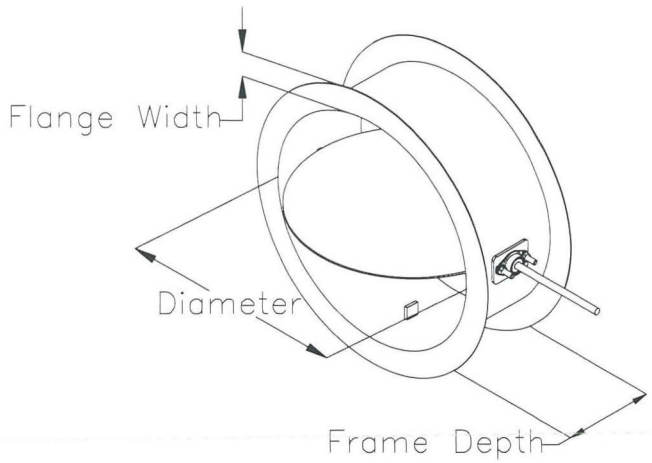
Operating Temperature	250 F
Material	Painted
Blade Material	Painted
Blade Seal	None
Blade Stops	Pin Stop
Axle Bearings	External Bronze
Axle Material	Plated Steel
Axle Shaft Seal	None

ACTUATOR INFORMATION

Actuator Type	Pneumatic
Actuator Mounting	External
Actuator Fail Position	Closed
Actuator Operation	No Preference
Operating Mode	Two Position
Supply Pressure	80
Auxiliary Switches	2

OPTIONS & ACCESSORIES

Mounting Holes	None
Finish Type	Hi-Pro Polyester
Finish Color	Concrete Gray-RAL 7023



- *This drawing shows a general damper configuration and is not intended to depict the exact configuration of all dampers in this submittal.*
- *Electrical accessory wiring terminates at the accessory. Field wiring is required to individual components.*

SUMMARY

ID #	TAG	QTY	DIAMETER (D)	CONFIGURATION		
6-1		1	50.000 in.	**Velocity** 733 ft/min	**Static Pressure** 4.9 in. wg	**Required Assembly Torque** 174 lb-in.
				Frame Thickness 0.188 in.	**Flange Width (F)** 2.500 in.	**Axle Diameter** 1.250 in.
				Blade Thickness 0.188 in.	**Actuator Location** Right Side	**Actuator Mfr.** Bray
				Actuator Model S92-063	**Actuator Qty** 1	**Frame Depth (J)** 8.000 in.

Print | Close Window

Subject: Fwd: Emailing: scan0004
From: Douglas Vallejos <douglasvallejos@gammaairsystems.com>
Date: Wed, Dec 23, 2020 9:29 am
To: Daniella Vallejos <daniellav@gammaairsystems.com>
Attach: scan0004.pdf

> -----Original Message-----
> From: Aymee Delgado
> Sent: Wednesday, December 9, 2020 2:35 PM
> To: Douglas Vallejos <douglasvallejos@gammaairsystems.com>
> Subject: Emailing: scan0004
>
> Please see attached submittal as requested.
>
> The price for this damper is $10,845.00.
>
> lead-time is 6-8 weekd.
>
> Thanks
>
>

Submittal

RUSKIN
AUTHORITY IN AIR CONTROL

Date/Time: 12/09/2020 14:03:13
Created By: aymee@tse-corp.com
Current Version: 2014.0.487
Project Name:
Job Name: MIA SMOKE EVAC TERMINAL H

Industrial Rounds

Model: CDRI95

SIZE:	Actual Size	BEARING TYPE:	BALL BEARING	ACTUATOR:	EXTENDED AXLE
TEMPERATURE:	500 DEGREES	BEARING MTG.:	OUTBOARD	FAIL POS.:	CLOSE
CONSTRUCTION:	HR STEEL	SHAFT SEALS:	AXLE	FRM MATERIAL:	HR STEEL
BLD.MATERIAL:	HR STEEL	DRAWING NUMBER:		AXLE MAT.:	304 SS
DRAWING REVISION:		AXLE SIZE:	2 1/2 INCH	DRAWING DETAIL:	
BLADE SEALS:	CERAMIC TADPOLE				

Qty	DIAMETER	Act Qty
1	50	1

RUSKIN®

3900 Dr. Greaves Rd. • Kansas City, MO 64030 • (816) 761-7476 • FAX (816) 765-8955

CDRI95 HIGH TEMPERATURE LOW LEAK DAMPER

Ruskin damper Model CDRI95 provides accurate airflow and isolation at extreme elevated temperatures. Designed for round duct work capable of 20" w.g. Ruskin blade seal design will withstand limited excursions temperatures of 1200°F, and can be easily removed for normal maintenance. Consult Ruskin for actual design temperature.

STANDARD CONSTRUCTION

FRAME
One piece Carbon Steel Channel. (3/16 - 1/4)

BLADE
One piece Carbon Steel. (3/8 thick min-thru 3/4 thick.)

AXLE
Stub (min. 1" O.D. through 2 1/2" O.D.) axle size may vary with system conditions.

CONTROL SHAFT
6" (152) extended axle.

BEARINGS
Grease lubricated ball bearings with high temperature grease and adjustable shaft packing mounted outboard of frame. Combination good to 500°F. Consult Ruskin if tempertures exceed 500°F.

BLADE SEALS
Adjustable blade seal design with ceramic tadpole enclosed in high temperature material.

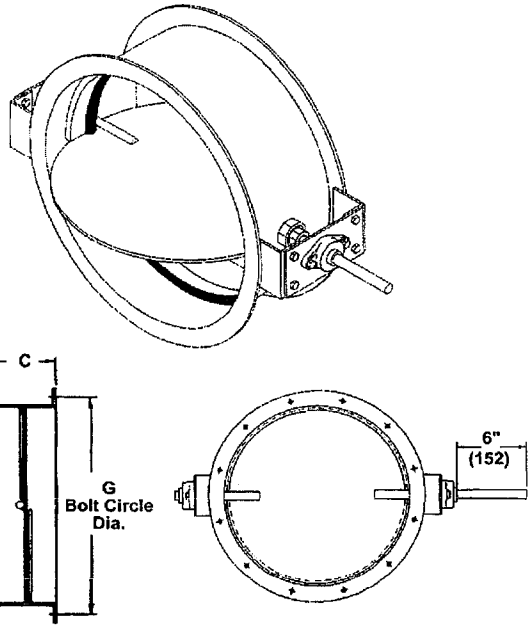
FINISH
High temperature aluminum paint.

MINIMUM SIZE
12" (305) diameter.

MAXIMUM TEMPERATURE
Damper design for excursions to 1200°F with normal operating temperature of 500°F.

Consult Ruskin if normal operating temperature exceeds 750°F.

Dimensions in parenthesis ( ) indicate millimeters.



Illustrated with Optional Bolt Holes.
†H = Number of Holes (Even Number Only)
†M = Diameter of Hole
†S = Holes Straddle Axle (Illustrated)
†T = Holes Parallel with Axle $\mathbb{Q}_L$ (Not Illustrated)

D - Inside Diameter				Frame		Blade	Axle
Above		Through		Flange (F)	Web (C)	Thickness	Diameter
14"	(356)	24"	(610)	1 1/2" x 3/16"	9" x 3/16"	3/8"	1"
24"	(610)	36"	(914)	2" x 1/4"	12" x 1/4"	1/2"	1 1/2"
36"	(914)	44"	(1118)	2 1/2" x 1/4"	12" x 5/16"	5/8"	2"
44"	(1118)	60"	(1524)	2 1/2" x 1/4"	12" x 5/16"	3/4"	2 1/2"

VARIATIONS

Variations to the CDRI95 basic design are available at additional cost and include:

- Manual, electric, or pneumatic actuators
- Higher temperatures
- Special finishes
- Special materials and heavier construction
- Bolt holes in one or both flanges
- Axle variations

QTY.	†DIMENSIONS				HOLE ORIENTATION	VARIATIONS
	D-DIA.	G	H	M	S or T	

JOB **LOCATION**

CONTRACTOR

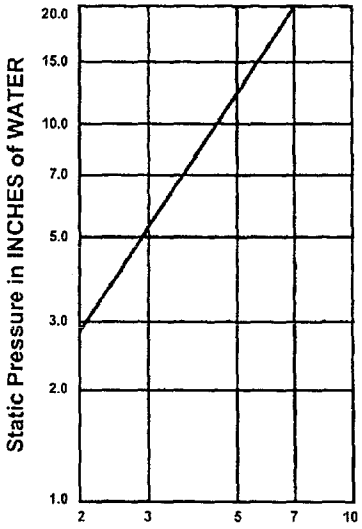
 ALL STATED SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION.

SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans or in accordance with schedules, high temperature industrial grade round control damper. Damper frame and flange shall be of integral construction as standard. Damper blade design to withstand system pressure of 20" w.g. at elevated temperature. Blade thickness shall be designed to maintain deflection of L/360. Damper blade shall pivot on stainless steel stub axles welded permanently on blade center. Axles shall be supported on both ends by a sealed relubricable ball bearings mounted outboard of the damper frame and complete with adjustable axle shaft seals mounted directly to damper frame. Mechanically fastened axle to blades or bearings with integral shaft seals are not acceptable. Blade edge seal shall be comprised of a ceramic fibrous material sewn and encased in a woven high temperature sleeve. Blade seal will be serviceable and removable without damper replacement or damper removal from the system. Blade seal material will be capable of exposure to 1200 degrees Fahrenheit. Maximum leakage through a 44" diameter unit shall not exceed 7 CFM/sq. ft. @20" w.g. Submittal shall include published performance data on a complete range of damper sizes developed from testing in accordance with AMCA Standard 500 in an AMCA registered laboratory. Damper shall be Ruskin Model CDRI95.

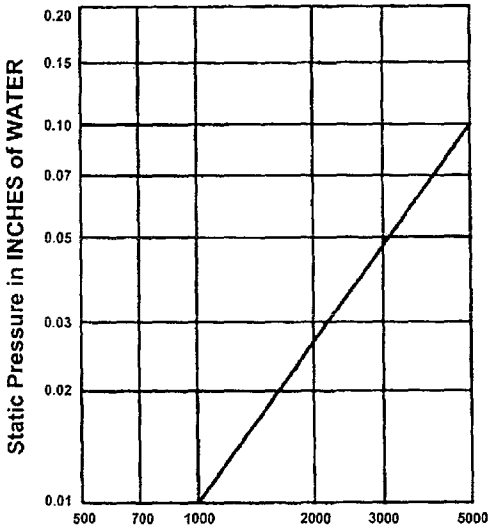
CDRI95 HIGH TEMPERATURE DAMPER

AIR LEAKAGE – DAMPER CLOSED (44" dia.)



Air Leakage in CFM/sq. ft. through FACE AREA.
Tested per AMCA Std. 500, Fig. 5.5, plenum mounted.

PRESSURE DROP – DAMPER OPEN (44" dia.)



Air velocity in FEET per minute through FACE AREA.
Tested per AMCA Std. 500, Fig. 5.3, ductwork upstream and downstream.

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Kansas City, MO 64030
(816) 761-7476
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Series 92/93 Pneumatic Actuators

Actuator Type:
Bray Series 92 (Direct Acting) or 93 (Spring Return) Pneumatic Actuator or approved equal.

General:

- The actuator shall be pneumatically operated and must travel a minimum of 95° in each direction to allow for over travel adjustment.
- The actuator shall be rack and pinion design and the output torque shall be linear throughout travel.
- The actuator shall be totally enclosed in a single enclosure with no external moving parts.
- The actuator shall be factory lubricated with no field lubrication required.
- The actuator shall be able to mount in any position without loss of performance.
- All actuators (double acting or spring return) shall be suitable for both on-off and throttling applications.

Housing and End Caps:

- Housing design must have smooth lines to provide for self-drain capability.
- Housing shall be extruded, anodized aluminum alloy and all external fasteners shall be zinc plated carbon steel.
- All pneumatic passageways must be integral to the actuator housing to eliminate the need for external tubing.
- End caps shall be die cast aluminum alloy with corrosion resistant polyester coating.
- All seals shall be Buna-N and bearings shall be manufactured out of lubricated acetal resin.

Pistons:

- Shall be die cast aluminum alloy.
- Shall be provided with acetal piston guides and rings to extend the life of the actuator and reduce friction.

Output Shaft and Pinion:

- Must be manufactured out of hardened alloy steel and zinc plated for corrosion protection.
- Shall be a one piece design.
- The output shaft shall be provided with a mechanical, high visibility position indicator.

Travel Stops:

- The actuator must be supplied with two independent travel stop adjustments (one on each end of travel)
- Each end of travel (0° and 90°) shall have a minimum of +5° to -5° adjustment.

Spring Return System:

- Must be installed in the same housing as the double acting actuator with no additional housing extensions.
- Must be furnished as a self-contained spring cartridge system to assure safe disassembly of the actuator.
- Springs shall be coated spring steel for corrosion protection.

Service Requirements:

- Actuators shall be designed for pneumatic operation for the following service conditions:
- Pressure up to a maximum of 140 psig
- Available temperature ranges of -40°F (-40°C) to +300°F (+149°C)
- Filtered air is recommended but not required.
- Optional units shall be available to operate with hydraulic oil or water if specified.

Testing:

- All actuators shall be factory tested to ensure proper operation.

Mounting:

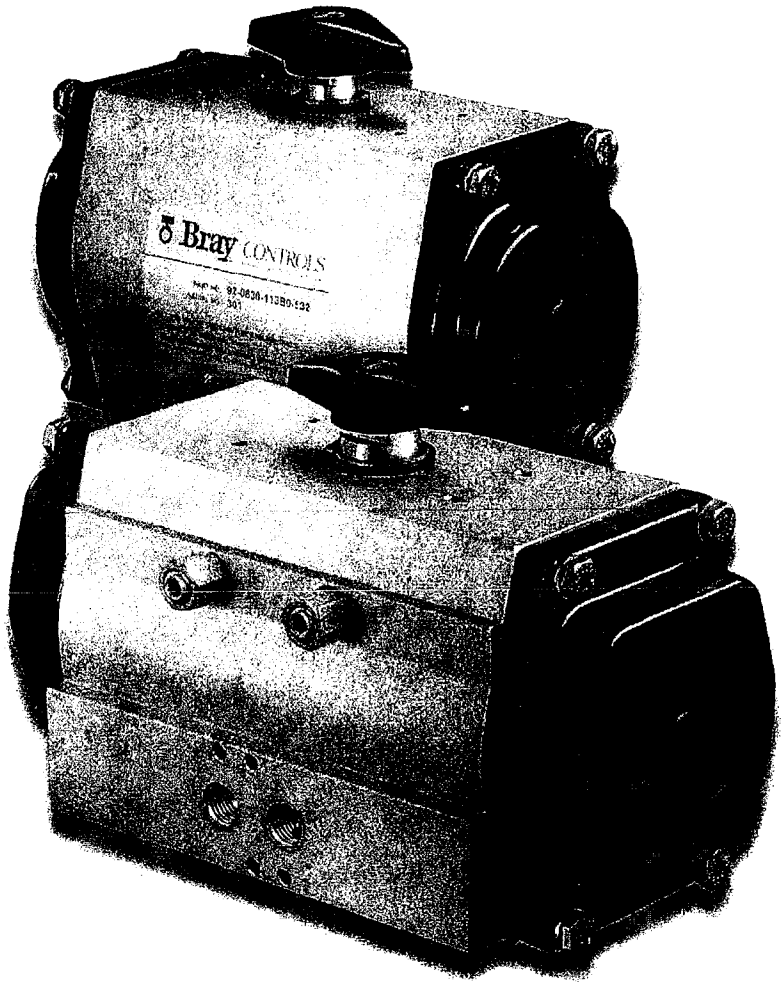
- All actuators shall mount directly to the valve mounting flange and stem without the need for any brackets or couplings

Approvals & Certifications:

- SIL Certification
- ABS Certification
- Bureau Veritas Certification

Bray®

The High Performance Company



Series 92/93 Pneumatic Actuators

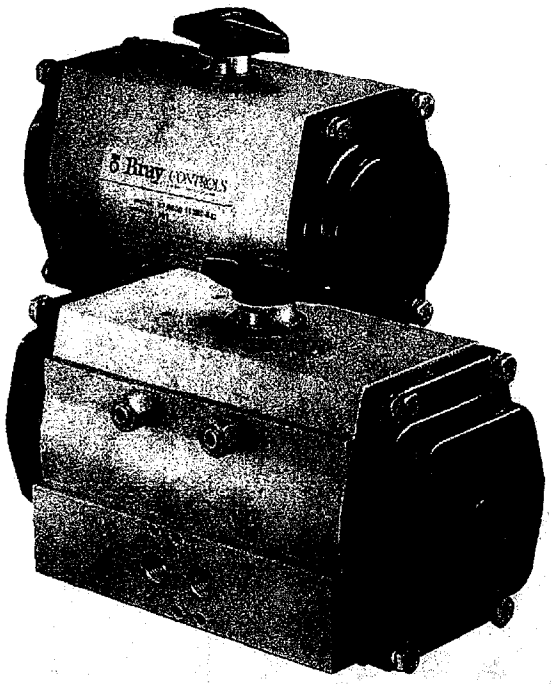
Technical Manual

LLOYD'S REGISTER · LRQA
ISO 9001

CE

Bray Series 92/93
Pneumatic Actuators

Technical Manual - Table of Contents



Actuator Installation Notes

These notes apply to the installation of Bray S92/93 pneumatic valve actuators.

- Verify that the valve and the actuator are both in the same position (both open or both closed) before mounting the actuator to the valve.
- Apply a light coating of grease to the inside of the actuator output bore before installing the actuator on the valve. This will allow the actuator to be more easily removed from the valve stem even after years of service.
- If stem adapters are required to match the actuator output bore to the valve stem, apply a light coating of grease to the inside of the stem adapter as well as the inside of the actuator output bore.
- Some stem adapters are kits consisting of multiple components. These kits may contain spacers that look like stem adapters, but are designed to keep the stem adapter in place during operation of the actuator. Verify that all stem adapters and spacers are installed in the proper position and sequence.

Refer to Series 92/93 Operations and Technical Manual (OM_S92-93)

- If keyed stem adapters are used, the key must be held in the keyway so that it will not work loose during operation of the actuator. The key may be retained by any one of several methods:

  If the valve stem height matches the depth of the actuator output bore, use a key that fits the full length of the keyway. Tack weld the key to the adapter before installation in the actuator.

  Upset the end of the keyway after the key has been installed in the shaft by using a punch or chisel.
- If mounting studs are used instead of bolts, thread the studs completely into the actuator before placing the actuator on the valve. This assures that the full strength of the connection is achieved.
- While the mounting bolts are only finger tight, cycle the actuator fully open and fully closed to verify proper alignment on the valve.
- Tighten the mounting bolts or nuts in a diagonal pattern to evenly distribute stress in the bolts.

Actuator Mounting Codes for S92/93 - Imperial (In)

Actuator Sizes	Valve Code	Inner Bolt Circle			Outer Bolt Circle			Stem Hole			
		Bolt Circle (+/- .005)	No. Holes	Bolt Size	Bolt Circle (+/- .005)	No. Holes	Bolt Size	Bore Diameter (+/- .004)	Across Flats (+ .002/-0)	Depth	Keyway Width (+ .002/-.0)
48	AA	1.42	4	#10-32	1.97	4	1/4-20	0.4	0.32	1.3	NA
63	A	1.969	4	1/4-20	2.756	4	5/16-18	0.552	0.395	1.38	NA
83	C	1.969	4	1/4-20	2.756	4	5/16-18	0.749	0.513	1.46	NA
93	C	1.969	4	1/4-20	2.756	4	5/16-18	0.749	0.513	1.46	NA
119	E	2.756	4	5/16-18	4.921	4	1/2-13	1.182	0.867	2.2	NA
128	E	2.756	4	5/16-18	4.921	4	1/2-13	1.182	0.867	2.2	NA
160A	E	NA	NA	NA	4.921	4	1/2-13	1.182	0.867	2.2	NA
160B	F	NA	NA	NA	4.921	4	1/2-13	1.38	NA	2.38	0.394
210	G	4.921	4	1/2-13	6.496	4	5/8-11	1.97	NA	2.76	0.472
255A	H	6.496	4	M20 x 2.5P	4.724 X 7.874	4	M20 x 2.5P	2.505	NA	4.25	0.625
255B	K	6.496	4	M20 x 2.5P	4.724 X 7.874	4	M20 x 2.5P	3.006	NA	4.25	0.750

Actuator Mounting Codes for S92/93 - Metric (mm)

Actuator Sizes	Valve Code	Inner Bolt Circle			Outer Bolt Circle			Stem Hole			
		Bolt Circle (+/- .127)	No. Holes	Bolt Size	Bolt Circle (+/- .127)	No. Holes	Bolt Size	Bore Dia. (+/- .102)	Across Flats (+ .050/-0)	Depth	Keyway Width
48	AA	36	4	M5 x 0.8P	50	4	M6 x 1.0P	10	8	33	NA
63	A	50	4	M6 x 1.0P	70	4	M8 x 1.25P	14	10	35	NA
83	C	50	4	M6 x 1.0P	70	4	M8 x 1.25P	19	13	37	NA
93	C	50	4	M6 x 1.0P	70	4	M8 x 1.25P	19	13	37	NA
119	E	70	4	M8 x 1.25P	125	4	M12 x 1.75P	30	22	56	NA
128	E	70	4	M8 x 1.25P	125	4	M12 x 1.75P	30	22	56	NA
160A	E	NA	NA	NA	125	4	M12 x 1.75P	30	22	56	NA
160B	F	NA	NA	NA	125	4	M12 x 1.75P	35	NA	60	10
210	G	125	4	M12 x 1.75P	165	4	M20 x 2.5P	50	NA	70	12
255A	H	165	4	M20 x 2.5P	120 x 200	4	M20 x 2.5P	64	NA	108	16
255B	K	165	4	M20 x 2.5P	120 x 200	4	M20 x 2.5P	76	NA	108	19

Pneumatic Actuator Data (Imperial)

Approximate Actuator Speeds (Seconds)									
Size	48	63	83	93	119	128	160	210	255
90° Travel	1/4	1/4	1/4	1/4	1/2	1/2	1	2	2 3/4

Note: Times shown are in seconds at 80 PSIG supply pressure with 6ft. tubing having an internal diameter of not less than approximately 1/4" using a Bray Series 62 or Series 63 solenoid. Bray S92/93 actuation times are very dependent on the flow capacity of their air supply. The use of smaller port solenoids, solenoid manifolds, smaller I.D. air supply tubing and/or extended lengths of tubing can significantly reduce the actuation time and/or initial response to the command signal.

Actuator Weights (lbs)									
Size	48	63	83	93	119	128	160	210	255
Double Acting	2.0	3.3	6.3	8.5	18.0	21.5	39.0	78.0	143.5
Spring Return	2.3	3.9	8.1	10.9	23.4	28.1	53.4	111.0	214.9

Weights are in lbs. Spring Return unit weights are with full set of springs on each piston.

Actuator Volumes (in^3)									
Size	48	63	83	93	119	128	160	210	255
Counter-Clockwise	5.7	9.6	24.8	39.0	81.0	106.5	187.5	360.0	750.0
Clockwise	4.8	13.4	32.6	50.1	102.7	140.6	259.6	450.0	900.0

Counter-clockwise: Air volume in cubic inches required to push pistons apart, full travel.
Clockwise: Air volume in cubic inches required to push pistons together, full travel.

Pneumatic Actuator Data (Metric)

Approximate Actuator Speeds (Seconds)									
Size	48	63	83	93	119	128	160	210	255
90° Travel	1/4	1/4	1/4	1/4	1/2	1/2	1	2	2 3/4

Note: Times shown are in seconds at 5.5 bar supply pressure with 1.8 meter tubing having an internal diameter of not less than approximately (6.35 mm)using a Bray Series 62 or Series 63 solenoid. Bray S92/93 actuation times are very dependent on the flow capacity of their air supply. The use of smaller port solenoids, solenoid manifolds, smaller I.D. air supply tubing and/or extended lengths of tubing can significantly reduce the actuation time and/or initial response to the command signal.

Actuator Weights (kg)									
Size	48	63	83	93	119	128	160	210	255
Double Acting	0.9	1.5	2.9	3.9	8.2	9.8	17.7	35.4	65.1
Spring Return	1.0	1.8	3.7	4.9	10.6	12.7	24.2	50.3	115.7

Weights are in kg Spring Return unit weights are with full set of springs on each piston.

Actuator Volumes (cm^3)									
Size	48	63	83	93	119	128	160	210	255
Counter-Clockwise	93.4	157.3	406.4	638.6	1327.5	1744.5	3072.6	5899.3	12290.3
Clockwise	78.7	219.6	534.2	820.5	1683.1	2303.3	4254.1	7374.2	14748.4

Counter-clockwise: Air volume in cubic millimeters required to push pistons apart, full travel.
Clockwise: Air volume in cubic millimeters required to push pistons together, full travel.

STANDARD MATERIALS SELECTION	
Name	**Material**
Body	Extruded Aluminum Alloy, Anodized 316 Stainless Steel
End Caps	Die cast Aluminum Alloy with Corrosion Resistant Polyester Coating 316 Stainless Steel
Pistons	Die Cast Aluminum Alloy
Output Shaft/Pinion:	Carbon Steel, Zinc Plated
Travel Stop:	Alloy Steel
Shaft Bearings:	Acetal
Piston Guides:	Acetal
Fasteners:	Stainless Steel
Springs	Spring Steel, Protective Coating
Piston O-Ring Seals:	Buna-N
Options:	Polyester Coated Body Exterior Electroless Nickel Plated Body Exterior Hard Anodized Body Exterior Seacorr Coated Body Exterior Stainless Steel Pinion

OPERATING CONDITIONS	
Pressure Range	40 - 140 psi (2.8 - 10 bar)
Media	Dry Compressed Air/Inert Gas* **Contact Factory for other media.*
Temperature Range	Standard -4° F to 200° F (-20° C to 93° C)
	Low -40° F to 176° F (-40° to 80° C)
	High 0° F to 300° F (-18° C to 149° C)
Note: Cycle life on Low and High temperature seal kits reduced compared to Standard Buna N Seals	
Series 92 Double Acting	Available in 90°, 135°, 180° Rotation
Series 93 Spring Return	Available in 90° Rotation Operating Pressure 140 psig (10 bar) maximum

COMPLIANCES	
Torque Base	Mounting Dimensions as per ISO 5211: 2001(E)
Accessories	Shaft Driven Accessories Mounting per NAMUR-VDE
Performance Testing	EN 15714-3:2009
Ingress Protection	IP66/IP67M per IEC 60529
Safety	ATEX, SIL 3 suitable, PED

Series 92 Torque Data

Series 92 Actuator Torque Data (Lb-in)

Double Acting Pneumatic Operated, Torque Output

Actuator Size	Air Supply Pressure (PSIG)				
	40	60	80	100	120
48	75	113	150	188	225
63	145	221	297	373	449
83	351	536	721	906	1091
93	493	753	1013	1272	1532
119	1058	1615	2171	2728	3285
128	1410	2152	2894	3636	4378
160	2797	4270	5742	7214	8687
210	5783	8826	11870	14914	17957
255	14211	21691	29171	36650	44130

Series 92 Actuator Torque Data (N-m)

Double Acting Pneumatic Operated, Torque Output

Actuator Size	Air Supply Pressure (Bar)				
	2.8	4.1	5.5	6.9	8.3
48	9	13	17	21	25
63	16	25	34	42	51
83	40	61	82	102	123
93	56	85	115	144	173
119	120	183	245	308	371
128	159	243	327	411	495
160	316	482	649	815	982
210	653	997	1341	1685	2029
255	1606	2451	3296	4141	4986

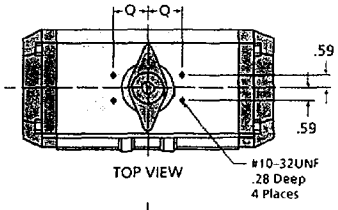
Series 93 Actuator Torque Data (Lb-In) Air Operated, With Spring Return, Torque Output

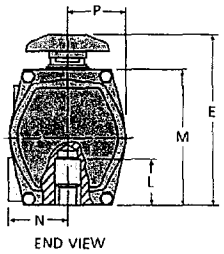
Actuator Size	No. Springs per Piston	Air Supply Pressure (PSIG)										Spring	
		40		60		80		100		120		Spring	Stroke
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
48	1	51	32	89	70	126	107	164	145	201	182	43	24
	2/1	39	10	77	48	114	85	152	123	189	160	65	36
	2			64	27	101	64	139	102	176	139	86	49
	3/2			52	5	89	42	127	80	164	117	108	61
	3					77	21	115	59	152	96	129	73
63	2	91	65	167	141	243	217	319	293	395	369	80	54
	3	64	27	140	103	216	179	292	255	368	331	118	81
	4			113	65	189	141	265	217	341	293	156	108
	5			86	27	162	103	238	179	314	255	194	135
	6					135	65	211	141	287	217	232	162
83	2	210	167	395	352	580	537	765	722	950	907	184	141
	3	156	76	341	261	526	446	711	631	896	816	275	195
	4			281	176	466	361	651	546	836	731	360	255
	5			220	97	405	282	590	467	775	652	439	316
	6					369	185	554	370	739	555	536	352
93	2	310	232	570	492	830	752	1089	1011	1349	1271	261	183
	3	218	101	478	361	738	621	997	880	1257	1140	392	275
	4			386	231	646	491	905	750	1165	1010	522	367
	5			294	94	554	354	813	613	1073	873	659	459
	6					462	229	721	488	981	748	784	551
119	2	692	469	1249	1026	1805	1582	2362	2139	2919	2696	589	366
	3	509	174	1066	731	1622	1287	2179	1844	2736	2401	884	549
	4			883	437	1439	993	1996	1550	2553	2107	1178	732
	5			700	142	1256	698	1813	1255	2370	1812	1473	915
	6					1073	404	1630	961	2187	1518	1767	1098
128	2	880	465	1622	1207	2364	1949	3106	2691	3848	3433	945	530
	3			1357	733	2099	1475	2841	2217	3583	2959	1419	795
	4			1094	261	1836	1003	2578	1745	3320	2487	1891	1058
	5					1568	529	2310	1271	3052	2013	2365	1326
	6					1302	57	2044	799	2786	1541	2837	1592
160	2	1819	1118	3292	2591	4764	4063	6236	5535	7709	7008	1679	978
	3	1399	349	2872	1822	4344	3294	5816	4766	7289	6239	2448	1398
	4			2452	1123	3924	2595	5396	4067	6869	5540	3147	1818
	5			2030	353	3502	1825	4974	3297	6447	4770	3917	2240
	6					3154	1196	4626	2668	6099	4141	4546	2588
240	2	3833	2508	6876	5551	9920	8595	12964	11639	16007	14682	3275	1950
	3	2859	868	5902	3911	8946	6955	11990	9999	15033	13042	4915	2924
	4			4930	2275	7974	5319	11018	8363	14061	11406	6551	3896
	5			3949	638	6993	3682	10037	6726	13080	9769	8188	4877
	6					6022	2031	9066	5075	12109	8118	9839	5848
255	2	39487	6747	16967	14227	24447	21707	31926	29186	39406	36666	7264	4724
	3	7125	3015	14605	10495	22085	17975	29564	25454	37044	32934	10196	7086
	4			12243	6762	19723	14242	27202	21721	34682	29201	14929	9448
	5			9880	3030	17360	10510	24839	17989	32319	25469	18661	11811
	6					14998	6778	22477	14257	29957	21737	22393	14173

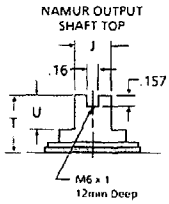
Series 93 Actuator Torque Data (N-m) Air Operated, With Spring Return, Torque Output

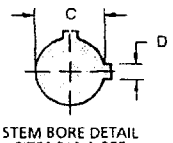
Actuator Size	No. Springs per Piston	Air Supply Pressure (Bar)										Spring	
		2.8		4.1		5.5		6.9		8.3		Spring Start	Stroke End
		Start	End	Start	End	Start	End	Start	End	Start	End		
48	1	6	4	10	8	14	12	19	16	23	21	5	3
	2/1	4	1	9	5	13	10	17	14	21	18	7	4
	2			7	3	11	7	16	12	20	16	10	6
	3/2			6	1	10	5	14	9	19	13	12	7
	3					9	2	13	7	17	11	15	8
63	2	10	7	19	16	28	25	36	33	45	42	9	6
	3	7	3	16	12	24	20	33	29	42	37	13	9
	4			13	7	21	16	30	25	39	33	18	12
	5			10	3	18	12	27	20	36	29	22	15
	6					15	7	24	16	32	25	26	18
83	2	24	19	45	40	66	61	86	82	107	103	21	16
	3	18	9	39	30	59	50	80	71	101	92	31	22
	4			32	20	53	41	74	62	95	83	41	29
	5			25	11	46	32	67	53	88	74	50	36
	6					42	21	63	42	84	63	61	40
93	2	35	26	64	56	94	85	123	114	152	144	30	21
	3	25	11	54	41	83	70	113	99	142	129	44	31
	4			44	26	73	56	102	85	132	114	59	42
	5			33	11	63	40	92	69	121	99	75	52
	6					52	26	82	55	111	85	89	62
119	2	78	53	141	116	204	179	267	242	330	305	67	41
	3	58	20	120	83	183	145	246	208	309	271	100	62
	4			100	49	163	112	226	175	289	238	133	83
	5			79	16	142	79	205	142	268	205	166	103
	6					121	46	184	109	247	172	200	124
128	2	99	53	183	136	267	220	351	304	435	388	107	60
	3			153	83	237	167	321	251	405	334	160	90
	4			124	30	207	113	291	197	375	281	214	120
	5					177	60	261	144	345	227	267	150
	6					147	6	231	90	315	174	321	180
160	2	206	126	372	293	538	459	705	625	871	792	190	111
	3	158	39	325	206	491	372	657	539	824	705	277	158
	4			277	127	443	293	610	460	776	626	356	205
	5			229	40	396	206	562	373	728	539	443	253
	6					356	135	523	301	689	468	514	292
210	2	433	283	777	627	1121	971	1465	1315	1809	1659	370	220
	3	323	98	667	442	1011	786	1355	1130	1699	1474	555	330
	4			557	257	901	601	1245	945	1589	1289	740	440
	5			446	72	790	416	1134	760	1478	1104	925	551
	6					680	230	1024	573	1368	917	1110	661
255	2	1072	762	1917	1607	2762	2453	3607	3298	4452	4143	845	534
	3	805	341	1650	1186	2495	2031	3340	2876	4185	3721	1265	801
	4			1383	764	2228	1609	3073	2454	3919	3299	1687	1068
	5			1116	342	1961	1188	2806	2033	3652	2878	2108	1335
	6					1695	766	2540	1611	3385	2456	2530	1601

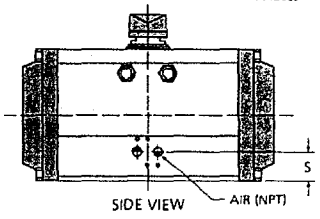
S92 Double Acting/S93 Spring Return

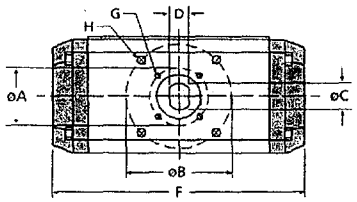


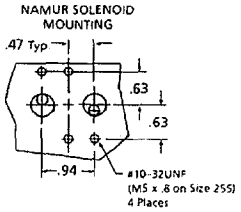


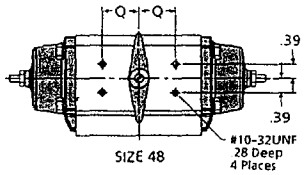












IMPERIAL DIMENSIONS - Inches									
Size	48	63	83	93	119	128	160*	210	255‡
Air NPT	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
A ISO "F"†	1.42 - F 03	1.97-F 05	1.97 - F 05	1.97 - F 05	2.76 - F 07	2.76 - F 07	—	4.92 - F 12	6.50 - F 16
B ISO "F"†	1.97 - F 05	2.76 - F 07	2.76 - F 07	2.76 - F 07	4.92 - F 12	4.92 - F 12	4.92 - F 12	6.50 - F 16	7.87x4.72 Rect.
C	.55	.55	.75	.75	1.18	1.18	1.18	1.97	2.50
D	.40	.40	.51	.51	.87	.87	.87	.47	.62
E	3.88	4.53	5.43	5.78	7.28	8.09	9.36	11.62	13.49
F	4.38	5.58	7.40	9.10	12.40	12.81	15.54	19.57	28.78
G (UNC)	#10-32 x .23	1/4-20 x .32	1/4-20 x .32	1/4-20 x .32	5/16-18 x .46	5/16-18 x .46	—	1/2-13 x .78	M20 x 2.5 x 30mm
H (UNC)	1/4-20 x .25	5/16-18 x .40	5/16-18 x .40	5/16-18 x .40	1/2-13 x .69	1/2-13 x .69	1/2-13 x .75	5/8-11 x 1.11	M20 x 2.5 x 30mm
J	.38	.38	.50	.50	1.12	1.12	1.12	1.12	1.12
L	1.38	1.38	1.46	1.46	2.20	2.20	2.20	4.72	6.50
M	2.50	3.46	4.27	4.61	5.52	6.32	7.80	10.16	12.06
N	1.60	1.72	2.28	2.47	2.78	2.88	3.78	4.56	5.40
P	1.18	1.38	1.79	1.97	2.37	2.70	3.39	4.41	5.39
Q	.98**	1.58	1.58	1.58	1.58	1.58	2.56	2.56	2.56
S	1.25	.89	1.26	1.32	1.64	1.64	2.26	2.45	2.48
T	1.10**	.79	.79	.79	.79	.79	1.18	1.18	1.18
U	.47	.47	.47	.47	.47	.47	.75	.75	.75

Note: Double Acting and Spring Return actuators have the same overall dimensions. The double acting unit of the size 48 actuator is optionally available with flat end caps with an F dimension of 4.00

† ISO "F" means mounting flange-drilling pattern.

* Dimensions for Size 160A in table. Size 160B (keyed stem version) has C dimension of 1.38 and D dimension of .39

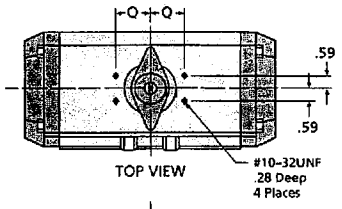
‡ Dimensions for Size 255A in table. Size 255B actuator has a C dimension of 3.00 and D dimension of .75

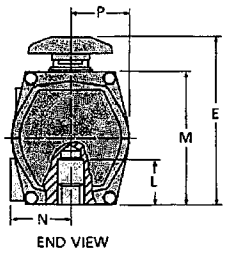
** Size 48 has a Q dimension of 1.58 and a T dimension of .79 with use of NAMUR top plate.

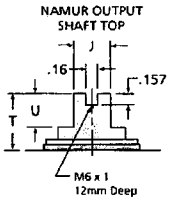
WEIGHTS - lbs - Spring Return unit weights are with full set of springs on each piston.									
Size	48	63	83	93	119	128	160	210	255
Double Acting	2.0	3.4	6.3	8.5	16.9	21.0	38.8	77.8	167.0
Spring Return	2.4	4.10	8.1	10.8	22.3	27.6	53.2	109.6	210.8

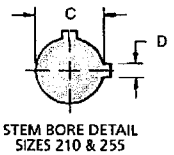
Drawings are for reference only. Please refer to Bray ES drawings on the Bray website, www.bray.com. Bray reserves the right to change product dimensions without notice.

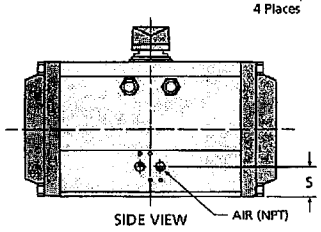
S92 Double Acting/S93 Spring Return

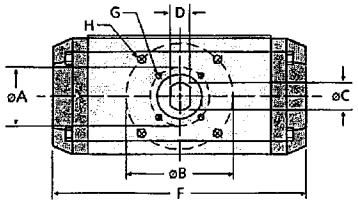


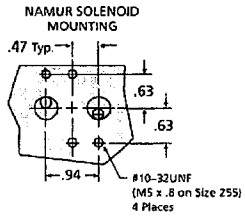


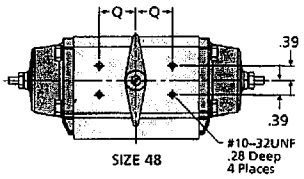












METRIC DIMENSIONS - Millimeters									
Size	48	63	83	93	119	128	160*	210	255‡
Air NPT	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
A ISO "F"†	36 - F03	50 - F05	50 - F05	50 - F05	70 - F07	70 - F07	—	125 - F12	165 - F16
B ISO "F"†	50 - F05	70 - F07	70 - F07	70 - F07	125 - F12	125 - F12	125 - F12	165 - F16	200 x 120 Rect.
C	14	14	19	19	30	30	30	50	64
D	10	10	13	13	22	22	22	12	16
E	99	115	138	147	185	205	238	295	343
F	111	142	188	231	315	254	395	497	731
G	#10-32 x .23in	M6x1.0 x 8mm	M6x1.0 x 8mm	M6x1.0 x 8mm	M8x1.25P x 12 mm	M8x1.25P x 12 mm	N/A	M12x1.75P x 19m	M20x2.5P x 30mm
H	1/4-20 x .25in	M8x1.25P x 10mm	M8x1.25P x 10mm	M8x1.25P x 10mm	M12x1.75P x 18mm	M12x1.75P x 18mm	M12x1.75P x 18mm	M20x2.5P x 30mm	M20x2.5P x 30mm
J	10	10	13	13	28	28	28	28	28
L	35	35	37	37	56	56	56	120	165
M	64	88	108	117	140	161	198	258	306
N	41	44	58	63	71	73	96	116	137
P	30	35	45	50	60	69	86	112	137
Q	25**	40	40	40	40	40	65	65	65
S	32	23	32	34	42	42	57	62	63
T	28**	20	20	20	20	20	30	30	30
U	12	12	12	12	12	12	19	19	19

Note: Double Acting and Spring Return actuators have the same overall dimensions. The double acting unit of the size 48 actuator is optionally available with flat end caps with an F dimension of 102mm

† ISO "F" means mounting flange-drilling pattern.

* Dimensions for Size 160A in table. Size 160B (keyed stem version) has C dimension of 35mm and D dimension of 10mm

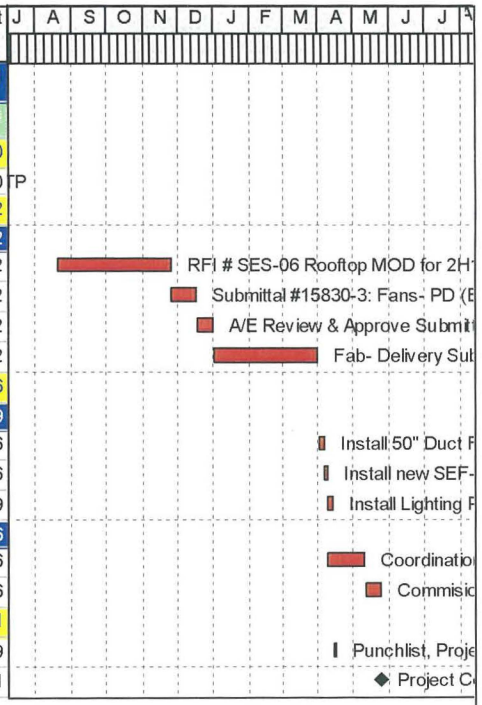
‡ Dimensions for Size 255A in table. Size 255B actuator has a C dimension of 76mm and D dimension of 19mm

** Size 48 has a Q dimensions of 40mm and a T dimension of 20mm with use of NAMUR top plate.

WEIGHTS - Kilograms - Spring Return unit weights are with full set of springs on each piston.									
Size	48	63	83	93	119	128	160	210	255
Double Acting	0.9	1.5	3	4	8	10	18	35	76
Spring Return	1.1	1.9	4	5	10	13	24	50	96

Drawings are for reference only. Please refer to Bray ES drawings on the Bray website, www.bray.com. Bray reserves the right to change product dimensions without notice.

Activity ID	Activity Name	Start	Finish	At Completion Duration	Total Float
Total		08-Jun-20	24-May-21	351	-121
MIA - Teminal H FL2 Area A - Smoke Evacuation System IMPACTED		08-Jun-20	24-May-21	351	-121
GENERAL CONDITIONS		08-Jun-20	08-Jun-20	0	-50
GC 100	NTP	08-Jun-20		0	-50
SCHEDULE IMPACTS		20-Aug-20	31-Mar-21	224	-122
EVENT DELAY #5 ROOF PNEUMATIC DAMPER		20-Aug-20	31-Mar-21	224	-122
SI 140	RFI # SES-06 Rooftop MOD for 2H1.1-1 Spec Request	20-Aug-20*	25-Nov-20	98	-122
SI 150	Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	26-Nov-20	17-Dec-20	22	-122
SI 160	A/E Review & Approve Submittal #15830-3: Fans- PD (Exhaust Smoke E\	18-Dec-20	31-Dec-20	14	-122
SI 170	Fab- Delivery Submittal #15830-3: Fans- PD (Exhaust Smoke EV)	01-Jan-21	31-Mar-21	90	-122
CONSTRUCTION		01-Apr-21	24-May-21	38	-86
ROOF		01-Apr-21	13-Apr-21	9	-59
M-2 E 400	Install 50" Duct Fan (connect to Mechanical penthouse below)	01-Apr-21	05-Apr-21	3	-86
S-2 E 310	Install new SEF-2H1.1.1	06-Apr-21	08-Apr-21	3	-86
E-2 F 130	Install Lighting Protection System	09-Apr-21	13-Apr-21	3	-59
TEST AND CERTIFICATION		09-Apr-21	24-May-21	32	-86
PC X 102	Coordination & Final Smoke test with MDFD	09-Apr-21	10-May-21	22	-86
PC X 122	Commisioning	11-May-21	24-May-21	10	-86
PROJECT CLOSE-OUT		14-Apr-21	24-May-21	41	-121
PC F 150	Punchlist, Project Closeout & Warranties - Pack. F - Electrical	14-Apr-21	15-Apr-21	2	-59
PC 310	Project Completion		24-May-21	0	-121



Remaining Level of Effort ◆ ◆ Milestone

Actual Level of Effort

Actual Work

Remaining Work

Critical Remaining Work

EXHIBIT 12- ROOF PNEUMATIC DAMPER IMPACTED SCHEDULE

MIA - Teminal H FL2 Area A - Smoke Evacuation System

IMPACTED BASELINE

MCM- TIA IMPACTED Schedule

MCM BUILDING EXCELLENCE

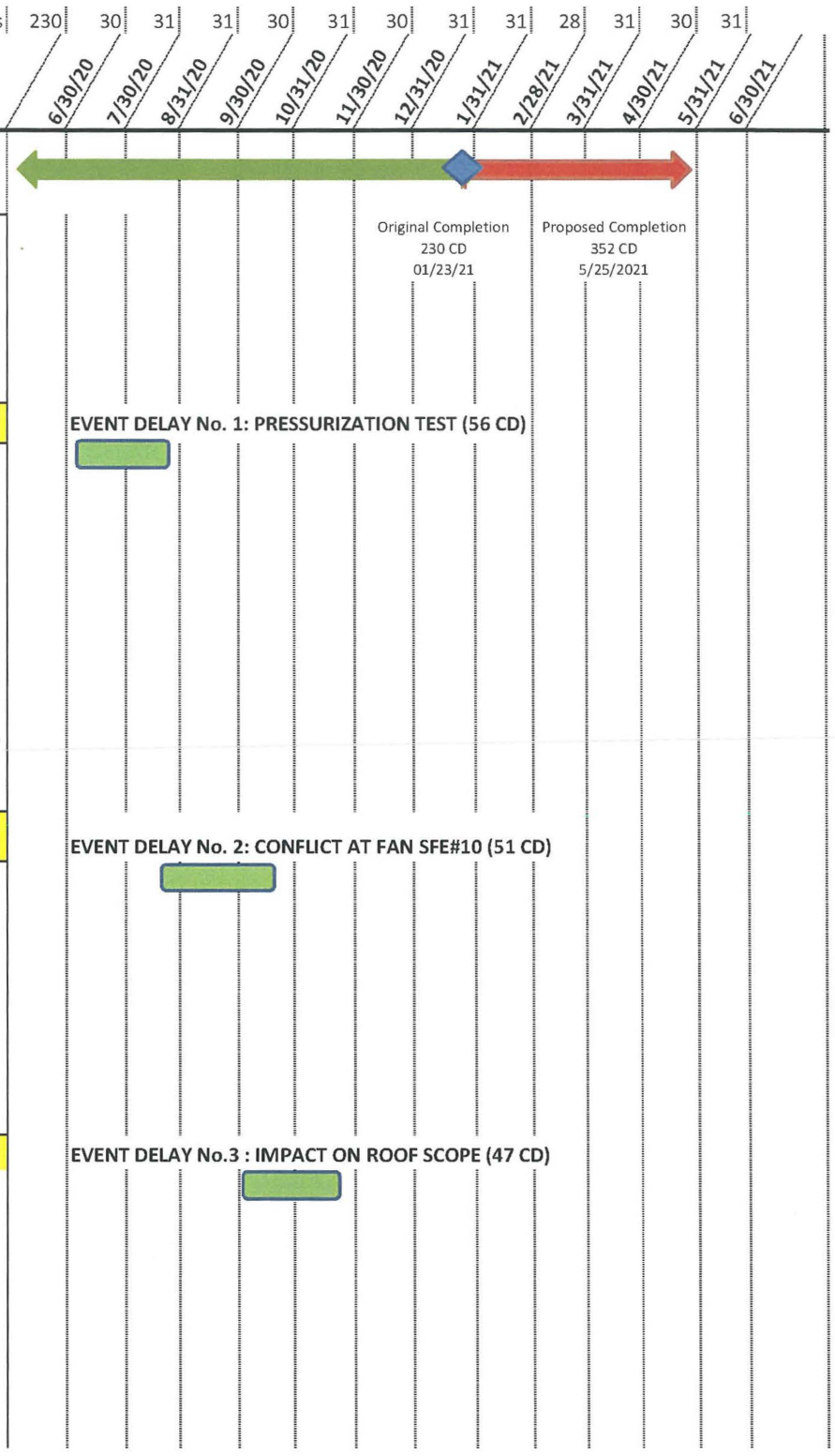
EXHIBIT 13- DELAY OCCURENCE GRAPH

MCC-8-10 MIA TERMINAL H FL 2 AREA 2- SMOKE EVACUATION SYSTEM

Delay Event Occurrence Graph
TIA #1

DELAY-EVENT OCCURRENCE GRAPH

NTP 06/08/2020



MCM and MDAD agreed that the project could be completed in the time proposed if the A/E moves in the same expedited mode we are moving. Any issue resolution that deviates from this accord will be reported in this report for any potential Time Impact Analysis that we may be forced to present.

EVENT DELAY No. 1: PRESSURIZATION TEST (56 CD)

7/2/20- 8/28/28: Prior to the start of work, the Architect requested a pressurization test report for the existing equipment (AHU-2H-1.1, and adjoining area AHUs...) associated with the smoke evacuation, as a well as a smoke test report submitted to MDAD. Architect also requested control shop drawings, including control dampers and Air handling units location and operations as well as complete sequence of operation under normal and smoke evacuation modes. Due to unforeseen conditions, the Pressurization/smoke test took longer than anticipated, impacting the schedule by 56 days. This is a concurrent delay.

EVENT DELAY No. 2: CONFLICT AT FAN SFE#10 (51 CD)

8/25/20 - 10/15/20: During Phase 1 demolition, three items were in conflict. Coordination was necessary with the various entities. One fiber optic 2" pipe, two fire alarms that needed to be relocated; one near 3 elevator banks and single elevator bank and 1" phone jack conduit in process to be relocated. The 1" phone jack had to be approved from MDAD. The phone jack pipe was in conflict with the connection of the new fan #10 to the ductwork. This is a 51 CD concurrent delay.

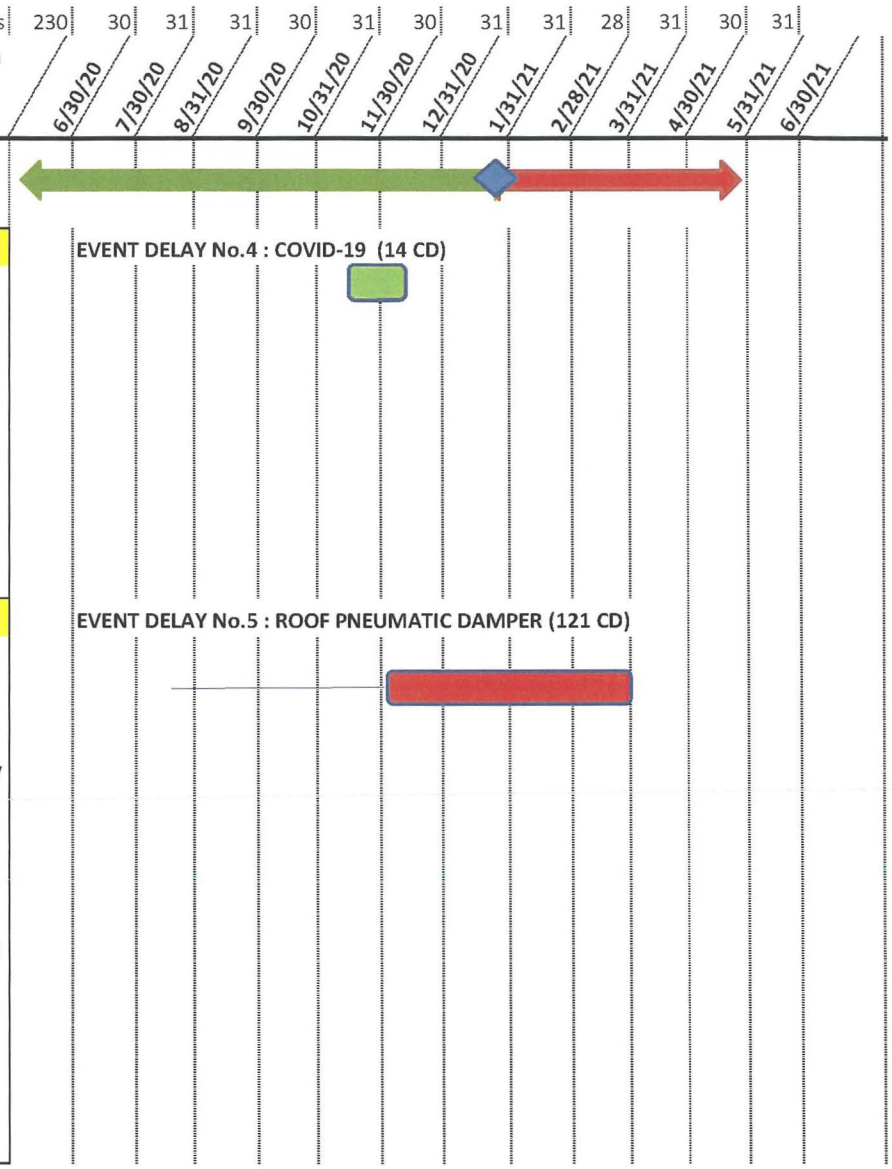
EVENT DELAY No.3 : IMPACT ON ROOF SCOPE (47 CD)

10/5/20 - 11/20/20 : On 10/5/20, the Metals package subcontractor (Fleites) reported an impacts on the procurement of the metals supports. The galvanization plant stopped operations for two weeks due to an internal reported Covid-19 case. The Fabrication and delivery of the metal supports were impacted due to the Covid-19 case. Rain days on 11/5, 11/8, 11/12, 11/20 also impacted the roof scope. This is a concurrent delay of 47 days.

MCC-8-10 MIA TERMINAL H FL 2 AREA 2- SMOKE EVACUATION SYSTEM

Delay Event Occurrence Graph
TIA #1

DELAY-EVENT OCCURRENCE GRAPH



NTP 06/08/2020

EVENT DELAY No.4 : COVID-19 (14 CD)

11/17/20 - 12/1/20 : The ongoing pandemic impacted progress. Two seperate subcontractors had to stop work after having at least one of their workers test positive for Covid-19. The electrical subcontractor (Thevenin Entreprises) stopped work from 11/17/20 to 11/30/20 due to a Covid-19 case amongst their crew. The Metals package subcontractor (Fleites Construction) stopped work from 11/20/20 to 12/1/20 due to Covid-19 case within the working crew. This is a concurrent delay of 14 days.

EVENT DELAY No.5 : ROOF PNEUMATIC DAMPER (121 CD)

8/20/20-3/31-21: On 8/20/20, The Mechanical Subcontractor submitted RFI #SES-06, requesting clarification (Type, model, Manufacture) for Motorized damper at rooftop gridline. The mechanical contractor was instructed to provide a quote with time and money impact for both damper systems: Electrical and pneumatic. On 11/25/20, following Architect's suggestion, it was decided to install the pneumatic dampers. On 12/17/20, the Mechanical subcontractor provided the submittals to A/E for approval. The Pneumatic damper is currently under review. Following approval, the lead time for material delivery is estimated to the end of March 2021. This is a critical delay of 121 days, as it is impacting the roof 50" ductwork installation and the required testing to be done for system start-up.

EXHIBIT 14- PROJECT DELAY TIMELINE GRAPH

MCC-8-10 MIA TERMINAL H FL 2 AREA 2- SMOKE EVACUATION SYSTEM

Delay Event Occurrence Graph

TIA #1

DELAY-EVENT OCCURRENCE GRAPH

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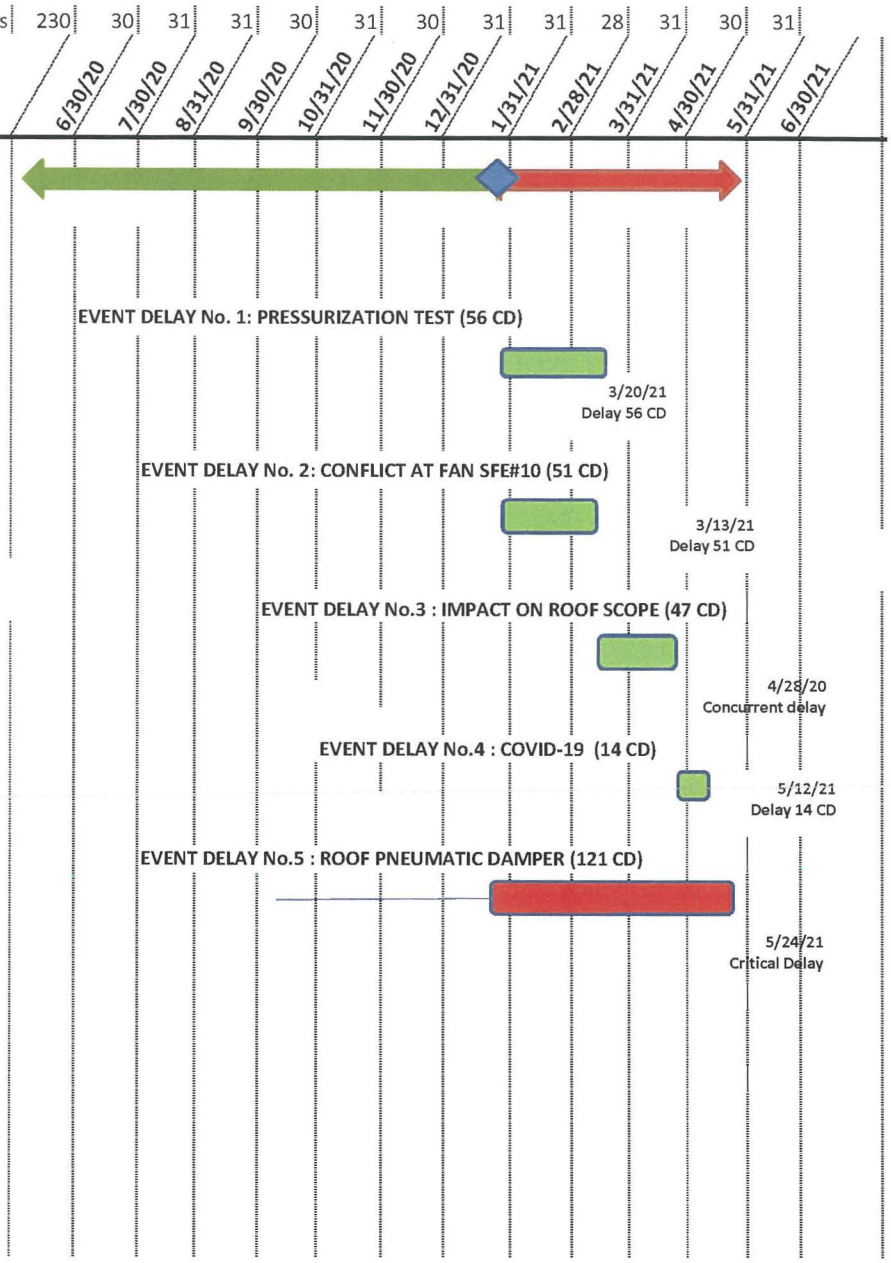

Transmittal

PROJECT NAME MIA - Terminal H FL2 Area A - Smoke Evacuation System **PROJECT No.** U023A

FROM Natalie McCudden, PCI **TRANSMITTAL No.** _____

TO Document Control **DATE** February 3, 2021

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