Wilmington International Airport (ILM) Curbside Improvements Phase 2

Addendum No. 2 | Issue Date: 4/24/2025

1. **Bid Date/Time Change** – The bid date for Formal Bid Packages shall be **Thursday, May 15, 2025 at 2:00 PM.** Location remains unchanged.
2. **Revised** bid form – use Addendum 2 Bid Form to submit your bid
    a. **REMOVE Appendix E from bid documents.** Appendix E shall only be submitted by the Low Apparent Bidder (Electrical & Sitework) within 72 hours of being notified of low apparent bidder.
    b. **DBE Listing Form**
3. **Revised** Scopes work (addendum 2 changes will be in green)
    a. General Trades, Steel, Concrete, Masonry, Ceilings, Terrazzo, Plumbing, Electrical, Sitework
4. **RS&H Addendum 2**
    a. Volume 1 Base Bid – Addendum 2 Specs, Drawings & Narrative
    b. Volume 2 Base Bid – Addendum 2 Specs, Drawings & Narrative
    c. Volume 2 Alternate 2 - Addendum 2 Drawings & Narrative
    d. Volume 2 Alternate 4 - Addendum 2 Drawings & Narrative
    e. Volume 3 Base Bid – Addendum 2 Drawings & Narrative
5. **Revised** Structural drawings S011 and S013 from addendum 1
6. **RFI Responses** to date
7. **Added** Logistics Plan Sheet AS101
8. **Added** CAD Files
    a. ILM BP3-C3D-V-SURF-01 (Existing surface)
    b. Civil Coordination buildings Export (Outlines of the building elements that is shown in volume 3 drawings)
9. Draft Subcontract
10. Prebid Meeting PowerPoint and Attendance
11. Glazing Product Data Submittal & Spec, Glazed Aluminum Curtain Walls Submittal & Spec from previous work at ILM in response to addendum RFI No. 120

PRE-BID MEETING

April 15, 2025, 10:00 AM

ILM

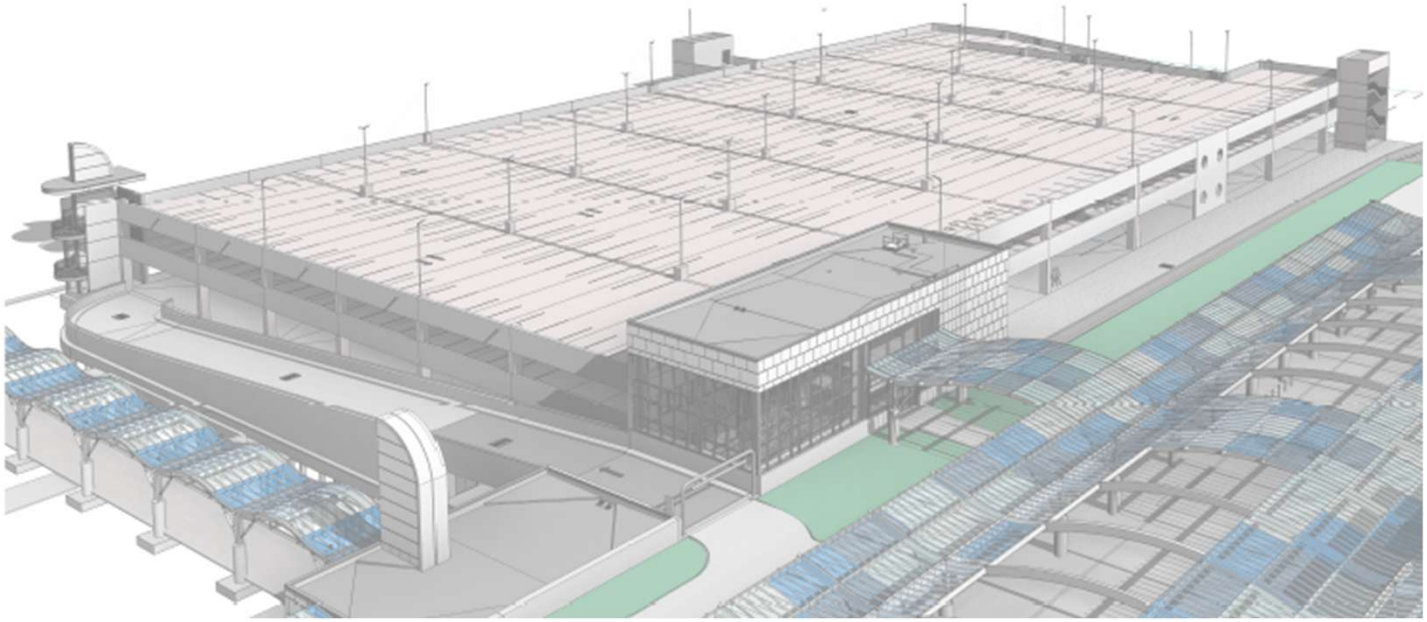
CURBSIDE IMPROVEMENTS

PHASE 2

MONTEITH RS&H SEY AVIATION GROUP LLC

AGENDA

- Introductions
- Project Overview
- Logistics Plan
- Project Schedule
- Bid Package
- Submitting a Bid
- Bid Schedule
- DBE Compliance
- Questions



INTRODUCTIONS

John Breshears
Project Manager

Mike Travaglia
Superintendent

Christopher Thompson
Superintendent

Christine Dubree
Project Coordinator

Brian Stamp
Chief Estimator

Maria Rosales
Trade Engagement

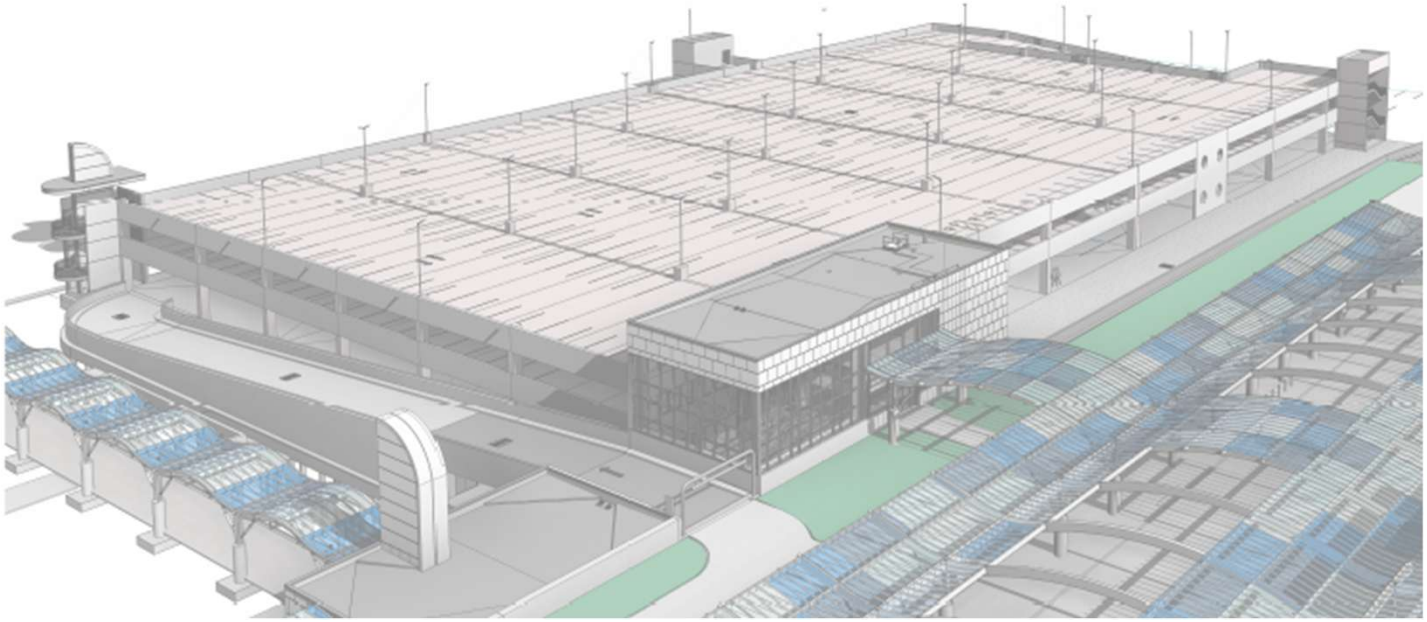
MONTEITH CONSTRUCTION

ILM

RS&H

VASEY AVIATION GROUP LLC

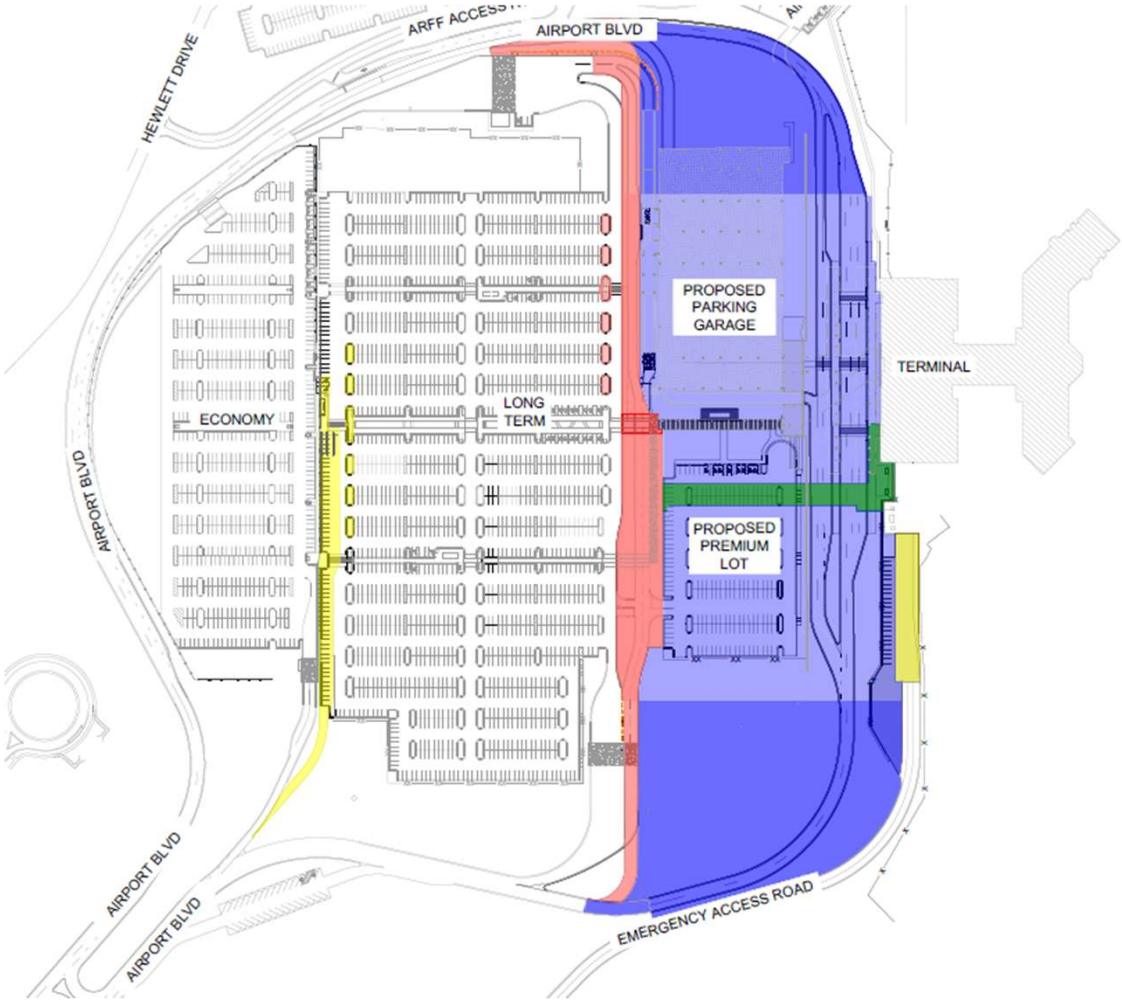
Advisory Services Strategy Operations Program Management



PROJECT OVERVIEW

Phase II program of ILM Curbside Improvements includes the construction:

- Three (3) level parking garage
- Vertical circulation plaza
- Tunnel
- Atrium expansion
- Commercial curb front canopy
- Premium parking lot



WORK AREAS

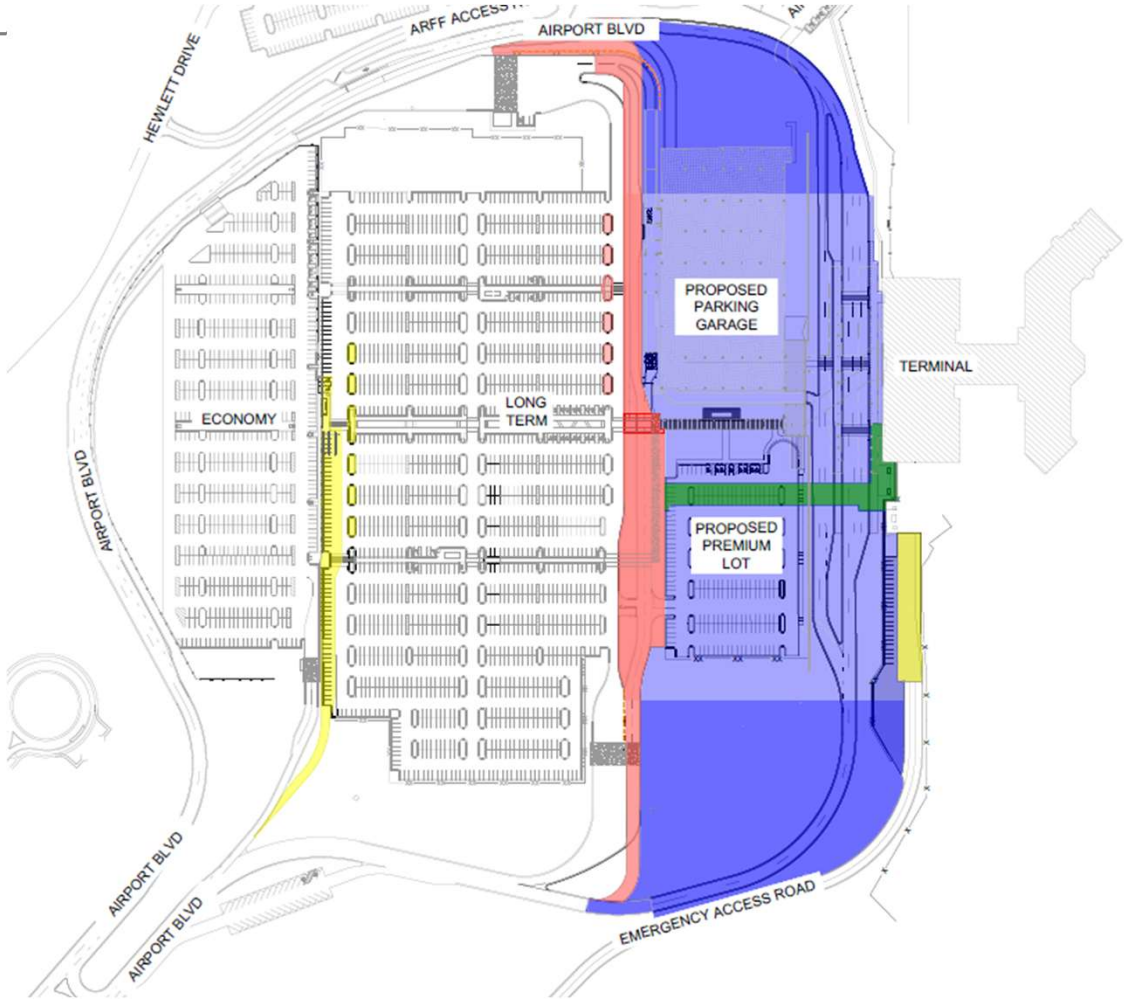
Work Area 1: Parking garage, vertical circulation plaza, tunnel, atrium expansion, canopy, premium parking lot, and Airport Boulevard. Maintain temporary curbfront canopy and enclosed walkway for passenger flow.

Work Area 2: Construction of the premium parking lot and Airport Blvd within the temporary enclosed walkway area. Starts after Work Area 1 components can handle passenger traffic.

Work Area 3: Reconstruction of the temporary curbfront roadway and construction of the entry plaza, shuttle drives, and garage entrance. Maintain pedestrian access to the vertical circulation plaza/tunnel.

Work Area 4: Reconstruction of the temporary curbfront roadway and sidewalk within the main pedestrian walkway. Manage pedestrian traffic with barricades and signage.

Work Area 5: Construction of bus shelters and tractor-trailer turnaround near the loading dock. Removal of the temporary long-term lot entrance equipment after the entry plaza is fully operational.



LOGISTICS PLAN

PROJECT SCHEDULE

Construction Start:

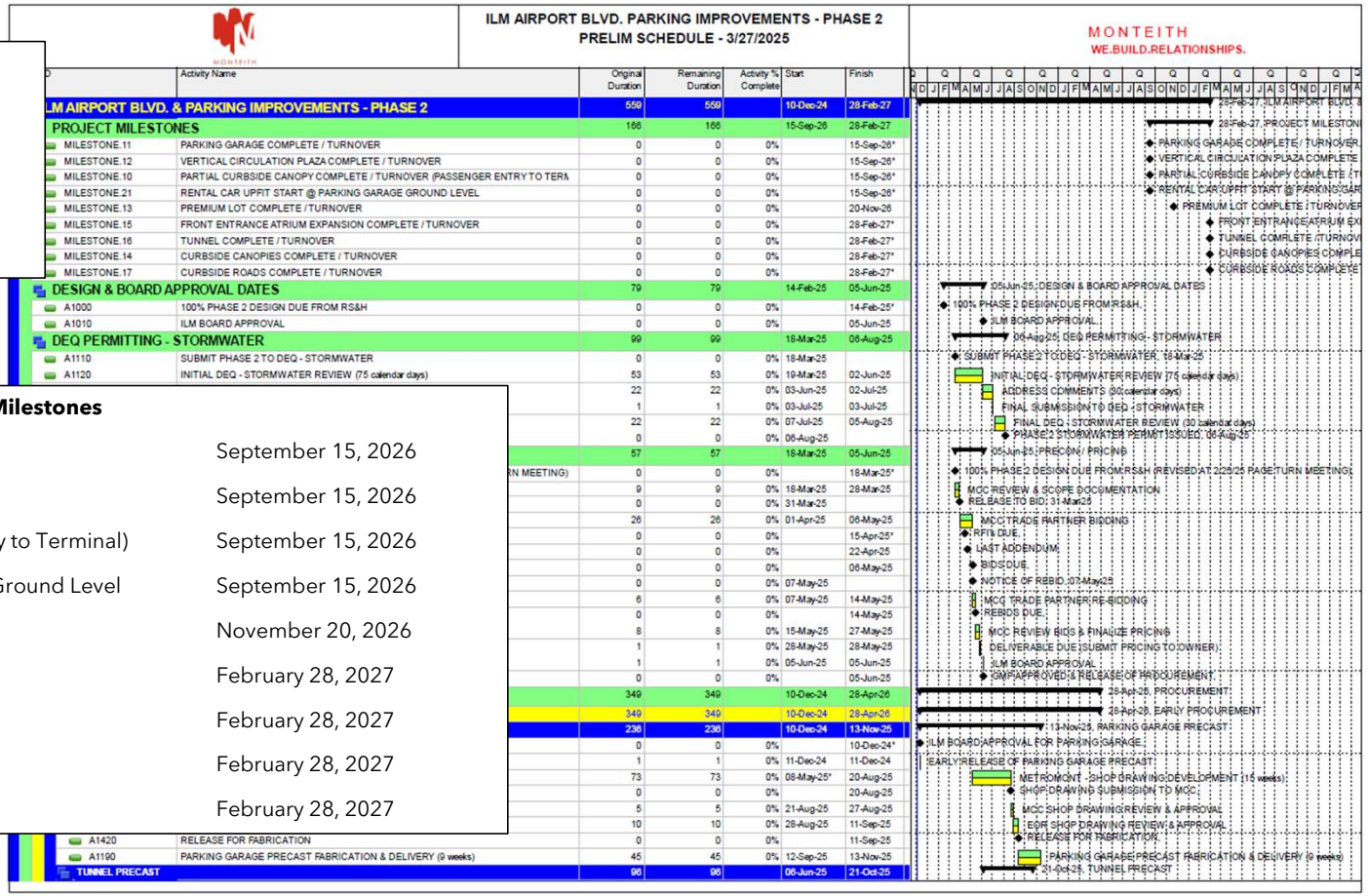
Work Area 1: July 1, 2025

Work Area 2: September 16, 2026

Work Area 3: September 17, 2026

Work Area 4: November 23, 2026

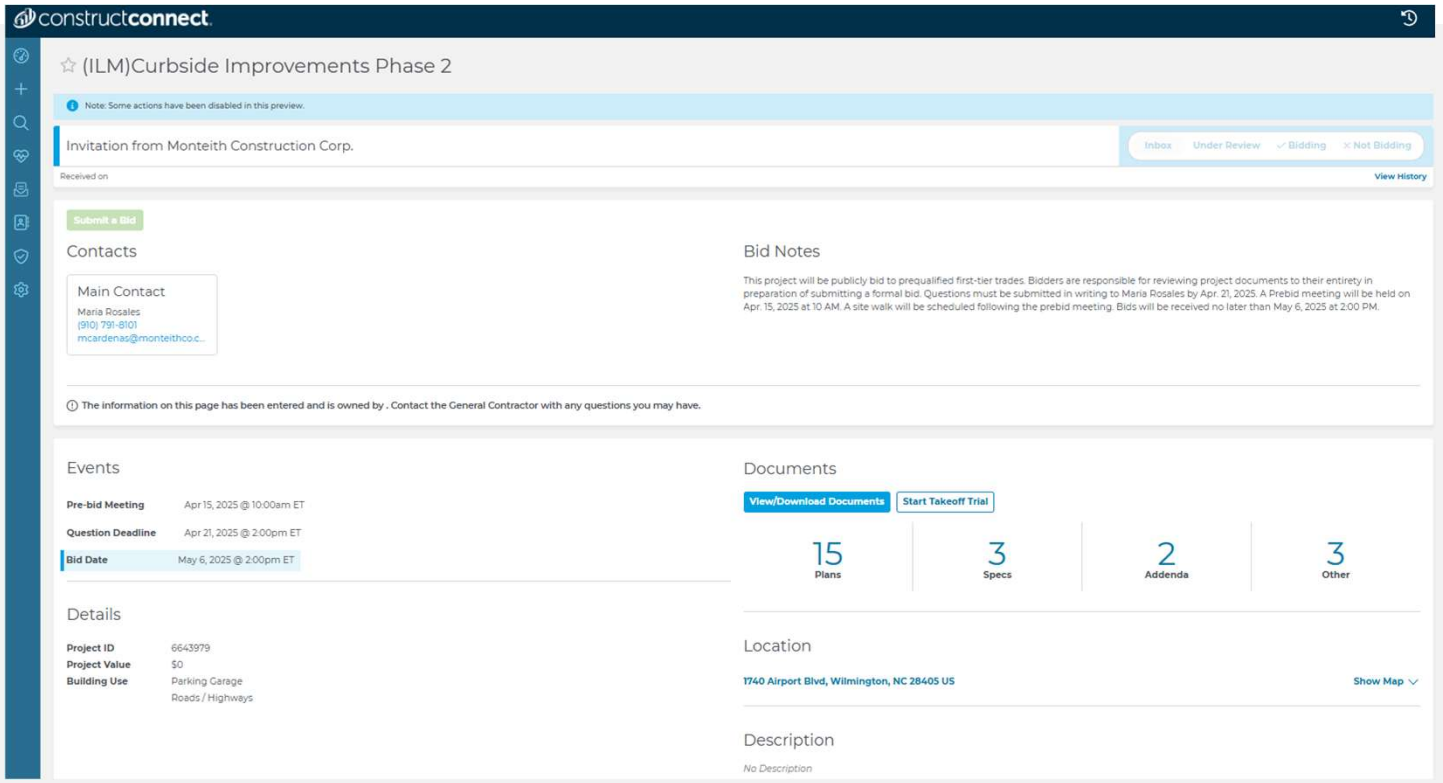
Work Area 5: December 14, 2026



Milestones

Parking Garage	September 15, 2026
Vertical Circulation Plaza	September 15, 2026
Partial Curbside Canopy (Passenger Entry to Terminal)	September 15, 2026
Rental Car Upfit Start @ Parking Garage Ground Level	September 15, 2026
Premium Lot	November 20, 2026
Front Entrance Atrium Expansion	February 28, 2027
Tunnel	February 28, 2027
Curbside Canopies	February 28, 2027
Curbside Roads	February 28, 2027

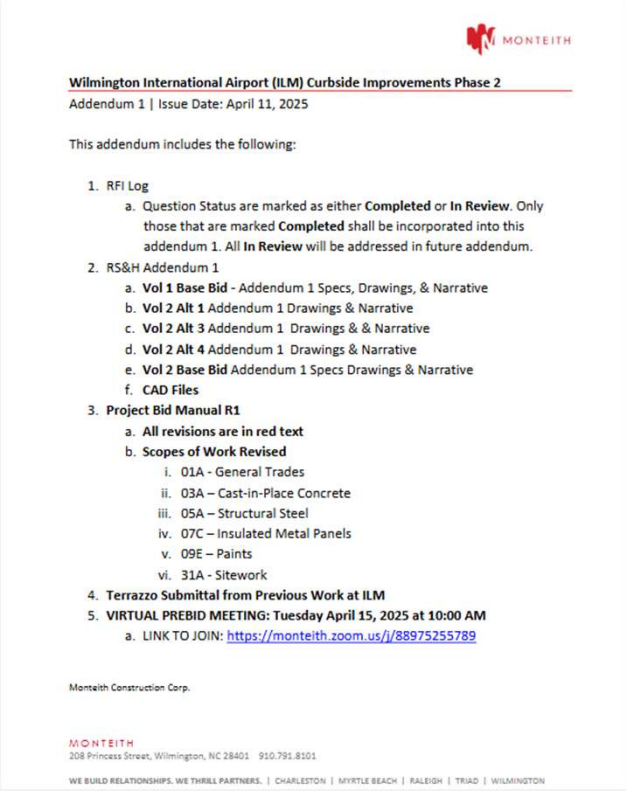
PROJECT DOCUMENTS



https://webtakeoff.takeoff.constructconnect.com/6643979/docviewer/File-84065310?projName=(ILM)Curbside%20Improvements%20Phase%202&docType=plans&sourceType=2

ADDENDUM NO. 1

Issued: April 11, 2025



MONTEITH

Wilmington International Airport (ILM) Curbside Improvements Phase 2

Addendum 1 | Issue Date: April 11, 2025

This addendum includes the following:

1. RFI Log
   a. Question Status are marked as either **Completed** or **In Review**. Only those that are marked **Completed** shall be incorporated into this addendum 1. All **In Review** will be addressed in future addendum.
2. RS&H Addendum 1
   a. **Vol 1 Base Bid** - Addendum 1 Specs, Drawings, & Narrative
   b. **Vol 2 Alt 1** Addendum 1 Drawings & Narrative
   c. **Vol 2 Alt 3** Addendum 1 Drawings & & Narrative
   d. **Vol 2 Alt 4** Addendum 1 Drawings & Narrative
   e. **Vol 2 Base Bid** Addendum 1 Specs Drawings & Narrative
   f. **CAD Files**
3. **Project Bid Manual R1**
   a. **All revisions are in red text**
   b. **Scopes of Work Revised**
      i. 01A - General Trades
      ii. 03A – Cast-in-Place Concrete
      iii. 05A – Structural Steel
      iv. 07C – Insulated Metal Panels
      v. 09E – Paints
      vi. 31A - Sitework
4. **Terrazzo Submittal from Previous Work at ILM**
5. **VIRTUAL PREBID MEETING: Tuesday April 15, 2025 at 10:00 AM**
   a. LINK TO JOIN: https://monteith.zoom.us/j/88975255789

Monteith Construction Corp.

MONTEITH
208 Princess Street, Wilmington, NC 28401 910.791.8101

WE BUILD RELATIONSHIPS. WE THRILL PARTNERS. | CHARLESTON | MYRTLE BEACH | RALEIGH | TRIAD | WILMINGTON

This Addendum Includes:

- RFI Log
  - Question Status are marked as either **Completed** or **In Review**. Only those that are marked **Completed** shall be incorporated into this addendum 1. All **In Review** will be addressed in future addendum.
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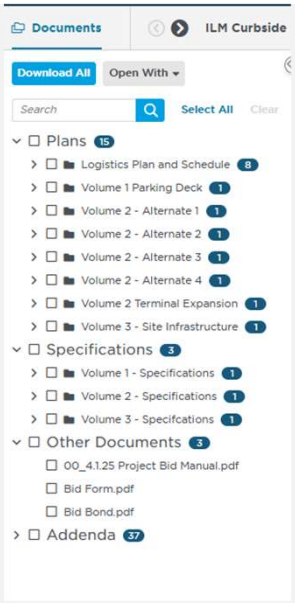
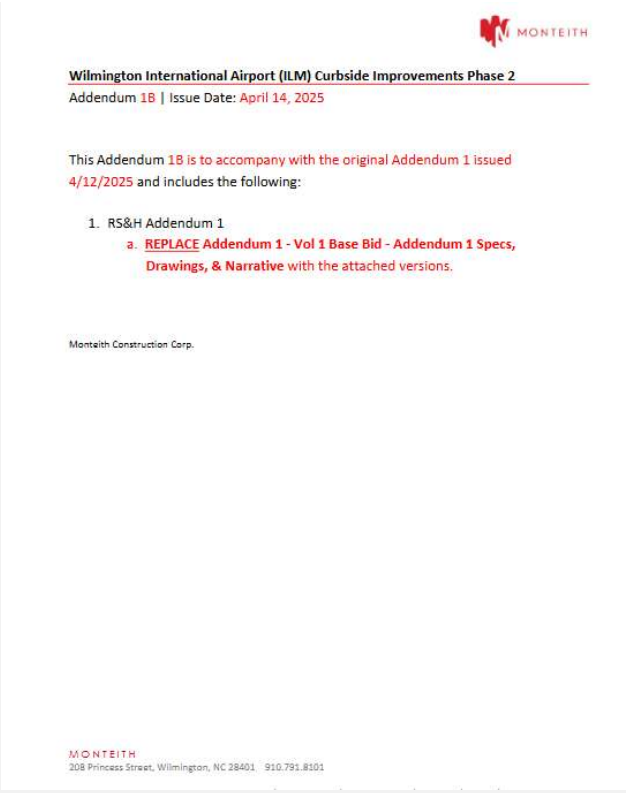
  - **Vol 1 Base Bid -** Addendum 1 Specs, Drawings, & Narrative
  - **Vol 2 Alt 1** Addendum 1 Drawings & Narrative
  - **Vol 2 Alt 3** Addendum 1 Drawings & & Narrative
  - **Vol 2 Alt 4** Addendum 1 Drawings & Narrative
  - **Vol 2 Base Bid** Addendum 1 Specs Drawings & Narrative
  - **CAD Files**
- **Project Bid Manual R1**
  - **All revisions are in red text**
- **Scopes of Work Revised**
  - 01A - General Trades03A – Cast-in-Place Concrete
  - 05A – Structural Steel
  - 07C – Insulated Metal Panels
  - 09E – Paints
  - 31A – Sitework
- **Terrazzo Submittal from Previous Work at ILM**



ADDENDUM NO. 1b

Issued: April 14, 2025



MONTEITH

Wilmington International Airport (ILM) Curbside Improvements Phase 2

Addendum 1B | Issue Date: April 14, 2025

This Addendum 1B is to accompany with the original Addendum 1 issued 4/12/2025 and includes the following:

1. RS&H Addendum 1
   a. REPLACE **Addendum 1 - Vol 1 Base Bid - Addendum 1 Specs, Drawings, & Narrative** with the attached versions.

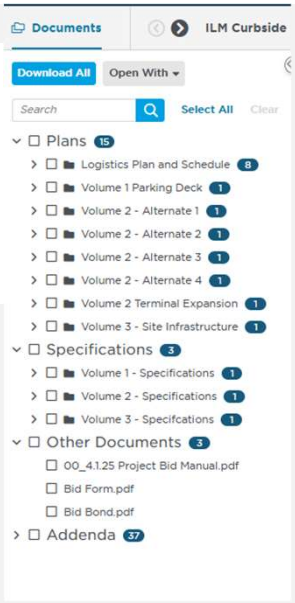
Monteith Construction Corp.

MONTEITH
208 Princess Street, Wilmington, NC 28401 910.791.8101

This Addendum Includes:

This Addendum 1B is to accompany the original Addendum 1 issued 4/11/2025 and includes the following:

- RS&H Addendum 1
  - **REPLACE** Addendum 1 - Vol 1 Base Bid -Addendum 1 Specs, Drawings, & Narrative with the attached versions.



SUBMITTING A BID

PROJECT: Wilmington International Airport (ILM)
Curbside Improvements Project PHASE 2 - FORMAL

BID FORM

You must submit your bid on this form. All other bids/proposals are unresponsive.

BIDS SUBMITTED TO: Monteith Construction Corp. – Construction Manager

BIDDER: _____

NC LICENSE #: _____ **BID DATE:** _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he/she has examined the site of the work and the contract documents relative thereto and has read all special provisions furnished prior to the opening of bids; that bidder has satisfied themselves relative to the work to be performed.

The Bidder proposes and agrees if this proposal is accepted to contract with Monteith Construction, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the following bid package in complete accordance with the plans, specifications, and contract documents:

Bid Package (choose one):

- ☐ #01A – General Trade
- ☐ #02A – Structural Demolition
- ☐ #03A – Cast-In-Place Concrete
- ☐ #04A – Masonry
- ☐ #05A – Structural Steel
- ☐ #07C – Insulated Metal Panels
- ☐ #07E – Waterproofing
- ☐ #08B – Glass and Glazing
- ☐ #09A – Framing and Drywall
- ☐ #09B – Ceilings
- ☐ #09C – Terrazzo
- ☐ #09E – Paints
- ☐ #21A – Fire Suppression
- ☐ #22A – Plumbing
- ☐ #23A – Heating, Ventilating and Air Conditioning
- ☐ #26A – Electrical
- ☐ #31A – Sitework
- ☐ #31B – Piles

Addenda Acknowledgement:

Addenda received and used in computing bid. Failure to acknowledge receipt of all addenda may result in bid being considered non-responsive.

___No. 1 received on ___/___/___
___No. 2 received on ___/___/___
___No. 3 received on ___/___/___
___No. 4 received on ___/___/___
___No. 5 received on ___/___/___
___No. 6 received on ___/___/___
___No. 7 received on ___/___/___
___No. 8 received on ___/___/___

Base Bid Price:

The Base Bid Price includes all Work required by and in strict accordance with the Bid Documents for this Project, for the Lump Sum of (words and figures):

_____ **Dollars** $_____

Payment & Performance Bonds: (separate from base bid)

If the total price of work is $500,000 or more, show the cost to add bond as a **separate item** from the Base Bid Price.

$_____

PROJECT: Wilmington International Airport (ILM)
Curbside Improvements Project PHASE 2 - FORMAL

BID FORM

You must submit your bid on this form. All other bids/proposals are unresponsive.

Allowances: (Include in Base Bid)

See bid package for descriptions

	Allowance Description	Bid Package	Amount
1.	Temporary shoring of columns on Line 10 & G, K	02A – Demolition	$100,000
2.	000 delegated design fee for the NCDOT Concrete Barrier Rail per drawing Volume 1 S211 detail C3.4.	03A – Cast-in-Place Concrete	$10,000
3.	Temporary Walls	09A – Framing & Drywall	$75,000
4.	Drywall Touch Up	09A- Framing & Drywall	$15,000
5.	Paint Touch Up	09E – Framing & Drywall	$15,000
6.	Electrical Hookup of section 09 05 10 Light Manipulating Materials	26A Electrical	$50,000
7.	Maintenance of temporary drainage during construction	31A Sitework	$50,000
8.	Existing Utility Conflicts	31A Sitework	$60,000

Unit Rates:

BP 31B: Auger Cast Piles:

Total length of installed 18"auger cast piles included in base bid.

_____LF x $_____/LF = $_____

(3) Test piles _____LF x $_____/LF = $_____

(3) Load tests 3 ea. x $_____/test = $_____

BP 26A Electrical & 31A Sitework – Include Appendix E Bid Form with this Bid

Alternates:

See exhibit B - bid packages for description – if alternates apply to your bid package, you must indicate a value. If no change, write $0 – No change. If not applicable to your bid package, write N/A. Do not leave blank.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1 All work to rooms 115,116, 117,118

Add | Deduct:

_____ **Dollars** $_____

(In Words) **($ Figures)**

Add Alternate No. 2 (History Corridor) – See Drawings Volume 2 Alternate No. 2 All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Add | Deduct:

_____ **Dollars** $_____

(In Words) **($ Figures)**

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3 Revise layout of entry canopy.

Add | Deduct:

_____ **Dollars** $_____

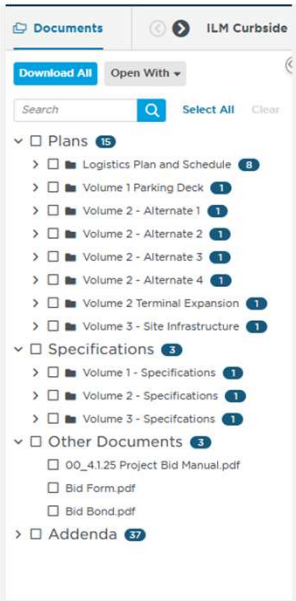
(In Words) **($ Figures)**

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4 Delete all work to Connector 112, Atrium 111, Elevator 1 and 2, Mechanical Room 124, Storage 123

Add | Deduct:

_____ **Dollars** $_____

(In Words) **($ Figures)**



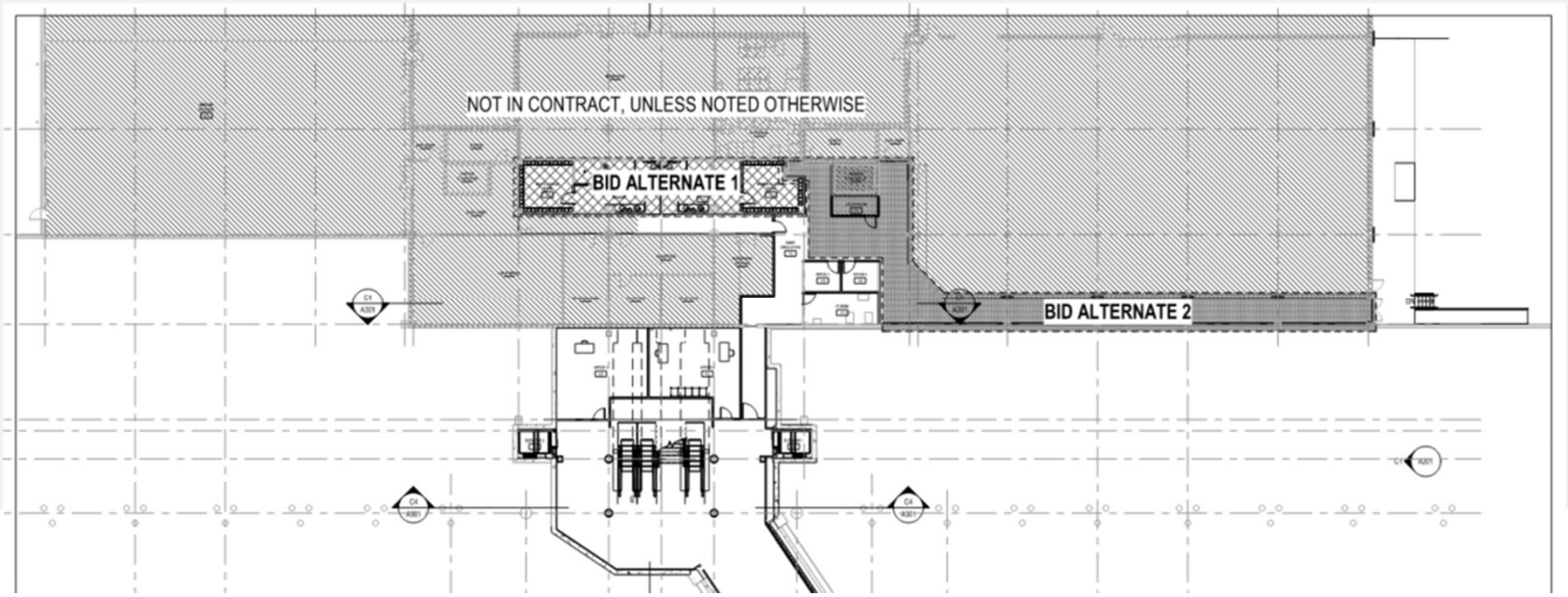
ALTERNATES

Bid Alternate #1

- Locker Renovation

Bid Alternate #2

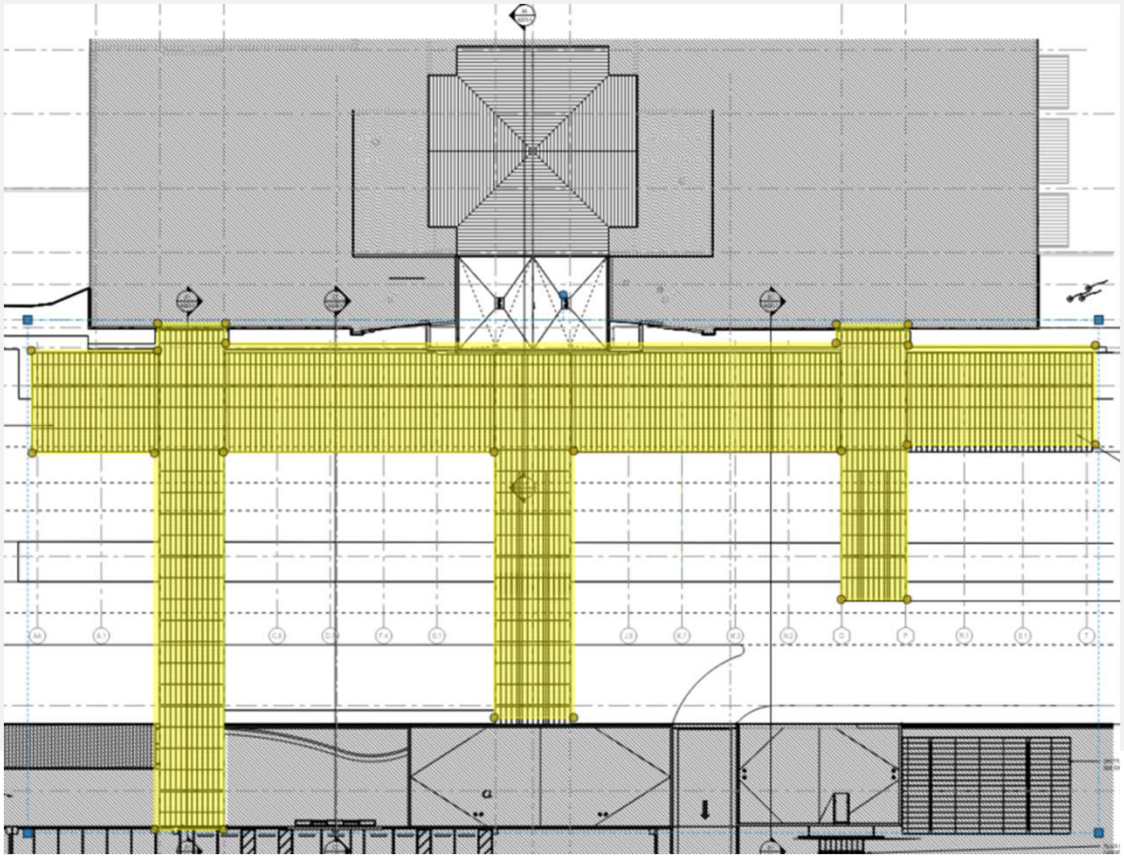
- History Corridor



ALTERNATES

Bid Alternate #3 - Reduced Canopy

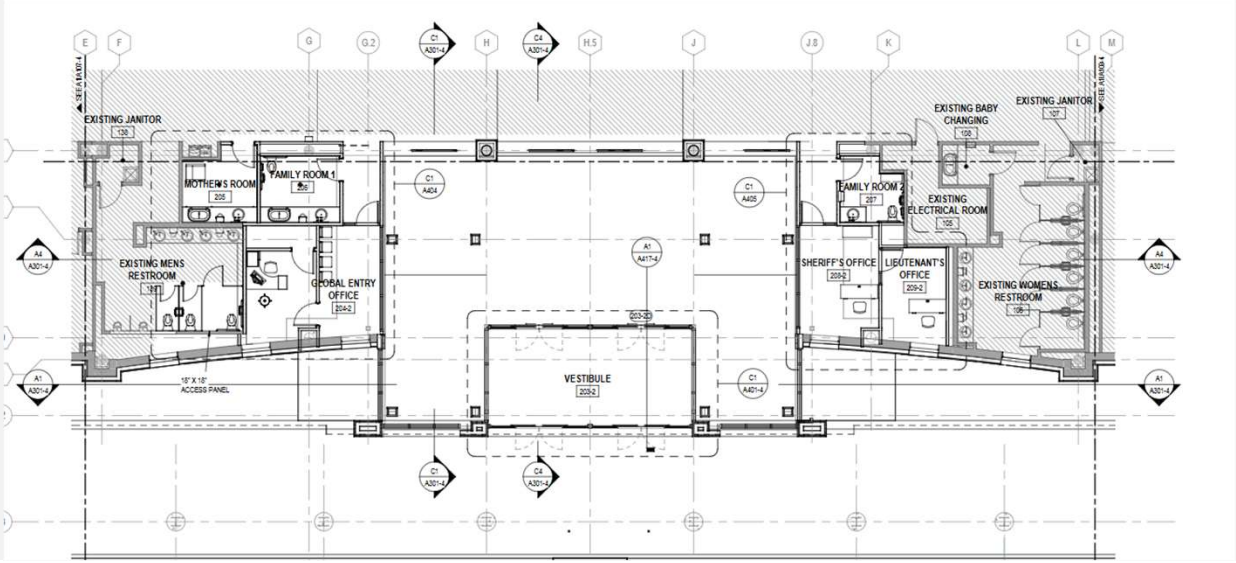
- ☑ Includes all program elements as Base Bid with exception of reduced commercial curb canopy.



ALTERNATES

Bid Alternate #4 - Expanded Vestibule (no tunnel)

- ☑ No tunnel
- ☑ Expanded Vestibule



SUBMITTING A BID

Informal Bid Packages

- Millwork
- Roofing
- EIFS
- Applied Fireproofing
- Coiling Doors & Grilles
- Doors, Frames & Hardware
- Tile
- Flooring
- Toilet Accessories
- Signage
- Lockers
- Canopies
- Fire Cabinets
- Elevators
- Fencing

Emailed Bids will be received until
April 25, 2025, 2:00 PM

SUBMIT TO:

Brian Stamp
Via email
bstamp@monteithco.com

https://app.constructconnect.com/project/6643169/6681480?sourceType=2&view=recipient

SUBMITTING A BID

Formal Bid Packages

- General Trades
- Demolition
- Concrete
- Masonry
- Steel
- Waterproofing
- Metal Wall Panels
- Glass
- Ceilings
- Framing & Drywall
- Paint
- Terrazzo
- Fire Protection
- Plumbing
- HVAC
- Electric
- Sitework
- Auger Cast Piles

Bidders must be prequalified to bid.
Must submit Sealed Bid as instructed in bid documents.

Sealed Bids will be received until
~~May 6, 2025, 2:00 PM~~ **Extended**: May 15, 2025 at 2:00 PM

SUBMIT TO:

Attention: Maria Rosales/Bid Package
Wilmington International Airport
Administration Conference Room,
2nd Floor 1740 Airport Blvd
Wilmington, NC 28405

Bids will be opened and read aloud immediately following the close of bids at 2:00 PM on May 6, 2025.

https://app.constructconnect.com/project/6643979/6682368?sourceType=2&view=recipient

BID SCHEDULE

April 21	April 24	April 25	**Extended**: May 15, 2025 at 2:00 PM ~~May 6~~
RFI Questions Due	**Final Addendum to be issued**	**Informal Bids Due**	**Formal Bids Due**

Site-walk

April 15 2-4 PM	2
April 16 9-11 AM	4
April 16 1-3PM	9
April 17 1 - 4PM	2

DBE Compliance and Good Faith Efforts

THE COMBINED (MBE/WBE) GOAL:

12.1%

ALL SUBCONTRACTORS ARE REQUIRED TO SUBMIT A LIST OF MBE/WBE PARTICIPATION AND EVIDENCE OF GOOD FAITH EFFORTS

DBE REGULATIONS CAN BE FOUND IN 49 CFR PART 26

HTTPS://WWW.EBS.NC.GOV/VENDORDIRECTORY/DEFAULT.HTML

QUESTIONS

Email:

Maria Rosales
mcardenas@monteithco.com

Brian Stamp
bstamp@monteithco.com

ILM

MONTEITH

RS&H

SEY AVIATION GROUP LLC

Advisory Services | Strategy | Operations | Program Management

12400 N. Meridian Street
Carmel, IN 46032
Tel: 317.844.6600

ILM Curbside Improvements Phase 2
Prebid Meeting Sign-In Sheet
April 15, 2025 10 AM

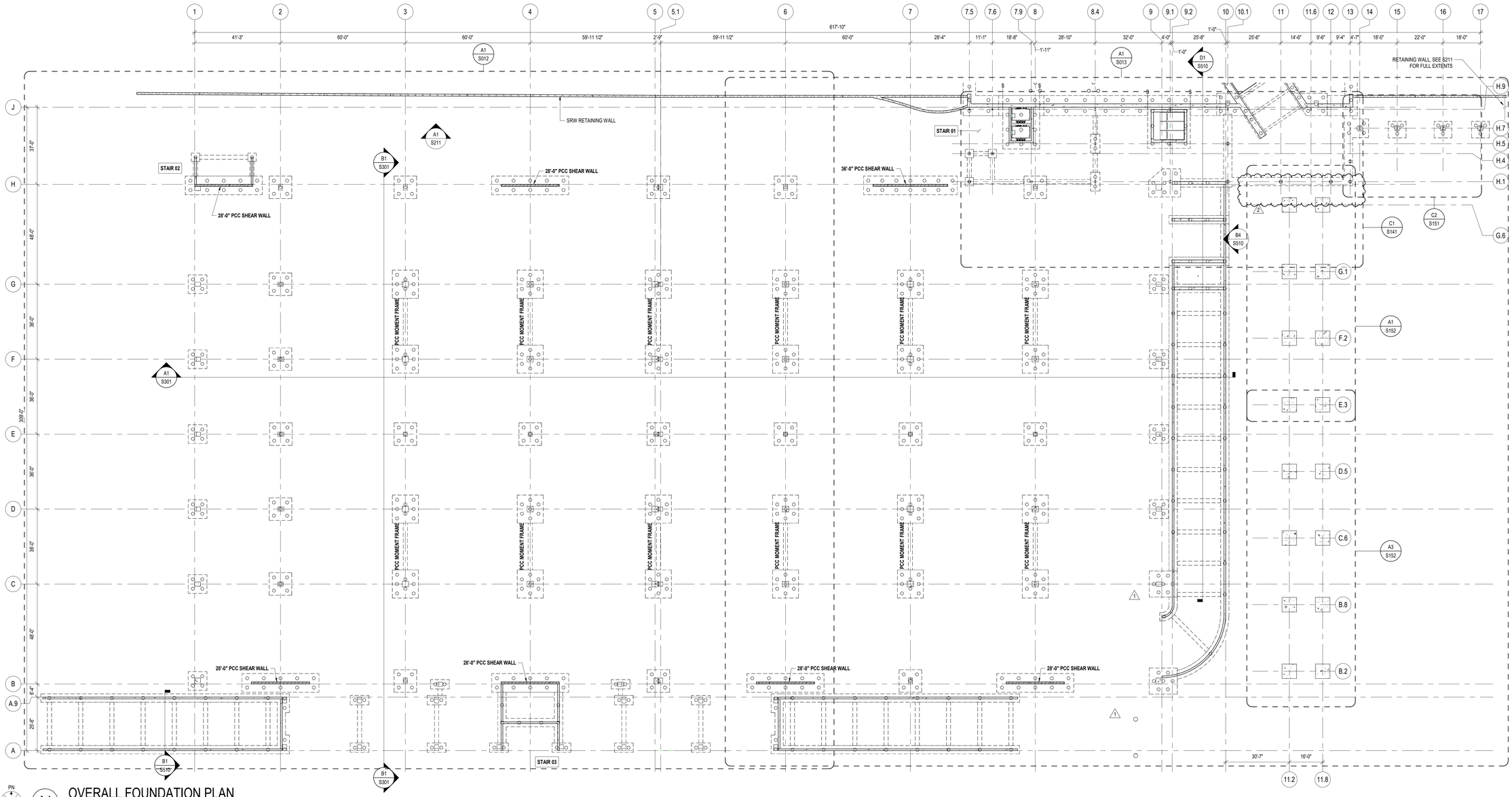
MONTEITH

1. Elayne Kincaid, Hine Sitework, Inc. elayne@hinesitework.com 919-736-8990
2. L.J. Electrical Company, Joe Rouse 919-624-1143, joe.rouse@ljelectricalcompany.com
3. Triston Arwood - North State Steel - 252-830-8884 - triston@northstatesteel.com
4. Rachel Hernandez - Hanover Coatings Inc
5. Ben Howell - Saltwater Signworks - ben@saltwatersignworks.net
6. Bonitz, terrazzo Joel Deynzer, Joeldeynzer@bonitz.com
7. John Nieves - Odyssey Mechanical
8. Jessica Barley / MSJ Glass and Glazing, Inc. / 336-477-1121 / jessicab@msjinc.com
9. Kevin Knuettel Conti Civil kknuettel@conticivil.com
10. Spencer Clark- D.H.Griffin Wrecking Company, saclark@dhgriffin.com
11. John Riggle, Trader Construction Co. jriggle@traderconstruction.com
12. Kendra Blackmon - Rush Masonry - kblackmon@rushconstruction.org
13. Stephen Klepper - Leoterra Development - stephen.klepper@leoterradevelopment.com
14. Ian Zager - Honeycutt Construction, ian@honeycuttcorp.com
15. Joey Conn | Grey Interiors | jconn@greyintllc.com
16. Jared Rosenlund - Bay Electric jared@bayelectricinc.com
17. RB Inc./Pamela Drane/pamela@rbi-nc.com
18. Dave Small - Wayne J Griffin Electric Inc. dsmall@wjgei.com
19. ILM Team - Jeff Bourk, Granseur Dick
20. John Nieves Jnieves@odysseymechanical.com
21. Woody Davis Eastern Corporation 919-562-8123 estimating@usaeastern.com
22. Justin Davis - Claycor Contractors - justin.davis@claycor.com - 843-599-7928
23. Brad Helms Strickland Waterproofing bhelms@stricklandwaterproofing.com
24. Rob Annette Odyssey Mechanical
25. J.D. Locklear with Allied Fire Protection, Inc. jd.locklear@alliedfire.net
26. Rachel Hernandez - Hanover Coatings Inc - Estimating@hanovercoatingsinc.com
27. Emma Hardy - Craven Glass emma@cravenglasscompanyinc.com
28. Jody Charles / Eastern Cladding Services / jody.charles@ecs-inc.net
29. Myzi Tafilaku (Bonitz Inc.) myzafertafilaku@bonitz.com
30. Mark Sholar - JB Overman Masonry - 910-289-6015 - mark@jbomnc.com
31. Emily, Port City Signs and Graphics, Sales@portcitysigns.com
32. Shawn Prater - Leoterra Siteworks Shawn.Prater@Leoterradevelopment.com - 336-769-6019
33. Sarah Ide, Raleigh East Concrete, Sarah@raleigheastconcrete.com
34. Kris Poulos ECNTUL Services
35. Rob Annette, Odyssey Mechanical, Rob.annette@odysseymechanical.com
36. Dave Porter, TA Woods dporter@tawoods.com
37. George Hodges - 3 Sons' Steel Inc. George@3sons-steel.com
38. Tracey Florence, Advance Concrete LLC, t.florence@advance-concrete.com

ILM Curbside Improvements Phase 2
Prebid Meeting Sign-In Sheet
April 15, 2025 10 AM

MONTEITH

39. Tyler Hicks - C&C Industrial, Inc. - 252-904-0074 - thicks@ccindustrial.com
40. Hamid Lalani hlalani@mercurysignsinc.com
41. Scottie Zimmerle scottie@thermaltran.com
42. Justin Croom, Triple-R Electric, Inc., jcroom@tripler.com
43. Peter Nastasi, APCON Plumbing LLC, Pnastasi@apconplumbing.com
44. Phillip Brinn ; Brinn Glass
45. Morgan / A.E. Butler Masonry / morgan @aebutlermasonry.com
46. Dario Palucci, Artesian plumbing, Inc. artesianplumbing.palucci@gmail.com
47. Aaron Spencer - Sears Contract, Inc
48. Jason Sheaffer, Porter Roofing Contractors
49. David Stevick, Trader Construction.com, dstevick@traderconstruction.com
50. Brad Kelly bkelly@steelandpipecorp.com Steel & Pipe Corp.
51. Stephen Highsmith Odyssey Fire/Pye-Barker
52. Matthew Radford - Physical Security, llc - mradford@physec.com
53. Jared Day - Doggett Commercial Concrete - jday@doggettconcrete.com
54. Jon Bornak - Service Roofing and Sheet Metal Co., jbornak@serviceroofing.com
55. Katy Roland, Wayne Brothers, Inc.
56. Jason Sheaffer, Jason@porter-roofing.com
57. Denielle Wilson, Takeform, dlv@takeform.net
58. JJ Daugherty National Coatings j.daugherty@nationalcoatingsinc.com
59. Matt Basnett, Highland Roofing Company, mbasnett@highlandroofingcompany.com
60. Jonathan Blair – Glasscorp, jblair@glasscorp.com
61. Cassidy Armstrong with Physical Security, LLC. carmstrong@physec.com
62. Buddy Laws Capital Sign Solutions , Buddy@capitalsignsolutions.com
63. William Fraley , CBD Casework Millwork , wfraley@cbdga.com
64. Andrew Frye afrye@keller-na.com - Keller North America
65. Duane Reddington - Wayne Brothers - duane.reddington@waynebrothers.com
66. David McLawhorn, Berry Building Group, Inc. dmclawhorn@berrybg.com
67. Giselle Chavez | Northedge, LLC | estimating@northedge.us
68. Tim Jewell, T&S Jewell, LLC Overhead Door, TimJewell@ohdwil.com



PN

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A1 OVERALL FOUNDATION PLAN

SCALE: 1" = 20'-0"

20 0 20 40

SCALE: 1" = 20'-0"

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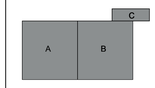
KEY PLAN



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NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
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DRAWN BY:	DFW
DESIGNED BY:	DFW
PROJECT NUMBER:	**2003-0070-006**

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SHEET TITLE:
OVERALL FOUNDATION PLAN

SHEET ID:
S011

PROJECT STATUS:
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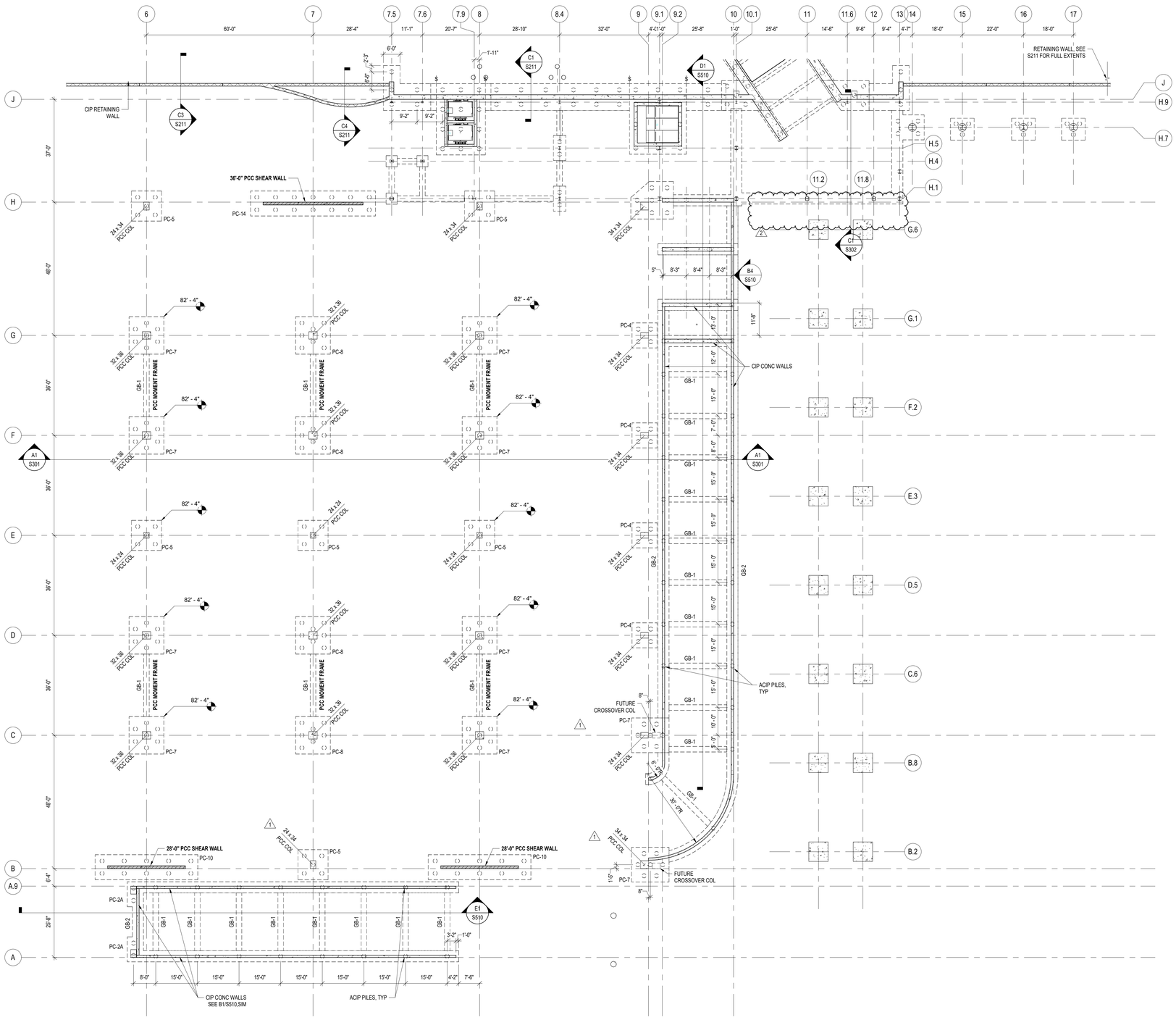
FOUNDATION SHEET NOTES

1. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0", UNLESS NOTED OTHERWISE.
2. T/ PILE CAP EQUALS ELEVATION 84'-0", UNLESS NOTED OTHERWISE.
3. **"PC-X"** INDICATES PILE CAP TYPE. SEE S601 FOR PILE CAP SCHEDULE & DETAILS.
4. **"GB-X"** INDICATES GRADE BEAM TYPE. SEE S602 FOR GRADE BEAM SCHEDULE & DETAILS.
5. PILE CAPS SHALL BE CENTERED ON PRECAST CONCRETE COLUMNS AND WALLS, UNLESS NOTED OTHERWISE.
6. GRADE BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH PILE CAPS.
7. **-69-** INDICATES SLAB STEP, SEE PLAN.
8. SEE C1S501 FOR TYPICAL COLUMN - PILE CAP SECTION.
9. SEE C3/S501 FOR TYPICAL SHEAR WALL - PILE CAP SECTION.



A1 FOUNDATION PLAN - AREA B

SCALE: 1/16" = 1'-0"

PN

SCALE: 1/16" = 1'-0"

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SHEET TITLE:
FOUNDATION PLAN - AREA B

SHEET ID:
S013

PROJECT STATUS:
100% BID SET

16 0 16 32
SCALE: 1/16" = 1'-0"

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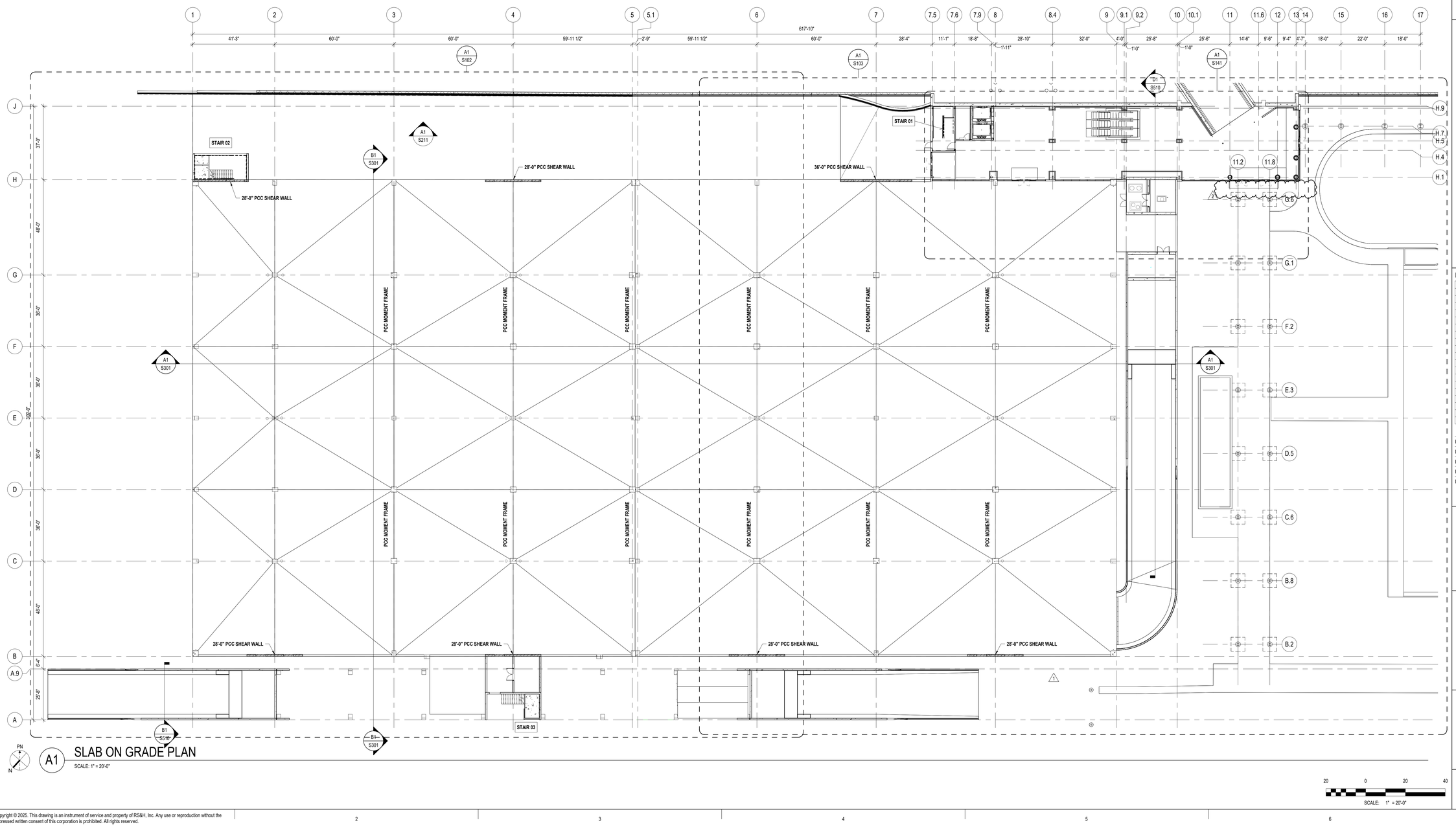

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KEY PLAN

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1	Addendum 1	4/10/2025
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OVERALL SLAB ON GRADE PLAN

SHEET ID:

S101

PROJECT STATUS:
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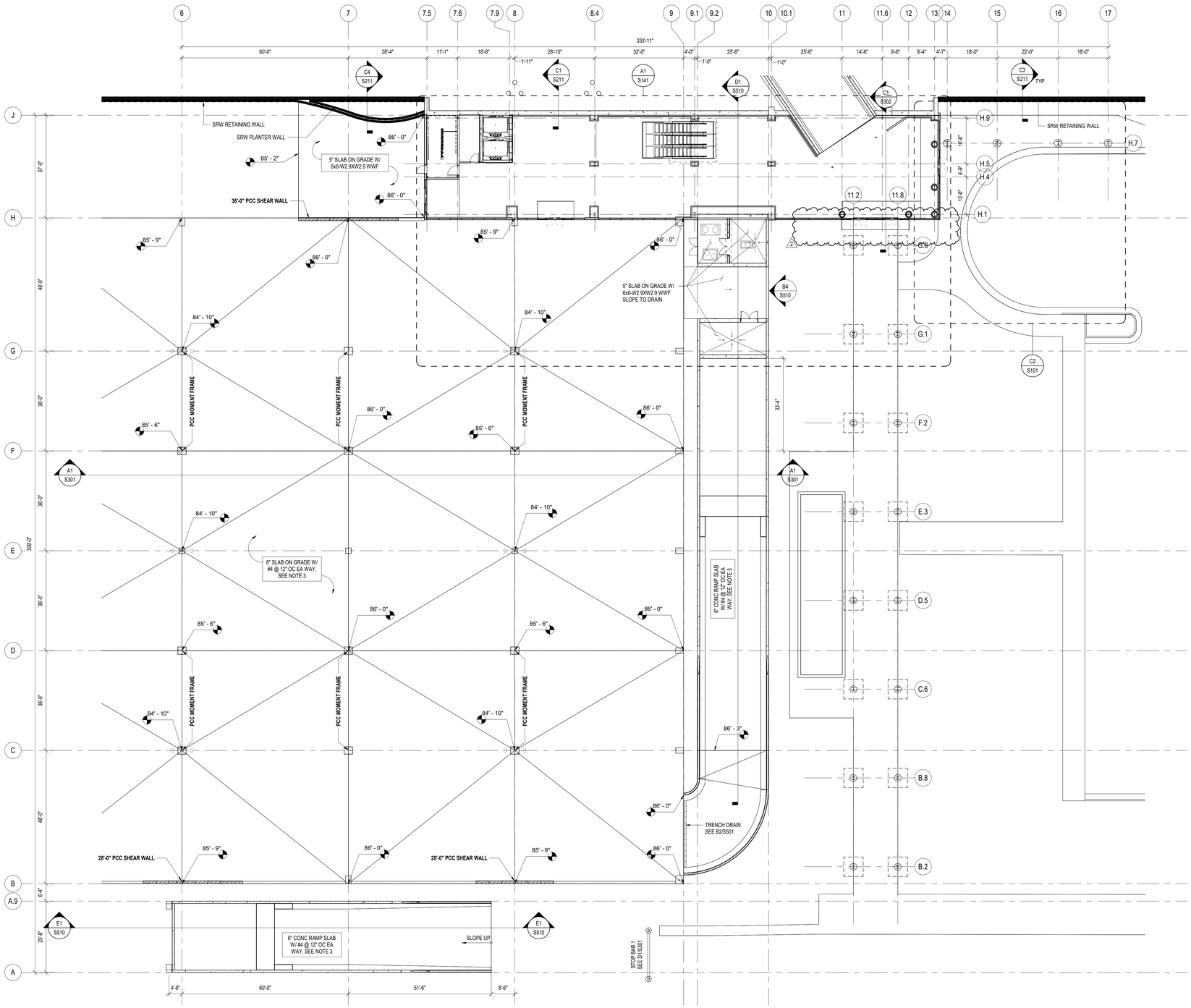
SLAB-ON-GRADE SHEET NOTES

1. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0", UNLESS NOTED OTHERWISE.
2. SEE SHEET S501 FOR TYPICAL SLAB DETAILS.
3. PROVIDE VAPOR BARRIER AND DRAINAGE LAYER PER E3/S501.
4. PROVIDE CRACK CONTROL JOINTS IN SLAB-ON-GRADE ALONG COLUMN LINES & EQUALLY SPACED BETWEEN COLUMN LINES, 15'-0" OC MAXIMUM. SEE E1/S501 FOR TYPICAL SLAB-ON-GRADE JOINT DETAILS.
5. PROVIDE CONTROL JOINTS AT COLUMNS PER E4/S501.
6. PROVIDE (2) #4 X 4'-0" LONG BARS IN SLAB AT ALL RE-ENTRANT CORNERS, PLACED AT 45 DEGREES, TYPICAL.
7. PROVIDE THICKENED SLAB EDGE AT ALL EDGE OF SLAB CONDITIONS, UNLESS NOTED OTHERWISE, SEE S501.
8. COORDINATE FLOOR DRAIN LOCATIONS WITH PLUMBING DRAWINGS.



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A1 LEVEL 1 SOG PLAN - AREA B

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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KEY PLAN

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NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
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DESIGNED BY:	DFW
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SHEET TITLE:

SLAB ON GRADE PLAN - AREA B

SHEET ID:

S103

PROJECT STATUS:
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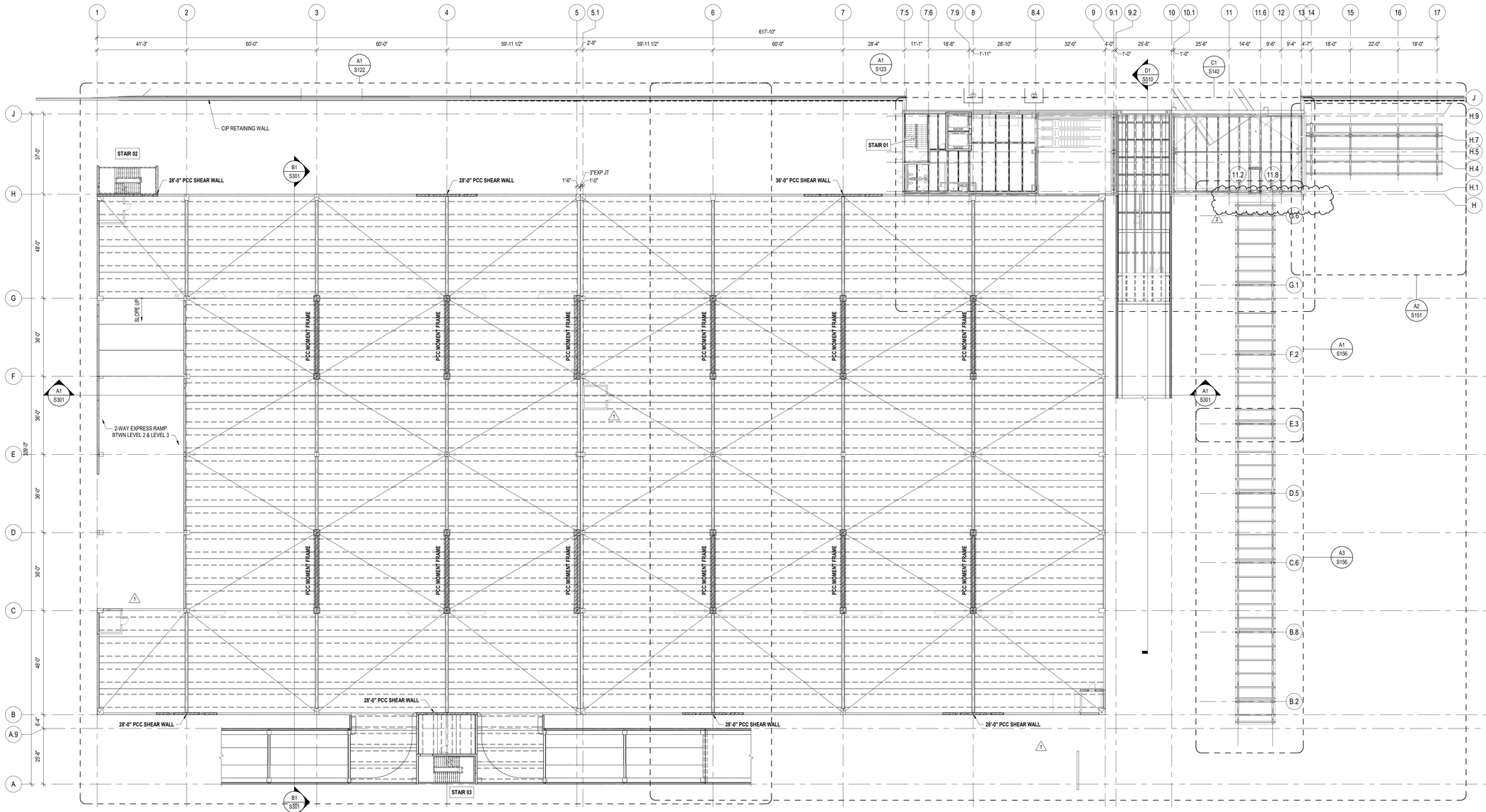

A1 LEVEL 2 FRAMING PLAN

SCALE: 1" = 20'-0"

SCALE: 1" = 20'-0"

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1	Addendum 1	4/10/2025
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OVERALL LEVEL 2 FRAMING PLAN

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S121

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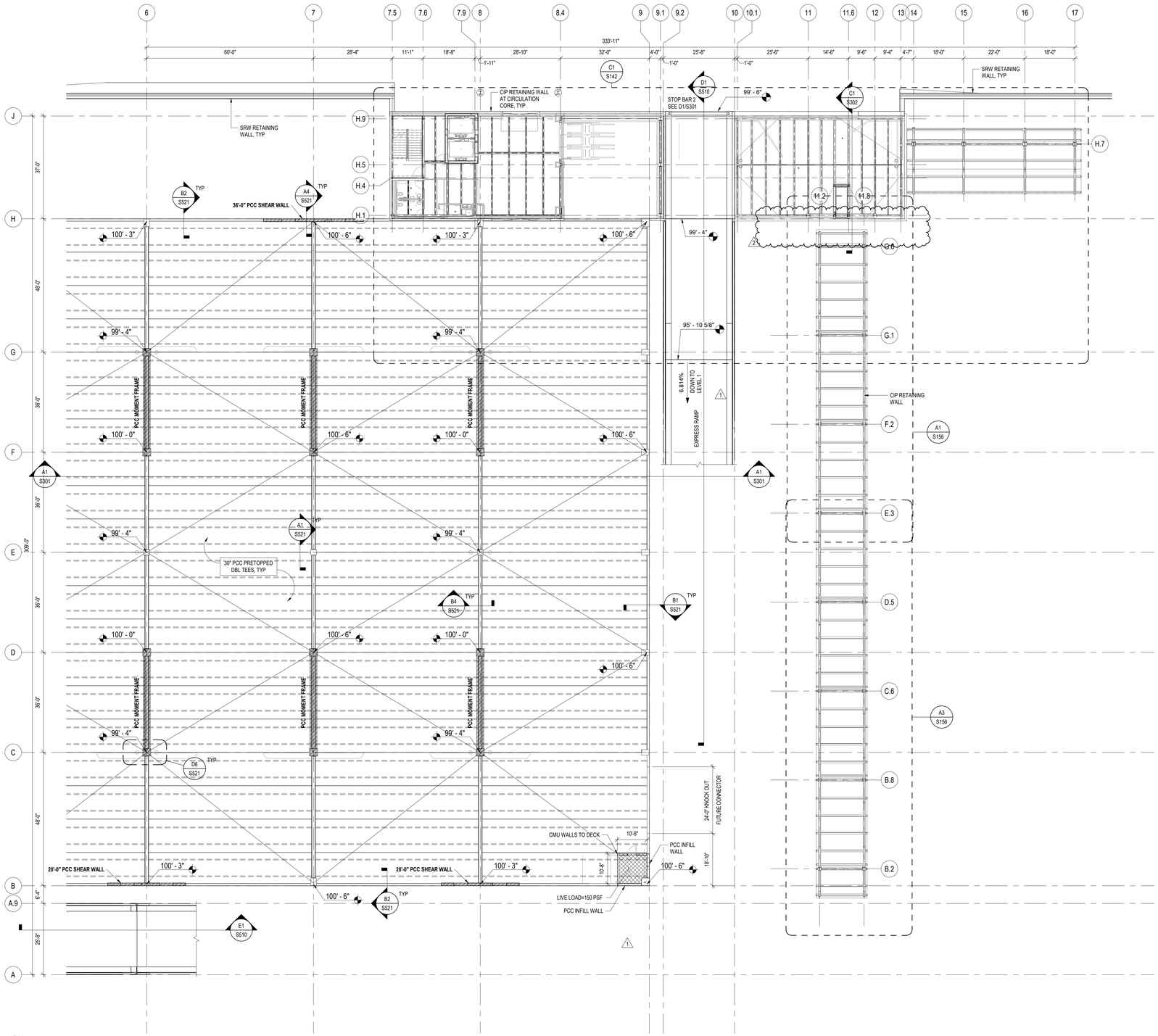
LEVEL 2 SHEET NOTES

1. CONCRETE TOPPING AND PRECAST FRAMING ELEVATIONS VARY, SEE PLAN.
2. SEE SHEET S201 FOR PRECAST MOMENT FRAME AND SHEAR WALL ELEVATIONS, SECTIONS, AND DETAILS.
3. SEE SHEET S521 FOR TYPICAL PRECAST DETAILS.



A1 LEVEL 2 FRAMING PLAN - AREA B

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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LEVEL 2 FRAMING PLAN - AREA B

SHEET ID:

S123

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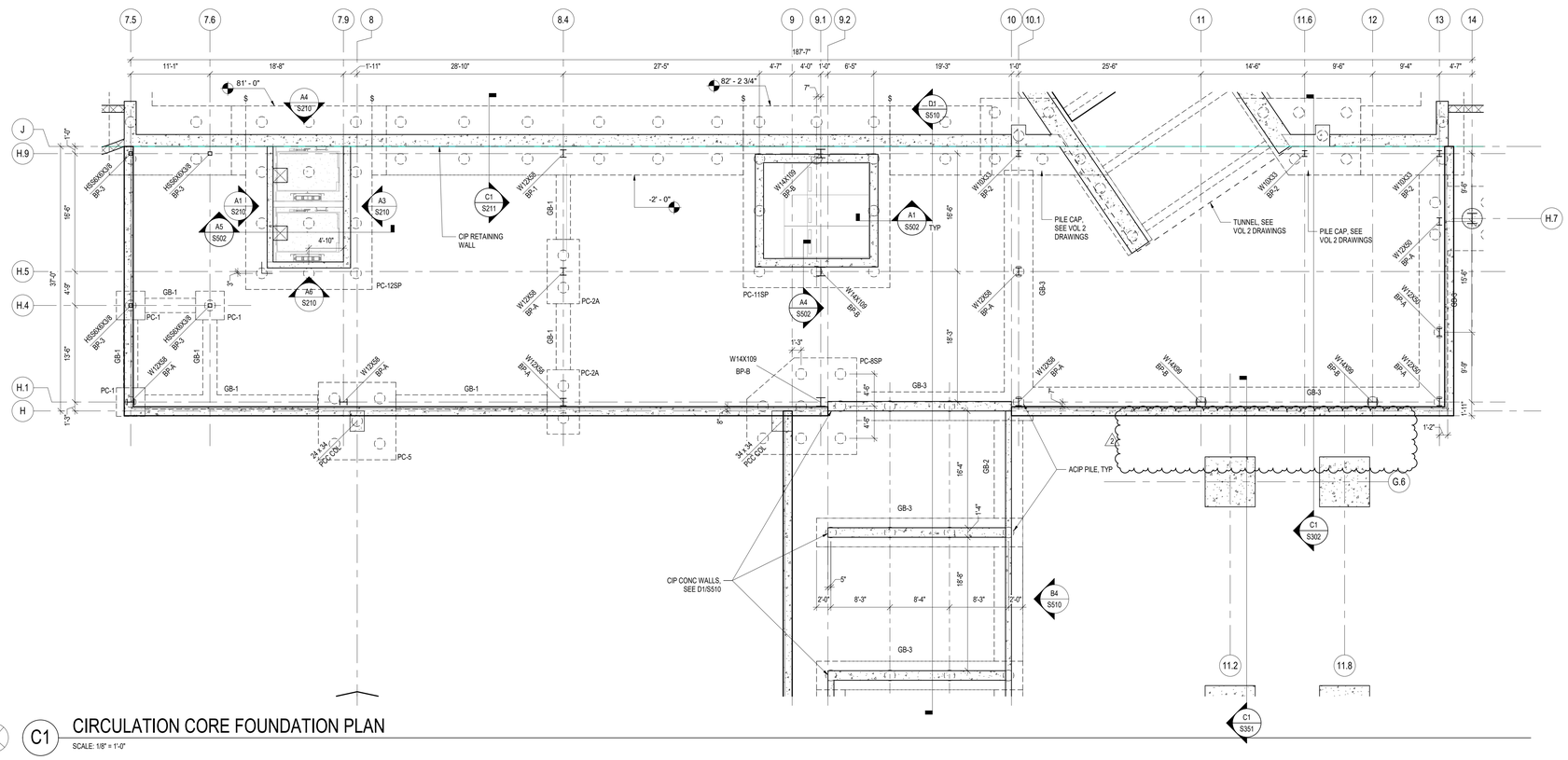

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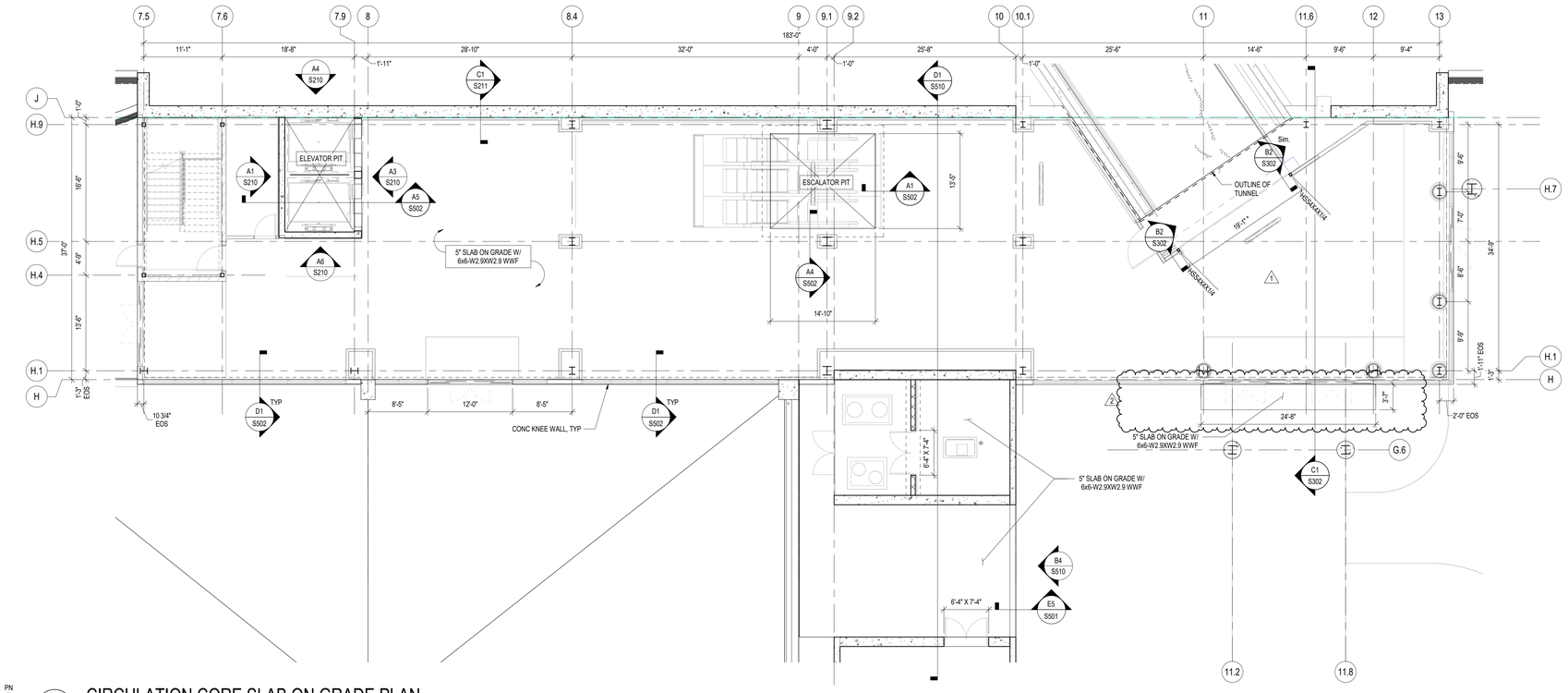
C1 CIRCULATION CORE FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



PN

A1 CIRCULATION CORE SLAB ON GRADE PLAN

SCALE: 1/8" = 1'-0"

CIRCULATION CORE FOUNDATION SHEET NOTES

1. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0", UNLESS NOTED OTHERWISE.
2. T/ PILE CAP EQUALS ELEVATION 84'-0", UNLESS NOTED OTHERWISE.
3. **"PC-X"** INDICATES PILE CAP TYPE. SEE S601 FOR PILE CAP SCHEDULE & DETAILS.
4. **"GB-X"** INDICATES GRADE BEAM TYPE. SEE S602 FOR GRADE BEAM SCHEDULE & DETAILS.
5. PILE CAPS SHALL BE CENTERED ON PRECAST CONCRETE COLUMNS AND WALLS, UNLESS NOTED OTHERWISE.
6. GRADE BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH PILE CAPS.
7. **-09-** INDICATES STEP IN SLAB, SEE PLAN.
8. SEE C1/S501 FOR TYPICAL COLUMN-PILE CAP SECTION.
9. SEE C3/S501 FOR TYPICAL SHEAR WALL-PILE CAP SECTION.
10. SEE C4/S501 FOR TYPICAL STEEL COLUMN BASE CONNECTION.

CIRCULATION CORE SLAB ON GRADE SHEET NOTES

1. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0", UNLESS NOTED OTHERWISE.
2. SEE SHEET S501 FOR TYPICAL SLAB DETAILS.
3. PROVIDE VAPOR BARRIER AND DRAINAGE LAYER PER E3/S501.
4. PROVIDE CRACK CONTROL JOINTS IN SLAB-ON-GRADE ALONG COLUMN LINES & EQUALLY SPACED BETWEEN COLUMN LINES AS SHOWN. SEE S501 FOR TYPICAL SLAB-ON-GRADE JOINT DETAILS.
5. PROVIDE (2) #4 X 4'-0" LONG BARS IN SLAB AT ALL RE-ENTRANT CORNERS, PLACED AT 45 DEGREES, TYPICAL.
6. PROVIDE THICKENED SLAB EDGE AT ALL EDGE OF SLAB CONDITIONS, UNLESS NOTED OTHERWISE. SEE S501.
7. COORDINATE FLOOR DRAIN LOCATIONS WITH PLUMBING DRAWINGS.
8. * DENOTES COORDINATION OF HSS POST REQUIRED WITH OVERHEAD DOOR PROVIDED 1

8 0 8 16

SCALE: 1/8" = 1'-0"

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KEY PLAN

C | A | B

REVISIONS

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1	Addendum 1	4/10/2025
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DESIGNED BY:	DFW

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CIRCULATION CORE FOUNDATION AND SLAB ON GRADE PLANS

SHEET ID:
S141

PROJECT STATUS:
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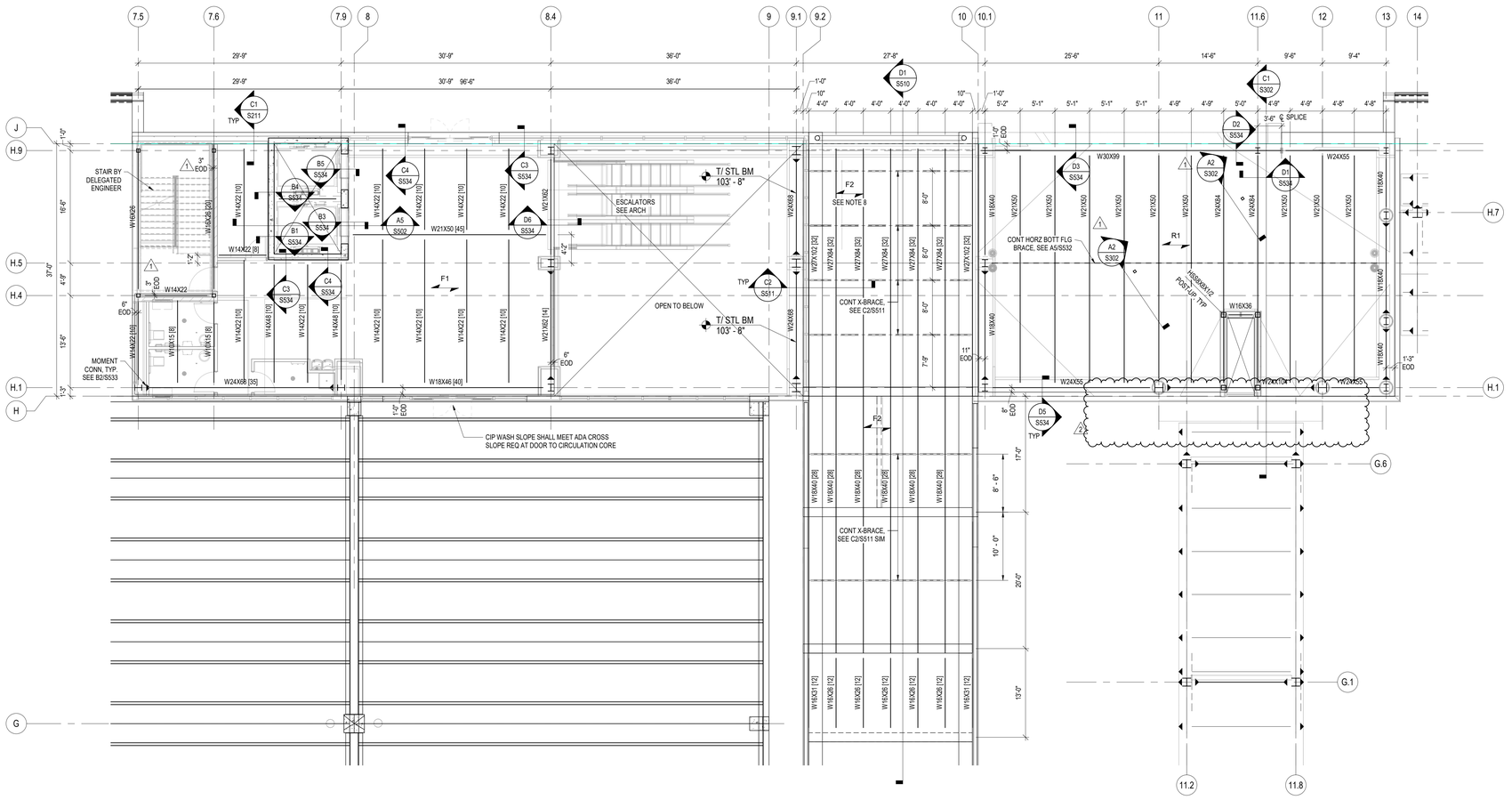
CIRCULATION CORE ELEVATED FLOORS SHEET NOTES

1. T/ STEEL 2ND FLOOR ELEVATION = 100' - 0 1/2" UNO ON PLAN.
2. T/ STEEL LOW ROOF ELEVATION = 102' - 0 1/2" UNO ON PLAN.
3. T/ STEEL 3RD FLOOR ELEVATION = 112' - 0 1/2" UNO ON PLAN.
4. T/ STEEL HIGH ROOF ELEVATION = 127' - 0 1/2" UNO ON PLAN.
5. **"FX"** INDICATES FLOOR DECK TYPE. SEE SEE GENERAL NOTES S001.
6. **"RX"** INDICATES ROOF DECK TYPE. SEE SEE GENERAL NOTES S001.
7. SEE E4/S532 FOR TYPICAL ROOF OPENING FRAMING.
8. SLOPE CONCRETE SLAB UP FOR A TOTAL THICKNESS OF 12" AT RETAINING WALL.



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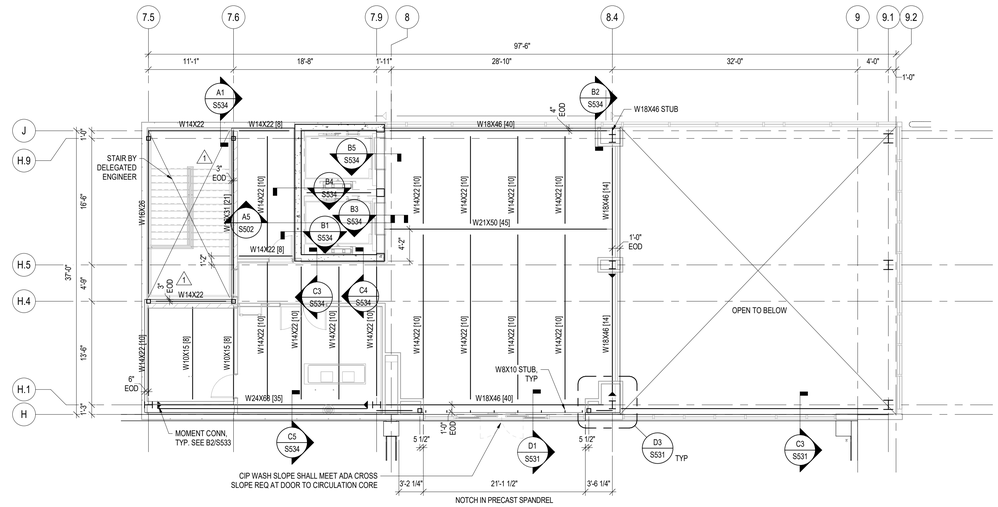
C1 CIRCULATION CORE 2ND FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"



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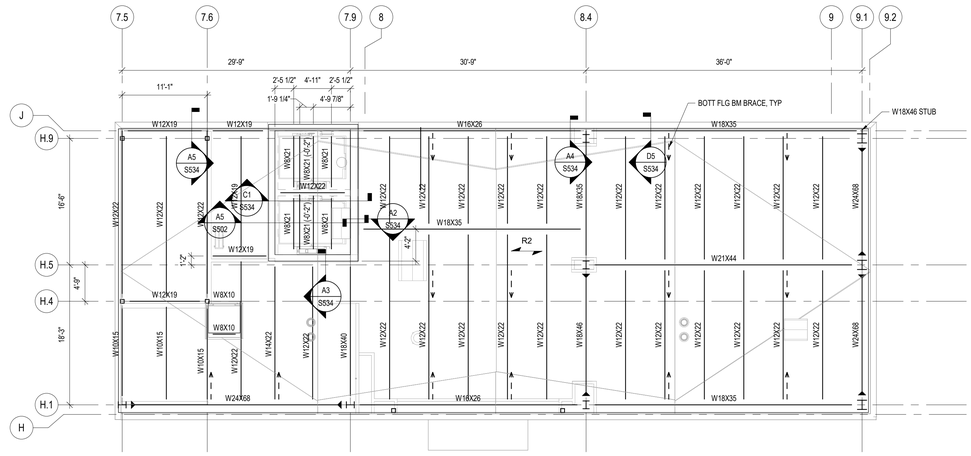
A1 CIRCULATION CORE 3RD FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"



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A4 CIRCULATION CORE ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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KEY PLAN

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DESIGNED BY:	DFW
PROJECT NUMBER:	

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CIRCULATION CORE 2ND, 3RD, AND ROOF FRAMING PLANS

SHEET ID:

S142

PROJECT STATUS:
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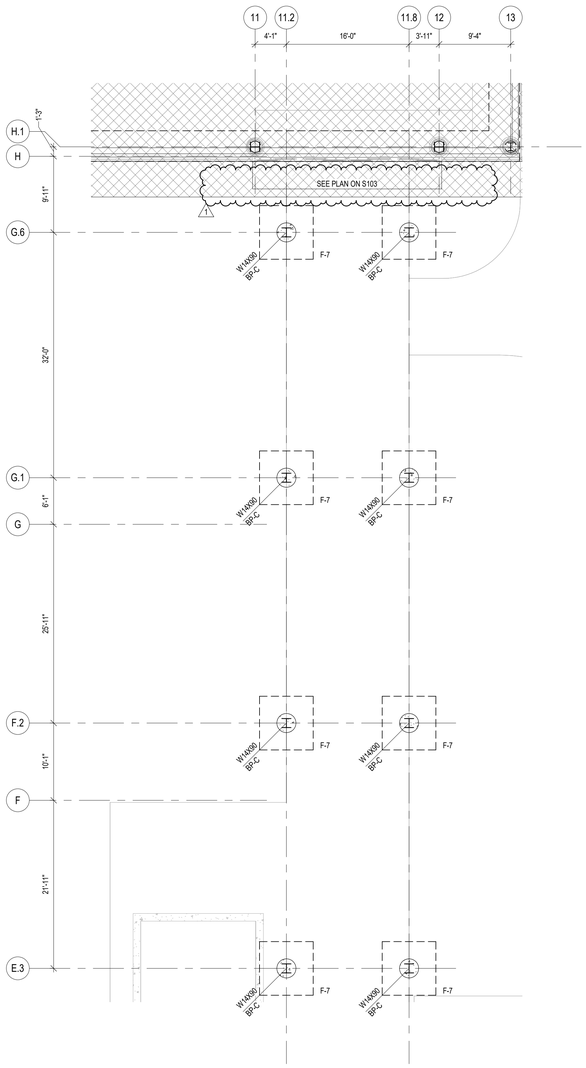
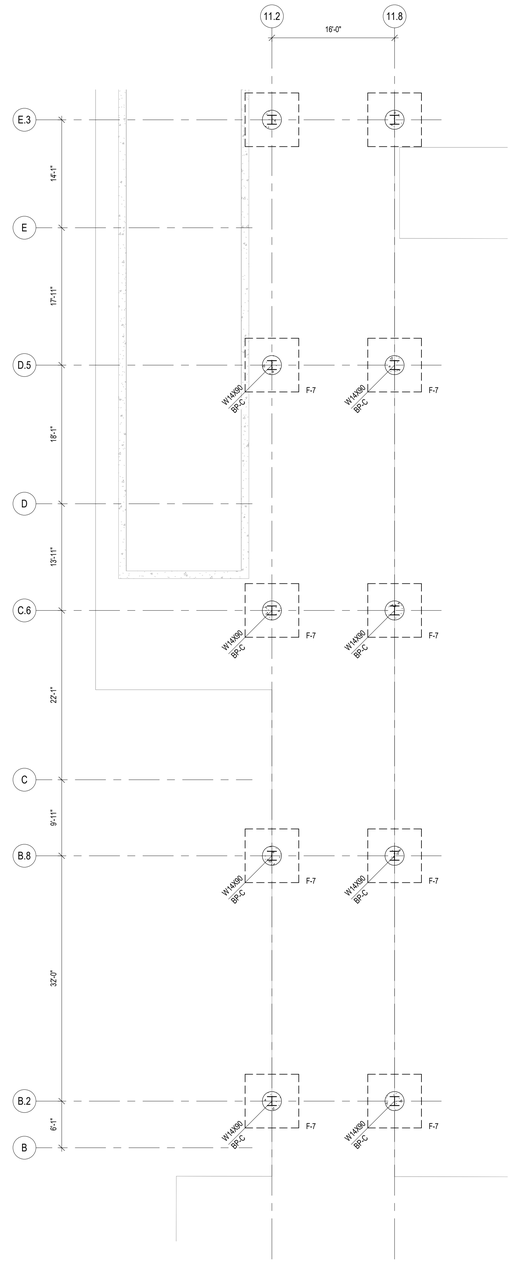


A1 WALKWAY CANOPY FOUNDATION PLAN - EAST

SCALE: 1/8" = 1'-0"



A3 WALKWAY CANOPY FOUNDATION PLAN - WEST

SCALE: 1/8" = 1'-0"

PLAN LEGEND AND SHEET NOTES

FRAMING PLAN LEGEND

DESCRIPTION	SYMBOL
1. CONCRETE COLUMN WRAP, SEE DETAIL A5/S152	
2. STEEL COLUMN: A. COLUMN SIZE _____ W##X##, SEE PLAN B. BASE PLATE _____ BP-#, SEE SCHEDULE B1/SS32	W##X## BP-#
3. SHALLOW FOUNDATION _____ F-#, SEE SCHEDULE C5/S152	F-#

FRAMING PLAN NOTES

1. TOP OF WALKWAY SHALLOW FOUNDATION ELEVATION = 85'-0", UNO
2. COLUMN CONCRETE WRAPS FOR CANOPY COLUMNS SHALL BE TYPE-1, SEE DETAIL A5/S152

SHALLOW FOUNDATION SCHEDULE

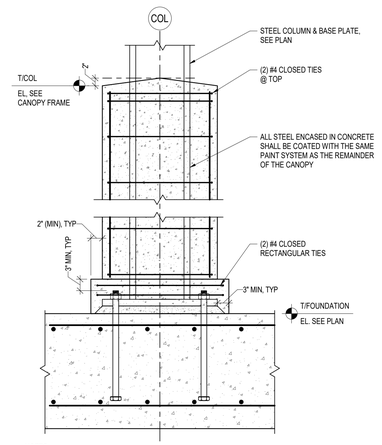
	GEOMETRY			REINFORCEMENT		REMARKS
FND MARK	WIDTH	LENGTH	THICKNESS	TOP BARS	BOTTOM BARS	
F-7	7'-0"	7'-0"	24"	(7) #7, EA. WAY	(7) #7 *, EA. WAY	-

NOTES:

1. * DENOTES REINFORCEMENT BARS REQUIRE STANDARD HOOKS AT EACH END.
2. FOUNDATION SHALL BE CENTERED ON COLUMN, UNO.

C5 SHALLOW FOUNDATION SCHEDULE

SCALE: N.T.S.

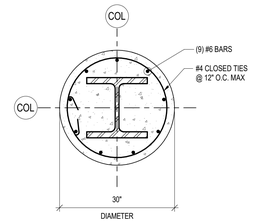


NOTES:

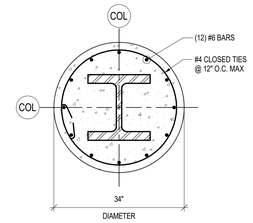
1. REFERENCE CANOPY FOUNDATION PLANS FOR LOCATIONS.
2. CONCRETE COLUMN FORM SHALL BE SONOTUBE "FINISH FREE" OR APPROVED EQUAL.
3. EXPOSED CONCRETE FINISH AESTHETICS SHALL BE SATISFACTORY TO THE ARCHITECT.

A5 COLUMN CONCRETE ENCASEMENT TYPICAL DETAIL

SCALE: N.T.S.



CONCRETE WRAP: TYPE-1



CONCRETE WRAP: TYPE-2

8 0 8 16

SCALE: 1/8" = 1'-0"

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	MCM
DRAWN BY:	DFW
DESIGNED BY:	DFW
PROJECT NUMBER:	

2003-0070-006

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SEAL:

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SHEET TITLE:
WALKWAY CANOPY FOUNDATION PLAN

SHEET ID:
S152

PROJECT STATUS:
100% BID SET

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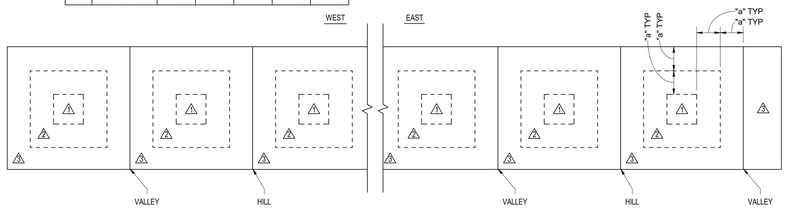
WALKWAY CANOPY COMPONENTS AND CLADDING PRESSURES (PSF)						
ZONE a = 3'-0"		EFFECTIVE WIND AREA				
		10 SF	50 SF	100 SF	200 SF	500 SF
ROOF	ALL ZONES	+56.9	+36.8	+36.8	+36.8	+36.8
	ZONE 1	-38.8	-38.8	-38.8	-38.8	-38.8
	ZONE 2	-59.1	-38.8	-38.8	-38.8	-38.8
	ZONE 3	-59.1	-38.8	-38.8	-38.8	-38.8

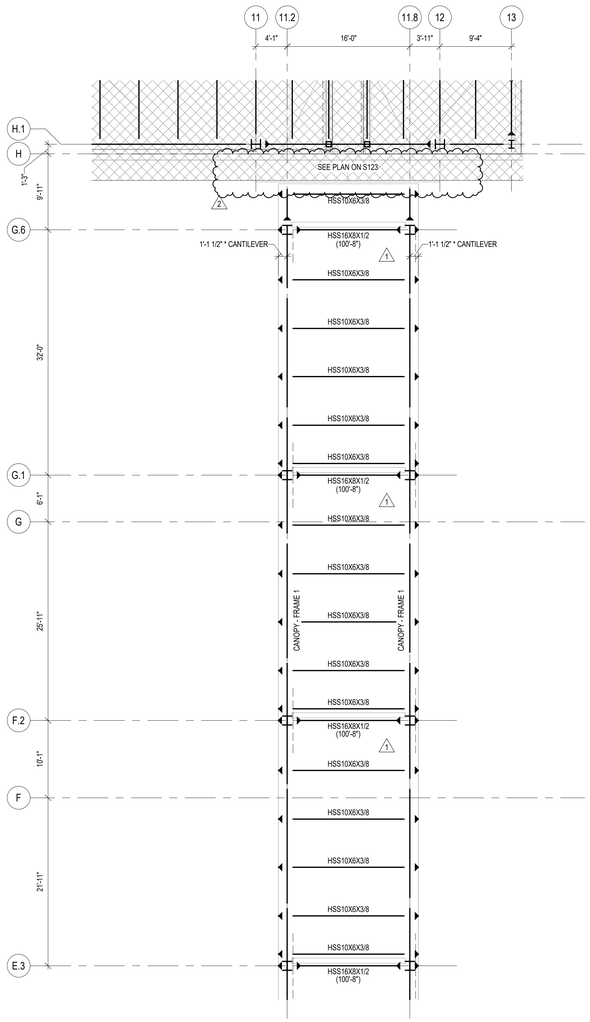
NOTES:

1. ALL WIND LOADS SHOWN ARE ULTIMATE PER ASCE 7-16 WITH UNITS IN PSF.
2. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARDS AND AWAY FROM THE SURFACES, RESPECTIVELY.
3. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE PRESSURES.
4. EDGE ZONE ("a") IS DISTANCE FROM CORNERS OF BUILDINGS.
5. FOR EFFECTIVE AREAS BETWEEN VALUES GIVEN, INTERPOLATION MAY BE USED. OTHERWISE, USE THE LOWER EFFECTIVE AREA.



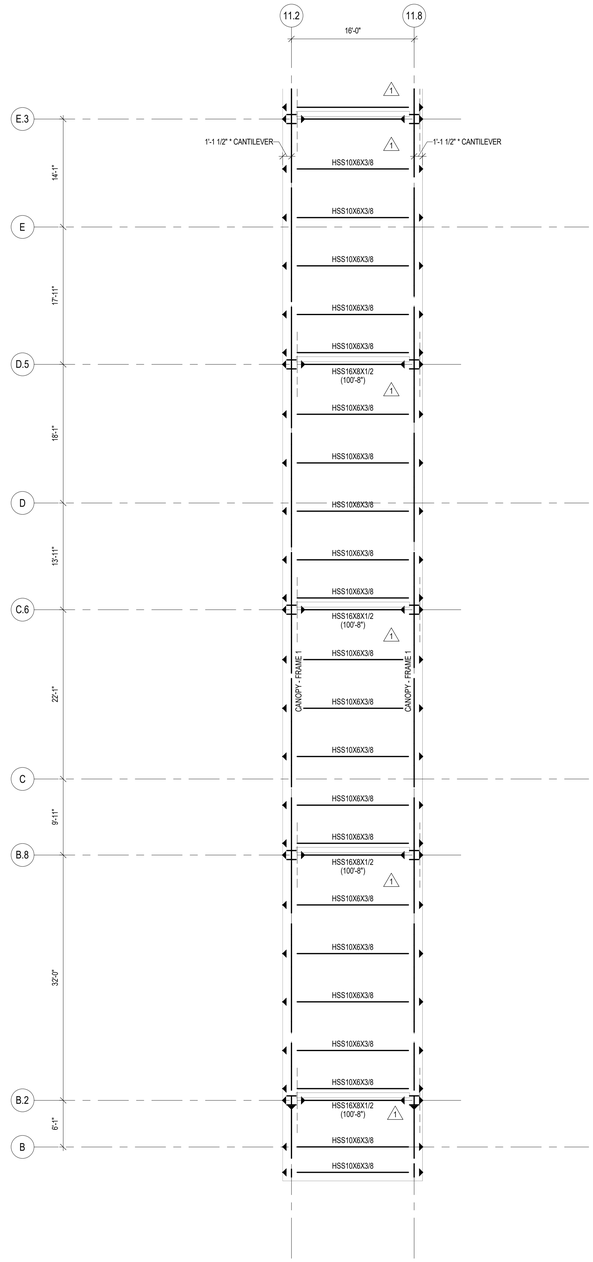
D1 WALKWAY CANOPY COMPONENTS AND CLADDING WIND PRESSURES

SCALE: N.T.S.



A1 WALKWAY CANOPY FRAMING PLAN - EAST

SCALE: 1/8" = 1'-0"



A3 WALKWAY CANOPY FRAMING PLAN - WEST

SCALE: 1/8" = 1'-0"

PLAN LEGEND AND SHEET NOTES

FRAMING PLAN LEGEND

DESCRIPTION	SYMBOL
1. STEEL FRAMING A. BEAM SIZE _____ W##X## B. TOP OF STEEL _____ (###'-#")	W##X## (###'-#")
2. MOMENT CONNECTION _____ B3/S335	

FRAMING PLAN NOTES

1. CANOPY STEEL FRAMING:
   A. FRAME-1 _____ C1/S351
2. * DENOTES COORDINATION REQUIRED WITH ROOF PANEL SYSTEM

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ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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REVISIONS

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2	Addendum 2	4/18/2025

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REVIEWED BY:	MCM
DRAWN BY:	DFW
DESIGNED BY:	DFW
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
WALKWAY CANOPY FRAMING PLAN

SHEET ID:
S156

PROJECT STATUS:
100% BID SET

8 0 8 16
SCALE: 1/8" = 1'-0"

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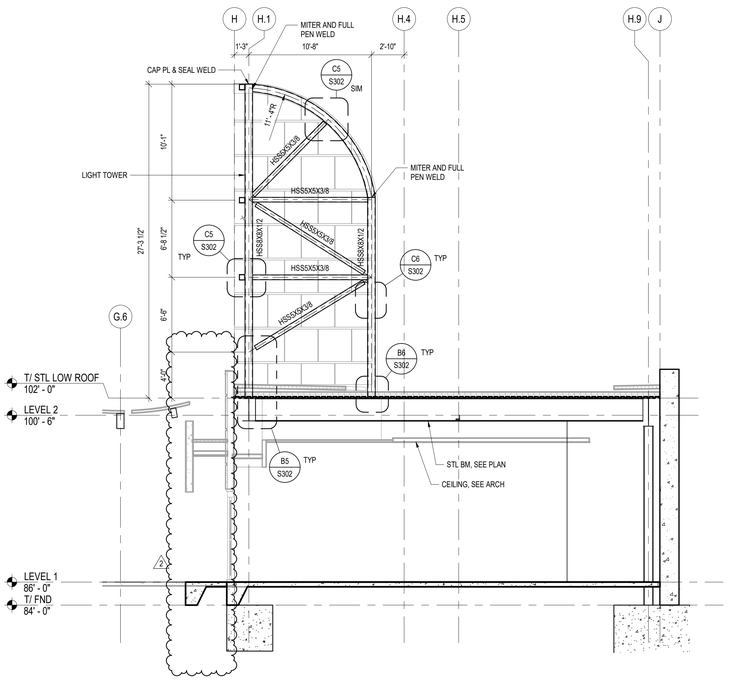
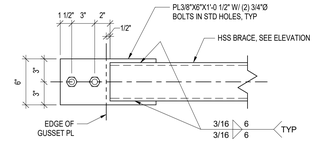


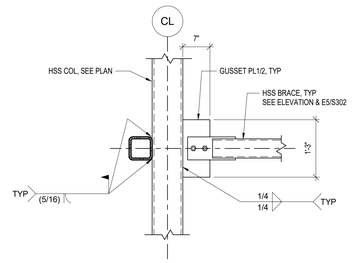
C1 VERTICAL CORE LOW ROOF SECTION

SCALE: 3/16" = 1'-0"



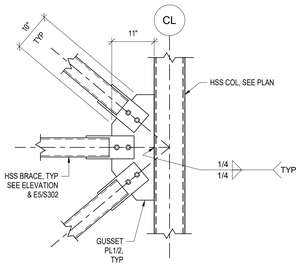
E5 BRACE PLATE DETAIL

SCALE: N.T.S.



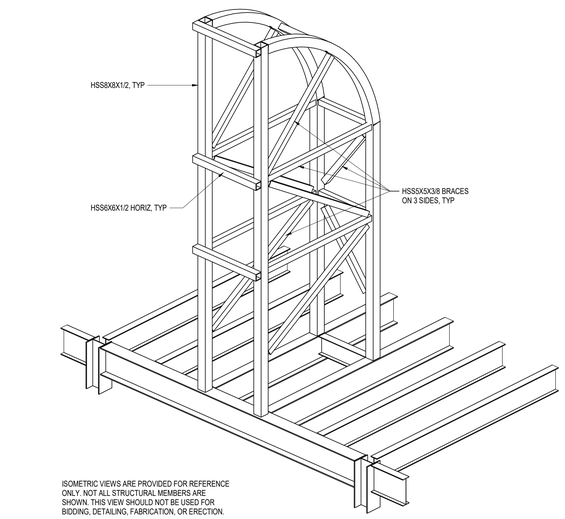
C5 HSS BRACE DETAIL

SCALE: N.T.S.



C6 HSS BRACE DETAIL

SCALE: N.T.S.



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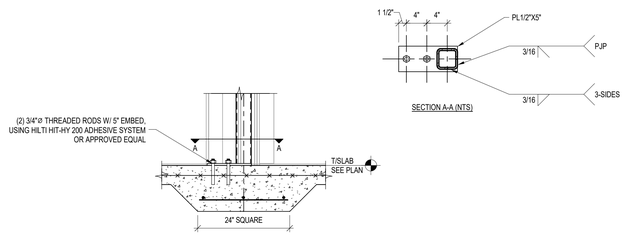
A1 VERTICAL CORE LOW ROOF LIGHT TOWER ISO

SCALE:

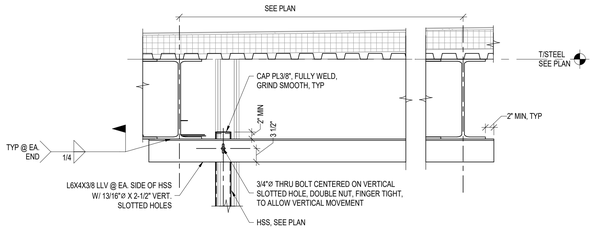


NOTES:

1. NO REINFORCEMENT SHALL BE CUT/DAMAGED DURING POST-INSTALLED ANCHOR INSTALLATION. CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT BY NON-DESTRUCTIVE TESTING AND MARK LOCATION ON SURFACE OF CONCRETE PRIOR TO DRILLING. CONTRACTOR SHALL SUBMIT LOCATION OF EXISTING REINFORCEMENT WITH PROPOSED LOCATION OF DRILLING LOCATIONS FOR RECORD PURPOSES PRIOR TO DRILLING.

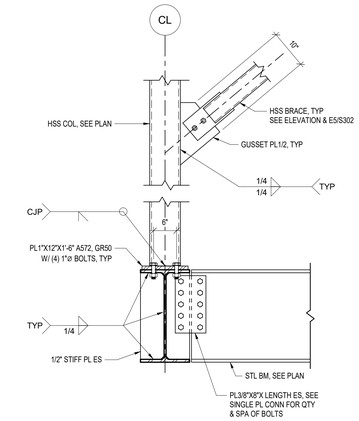
1 B2 THICKENED SLAB @ OVERHEAD DOOR POSTS

SCALE: 3/4" = 1'-0"



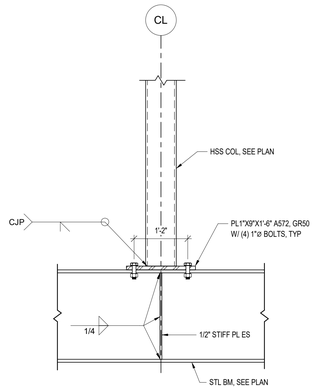
1 A2 SECTION @ OVERHEAD DOOR POSTS

SCALE: 3/4" = 1'-0"



B5 HSS COL BASE DETAIL

SCALE: N.T.S.



B6 HSS COL BASE DETAIL

SCALE: N.T.S.

4 0 4 8 12

SCALE: 3/16" = 1'-0"

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PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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WILMINGTON, NC 28405

REVISIONS

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DESIGNED BY:	DFW

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SHEET TITLE:

LOW ROOF AND LIGHT TOWER SECTIONS AND DETAILS

SHEET ID:

S302

PROJECT STATUS:
100% BID SET

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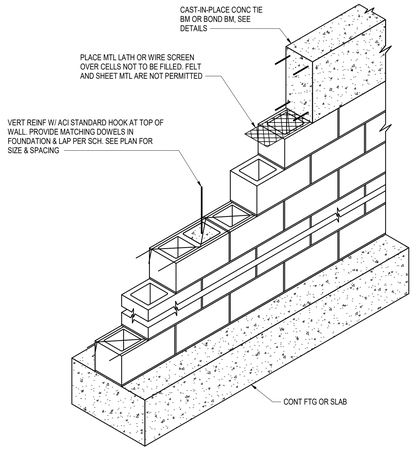
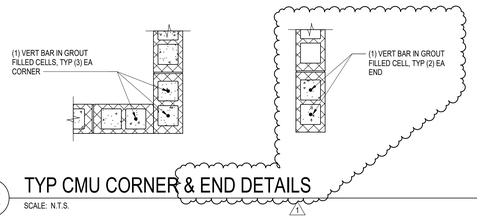


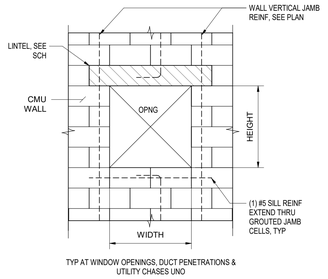
D1 TYP MASONRY WALL CONSTRUCTION

SCALE: N.T.S.



D2 TYP CMU CORNER & END DETAILS

SCALE: N.T.S.



TYP AT WINDOW OPENINGS, DUCT PENETRATIONS & UTILITY CHASES UNO

D4 TYP MASONRY WALL OPNG

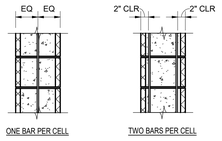
SCALE: N.T.S.

JAMB SCHEDULE		
OPENING SIZE	JAMB LENGTH	# BARS PER CELL
UP TO 4'-0"	8"	(1) #5
4'-1" TO 8'-0"	16"	(1) #5

D5 TYP CMU JAMB SCHEDULE

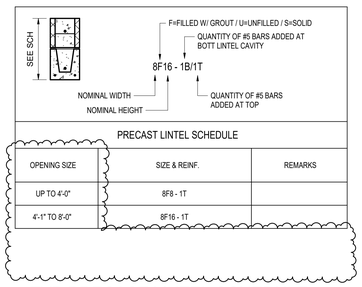
SCALE: N.T.S.

CONCRETE MASONRY (CMU) LAP SPLICE SCHEDULE (f'm = 2000 PSI & fy = 60 KSI)				
BAR SIZE	8" CMU		12" CMU	
	ONE BAR PER CELL	TWO BARS PER CELL	ONE BAR PER CELL	TWO BARS PER CELL
#4	14"	22"	12"	22"
#5	22"	36"	14"	36"
#6	40"	54"	24"	54"
#7	-	-	34"	64"



C1 TYP MASONRY LAP SCHEDULE

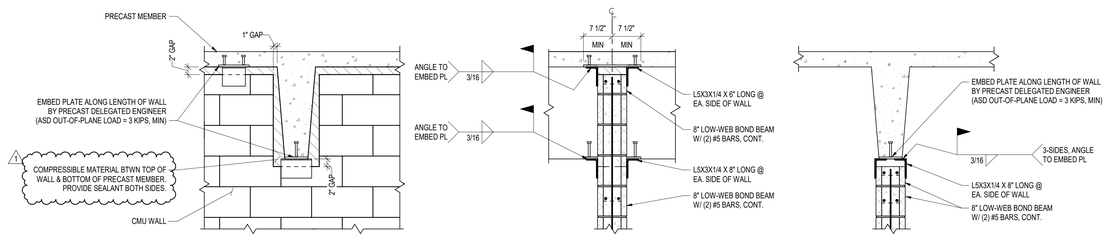
SCALE: N.T.S.



PRECAST LINTEL SCHEDULE		
OPENING SIZE	SIZE & REINF.	REMARKS
UP TO 4'-0"	8F8 - 1T	
4'-1" TO 8'-0"	8F16 - 1T	

C2 TYP PRECAST LINTEL SCHEDULE

SCALE: N.T.S.



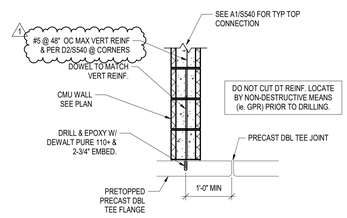
WALL ELEVATION VIEW | **WALL SECTION VIEW** | **WALL SECTION VIEW (OPTION 2)**

NOTES:

1. CONNECTION ALLOWS FOR VERTICAL AND IN-PLANE MOVEMENT OF THE PRECAST MEMBER
2. CUT TOP MASONRY COURSE AS REQUIRED
3. SUPPORT SPACING CRITERIA:
   A. SPACING BETWEEN SUPPORTS SHALL NOT EXCEED 6'-0" O.C. ALONG LENGTH OF WALL
   B. PROVIDE AT LEAST (1) SUPPORT WITHIN 24" OF A WALL END
   C. SHORT WALLS (6'-0" OR LESS) SHALL HAVE AT LEAST (2) SUPPORTS

A1 TYP MASONRY TO PRECAST TOP CONNECTION

SCALE: N.T.S.



WALL SECTION VIEW

A4 TYP MASONRY TO PRECAST BASE CONNECTION

SCALE: N.T.S.

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DRAWN BY:	DFW
DESIGNED BY:	DFW
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SHEET TITLE:
TYPICAL MASONRY DETAILS

SHEET ID:
S540

PROJECT STATUS:
100% BID SET

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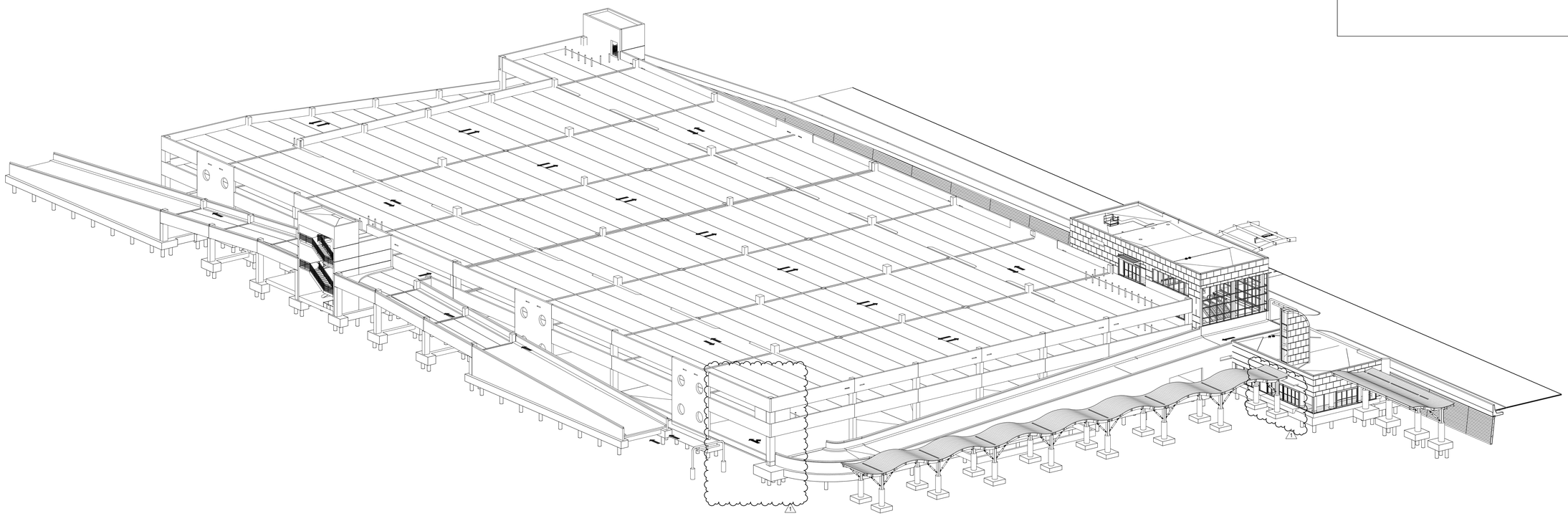
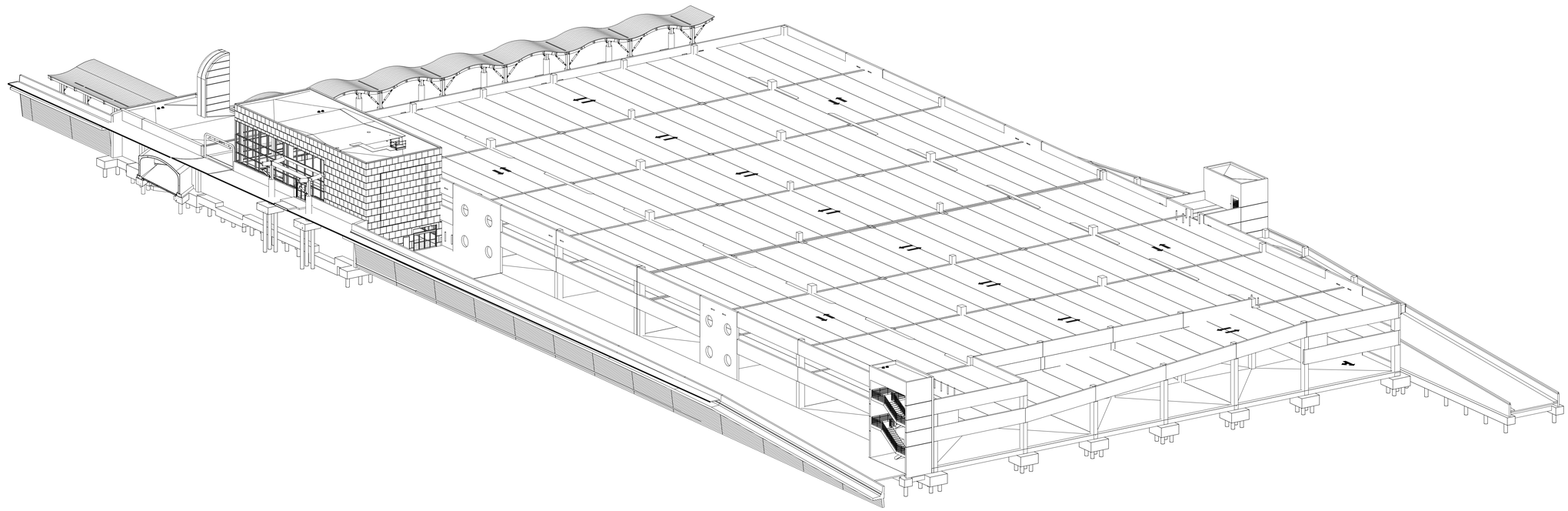


C1 OVERALL GARAGE ISOMETRIC - SOUTHWEST

SCALE:



A1 OVERALL GARAGE ISOMETRIC - NORTHEAST

SCALE:

ISOMETRIC SHEET NOTES

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DESIGNED BY:	DFW

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SHEET TITLE:
3D ISOMETRICS

SHEET ID:
S901

PROJECT STATUS:
100% BID SET

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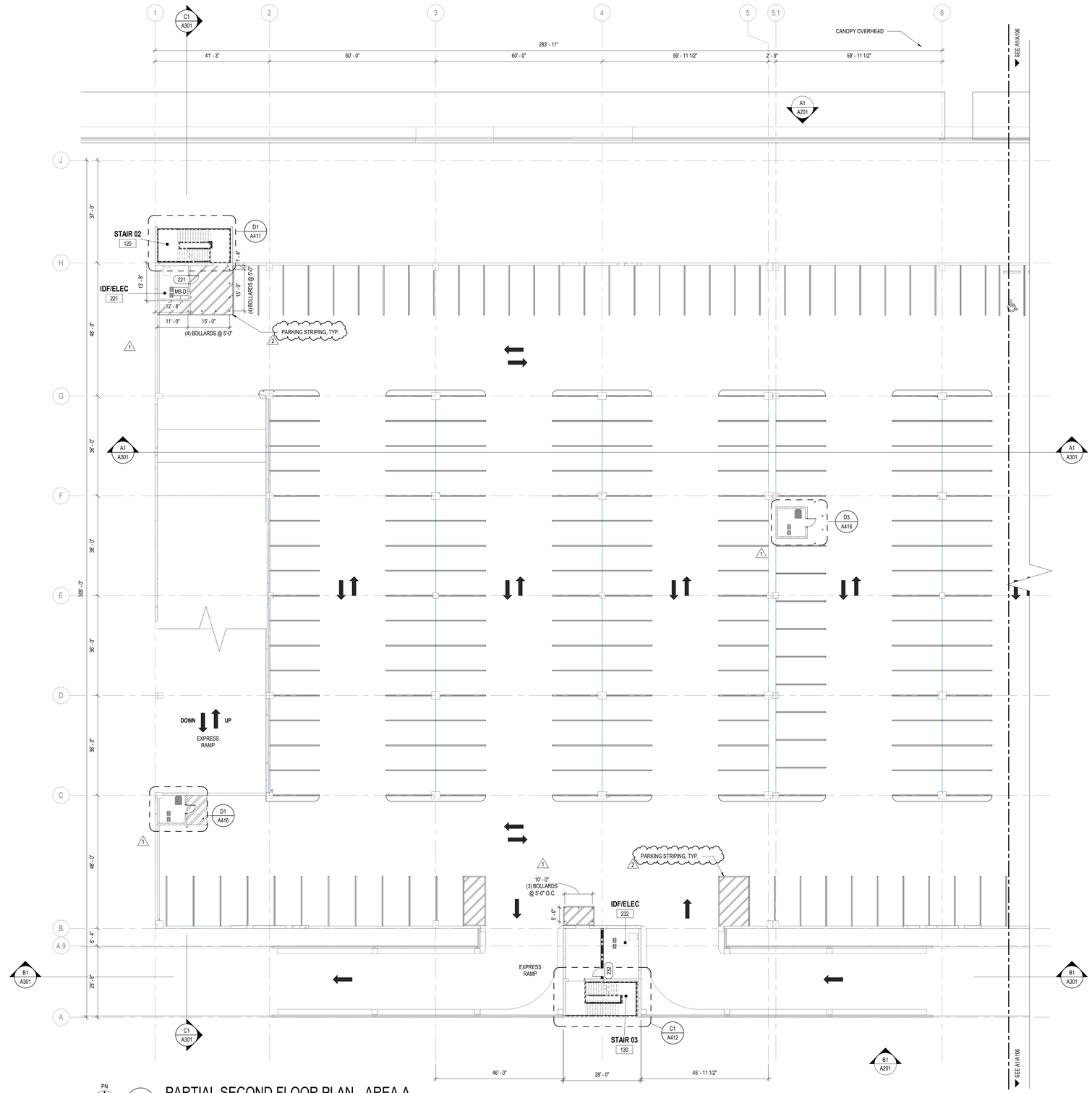

PN

N

A1 PARTIAL SECOND FLOOR PLAN - AREA A

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

FLOOR PLAN LEGEND & SHEET NOTES

PARTITION LEGEND

- NON-RATED WALL SYSTEM
- 1-HOUR RATED WALL SYSTEM
- 3-HOUR RATED WALL SYSTEM
- PRECAST OR C.I.P. CONCRETE WALL SYSTEM
- CONCRETE MASONRY UNIT WALL SYSTEM

NOTE: REFER TO PARTITION TAGS ON PLANS AND PARTITION TYPE DETAILS

REFER TO VOLUME 2 PACKAGE

GENERAL SHEET NOTES

1. ALL EXTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF SHEATHING OR CONCRETE U.N.O.
2. ALL INTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF STUD U.N.O.
3. SEE ENLARGED PLANS FOR PARTITION TAGS NOT IDENTIFIED ON OVERALL FLOOR PLANS.
4. PROVIDE 5/8" WATER-RESISTANT GWB IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO:
   A. RESTROOMS
   B. JANITOR CLOSETS
5. EXTEND SMOKE BARRIER PARTITION WALLS TO BOTTOM OF UPPER FLOOR STRUCTURE.
6. FIELD VERIFY ALL DIMENSIONS, REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
7. SEAL ALL PENETRATIONS ON EXTERIOR WALLS.
8. ALL PLYWOOD TO BE FIRE TREATED, U.N.O.
9. DOOR FRAMES TO BE LOCATED 4" FROM CORNER OF WALL U.N.O.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
2003-0070-006
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SHEET TITLE:
PARTIAL SECOND FLOOR PLAN - AREA A

SHEET ID:
A105

PROJECT STATUS:
100% BID SET

4/18/2025 2:58:30 PM Autodesk Docs://1003007004_ILM TO4 Rdwy Inf Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_A_R24.rvt

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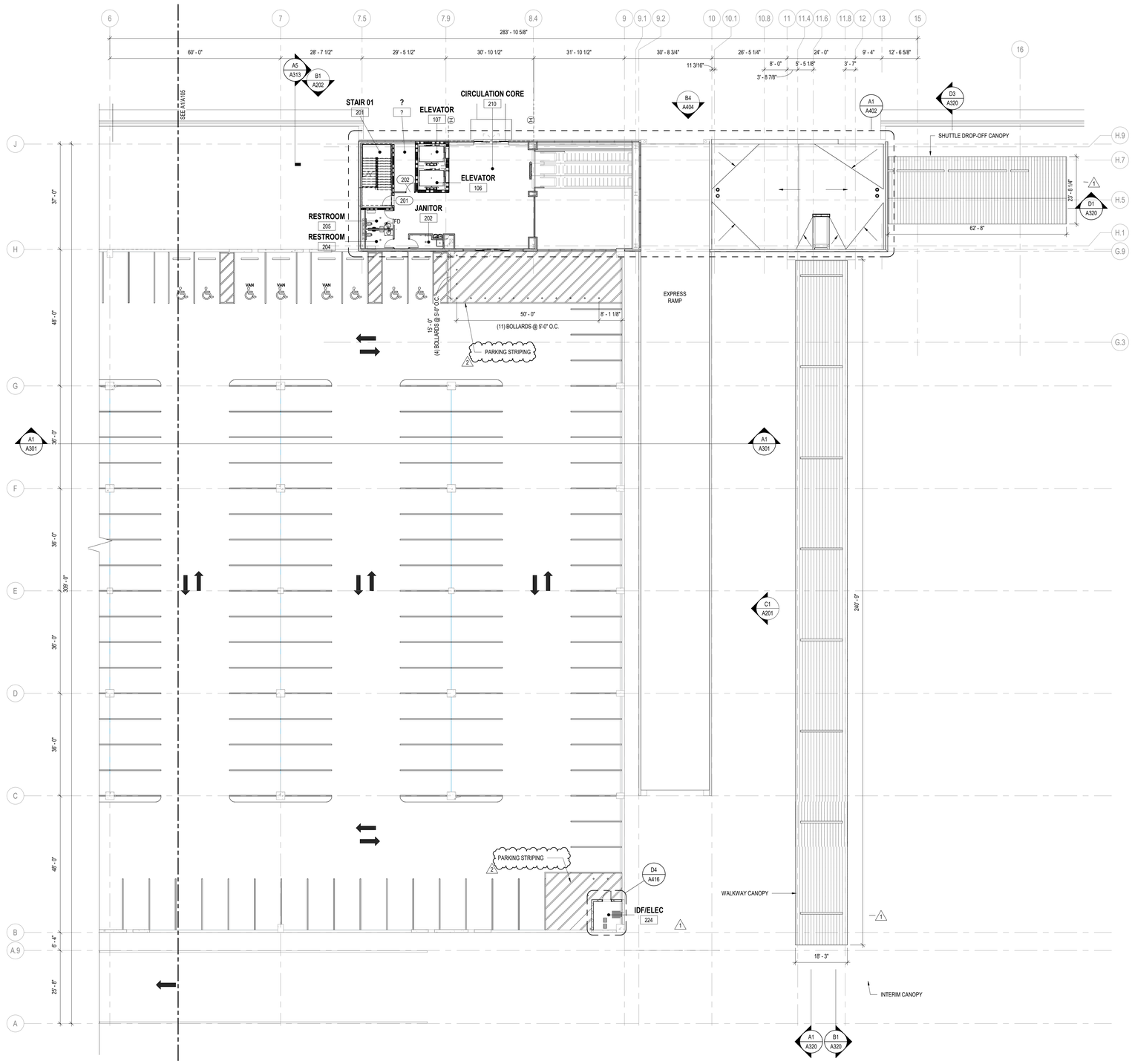

A1 PARTIAL SECOND FLOOR PLAN - AREA B

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

FLOOR PLAN LEGEND & SHEET NOTES

PARTITION LEGEND

- NON-RATED WALL SYSTEM
- 1-HOUR RATED WALL SYSTEM
- 3-HOUR RATED WALL SYSTEM
- PRECAST OR C.I.P. CONCRETE WALL SYSTEM
- CONCRETE MASONRY UNIT WALL SYSTEM

NOTE: REFER TO PARTITION TAGS ON PLANS AND PARTITION TYPE DETAILS

REFER TO VOLUME 2 PACKAGE

GENERAL SHEET NOTES

1. ALL EXTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF SHEATHING OR CONCRETE U.N.O.
2. ALL INTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF STUD U.N.O.
3. SEE ENLARGED PLANS FOR PARTITION TAGS NOT IDENTIFIED ON OVERALL FLOOR PLANS.
4. PROVIDE 5/8" WATER-RESISTANT GWB IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO:
   A. RESTROOMS
   B. JANITOR CLOSETS
5. EXTEND SMOKE BARRIER PARTITION WALLS TO BOTTOM OF UPPER FLOOR STRUCTURE.
6. FIELD VERIFY ALL DIMENSIONS, REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
7. SEAL ALL PENETRATIONS ON EXTERIOR WALLS.
8. ALL PLYWOOD TO BE FIRE TREATED, U.N.O.
9. DOOR FRAMES TO BE LOCATED 4" FROM CORNER OF WALL U.N.O.

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F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

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DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
PARTIAL SECOND FLOOR PLAN - AREA B

SHEET ID:
A106

PROJECT STATUS:
100% BID SET

4/18/2025 2:58:34 PM Autodesk Docs://1003007/0004_ILM TO4 Rdwy Inf Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_A_R24.rvt

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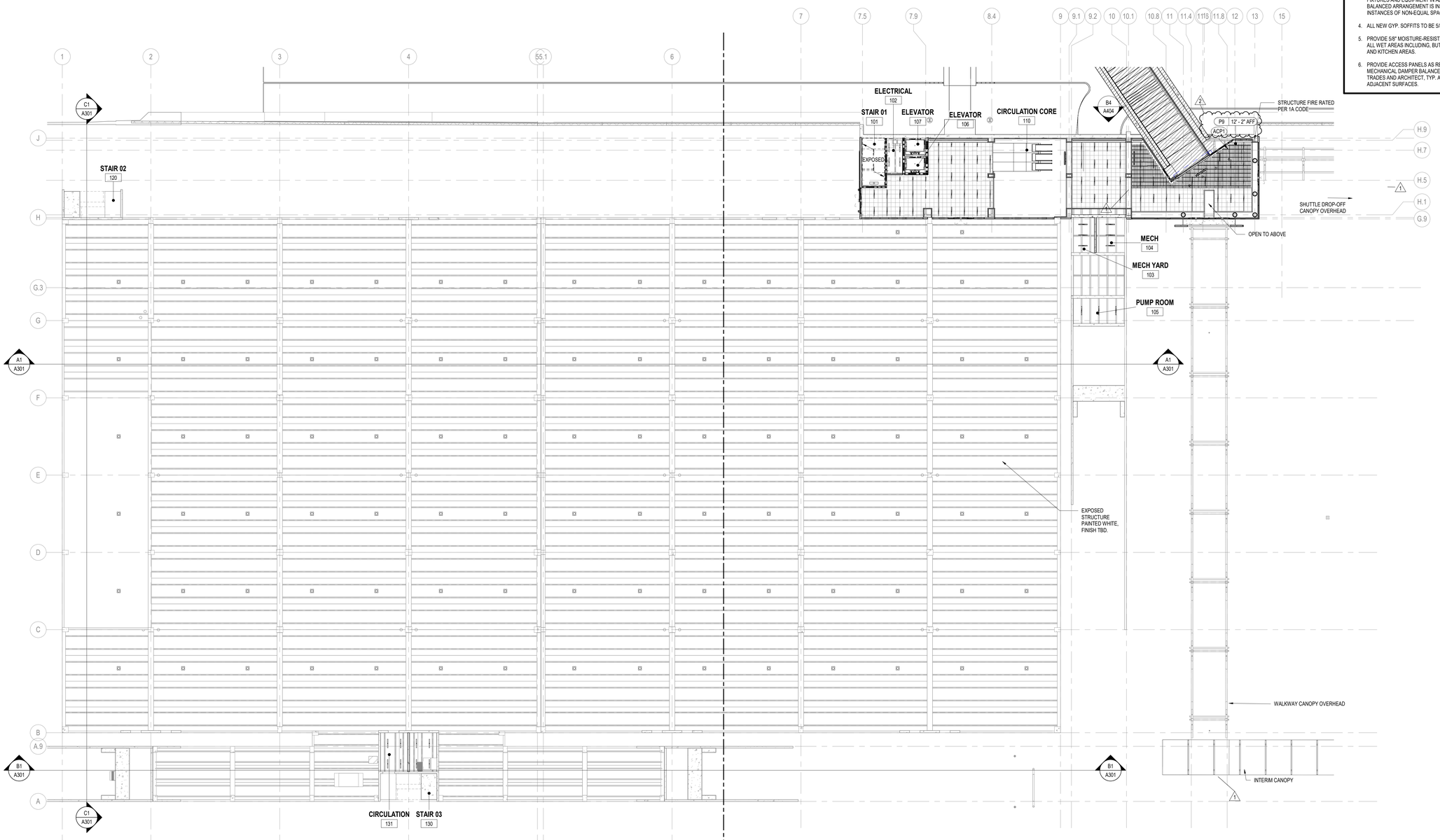

PN

N

A1 GROUND FLOOR REFLECTED CEILING PLAN

SCALE: 1" = 20'-0"

20 0 20 40

SCALE: 1" = 20'-0"

CEILING PLAN LEGEND & SHEET NOTES

REFER TO VOLUME 2 PACKAGE

CEILING TYPES LEGEND

	ACT1	2' x 2' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
	ACT2	2' x 2' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
	GWB1	5/8" GWB ON METAL FRAMING
	EXP	EXPOSED TO ABOVE

FIXTURE LEGEND

- 14" x 11" FLUORESCENT LIGHT FIXTURE
- DOWNLIGHT RECESSED CAN LIGHT FIXTURE
- WALL MOUNTED EXIT SIGN
- CEILING MOUNTED EXIT SIGN
- 4" x 4' RECESSED LINEAR LIGHT FIXTURE

GENERAL SHEET NOTES

1. DEVICES HAVE BEEN SHOWN FOR COORDINATION PURPOSES. SEE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ITEMS NOT SHOWN ON REFLECTED CEILING PLANS. CONTACT THE ARCHITECT IF ANY CONFLICTS OCCUR.
2. ALL CEILING MOUNTED DEVICES MUST BE CENTERED IN BOTH DIRECTIONS IN ACOUSTICAL CEILING PANELS U.N.O.
3. CENTER SPRINKLER HEADS IN ACOUSTICAL CEILING PANELS WHERE THEY OCCUR. COORDINATE THE LOCATION OF THE SPRINKLER HEADS WITH OTHER CEILING FIXTURES AND EQUIPMENT IN ALL CEILINGS. ENSURE THAT A SYMMETRICAL AND BALANCED ARRANGEMENT IS INSTALLED. CONTRACTING OFFICER IS TO REVIEW INSTANCES OF NON-EQUAL SPACING PRIOR TO INSTALLATION.
4. ALL NEW GYP. SOFFITS TO BE 5/8" TYPE "X" GYP. U.N.O.
5. PROVIDE 5/8" MOISTURE-RESISTANT GWB FOR CEILINGS IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO RESTROOMS, JANITOR CLOSETS AND KITCHEN AREAS.
6. PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO PLUMBING VALUES AND MECHANICAL DAMPER BALANCE CONTROLS. COORDINATE ALL LOCATIONS WITH TRADES AND ARCHITECT, TYP. ALL ACCESS PANELS TO BE PAINTED TO MATCH ADJACENT SURFACES.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

C
A B

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1	ADDENDUM #1	04/10/2025
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DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
OVERALL GROUND FLOOR REFLECTED CEILING PLAN

SHEET ID:
A121

PROJECT STATUS:
100% BID SET

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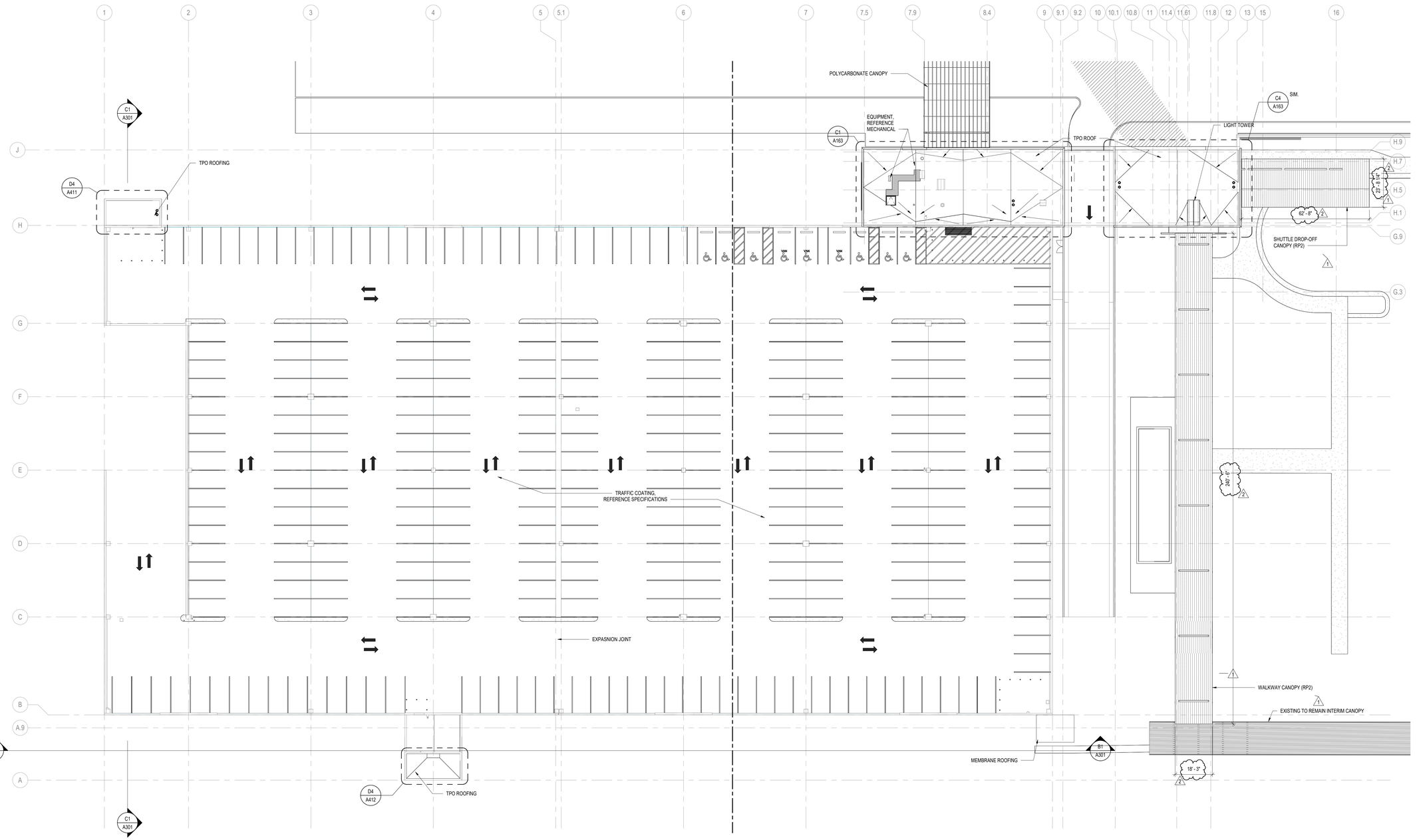
GENERAL ROOF NOTES

1. ALL ROOF PENETRATIONS REQUIRED FOR INSTALLATION OF MECHANICAL UNITS, EQUIPMENT CURBS, VENTS, ETC. MUST BE DONE PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE ALL WARRANTIES ARE MAINTAINED. PROVIDE FLASHING, COUNTERFLASHING, SEALANT, ETC. AS REQUIRED TO PROVIDE WATERPROOF CONDITION, TYPICAL AT ALL ROOF PENETRATIONS.

REFER TO VOLUME 2 PACKAGE



A1 OVERALL ROOF PLAN

SCALE: 1" = 20'-0"

20 0 20 40

SCALE: 1" = 20'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
OVERALL ROOF PLAN

SHEET ID:
A161

PROJECT STATUS:
100% BID SET

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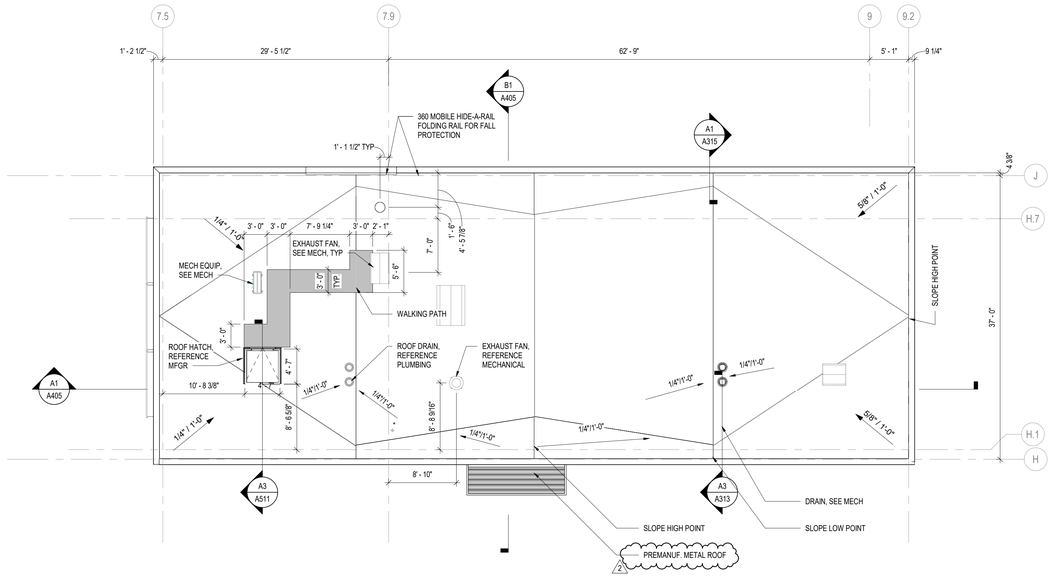
GENERAL ROOF NOTES

1. ALL ROOF PENETRATIONS REQUIRED FOR INSTALLATION OF MECHANICAL UNITS, EQUIPMENT CURBS, VENTS, ETC. MUST BE DONE PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE ALL WARRANTIES ARE MAINTAINED. PROVIDE FLASHING, COUNTERFLASHING, SEALANT, ETC. AS REQUIRED TO PROVIDE WATERPROOF CONDITION, TYPICAL AT ALL ROOF PENETRATIONS.

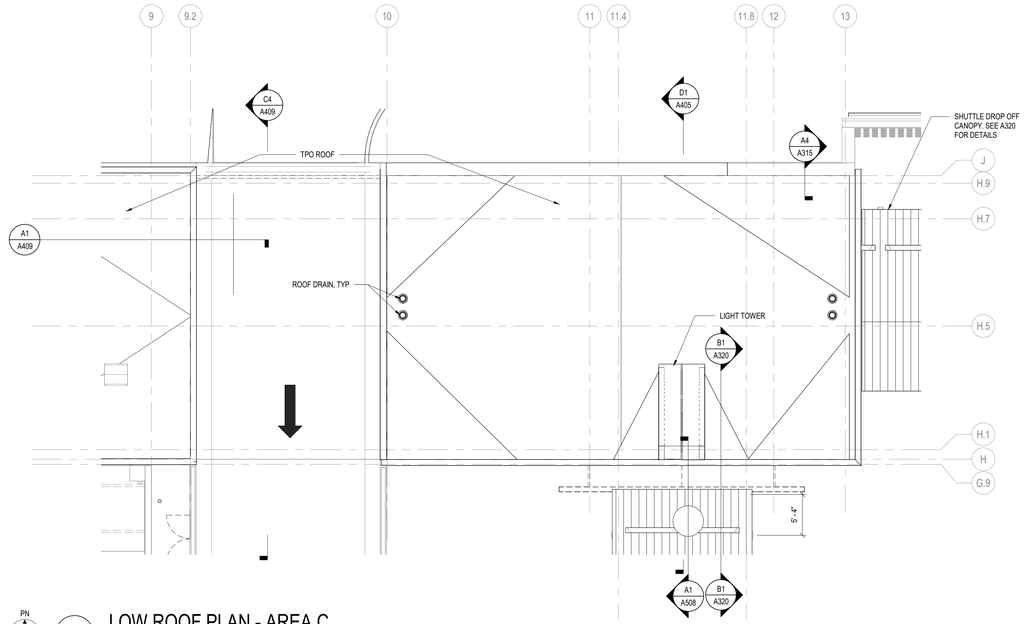
REFER TO VOLUME 2 PACKAGE



PN

C1 HIGH ROOF PLAN - AREA C

SCALE: 1/8" = 1'-0"



PN

C4 LOW ROOF PLAN - AREA C

SCALE: 1/8" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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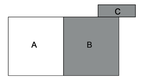
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
ENLARGED ROOF PLAN

SHEET ID:
A163

PROJECT STATUS:
100% BID SET

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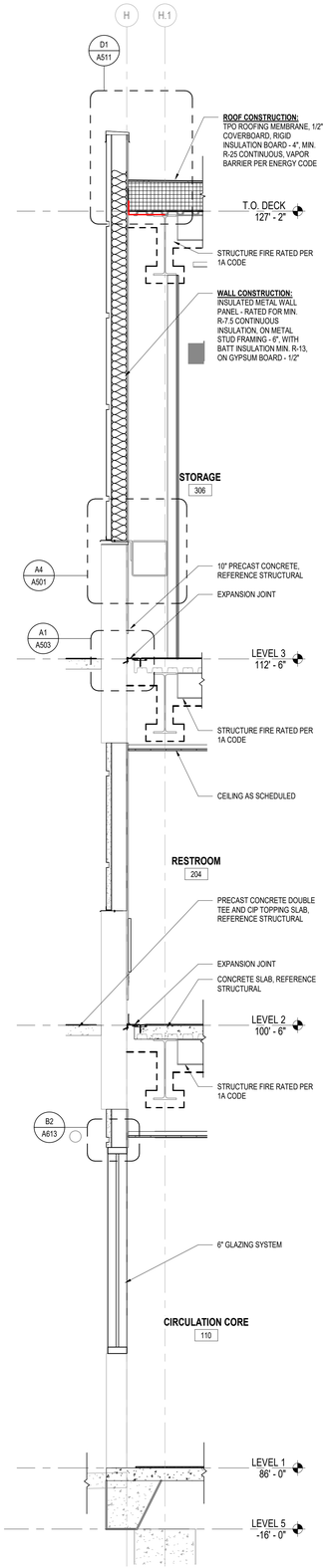

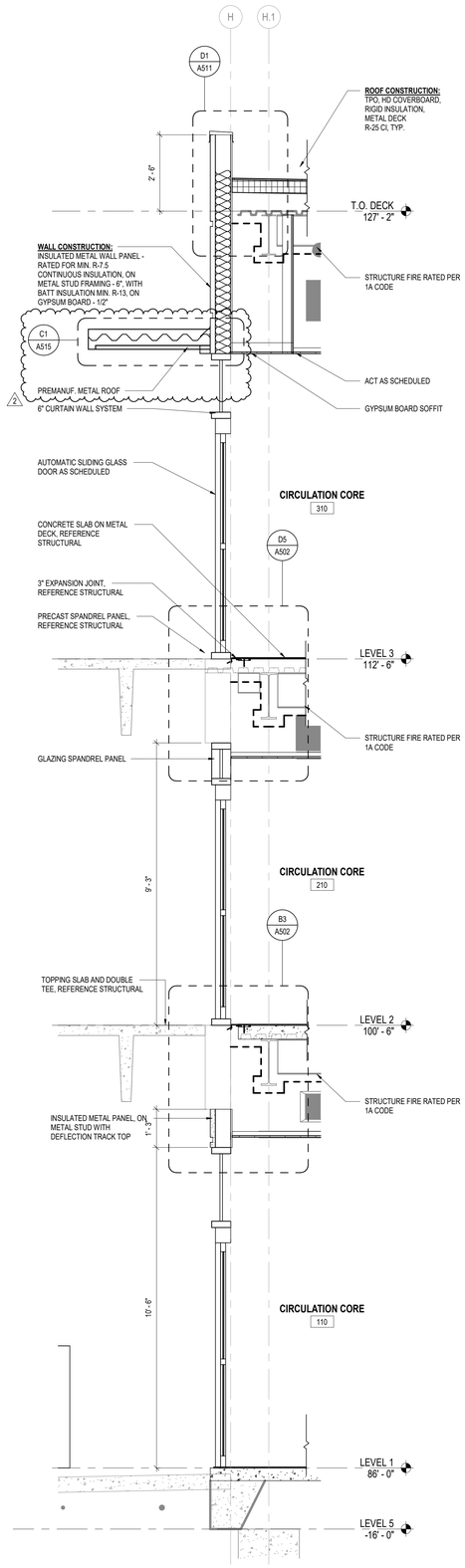

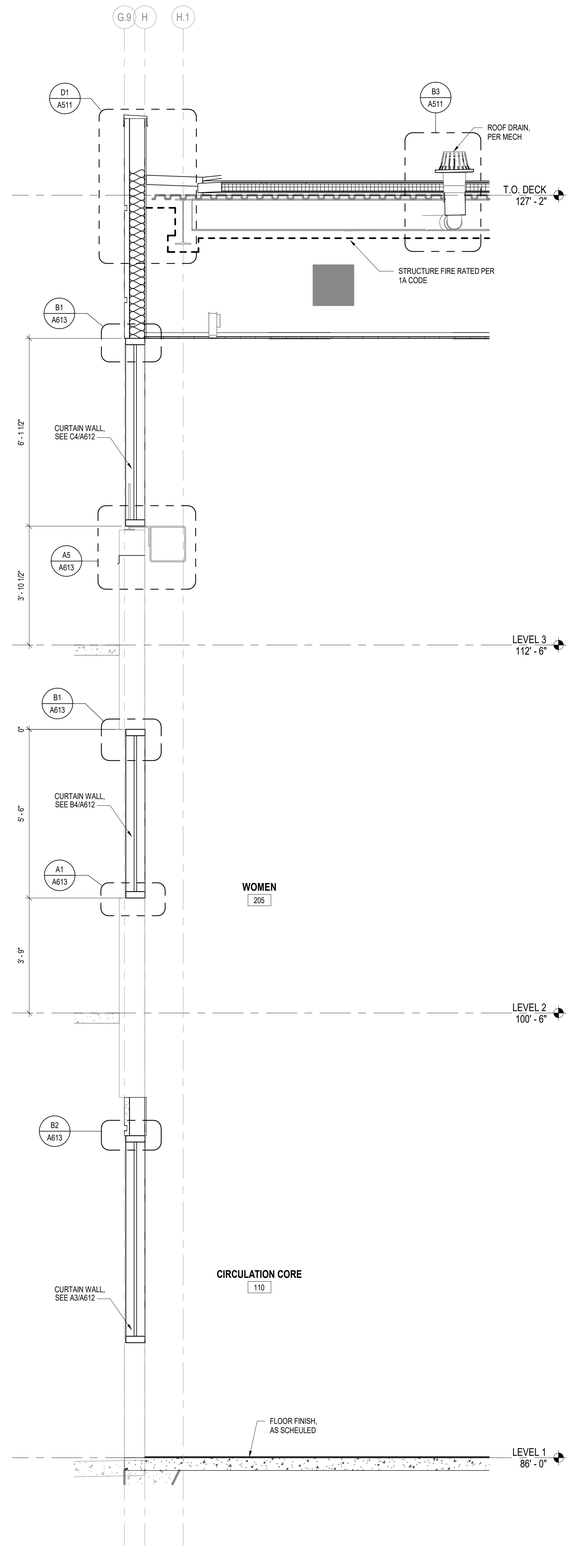

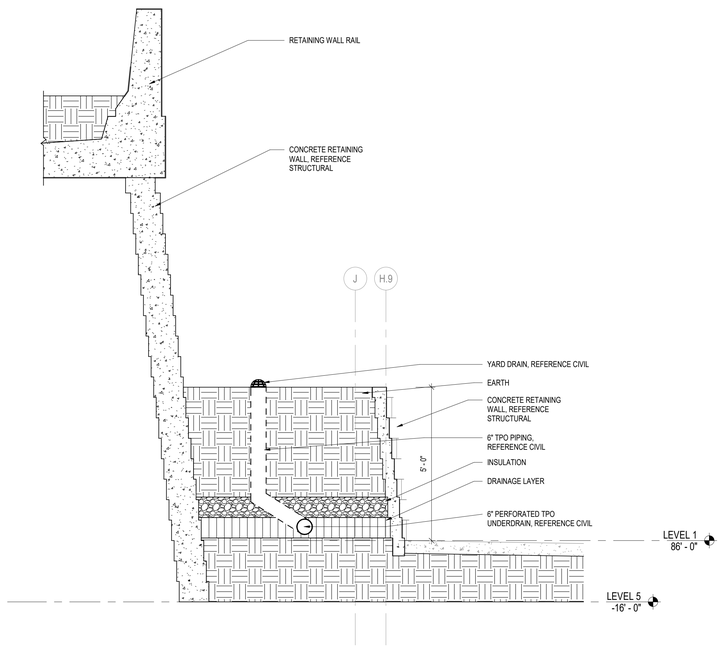

A1 METAL PANEL AT GARAGE SPANDREL
SCALE: 1/2" = 1'-0"

A2 CURTAIN WALL AT GARAGE SPANDREL
SCALE: 1/2" = 1'-0"

A3 GLAZING AT GARAGE SPANDREL
SCALE: 1/2" = 1'-0"

A5 PLANTER SECTION DETAIL
SCALE: 1/2" = 1'-0"

2 0 2 4
SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF NORTH CAROLINA.
4. THE DIMENSIONS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
5. THE CONTRACTOR WILL FIELD VERIFY DIMENSIONS AND REPORT IN WRITING ANY CONFLICTS PRIOR TO FABRICATION.
6. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
7. SEE ELECTRICAL PLANS FOR OPERATIONAL LAYOUT. CONTRACTOR SHALL VERIFY AND COORDINATE WITH OWNER'S VENDOR FOR CORRECT PLACEMENT OF HARDWARE PRIOR TO FABRICATION.
8. EXISTING AND FUTURE UNDERLAY LINEWORK FOR REFERENCE PURPOSES ONLY. ANY CIVIL RELATED WORK, SEE CIVIL PACKAGE FOR DETAILS.
9. THESE DRAWINGS ARE PROVIDED FOR A SPECIFIC DESIGN INTENT ONLY, THE SIGN CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND INTERNAL CONSTRUCTION OF ALL SIGNS. ANY PRODUCTS OR METHODS SPECIFIED MAY BE SUBSTITUTED WITH EQUAL SO LONG AS THE OVERALL DIMENSIONS, APPEARANCE, AND FUNCTIONALITY OF THE DESIGN IS RETAINED.
10. THE SIGN CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL ANCHORAGES, ALL ELECTRICAL FIXTURES AND REQUIRED CONNECTIONS INTO CIRCUITS, AND WILL SUBMIT SHOP DRAWINGS, MESSAGE SCHEDULE, AND DETAILS FOR REVIEW.
2 11. LIGHTING SHALL BE CENTERED EQUALLY BETWEEN BAFFLES. REFER TO ELECTRICAL LIGHTING LAYOUT FOR MOUNTING HEIGHTS. THE BOTTOM OF LIGHTING FIXTURE HEIGHT SHALL BE MOUNTED TO CLEAR THE BOTTOM OF THE BAFFLES.

REFER TO VOLUME 2 PACKAGE

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ILM

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ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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WILMINGTON, NC 28405

REVISIONS

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2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
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DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
CIRCULATION CORE WALL SECTIONS

SHEET ID:
A313

PROJECT STATUS:
100% BID SET

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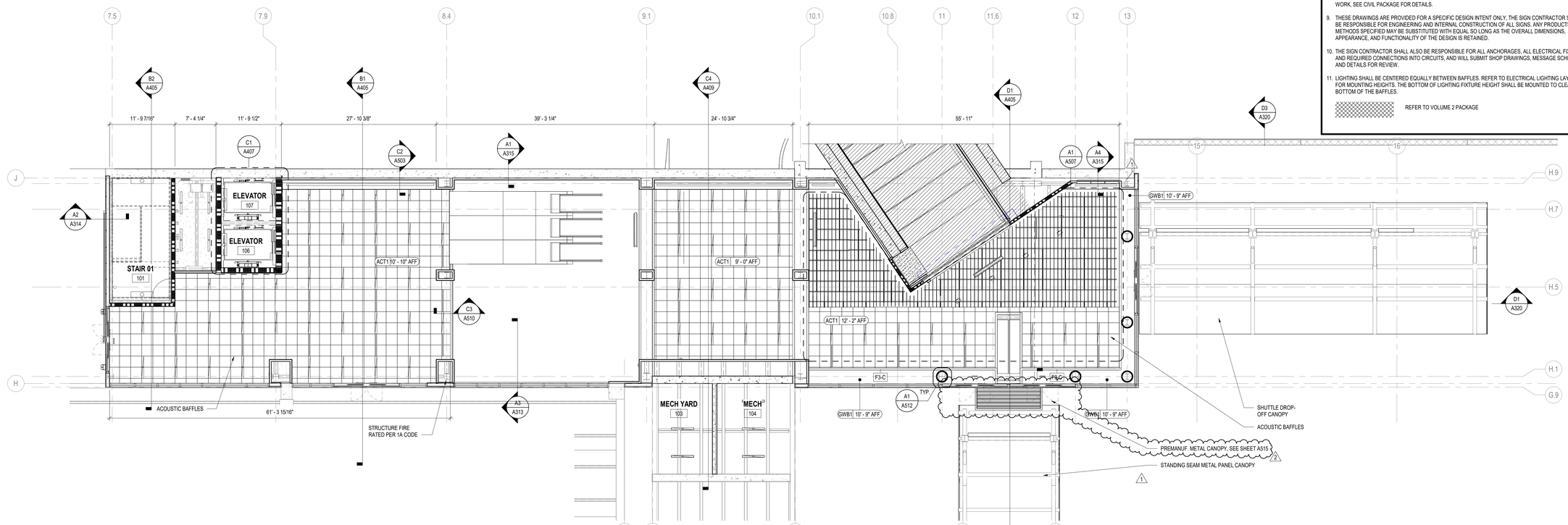
GENERAL NOTES

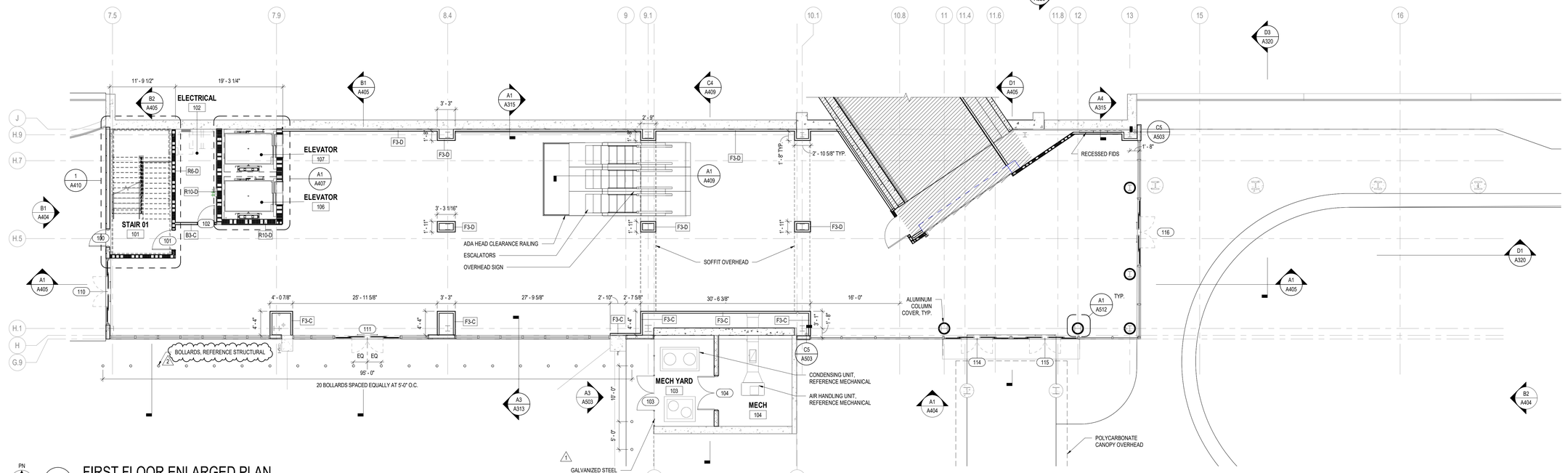
1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF NORTH CAROLINA.
4. THE DIMENSIONS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
5. THE CONTRACTOR WILL FIELD VERIFY DIMENSIONS AND REPORT IN WRITING ANY CONFLICTS PRIOR TO FABRICATION.
6. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
7. SEE ELECTRICAL PLANS FOR OPERATIONAL LAYOUT. CONTRACTOR SHALL VERIFY AND COORDINATE WITH OWNER'S VENDOR FOR CORRECT PLACEMENT OF HARDWARE PRIOR TO FABRICATION.
8. EXISTING AND FUTURE UNDERLAY LINEWORK FOR REFERENCE PURPOSES ONLY. ANY CIVIL RELATED WORK, SEE CIVIL PACKAGE FOR DETAILS.
9. THESE DRAWINGS ARE PROVIDED FOR A SPECIFIC DESIGN INTENT ONLY, THE SIGN CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND INTERNAL CONSTRUCTION OF ALL SIGNS. ANY PRODUCTS OR METHODS SPECIFIED MAY BE SUBSTITUTED WITH EQUAL SO LONG AS THE OVERALL DIMENSIONS, APPEARANCE, AND FUNCTIONALITY OF THE DESIGN IS RETAINED.
10. THE SIGN CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL ANCHORAGES, ALL ELECTRICAL FIXTURES AND REQUIRED CONNECTIONS INTO CIRCUITS, AND WILL SUBMIT SHOP DRAWINGS, MESSAGE SCHEDULE, AND DETAILS FOR REVIEW.
11. LIGHTING SHALL BE CENTERED EQUALLY BETWEEN BAFFLES. REFER TO ELECTRICAL LIGHTING LAYOUT FOR MOUNTING HEIGHTS. THE BOTTOM OF LIGHTING FIXTURE HEIGHT SHALL BE MOUNTED TO CLEAR THE BOTTOM OF THE BAFFLES.

REFER TO VOLUME 2 PACKAGE



C1 FIRST FLOOR ENLARGED REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



A1 FIRST FLOOR ENLARGED PLAN

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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DESIGNED BY: FG
PROJECT NUMBER: 2003-0070-006

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SEAL:
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SHEET TITLE:
CIRCULATION CORE FIRST FLOOR ENLARGED PLAN AND REFLECTED CEILING PLAN

SHEET ID:
A401

PROJECT STATUS:
100% BID SET

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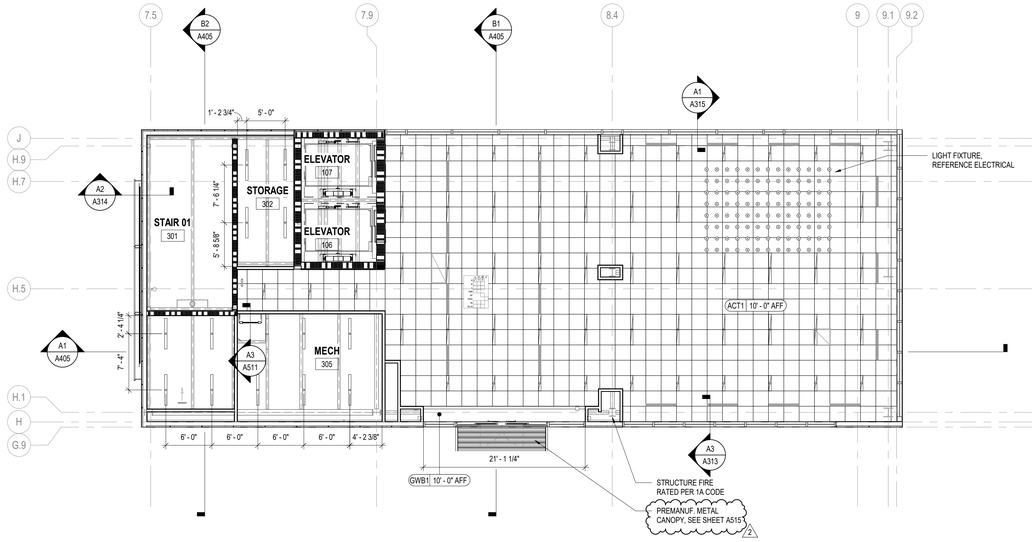
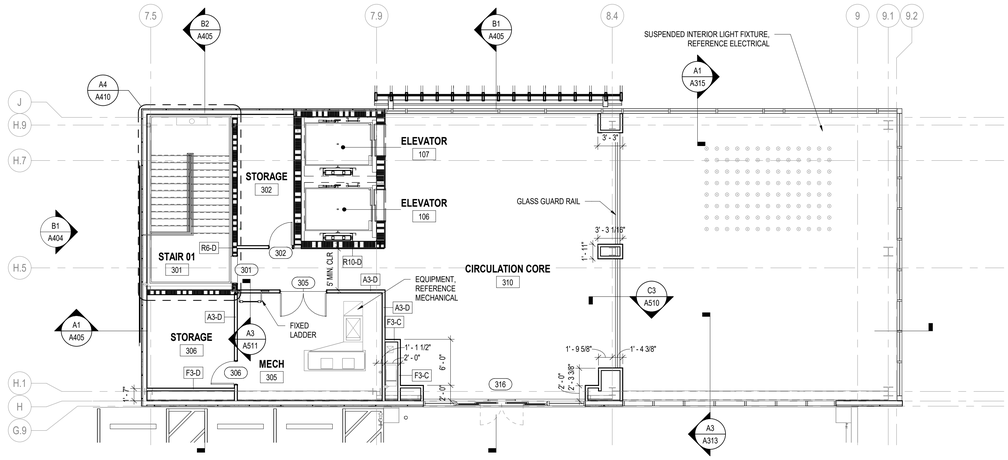


PN

N

C1 ENLARGED THIRD LEVEL REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



PN

N

A1 THIRD LEVEL ENLARGED PLAN

SCALE: 1/8" = 1'-0"

CEILING PLAN LEGEND & SHEET NOTES

REFER TO VOLUME 2 PACKAGE

CEILING TYPES LEGEND

ACT1	2' x 2' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
ACT2	2' x 2' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
GWB1	5/8" GWB ON METAL FRAMING
EXP	EXPOSED TO ABOVE

FIXTURE LEGEND

- 14" x 11" FLUORESCENT LIGHT FIXTURE
- DOWNLIGHT RECESSED CAN LIGHT FIXTURE
- WALL MOUNTED EXIT SIGN
- CEILING MOUNTED EXIT SIGN
- 4" x 4' RECESSED LINEAR LIGHT FIXTURE

GENERAL SHEET NOTES

1. DEVICES HAVE BEEN SHOWN FOR COORDINATION PURPOSES. SEE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ITEMS NOT SHOWN ON REFLECTED CEILING PLANS. CONTACT THE ARCHITECT IF ANY CONFLICTS OCCUR.
2. ALL CEILING MOUNTED DEVICES MUST BE CENTERED IN BOTH DIRECTIONS IN ACOUSTICAL CEILING PANELS U.N.O.
3. CENTER SPRINKLER HEADS IN ACOUSTICAL CEILING PANELS WHERE THEY OCCUR. COORDINATE THE LOCATION OF THE SPRINKLER HEADS WITH OTHER CEILING FIXTURES AND EQUIPMENT IN ALL CEILINGS. ENSURE THAT A SYMMETRICAL AND BALANCED ARRANGEMENT IS INSTALLED. CONTRACTING OFFICER IS TO REVIEW INSTANCES OF NON-EQUAL SPACING PRIOR TO INSTALLATION.
4. ALL NEW GYP. SOFFITS TO BE 5/8" TYPE "X" GYP, U.N.O.
5. PROVIDE 5/8" MOISTURE-RESISTANT GWB FOR CEILINGS IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO RESTROOMS, JANITOR CLOSETS AND KITCHEN AREAS.
6. PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO PLUMBING VALUES AND MECHANICAL DAMPER BALANCE CONTROLS. COORDINATE ALL LOCATIONS WITH TRADES AND ARCHITECT, TYP. ALL ACCESS PANELS TO BE PAINTED TO MATCH ADJACENT SURFACES.

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF NORTH CAROLINA.
4. THE DIMENSIONS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
5. THE CONTRACTOR WILL FIELD VERIFY DIMENSIONS AND REPORT IN WRITING ANY CONFLICTS PRIOR TO FABRICATION.
6. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
7. SEE ELECTRICAL PLANS FOR OPERATIONAL LAYOUT. CONTRACTOR SHALL VERIFY AND COORDINATE WITH OWNER'S VENDOR FOR CORRECT PLACEMENT OF HARDWARE PRIOR TO FABRICATION.
8. EXISTING AND FUTURE UNDERLAY LINEWORK FOR REFERENCE PURPOSES ONLY. ANY CIVIL RELATED WORK, SEE CIVIL PACKAGE FOR DETAILS.
9. THESE DRAWINGS ARE PROVIDED FOR A SPECIFIC DESIGN INTENT ONLY. THE SIGN CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND INTERNAL CONSTRUCTION OF ALL SIGNS. ANY PRODUCTS OR METHODS SPECIFIED MAY BE SUBSTITUTED WITH EQUAL SO LONG AS THE OVERALL DIMENSIONS, APPEARANCE, AND FUNCTIONALITY OF THE DESIGN IS RETAINED.
10. THE SIGN CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL ANCHORAGES. ALL ELECTRICAL FIXTURES AND REQUIRED CONNECTIONS INTO CIRCUITS, AND WILL SUBMIT SHOP DRAWINGS, MESSAGE SCHEDULE, AND DETAILS FOR REVIEW.
11. LIGHTING SHALL BE CENTERED EQUALLY BETWEEN BAFFLES. REFER TO ELECTRICAL LIGHTING LAYOUT FOR MOUNTING HEIGHTS. THE BOTTOM OF LIGHTING FIXTURE HEIGHT SHALL BE MOUNTED TO CLEAR THE BOTTOM OF THE BAFFLES.

REFER TO VOLUME 2 PACKAGE

FLOOR PLAN LEGEND & SHEET NOTES

PARTITION LEGEND

- NON-RATED WALL SYSTEM
- 1-HOUR RATED WALL SYSTEM
- 3-HOUR RATED WALL SYSTEM
- PRECAST OR C.I.P. CONCRETE WALL SYSTEM
- CONCRETE MASONRY UNIT WALL SYSTEM

NOTE: REFER TO PARTITION TAGS ON PLANS AND PARTITION TYPE DETAILS

REFER TO VOLUME 2 PACKAGE

GENERAL SHEET NOTES

1. ALL EXTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF SHEATHING OR CONCRETE U.N.O.
2. ALL INTERIOR WALLS TO BE DIMENSIONED TO THE FACE OF STUD U.N.O.
3. SEE ENLARGED PLANS FOR PARTITION TAGS NOT IDENTIFIED ON OVERALL FLOOR PLANS.
4. PROVIDE 5/8" WATER-RESISTANT GWB IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO:
   A. RESTROOMS
   B. JANITOR CLOSETS
5. EXTEND SMOKE BARRIER PARTITION WALLS TO BOTTOM OF UPPER FLOOR STRUCTURE.
6. FIELD VERIFY ALL DIMENSIONS, REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
7. SEAL ALL PENETRATIONS ON EXTERIOR WALLS.
8. ALL PLYWOOD TO BE FIRE TREATED, U.N.O.
9. DOOR FRAMES TO BE LOCATED 4" FROM CORNER OF WALL U.N.O.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: SG
DRAWN BY: KS
DESIGNED BY: FG
PROJECT NUMBER: 2003-0070-006

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SEAL:

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SHEET TITLE:
CIRCULATION CORE THIRD FLOOR ENLARGED PLAN AND REFLECTED CEILING PLAN

SHEET ID:
A403

PROJECT STATUS:
100% BID SET

8 0 8 16
SCALE: 1/8" = 1'-0"

4/23/2025 3:35:45 PM Autodesk Docs://1003007004_ILM TO4 Rdwy Inf Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_A_R24.rvt

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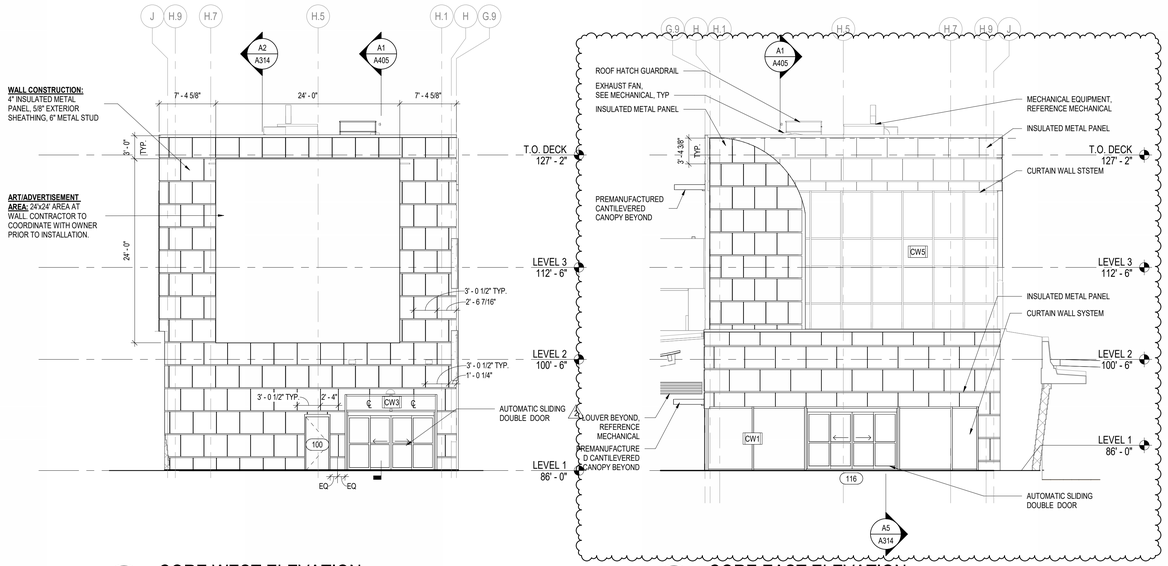
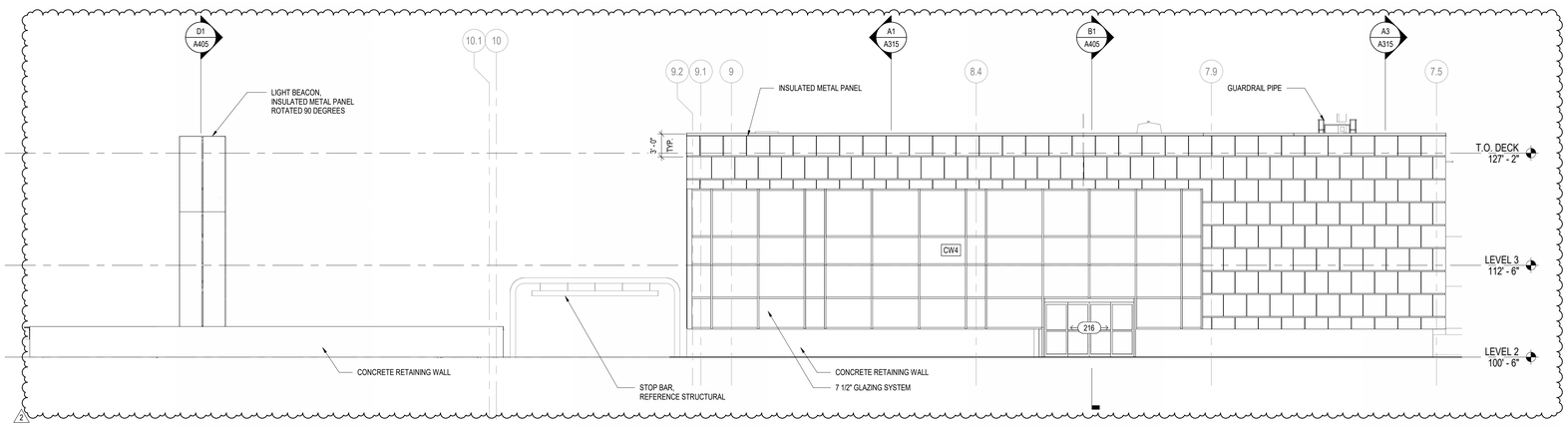


B1 CORE WEST ELEVATION

SCALE: 1/8" = 1'-0"

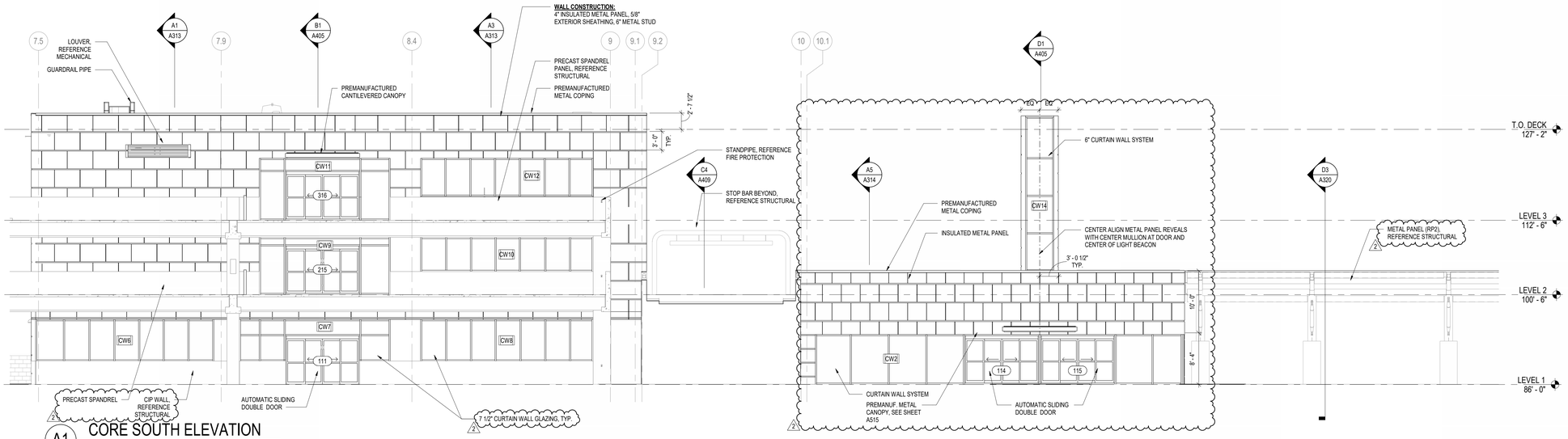
B2 CORE EAST ELEVATION

SCALE: 1/8" = 1'-0"



B4 EAST ELEVATION - RETAINING WALL

SCALE: 1/8" = 1'-0"



A1 CORE SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

GENERAL NOTES

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
CIRCULATION CORE ELEVATIONS

SHEET ID:
A404

PROJECT STATUS:
100% BID SET

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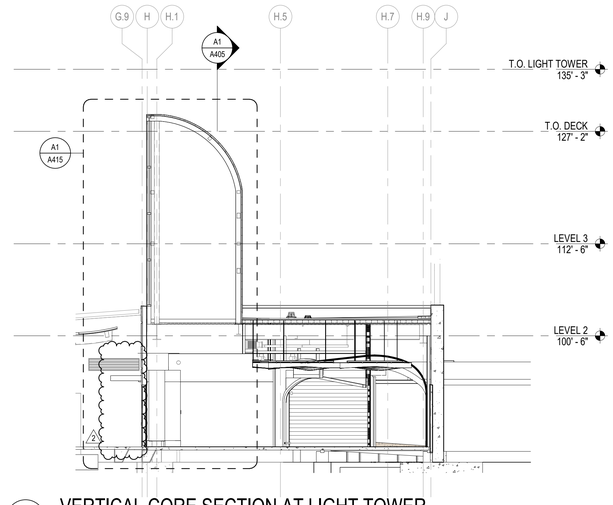
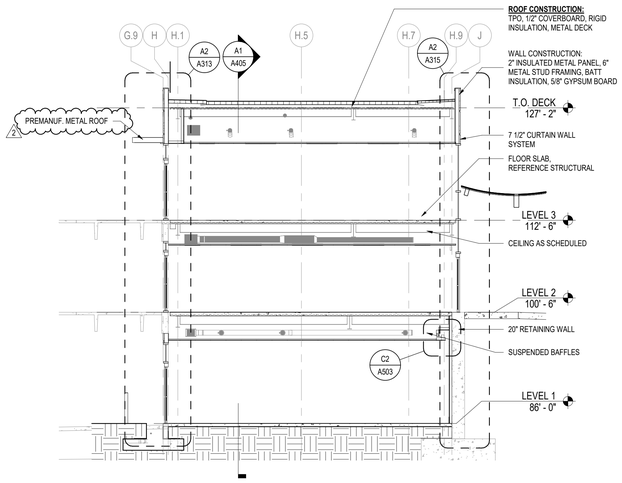


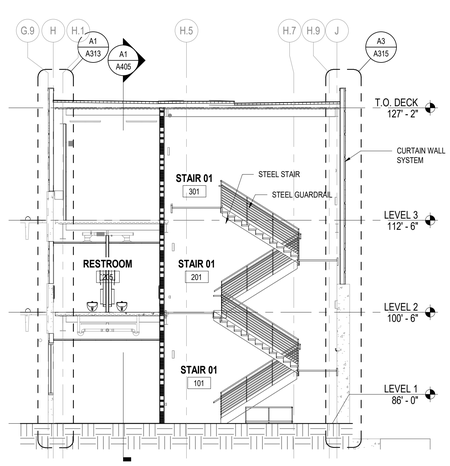
D1 VERTICAL CORE SECTION AT LIGHT TOWER

SCALE: 1/8" = 1'-0"



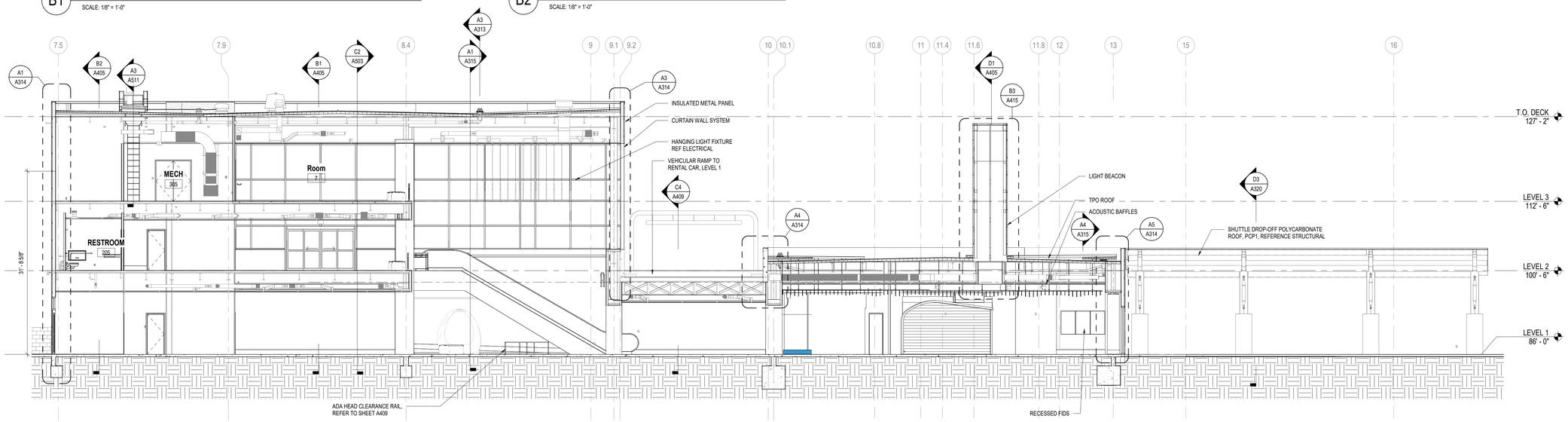
B1 VERTICAL CORE SECTION AT ELEVATOR VESTIBULE

SCALE: 1/8" = 1'-0"



B2 VERTICAL CORE SECTION AT STAIR

SCALE: 1/8" = 1'-0"



A1 VERTICAL CORE LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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ILM

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ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/16/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
CIRCULATION CORE SECTIONS

SHEET ID:
A405

PROJECT STATUS:
100% BID SET

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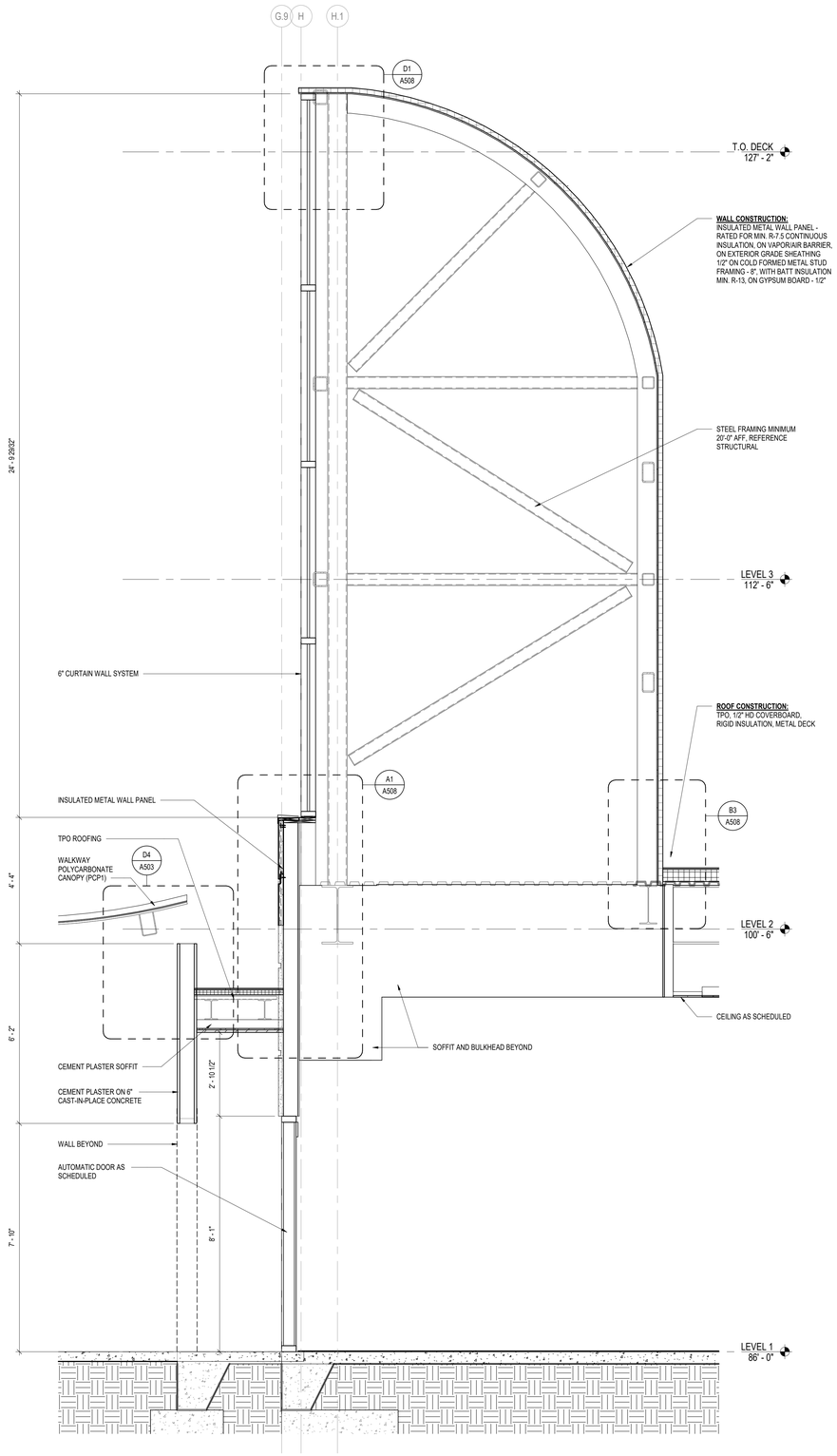
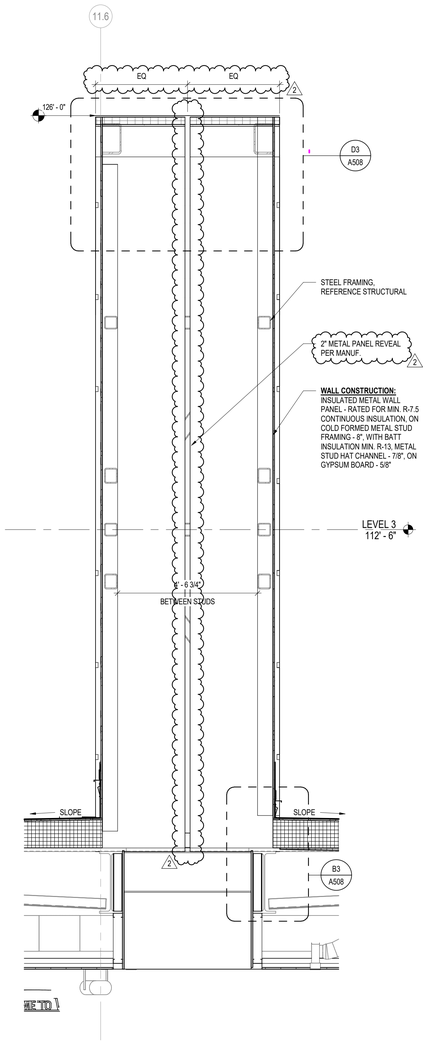


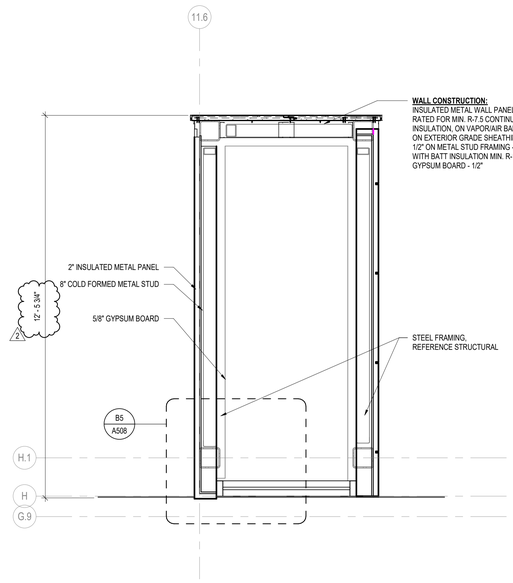
A1 LIGHT BEACON SECTION E-W

SCALE: 1/2" = 1'-0"



B3 LIGHT BEACON SECTION N-S

SCALE: 1/2" = 1'-0"



PN

N

B5 LIGHT BEACON ENLARGED PLAN

SCALE: 1/2" = 1'-0"

2 0 2 4

SCALE: 1/2" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	

2003-0070-006

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SHEET TITLE:

GARAGE CORE LIGHT BEACON ENLARGED PLAN AND SECTIONS

SHEET ID:

A415

PROJECT STATUS:
100% BID SET

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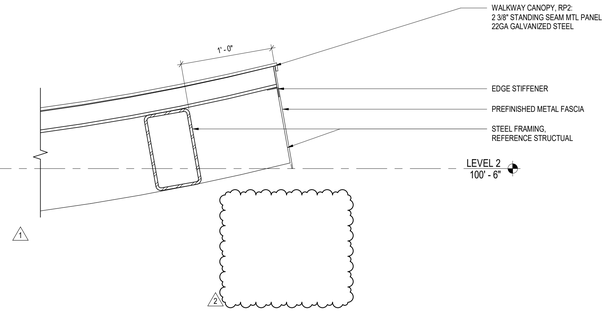

D4 ACRYLIC PANEL AT PORTAL ENTRY

SCALE: 1 1/2" = 1'-0"

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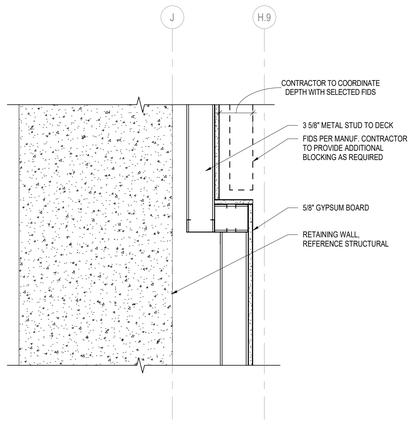
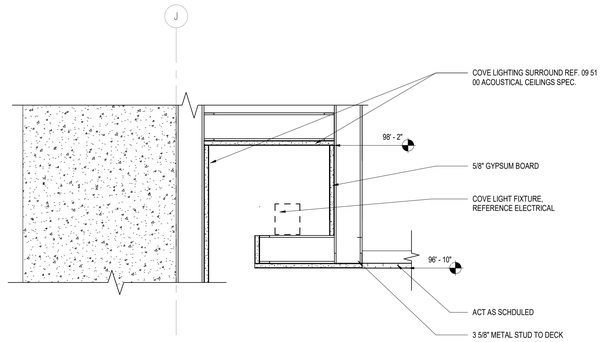
REFER TO VOLUME 2 PACKAGE



C1 FIDS RECESS DETAIL

SCALE: 1 1/2" = 1'-0"



C2 LIGHT COVE SECTION DETAIL

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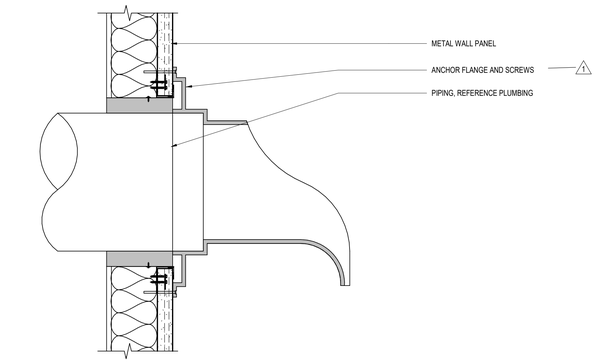
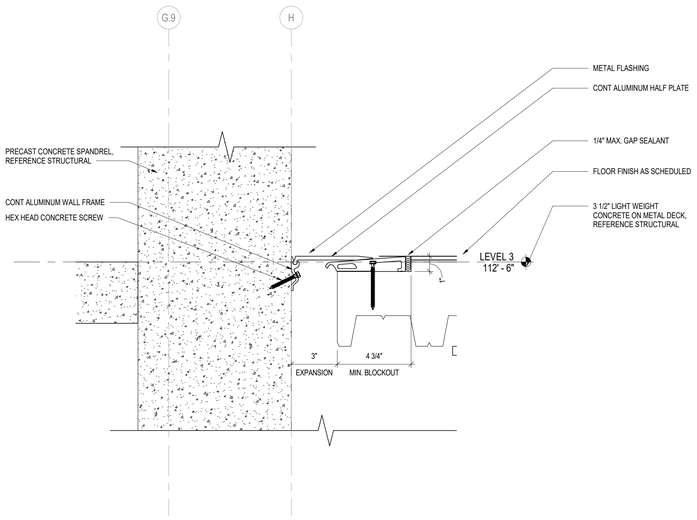


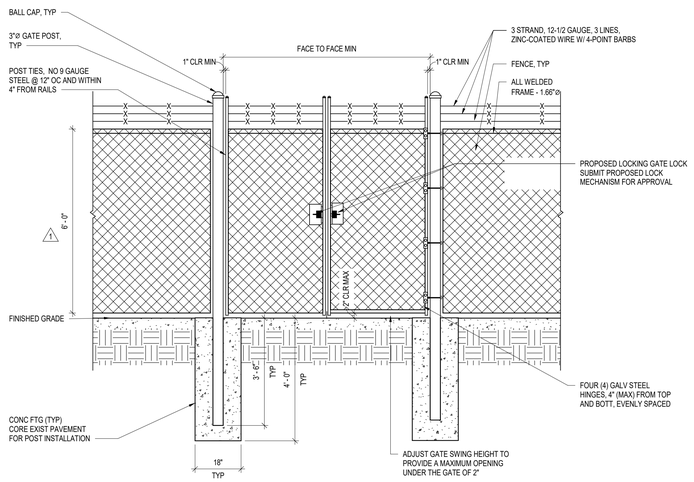
C5 SHEEP TONGUE DRAIN

SCALE: 1 1/2" = 1'-0"



A1 EXPANSION JOINT AT PRECAST SPANDREL PANEL

SCALE: 3" = 1'-0"



A3 ACCESS GATE

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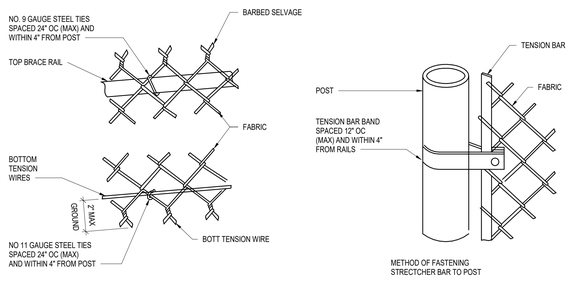

A5 FENCE CONNECTIONS

SCALE: 3" = 1'-0"

2 0 2 4
SCALE: 1/2" = 1'-0"

0 1
SCALE: 3" = 1'-0"

1 0 1
SCALE: 1 1/2"= 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SEAL:
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SHEET TITLE:
SECTION DETAILS

SHEET ID:
A503

PROJECT STATUS:
100% BID SET

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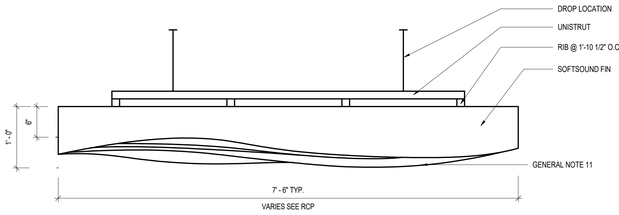
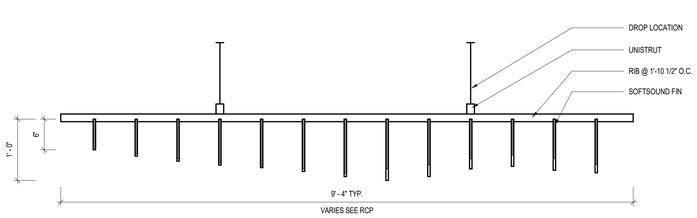
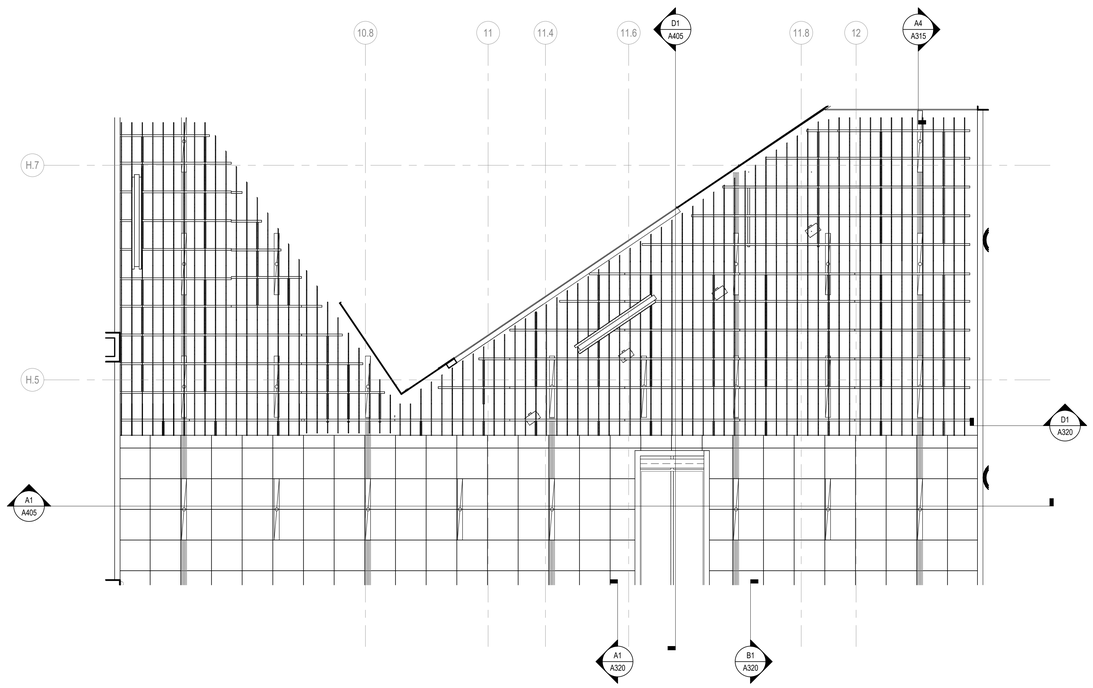
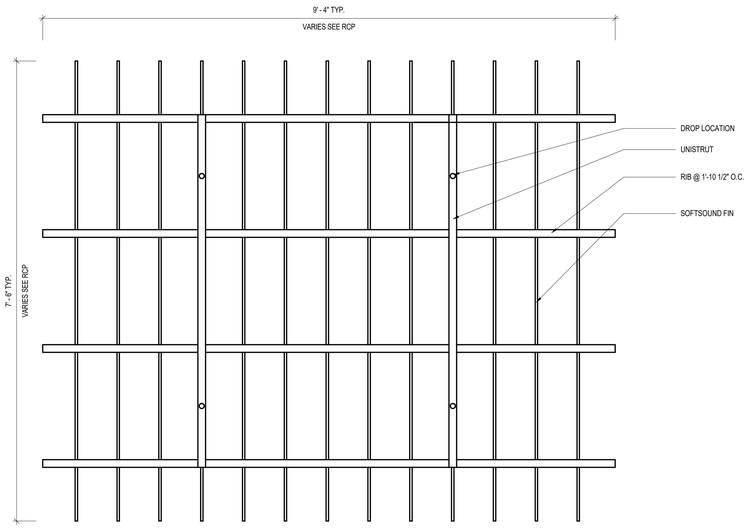






A1 FIRST FLOOR ENLARGED BAFFLE PLAN AT PLAZA

SCALE: 1/4" = 1'-0"



8 0 8 16

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF NORTH CAROLINA.
4. THE DIMENSIONS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
5. THE CONTRACTOR WILL FIELD VERIFY DIMENSIONS AND REPORT IN WRITING ANY CONFLICTS PRIOR TO FABRICATION.
6. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
7. SEE ELECTRICAL PLANS FOR OPERATIONAL LAYOUT. CONTRACTOR SHALL VERIFY AND COORDINATE WITH OWNER'S VENDOR FOR CORRECT PLACEMENT OF HARDWARE PRIOR TO FABRICATION.
8. EXISTING AND FUTURE UNDERLAY LINEWORK FOR REFERENCE PURPOSES ONLY. ANY CIVIL RELATED WORK, SEE CIVIL PACKAGE FOR DETAILS.
9. THESE DRAWINGS ARE PROVIDED FOR A SPECIFIC DESIGN INTENT ONLY. THE SIGN CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND INTERNAL CONSTRUCTION OF ALL SIGNS. ANY PRODUCTS OR METHODS SPECIFIED MAY BE SUBSTITUTED WITH EQUAL SO LONG AS THE OVERALL DIMENSIONS, APPEARANCE, AND FUNCTIONALITY OF THE DESIGN IS RETAINED.
10. THE SIGN CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL ANCHORAGES, ALL ELECTRICAL FIXTURES AND REQUIRED CONNECTIONS INTO CIRCUITS, AND WILL SUBMIT SHOP DRAWINGS, MESSAGE SCHEDULE, AND DETAILS FOR REVIEW.
11. LIGHTING SHALL BE CENTERED EQUALLY BETWEEN BAFFLES. REFER TO ELECTRICAL LIGHTING LAYOUT FOR MOUNTING HEIGHTS. THE BOTTOM OF LIGHTING FIXTURE HEIGHT SHALL BE MOUNTED TO CLEAR THE BOTTOM OF THE BAFFLES.

REFER TO VOLUME 2 PACKAGE

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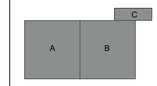
Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	JB
DRAWN BY:	KS
DESIGNED BY:	RS&H

PROJECT NUMBER:
2003-0070-006

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SEAL:

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NOT FOR CONSTRUCTION

SHEET TITLE:
BAFFLE DETAILS

SHEET ID:
2
A507

PROJECT STATUS:
100% BID SET

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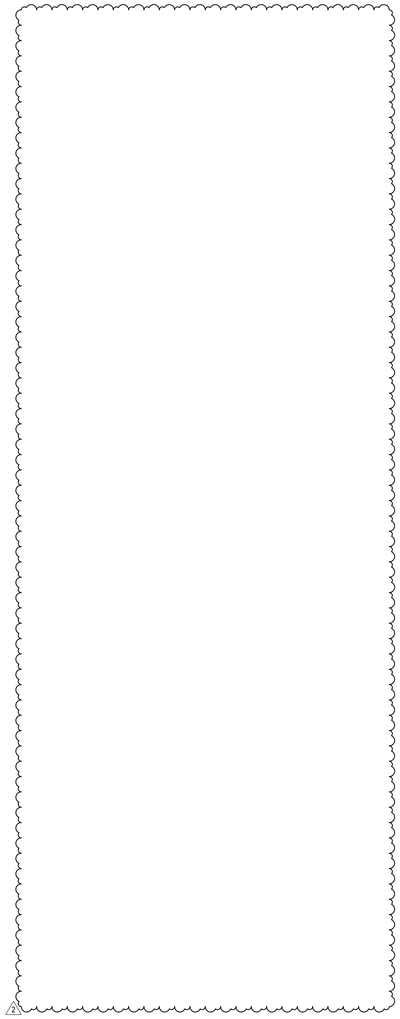
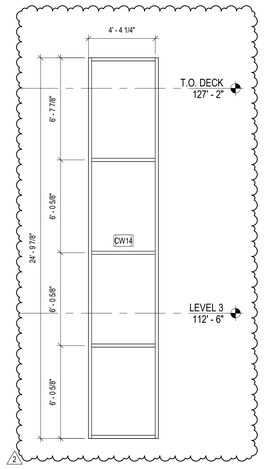
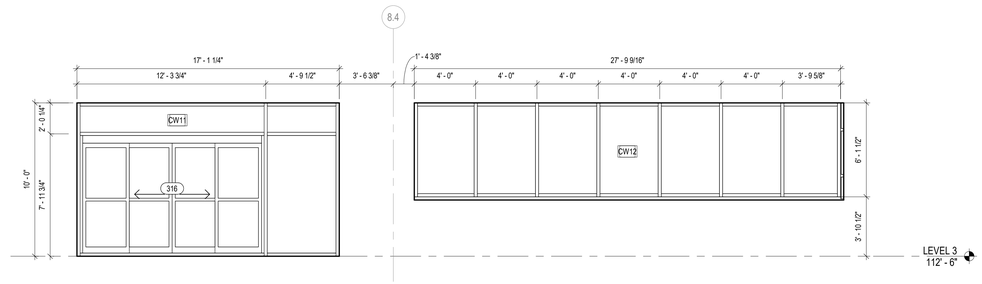
GENERAL GLAZING NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE OF THE STATE OF NORTH CAROLINA.
4. THE DIMENSIONS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
5. THE CONTRACTOR WILL FIELD VERIFY DIMENSIONS AND REPORT IN WRITING ANY CONFLICTS PRIOR TO FABRICATION.
6. ALL GLAZING TO BE TYPE GL1 UNLESS NOTED OTHERWISE.

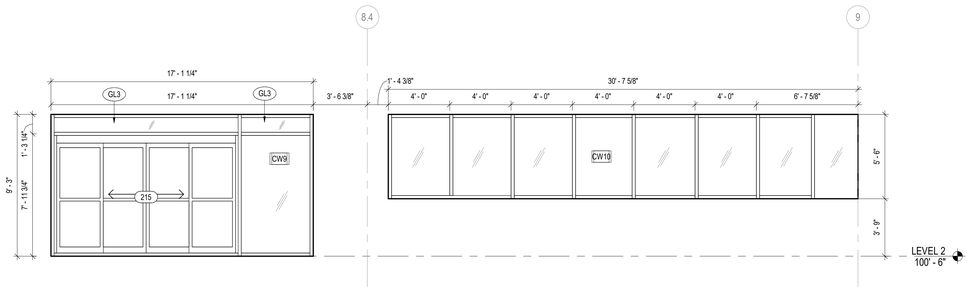




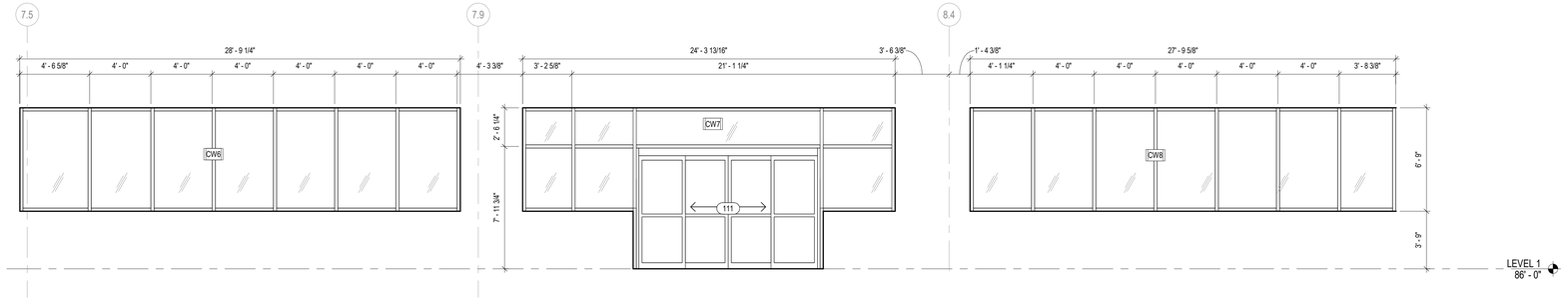
C2 GARAGE CORE LIGHT BEACON GLAZING ELEVATION (CW14)
SCALE: 1/4" = 1'-0"



C4 THIRD FLOOR GLAZING ELEVATION AT GARAGE (CW11 / CW12)
SCALE: 1/4" = 1'-0"



B4 SECOND FLOOR GLAZING ELEVATION AT GARAGE (CW9 / CW10)
SCALE: 1/4" = 1'-0"



A3 FIRST FLOOR GLAZING ELEVATION AT RENTAL CAR (CW6 / CW7 / CW8)
SCALE: 1/4" = 1'-0"

4 0 4 8
SCALE: 1/4" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	2003-0070-006

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SEAL:
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SHEET TITLE:
GLAZING ELEVATIONS

SHEET ID:
A612

PROJECT STATUS:
100% BID SET

4/18/2025 2:59:26 PM Autodesk Docs://1003007006 ILM TO4 Rdwy Inf Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_A_R24.rvt

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ROOM SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	REMARKS
101	STAIR 01	SC1	B2	P1	EXPOSED	
102	ELECTRICAL	SC1	B2	P1	EXPOSED	
103	MECH YARD	UC	-	-	EXPOSED	
104	MECH	UC	-	P1	EXPOSED	
105	PUMP ROOM	UC	-	P1	EXPOSED	
106	ELEVATOR	-	-	-	EXPOSED	
107	ELEVATOR	-	-	-	ACP1	
110	CIRCULATION CORE	TERR.WOM	B3	P1	ACT1,GWB1	
120	STAIR 02	-	-	-	EXPOSED	
130	STAIR 03	-	-	-	EXPOSED	
131	CIRCULATION	TZ1	B2	P1	ACP1	
201	STAIR 01	SC1	B2	P1	EXPOSED	
202	JANITOR	SC1	B2	P1	EXPOSED	
204	RESTROOM	TERR	B1	T3	ACT1	
205	<varies>	TERR	B1	T3	ACT1	
207	STORAGE					
210	CIRCULATION CORE	TERR.WOM	B3	P1	GWB1	
221	IDF/ELEC	SC	-	P1	EXPOSED	
222	IDF/ELEC	SC	-	P1	EXPOSED	
223	IDF/ ELEC	SC	-	P1	EXPOSED	
224	IDF/ELEC	SC	-	P1	EXPOSED	
232	IDF/ELEC	SC	-	P1	EXPOSED	
301	STAIR 01	SC1	B2	P1	EXPOSED	
302	STORAGE	SC1	B2	P1	EXPOSED	
305	MECH	SC1	B2	P1	EXPOSED	
306	STORAGE	SC1	B2	P1	EXPOSED	
310	CIRCULATION CORE	TERR.WOM	B3	P1	GWB1	

FF&E LEGEND

TAG	IMAGE	DESCRIPTION	MANUFACTURER	POWER REQUIREMENT	COUNT
B-1		AND BENCH 133x65x47	VONDOM	YES	11
B-2		AND 218x185x234	VONDOM	YES	1

FINISH LEGEND

Material Type	Location	MATERIAL	DESCRIPTION	MANUFACTURER	SPECIFICATION	SIZE	REMARKS
EXTERIOR							
CEILINGS							
CEILINGS	EXTERIOR	PCP1	POLYCARBONATE PANEL - CANOPY	3FORM	KODA XT, EXTRUDED, COLORS: LOGO BLUE 02, LOGO BLUE 01, FOUNTAIN, CORNFLOWER		
FLOORING							
FLOORING	EXTERIOR	PV1	PAVER	HANOVER	PREST PAVER, MATRIX #M1914, FINISH #13, SRI 51		
FLOORING	EXTERIOR	PV2	PAVER	HANOVER	PREST PAVER, MATRIX #M1810, FINISH: TUDOR, SRI 40		
FLOORING	EXTERIOR	PV3	PAVER	HANOVER	PREST PAVER, MATRIX #M1537, FINISH: TUDOR, SQUARE EDGE		
METAL PANELS							
METAL PANELS	EXTERIOR	IMP1	INSULATED METAL PANEL - CENTER ATRIUM EXTENSION	KINGSPAN	QUADCORE B DESIGNWALL 2000, COLOR: REGAL BLUE	2" THICK	
METAL PANELS	EXTERIOR	IMP2	INSULATED METAL PANEL - GENERAL, GARAGE	KINGSPAN	QUADCORE B DESIGNWALL 2000, COLOR: REGAL WHITE	2" THICK	
METAL PANELS	EXTERIOR	RP1	ROOFING PANEL AT COPULA	BERRIDGE	COLOR: SHASTA WHITE, MODEL: DOUBLE LOCK ZEE LOCK	TBD	
METAL PANELS	EXTERIOR	RP2	ROOFING PANEL AT PLAZA CANOPIES	IMETCO	MODEL: S312, CURVED PANELS AT 24' RADIUS, MATERIAL: 22GUAGE GALVANIZED STEEL	12" X 84" X 2 3/8"	CONTACT: MARK GAYLOR, 301-573-1149, MGAYLOR@IMETCO.COM
PAINT							
PAINT	EXTERIOR	EP1	EXTERIOR PAINT - STEEL BOLLARD	SHERWIN WILLIAMS	COLOR: SAFETY BLACK, REFER TO CIVIL DRAWINGS FOR MORE INFORMATION		CONTACT: JOY BABUR, 407-694-7994, JOY.L.BABUR@SHERWIN.COM
PAINT	EXTERIOR	EP2	EXTERIOR PAINT - CURB	SHERWIN WILLIAMS			
PAINT	EXTERIOR	EP3	EXTERIOR PAINT - DOOR	SHERWIN WILLIAMS			
STONE PANELS							
STONE PANELS	EXTERIOR	SP1	TABBY STONE PANEL - TERMINAL FACADE	TBD	COLOR TYPE: TABBY OYSTER SHELL, COLOR: LIGHT CREAM	TBD	
WALL							
WALL	EXTERIOR	CW1	CURTAIN WALL	KAWNEER	1600 WALL SYSTEM1 CURTAIN WALL, FINISH: ANODIZED ALUMINUM	6" X 2.5"	
WALL	EXTERIOR	CW2	CURTAIN WALL	KAWNEER	1600 WALL SYSTEM1 CURTAIN WALL, FINISH: ANODIZED ALUMINUM	7 1/2"	
WALL	EXTERIOR	GL1	STOREFRONT GLAZING SYSTEM				
INTERIOR							
CASEWORK							
CASEWORK	INTERIOR	PL1	PLASTIC LAMINATE - RESTROOM APRONS	WILSONART	COLOR: SATIN STAINLESS 4830-18, FINISH: LINEARITY, INSTALL PATTERN: HORIZONTALLY IN ALL INSTANCES, SHOW INSTALLATION DIRECTION IN SHOP DRAWINGS	4' X 8'	CONTACT: CATHY GRIMM, 813-682-9624, CATHY.GRIMM@WILSONART.COM
CASEWORK	INTERIOR	SS1	QUARTZ (RENTAL IN BASE BID, TICKETING - ALTERNATE)	CAMBRIA	COLLECTION: LUXURY SERIES, STYLE: PORTRUSH, THICKNESS: 3CM, EDGE PROFILE: EASED EDGE		CONTACT: TANYA BARKER, 407.490.2099, TANYA.BARKER@CAMBRIAUSA.COM
CASEWORK	INTERIOR	SS2	QUARTZ (RESTROOMS)	COSENTINO	STYLE: ETERNAL CALACATTA GOLD, FINISH: POLISHED, THICKNESS: 3CM - PRICE GROUP 2	128.74" x 62.60" x 3 CM THICK	CONTACT: NICOLE WATSON, 859-638-2928, NICOLET@COSENTINO.COM
CASEWORK	INTERIOR	SS3	QUARTZ - WINDOW SILLS	HANSTONE	COLOR: AURORA SNOW - CL101, EDGE PROFILE: EASED EDGE	1/2" THICK	
CEILINGS							
CEILINGS	INTERIOR	ACP1	ACOUSTICAL CEILING PANEL	ARKTURA	ATMOSPHERA SWELL - SOFT SOUND ESSENTIALS, ACOUSTIC PET, COLOR: WHITE, FRAME: STEEL, FIRE RATING:ASTM E84 CLASS A, SOUND ABSORPTION: ASTM C423, NRC .85, ATTACHMENT: 3/8" THREADED ROD (BY OTHERS)	1' 6" X 7' 6" X1"	CONTACT: STEVEN RANTA, 310-291-8096, STEVEN.RANTA@ARKTURA.COM
CEILINGS	INTERIOR	ACT1	ACOUSTICAL CEILING TILE - GENERAL	ARMSTRONG	ULTIMA LAY IN, PRODUCT #1910, SIZE: 2' X 2' TILE, WHITE GRID, PRELUDE XL 15/16" TEE. 6" AXIOM TRIM AX6CUR	2' X 2' X 7/8"	CONTACT: JANICE MEYERHOFFER, 321-376-3289, JMMEYERHOFFER@ARMSTRONGCEILINGS.COM
CEILINGS	INTERIOR	ACT4	ACOUSTICAL CEILING TILE - (ESCALATORS)	ARKTURA	SURFACE TEXTURE: MIRROR - SMOOTH. COMPOSITION: 20-GAUGE 304 STAINLESS STEEL. COLOR: STAINLESS, SIZE: APPROXIMATELY: 2' x 6', TEXTURE: RIPPLE, CONSTRUCTION: DOUBLE RETURN FLANGES BE REQUIRED ON ALL 4 SIDES, SUSPENSION SYSTEM: TORSION SPRING CEILING PANELS, PRELUDE XL 12' WITH 2' CROSS TEE SLOTTED	2' X 6'	CONTACT: STEVEN RANTA, 310-291-8096, STEVEN.RANTA@ARKTURA.COM
CEILINGS	INTERIOR	GWB/P5	GYPSUM WALL BOARD - PAINTED, RESTROOMS, LOCKER ROOM	SHERWIN WILLIAMS	COLOR: PURE WHITE SW 7005, EG-SHEL		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
CEILINGS	INTERIOR	P9	PAINT - CEILING ACCENT IN GARAGE ENTRY	SHERWIN WILLIAMS	PRO IND MULTI-SURFACE ACRYLIC B66-1560 SERIES, COLOR: SW 6959 BLUE CHIP, FINISH: EG-SHEL		
FLOORING							
FLOORING	INTERIOR	SC1	SEALED CONCRETE (MECH/STORAGE)	PACHYDERM/KEY RESIN	SEALER: KEY 804		CONTACT: BRIAN WOLFE, 813-464-15150, BWOLFE@PMCTAMPA.COM
FLOORING	INTERIOR	TER-1	TERRAZZO - DARK BLUE	TERROXY RESIN SYSTEMS	TM#24-3193, EPOXY COLOR: BLUE ENTRY #5978, GRIT: 200, FILLER: CLEAR GLASS FINES, SEALER: WB ACRYLIC, CHIPS: 80% - SIZE:1 MIDNIGHT BLUE GLASS, 20% - SIZE: 2 - SO CAL ONE SIDED MIRROR	3/8" THICK	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	TER-2	TERRAZZO - LIGHT BLUE	TERROXY RESIN SYSTEMS	TM# 24-3188, EPOXY COLOR: SW BLUE CHIP #6063, GRIT: 200, FILLER: ATF-20, SEALER: WB ACRYLIC, CHIPS: 30% - SIZE: 2- CLASSIC MOP, 30%- SIZE: 2 - CRYSTAL GLASS, 20% SIZE: 2 - SO-CAL ONE SIDED MIRROR, 20% - SIZE: 2 - GA WHITE	3/8" THICK	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	TER-3	TERRAZZO - GENERAL, RESTROOMS	TERROXY RESIN SYSTEMS	TM#23-3185, EPOXY COLOR: PURE WHITE #4427, GRIT: 200, FILLER: ATF-20, SEALER: WB ACRYLIC, CHIPS: 30% - SIZE: 2 - CLASSIC MOP, 30% - SIZE: 2 - CRYSTAL GLASS, 20% SIZE: 2- PACIFIC ONE SIDED MIRROR, 20% - SIZE: 2 - GA WHITE	3/8" THICK	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	TER-4	TERRAZZO - SAND	TERROXY RESIN SYSTEMS	TM# 24-3186, EPOXY COLOR: URBAN PUTTY #4538, GRIT: 200, FILLER: ATF-20, SEALER: WB ACRYLIC, CHIPS: 30%-SIZE: 2- CLASSIC MOP, 30%- SIZE: 2- CRYSTAL GLASS, 20% -SIZE:2- PACIFIC ONE SIDED MIRROR, 20% - SIZE:2 - GA WHITE, WITH STARFISH ALUMINUM INLAY AS SPECIFIED, WITH LED MOTION ACTIVATED FOOTPRINTS AS SPECIFIED, REFER TO FINISH PLANS.	3/8" THICK	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	TER-5	TERRAZZO - DIVIDER STRIPS	TERROXY RESIN SYSTEMS	L BRACKET, ALUMINUM	1/8" X 3/8" H	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	TER6	TERRAZZO - MATCH ENTRY - TICKETING LEVEL	TERROXY RESIN SYSTEMS	TM#24-3191, EPOXY COLOR: #2SH WHITE, GRIT: 20S, ATF-20, SEALER: WB ACRYLIC, CHIPS: 70% - SIZE: 2 - PURE WHITE, 30% - SIZE 2: PURE WHITE	3/8" THICK	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
FLOORING	INTERIOR	VCT2	VINYL COMPOSITION TILE - STATIC DISSIPATIVE (ELECTRICAL, COMM, IT ROOM)	ARMSTRONG FLOORING	COLLECTION: EXCELON SDT, COLOR: FOSSIL GRAY, ITEM NUMBER: 51956, USE WITH S-202 SDT ADHESIVE, AND S-392 STATIC DISSIPATIVE POLISH, COORDINATE WITH ELECTRICAL TO MEET MANUFACTURER GROUNDING REQUIREMENTS, INCLUDE 1/4" THICK 4.5" HIGH ARMSTRONG FLOORING COLOR-INTEGRATED WALL BASE WITH MATTE FINISH, STYLE: A- STRAIGHT	12" X 12" X 1/8"	CONTACT: CATHLEEN CLARKE, 904-294-3424, CATHLEEN.CLARKE@AHFPRODUCTS.COM
FLOORING	INTERIOR	WOM1	WALK OFF MAT	MILLIKEN	OBEX BAR CUTX, COLLECTION: GRAIN, COLOR: TAUPE GRX174-133, DYE: PRINTWORKS PRECISION DYE, INSTALLATION METHOD: PLANK HORIZONTAL ASHLAR	25 CM X 1M X.50" THICK	CONTACT: HANK ISRAEL, 954-290-8169, HANK.ISRAEL@MILLIKEN.COM
GROUT							
GROUT	INTERIOR	G-1	GROUT 1/8" JOINTS	MAPEI	KERAPOXY CQ, COLOR: ALABASTER 01, USE WITH ALL TILE UNLES NOTED OTHERWISE	1/8"	CONTACT: JEFF BLUMBERG, 954-304-0878, JBLUMBERG@MAPEI.COM
METAL PANELS							
METAL PANELS	INTERIOR	MP1	METAL COLUMN WRAP	MOZ	LASER CUT, PATTERN: FALLS, TOP OF LASER CUT PATTERN 8' AFF, COLOR: SILVER METALLIC, RGBW LED BACKLIT, RECESSED BASE INSET 1" AND 9" H BRUSHED STAINLESS. COORDINATE WITH ELECTRICAL, PROVIDE SHOP DRAWING PRIOR TO ORDERING.	4' X 10' X 1/8" THICK	CONTACT: JAMIE SANDFORD, 720.654.3380, JAMIE@MOZDESIGNS.COM
METAL PANELS	INTERIOR	MP2	METAL LAMINATE ACCENT BAND (TICKETING, RENTAL CAR, GATE COUNTER VERTICALS)	MOZ	STYLE: GRADIENT, COLOR: AURORA COBALT GRADIENT TO TURQUOISE, .040 ALUMINUM,FINISH: COARSE, INCLUDE 1" DIAMETER STANDOFF, CYLINDER CAP 1/4", SUBMIT SAMPLE FOR APPROVAL	4' X 10'	CONTACT: JAMIE SANDFORD, -654-3380, JAMIE@MOZDESIGNS.COM
SPECIALTY							
SPECIALTY	INTERIOR	P6	PAINT - STRUCTURAL COLUMNS	SHERWIN WILLIAMS	FIRETEX FX8010 THREE-COMPONENT INTUMESCENT COATING, TOPCOAT: BONDPLEX WATERBASED ACRYLIC, COLOR: WHITE ALUMINUM, LOCATION: EXPOSED STEEL COLUMNS, TOP COAT WHEN EXPOSED IN PUBLIC SPACES		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
STAIRS							
STAIRS	INTERIOR	STR1	STAIR TREAD (BOWSTRING & FIS)				
STAIRS	INTERIOR	STR2	STAIR NOSING				
TOILET PARTITIONS							
TOILET PARTITIONS	INTERIOR	TP1	TOILET PARTITIONS	WILSONART	REFER TO TOILET ACCESSORY SCHEDULES		
TRANSITIONS							
TRANSITIONS	INTERIOR	TR1	TRANSITION - CARPET TO SEALED CONCRETE	SCHLUTER	RENO T, CONT. ALUMINUM TRANSITION PROFILE		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR2	TRANSITION - TERRAZZO TO SEALED CONCRETE	SCHLUTER	RENO RAMP K, COLOR: SATIN ANODIZED ALUMINUM, COORDINATE WITH TERRAZZO THICKNESS		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR3	TRANSITION - TERRAZZO TO CARPET	SCHLUTER	SCHLUTER DECO OR APPROVAL EQUAL, TYP.		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR4	TRANSITION - TERRAZZO TO WALK OFF MAT	SCHLUTER	RENO T, CONT. ALUMINUM TRANSITION PROFILE		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR5	TRANSITION - WALL TILE EDGE	SCHLUTER	STYLE: ROUNDED OUTSIDE CORNER, ITEM: RONDEC R0100AE, 100 (3/8"), FINISH: BRUSHED STAINLESS, AT ALL OUTSIDE CORNERS		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR6	TRANSITION - TERRAZZO TO TERRAZZO	SCHLUTER	RENO T, CONT. ALUMINUM TRANSITION PROFILE		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR7	TRANSITION - TERRAZZO TO STAINED CONCRETE	SCHLUTER	RENO RAMP K, COLOR: SATIN ANODIZED ALUMINUM, COORDINATE WITH TERRAZZO THICKNESS, PROTECT TRANSITION DURING POLISHING OF TERRAZZO		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
TRANSITIONS	INTERIOR	TR9	TRANSITION - EXPANSION JOINT	INPRO	304 SERIES-RECESSED MOUNT, JOINT OPENING: 3", FLOOR THICKNESS: 3/8", INSTALL CONDITION: FLOOR TO WALL		CONTACT: MATT LONG, 407-795-0794, MLONG@SCHLUTER.COM
WALL							
WALL	INTERIOR	AP1	ACRYLIC PANEL	SENSITILE	LUMINA, PATTERN: RANDOM, LIGHT POINT DENSITY: STANDARD (MEDIUM), GRAIN WIDTH: 3/8", CORE THICKNESS: 3/4", CLADDING THICKNESS: 1/8", CLADDING FINISH: FROSTED- CLEAR - CLEAR MIRROR - WHITE PROTECT, INTERLAYER: BLUE GRADIENT, LIGHT EMISSION: FACE ONLY, LED COLORS: RG	4'W, 1-1/16" THICK	CONTACT: MOLLY GREEN, 313-872-6314 EXT. 106, ESTIMATING@SENSITILE.COM, SUBMIT SAMPLE FOR APPROVAL
WALL	INTERIOR	AP2	ACRYLIC PANEL	SENSITILE	LUMINA, PATTERN: RANDOM, LIGHT POINT DENSITY: STANDARD (MEDIUM), GRAIN WIDTH: 3/8", CORE THICKNESS: 3/4", CLADDING THICKNESS: 1/8", CLADDING FINISH: FROSTED- CLEAR - CLEAR MIRROR - WHITE PROTECT, INTERLAYER: BLUE GRADIENT, LIGHT EMISSION: FACE ONLY, LED COLORS: RG	VARYING STANDARD SIZE, REFER TO RCP	CONTACT: MOLLY GREEN, 313-872-6314 EXT. 106, ESTIMATING@SENSITILE.COM, SUBMIT SAMPLE FOR APPROVAL
WALL	INTERIOR	AP3	ACRYLIC PANEL	SENSITILE	LUMINA, PATTERN: RANDOM, LIGHT POINT DENSITY: STANDARD (MEDIUM), GRAIN WIDTH: 3/8", CORE THICKNESS: 3/4", CLADDING THICKNESS: 1/8", CLADDING FINISH: FROSTED- CLEAR - CLEAR MIRROR - WHITE PROTECT, INTERLAYER: BLUE GRADIENT, LIGHT EMISSION: FACE ONLY, LED COLORS: RG	VARYING STANDARD SIZE, REFER TO RCP	CONTACT: MOLLY GREEN, 313-872-6314 EXT. 106, ESTIMATING@SENSITILE.COM, SUBMIT SAMPLE FOR APPROVAL
WALL	INTERIOR	AP4	ACRYLIC PANEL	SENSITILE	LUMINA, PATTERN: RANDOM, LIGHT POINT DENSITY: STANDARD (MEDIUM), GRAIN WIDTH: 3/8", CORE THICKNESS: 3/4", CLADDING THICKNESS: 1/8", CLADDING FINISH: FROSTED- CLEAR - CLEAR MIRROR - WHITE PROTECT, INTERLAYER: BLUE GRADIENT, LIGHT EMISSION: FACE ONLY, LED COLORS: RG	1'W, 1-1/16" THICK	CONTACT: MOLLY GREEN, 313-872-6314 EXT. 106, ESTIMATING@SENSITILE.COM, SUBMIT SAMPLE FOR APPROVAL
WALL	INTERIOR	CC1	COLUMN COVERS - (SSCP, NON SPECIALTY)	ARMSTRONG	PLASTERFORM COLUMN COVERS, 2'-4" DIA, VERTICAL BUTT JOINT, CONFIRM COLUMN DIMENSION DUE TO VARIED SIZES.		
WALL	INTERIOR	CG1	CORNER GUARD - GENERAL OUTSIDE WALLS	ACROVYN	WIDTH: 1" 1/2 LEGS X HEIGHT: 8'-0", GAUGE: 16, FLAT-HEAD COUNTERSUNK SCREWS THROUGH FACTORY DRILLED MOUNTING HOLES AND ADHESIVE, STAINLESS STEEL 304.	GAUGE: 14, LEG LENGTH: 1/2"	CONTACT: CLYDE COPELAND, 813-831-3344, CCOPELAND@CAS-CORP.COM
WALL	INTERIOR	P1	PAINT - GENERAL	SHERWIN WILLIAMS	PROMAR 200 HP LG, B41-1900 SERIES, COLOR: SW 7008 ALABASTER, FINISH: EG-SHEL		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
WALL	INTERIOR	P2	PAINT - DOORS/FRAMES	SHERWIN WILLIAMS	PRO IND WB ALKYD URETHANE LS, B53-2250 SERIES, EG-SHEL, COLOR: SW 6002 ESSENTIAL GRAY, FINISH: SEMI-GLOSS		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
WALL	INTERIOR	P3	PAINT - ACCENT	SHERWIN WILLIAMS	PROMART 200HP LG, B41-1900 SERIES, COLOR: SW 6958 DYNAMIC BLUE, EG-SHEL		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
WALL	INTERIOR	P5	PAINT - GWB CEILING/SOFFITS (STERILE CORRIDOR/PBB)	SHERWIN WILLIAMS	PRO IND MULTI-SURFACE ACRYLIC B66-1560 SERIES, COLOR: SW 7007 CEILING BRIGHT WHITE, FINISH: EG-SHEL		CONTACT: FRED LAURO, 727-735-1643, FREDERICK.M.LAURO@SHERWIN.COM
WALL	INTERIOR	T1	STONE TILE (CONNECTOR)	STONESOURCE	SEASTONE STARFISH FOSSIL IMPRESSION, SQUARE EDGE MEDALLION TILE IN BEIGE, MATERIAL: COMPRESSED STONE, DESIGN: FOSSILIZED, SHADE VARIATION: V2, POLISH FINISH: HONED, INSTALL PATTERN: STRAIGHT STACKED, GROUT JOINT: 1/16", CAN BE DRY CUT	6" X 6" X 1" THICK	CONTACT: KIMBERLY BEYERLEIN, 813-714-4603, KBEYERLEIN@STONESOURCE.COM
WALL	INTERIOR	T3	TILE - PORCELAIN - RESTROOMS	DALTILE	STYLE: IRONCRAFT, COLOR: PHOSPHOR WHITE IC11	12" X 24"	CONTACT: LORI SCHWARTZ, 407.716.6447, LORI.SCHWRATZ@DALTILE.COM
WALL	INTERIOR	WP2	WALL PANEL - ELEVATOR PANELS - INTERIOR CAB	FORMS + SURFACES	LEVEL= 1054 GARAGE. PANEL FINISHES: CUSTOM GRADIENCE. STAINLESS STEEL WITH SANDSTONE FINISH NO PATTERN CERAMILOC+. BASE IN FUSED WHITE GOLD SANDSTONE FINISH NO PATTERN CERAMILOC+. ALUMINUYM CLEAR ANODIZED REVEALS, ROUND STIPPLED STAINLESS STEEL HANDRAILS. STAINLESS STEEL SATIN CRASH RAIL, FUSED WHITE GOLD SANDSTONE LED PERIMETER CEILING. SEE DIAGRAM FOR COORDINATION. COORDINATE WITH MANUFACTURER FOR DETAIL DRAWINGS AND PANEL LOCATIONS. CONTROLLER AND DRIVERS FOR CEILING LIGHT AND BACK PANEL LIGHT INCLUDED IN PANEL AS ONE SYSTEM. COORDINATE WITH ELECTGRICAL FOR CIRCUITING REQUIREMENTS. FOR ELEVATOR CAB INTERIORS REFER TO ELEVATOR FINISH DETAILS SHEET.		CONTACT: COREY BREWER, 407 949-2923, COREY.BREWER@FORM-SURFACES.COM
WALL BASE							
WALL BASE	INTERIOR	B1	9" TERRAZZO BASE	TERROXY RESIN SYSTEMS	STRAIGHT PROFILE, MATCH TZ-1 FORMULA	6" H	CONTACT: BRAD HEDGES, 770-325-0725, BRAD@SCIGA.COM
WALL BASE	INTERIOR	B2	4" (FOR CARPET AND RESILIENT FLOORING)	FLEXCO	4" HEIGHT, ROLLED GOOD, USE PREFORMED CORNERS, COLOR: BLACK DAHLIA, PRODUCT: WALLFLOWERS	4"	CONTACT: NADINE PHILLIPS, 607-745-3780, NADINE@CFDFLOORING.COM
WALL BASE	INTERIOR	B3	WOOD BASE	INPRO	MATCH EXISTING - REFER TO VOLUME I A811		

FINISH PLAN LEGEND & SHEET NOTES

GENERAL SHEET NOTES

1. REFER TO TOILET ACCESSORIES SCHEDULE FOR TOILET PARTITION FINISH
2. GC SHALL PROVIDE MOCK UPS FOR COLUMNS, RESTROOM VANITIES WITH FAUCETS AND SOAP DISPENSERS. TEST FOR WATER PRESSURE OUTPUT AND CONFIRM PRESSURE MEETS OWNERS APPROVAL.
3. LOCATIONS LISTED ON FINISH LEGEND ARE APPROXIMATE LOCATIONS AND ARE NOT LIMITED TO THOSE AREAS LISTED. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.

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F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: SG
DRAWN BY: KS
DESIGNED BY: FG
PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
ROOM FINISH SCHEDULE, LEGEND AND NOTES

SHEET ID:
A621

PROJECT STATUS:
100% BID SET

4/18/2025 2:49:28 PM Autodesk Docs://1003007004_ILM TCA Rdwy Inf Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_A_R24.rvt

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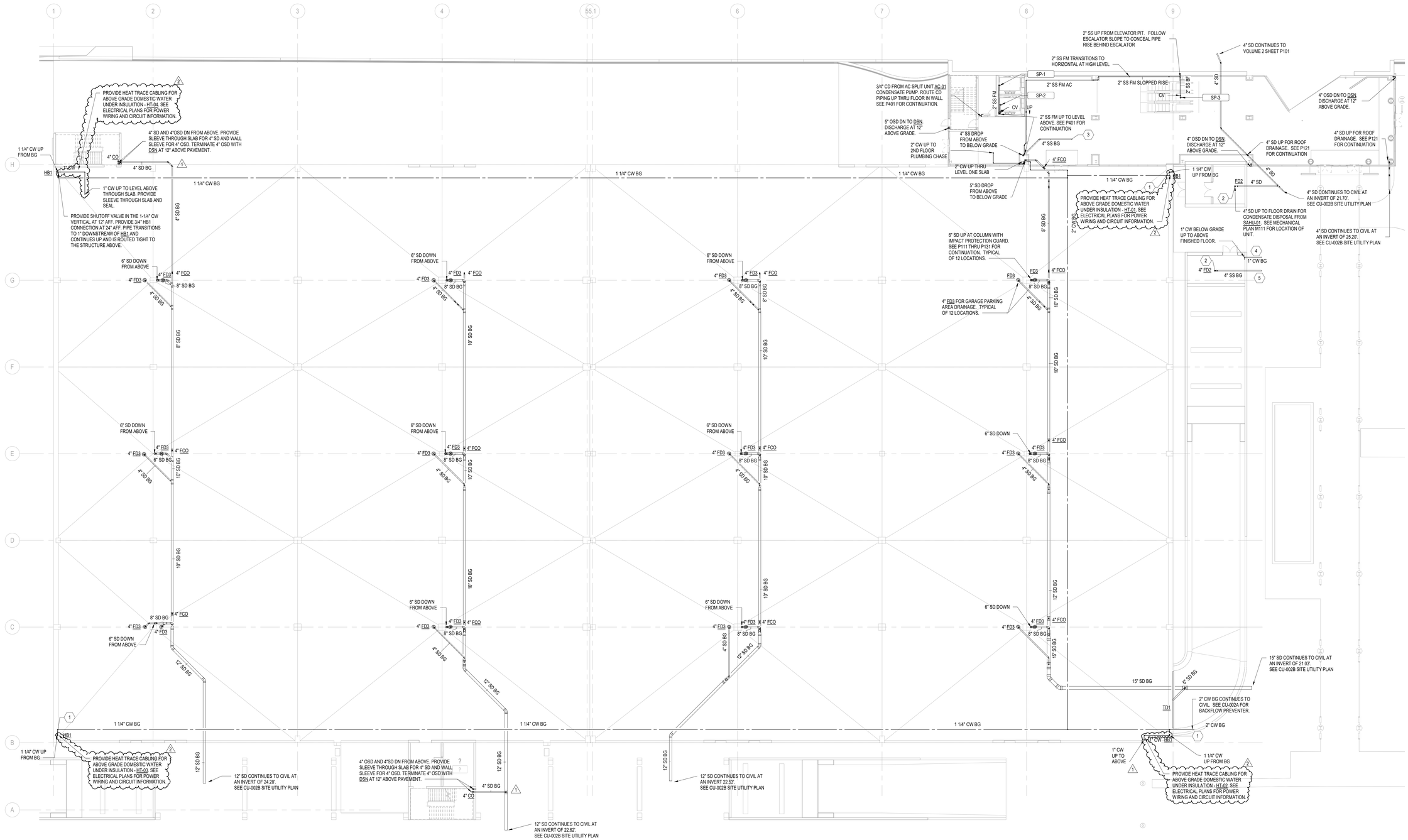
KEYED NOTES

1. PROVIDE SHUTOFF VALVE IN 1¼" CW PRIOR TO HB1 CONNECTION ON THIS LEVEL AT MINIMUM OF 12" A.F.F.. 1" CW CONTINUES TO LEVEL ABOVE THROUGH SLAB. PROVIDE SLEEVE THROUGH SLAB AND SEAL.
2. PROVIDE JR SMITH MODEL 701 ROUND COMPRESSION TYPE SEAL BACKWATER VALVE OR EQUIVALENT IN VERTICAL PIPE DOWNSTREAM OF FLOOR DRAIN. (2)
3. 4" SS BG CONTINUES TO CIVIL. SEE CU-102B FOR CONTINUATION.
4. 1" CW BELOW GRADE UP TO ABOVE FINISHED FLOOR INSIDE PUMP ROOM FOR FOUNTAIN EQUIPMENT AND ACCESSORIES. SEE CIVIL SHEET CU-102A FOR CONTINUATION.
5. SEE CIVIL SHEET CU-102B FOR CONTINUATION OF 4" SS BELOW GRADE.



PN

N

1 OVERALL FIRST LEVEL PLUMBING PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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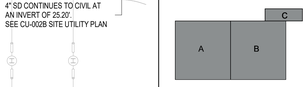
KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS
PROJECT NUMBER:	**2003-0070-006**

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SHEET TITLE:

OVERALL FIRST LEVEL PLUMBING PLAN

SHEET ID:

P111

PROJECT STATUS:
100% BID SET

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2 DOMESTIC COLD WATER HEAT TRACING:
SELF REGULATING PARALLEL RESISTANCE HEATING CABLES, 16 AWG, NICKER/L-PLATED COPPER BUS WIRE, MODIFIED POLYOLEFIN INNER JACKET, TINNED-COPPER BRAID FLUOROPOLYMER OUTER JACKET WITH PRINTED INDICATOR INFORMATION. 2.5 WATTS/FT POWER RATING FOR FREEZE PROTECTION TEMPERATURE OF 40°F. 208-277 VOLT, SINGLE PHASE ELECTRICAL OPERATION. PROVIDE WITH SINGLE-POINT COMMERCIAL HEATING CABLE CONTROL SYSTEM WITH INTEGRATED GROUND-FAULT PROTECTION. HEAT TRACE CABLE AND TEMPERATURE CONTROL SHALL BE EQUAL TO - RAYCHEM XL-TRACE EDGE WITH RAYCHEM EC-TS ADJUSTABLE (30-110°F) ELECTRONIC T-STAT - 30 AMP RATING MAXIMUM, NEMA4X UL LISTED ENCLOSURE. PROVIDE FOUR SEPARATE SYSTEMS HT-01 THROUGH HT-04 FOR ABOVE GRADE CW PIPING.

STAIR 02

4" SD AND 4"OSD DN FROM ABOVE TO BELOW. PROVIDE PIPE SLEEVE AT LANDING PENETRATIONS, COORDINATE WITH STRUCTURAL FOR LOCATIONS. SHEET P111 FOR CONTINUATION.

IDF/ELEC 221

3/4" CD FROM AC SPLIT UNIT AC-02 CONDENSATE PUMP. ROUTE CD PIPING AGAINST WALL AT HIGHEST ELEVATION POSSIBLE.

3/4" CD
1" 3/4" CW HB1

PROVIDE SHUTOFF VALVE IN THE 1-1/4" CW VERTICAL AT 12" AFF. PROVIDE 3/4" HB1 CONNECTION AT 24" AFF. PIPE TRANSITIONS TO 1" DOWNSTREAM OF HB1 AND CONTINUES UP AND IS ROUTED TIGHT TO THE STRUCTURE ABOVE.

3/4" CD
3/4" CW

3/4" CD AND 3/4" CW ROUTED TIGHT TO STRUCTURE

PROVIDE HEAT TRACE CABLING FOR ABOVE GRADE DOMESTIC WATER UNDER INSULATION - HT-04. SEE ELECTRICAL PLANS FOR POWER WIRING AND CIRCUIT INFORMATION. 2

6" SD BF
3/4" CW
3/4" CD
6" FD3
4" FD3
6" SD DOWN
¾" CD DN TO STROM DRAIN
¾" CW UP TO LEVEL ABOVE TRHOUGH SLAB. PROVIDE SLEEVE THROUGH SLAB AND SEAL.

4" SD BF
4" FD3
4" FD3
6" SD DOWN

6" SD BF
4" SD BF
4" FD3
4" FD3
¾" CD DN TO STROM DRAIN
6" SD DOWN

3/4" CD FROM AC SPLIT UNIT AC-04 CONDENSATE PUMP. ROUTE CD PIPING AGAINST WALL AT HIGHEST ELEVATION POSSIBLE.

IDF/ ELEC 223

4" SD BF
4" FD3
4" FD3
6" SD DOWN

4" SD BF
4" FD3
4" FD3
6" SD DOWN

4" SD BF
4" FD3
4" FD3
6" SD DOWN

IDF/ELEC 222

3/4" CD
4" SD BF
4" FD3
4" FD3
6" SD DOWN
¾" CD DN TO STROM DRAIN

3/4" CD FROM AC SPLIT UNIT AC-03 CONDENSATE PUMP. ROUTE CD PIPING AGAINST WALL AT HIGHEST ELEVATION POSSIBLE.

1" CW UP FROM BELOW. PROVIDE 3/4" HB1 CONNECTION AT 24" AFF. PIPE TRANSITIONS TO 3/4" DOWNSTREAM OF HB1 AND CONTINUES TO LEVEL ABOVE THROUGH SLAB. PROVIDE SLEEVE THROUGH SLAB AND SEAL.

HB1

PROVIDE HEAT TRACE CABLING FOR ABOVE GRADE DOMESTIC WATER UNDER INSULATION - HT-03. SEE ELECTRICAL PLANS FOR POWER WIRING AND CIRCUIT INFORMATION. 2

4" SD BF
6" SD DOWN
4" FD3
4" FD3
¾" CD DN TO STROM DRAIN

3/4" CD ROUTED TIGHT TO STRUCTURE

3/4" CD

3/4" CD FROM AC SPLIT UNIT AC-06 CONDENSATE PUMP. ROUTE CD PIPING AGAINST WALL AT HIGHEST ELEVATION POSSIBLE.

IDF/ELEC 232

STAIR 03

4" SD

4" OSD AND 4"SD DN FROM ABOVE TO BELOW. PROVIDE PIPE SLEEVE AT LANDING PENETRATIONS, COORDINATE WITH STRUCTURAL FOR LOCATIONS. SHEET P111 FOR CONTINUATION.

4" SD UP TO SERVE LEVEL 3 ENTRANCE AREA TO STAIR. SEE P131 FOR CONTINUATION.

4" SD ROUTED TIGHT TO UNDER SIDE OF STAIRS. CONNECT 4" SD TO SD RISER SERVING HIGH ROOF AREA IN VERTICAL

4" SD BF
4" FD3
4" FD3
6" SD DOWN

4" SD BF
6" SD DOWN
4" FD3
4" FD3
¾" CD DN TO STROM DRAIN

3/4" CD

3/4" CD FROM AC SPLIT UNIT AC-05 CONDENSATE PUMP. ROUTE CD PIPING AGAINST WALL AT HIGHEST ELEVATION POSSIBLE.

HB1

IDF/ELEC 224

PROVIDE HEAT TRACE CABLING FOR ABOVE GRADE DOMESTIC WATER UNDER INSULATION - HT-02. SEE ELECTRICAL PLANS FOR POWER WIRING AND CIRCUIT INFORMATION. 2

1" CW UP FROM BELOW. PROVIDE 3/4" HB1 CONNECTION AT 24" AFF. PIPE TRANSITIONS TO 3/4" DOWNSTREAM OF HB1 AND CONTINUES TO LEVEL ABOVE THROUGH SLAB. PROVIDE SLEEVE THROUGH SLAB AND SEAL.

2 P401

1 P401

PROVIDE HEAT TRACE CABLING FOR ABOVE GRADE DOMESTIC WATER UNDER INSULATION - HT-01. SEE ELECTRICAL PLANS FOR CIRCUIT BREAKER AND PANEL INFORMATION. 2

HB1

1" CW UP FROM BELOW. PROVIDE 3/4" HB1 CONNECTION AT 24" AFF. PIPE TRANSITIONS TO 3/4" DOWNSTREAM OF HB1 AND CONTINUES TO LEVEL ABOVE THROUGH SLAB. PROVIDE SLEEVE THROUGH SLAB AND SEAL.

4" SD AND 4" OSD DN TO BELOW. SEE P111 FOR CONTINUATION

4" OSD DN TO BELOW. SEE P111 FOR CONTINUATION

4" SD AC
4" OSD AC
ORD1
RD1

4" OSD AC
ORD1
RD1

4" SD DN TO BELOW. SEE P111 FOR CONTINUATION

PN
N

1 OVERALL SECOND LEVEL PLUMBING PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:

OVERALL SECOND LEVEL PLUMBING PLAN

SHEET ID:

P121

PROJECT STATUS:
100% BID SET

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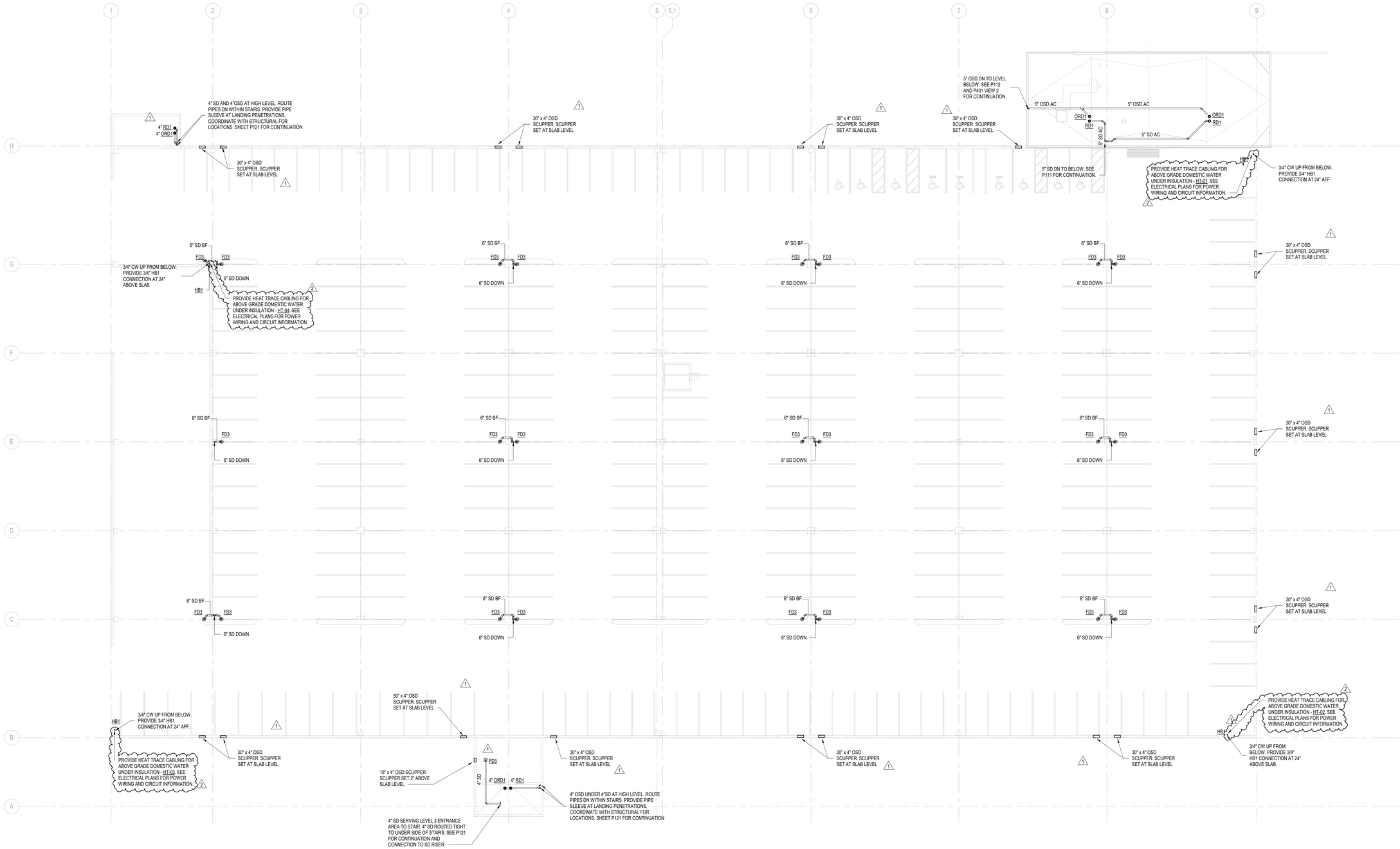

PN

N

1 OVERALL THIRD LEVEL PLUMBING PLAN

SCALE: 1/16" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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PROJECT ADDRESS:
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KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: KMN
DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER:
2003-0070-006
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SHEET TITLE:

OVERALL THIRD LEVEL PLUMBING PLAN

SHEET ID:

P131

PROJECT STATUS:
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HVAC CONTROLS CONTRACTOR TO COORDINATE COMMUNICATIONS CABLE ROUTING WITH AIRPORT WIDE BAS AND IT SYSTEMS FOR PROVIDING NEW BAS CONNECTION TO ALL HVAC SYSTEM EQUIPMENT AND COMPONENTS WITHIN PARKING GARAGE. SEE ELECTRICAL AND LOW VOLTAGE IT PLANS FOR CONDUIT ROUTING AND COORDINATION OF PATHWAY FROM TERMINAL BUILDING TO PARKING GARAGE.

AC-01

SCU-02

SCU-01

SAHU-01

1
M401

LV-03 AND LV-04 TO BE INSTALLED 8'-0" ABOVE FINISHED FLOOR

LV-04

PUMP ROOM
105

LV-03

PN
N

1 OVERALL FIRST LEVEL HVAC PLAN
SCALE: 1/16" = 1'-0"

16 0 16 32
SCALE: 1/16" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
OVERALL FIRST LEVEL HVAC PLAN

SHEET ID:
M111

PROJECT STATUS:
100% BID SET

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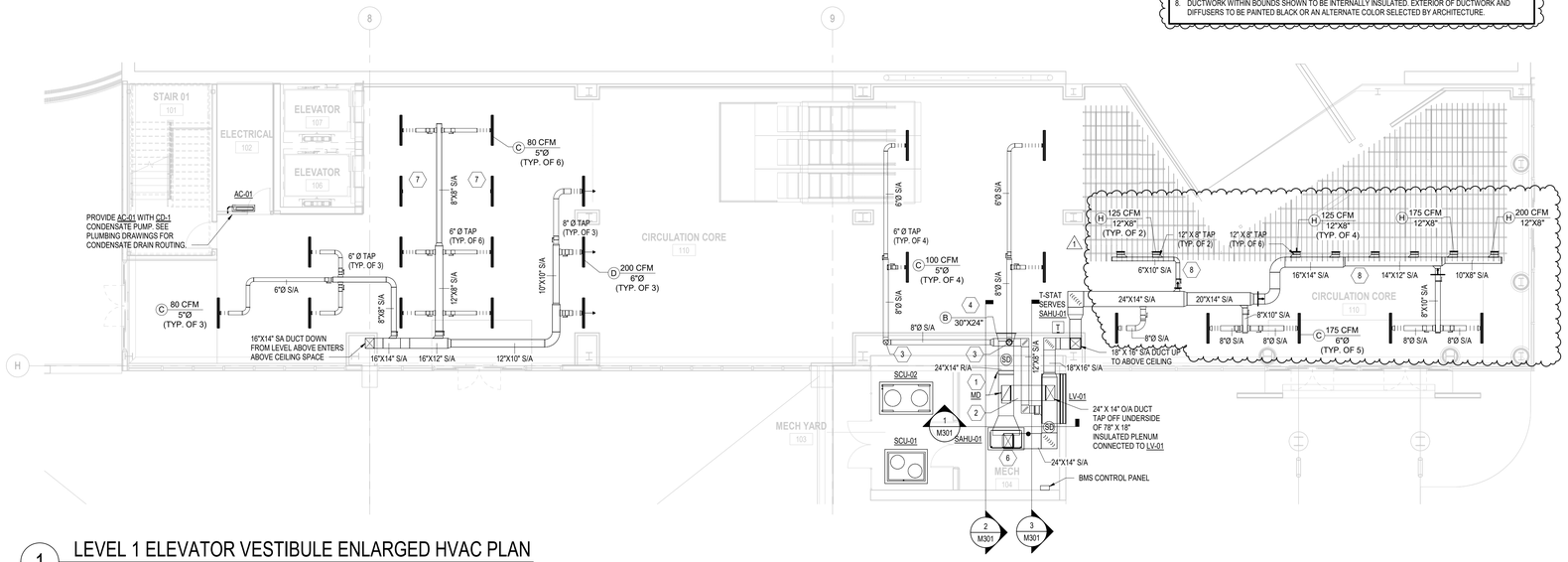
KEYED NOTES

1. MOTORIZED DAMPER LOCATED IN THE MAIN RETURN AIR DUCT AND IN THE VERTICAL OF OUTSIDE AIR DUCT INTERLOCKED WITH SAHU-01. SEE SHEET M701 VIEW 1 FOR DAMPER OPERATION.
2. 24" X 14" OUTSIDE AIR DUCT ROUTED ABOVE SUPPLY AIR DUCT TO LV-01 ON EXTERIOR WALL.
3. 8" S/A DUCT UP TO ABOVE CEILING.
4. CENTERLINE OF RETURN AIR GRILLE LOCATED AT 2'-0" AFF.
5. INSTALL LV-01 AT MINIMUM OF 10'-0" ABOVE ADJACENT PAVEMENT.
6. PROVIDE TEMPERATURE AND HUMIDITY SENSOR IN RETURN AIR DUCT AND OUTSIDE AIR DUCT FOR SAHU-01 ECONOMIZER OPERATION.
7. PROVIDE MATCHING MARK C DUMMY LINEAR SLOT DIFFUSER FOR VISUAL CONSISTENCY. BLANK OFF DIFFUSER.
8. DUCTWORK WITHIN BOUNDS SHOWN TO BE INTERNALLY INSULATED. EXTERIOR OF DUCTWORK AND DIFFUSERS TO BE PAINTED BLACK OR AN ALTERNATE COLOR SELECTED BY ARCHITECTURE.

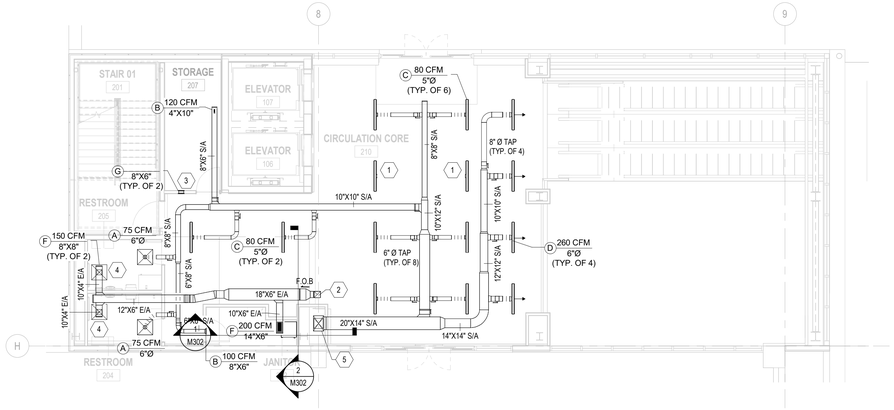


1 LEVEL 1 ELEVATOR VESTIBULE ENLARGED HVAC PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. PROVIDE MATCHING MARK C DUMMY LINEAR SLOT DIFFUSER FOR VISUAL CONSISTENCY. BLANK OFF DIFFUSER.
2. 10" X 10" EXHAUST AIR DUCT UP TO LEVEL ABOVE.
3. INSTALL 8" X 6" TRANSFER AIR DUCT AND GRILLES BELOW THE CIRCULATION CORE CEILING.
4. 8" X 8" EXHAUST AIR DUCT TAP DOWN TO CONNECT TO EXHAUST GRILLE.
5. 24" X 16" SUPPLY AIR DUCT DOWN FROM LEVEL ABOVE. 20" X 14 SUPPLY AIR TAKEOFF ENTERS ABOVE CEILING SPACE. 24" X 16" SUPPLY AIR DUCT TRANSITIONS TO 16" X 14" AFTER TAKEOFF AND CONTINUES TO LEVEL BELOW.

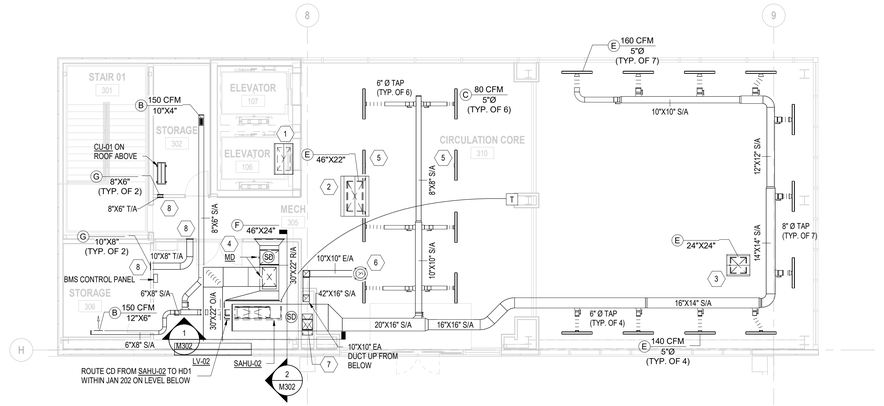


2 LEVEL 2 ENLARGED HVAC PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

1. GV-01 ON ROOF ABOVE FOR ELEVATOR SHAFT VENTILATION.
2. 34" X 20" RELIEF AIR DUCT UP FROM GRILLE TO GV-02 ON ROOF ABOVE FOR SAHU-02 ECONOMIZER MODE PRESSURE RELIEF WITH INTERLOCKED MOTORIZED DAMPER.
3. 20" X 18" RELIEF AIR DUCT UP FROM GRILLE TO GV-03 ON ROOF ABOVE FOR SAHU-01 ECONOMIZER MODE PRESSURE RELIEF WITH INTERLOCKED MOTORIZED DAMPER.
4. MOTORIZED DAMPER LOCATED IN THE VERTICAL OF RETURN AIR AND OUTSIDE AIR DUCT INTERLOCKED WITH SAHU-02. SEE SHEET M701 VIEW 1 FOR DAMPER OPERATION.
5. PROVIDE MATCHING MARK C DUMMY LINEAR SLOT DIFFUSER FOR VISUAL CONSISTENCY. BLANK OFF DIFFUSER.
6. 10"X10" EA DUCT UP TO EF-01 ON ROOF.
7. 24"X16" SA DUCT DOWN TO LEVEL BELOW WITH OFFSET IN VERTICAL.
8. INSTALL TRANSFER AIR DUCT AND GRILLES BELOW THE CIRCULATION CORE CEILING.



3 LEVEL 3 ELEVATOR VESTIBULE ENLARGED HVAC PLAN

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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PROJECT ADDRESS:
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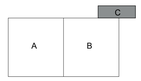
KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS
PROJECT NUMBER:	2003-0070-006

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SHEET TITLE:
HVAC ENLARGED PLANS

SHEET ID:
M401

PROJECT STATUS:
100% BID SET

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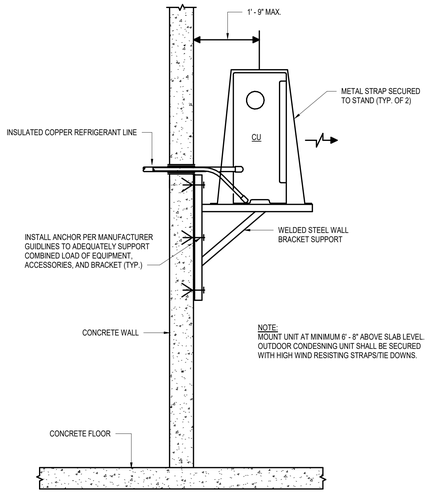
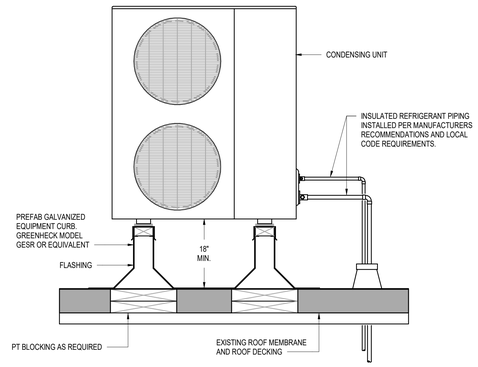


1 WALL MOUNTED CONDENSING UNIT

SCALE: N.T.S.

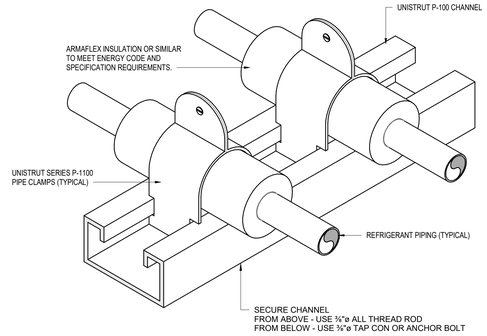


NOTES:

1. REFER TO SPECIFICATION SECTION 230548.13 - "VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT" FOR VIBRATION ISOLATION REQUIREMENT.
2. EQUIPMENT CURB, PT BLOCKING AND FLASHING SYSTEMS SHALL BE INSTALLED PER THE ROOF MANUFACTURERS RECOMMENDATIONS AND GUIDELINES TO MAINTAIN EXISTING WARRANTY AND PROVIDE WATER PROOF CONDITION.

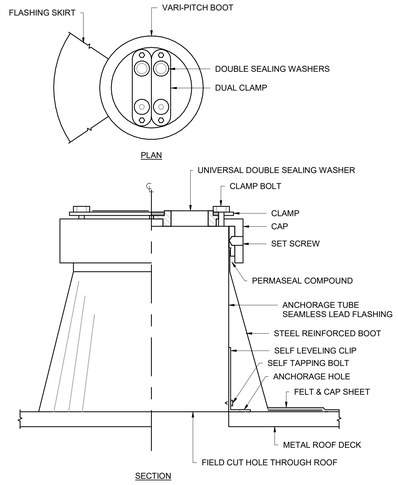
2 ROOF MOUNTED CONDENSING UNIT DETAIL

SCALE: N.T.S.



3 REFRIGERANT PIPE SUPPORT

SCALE: N.T.S.

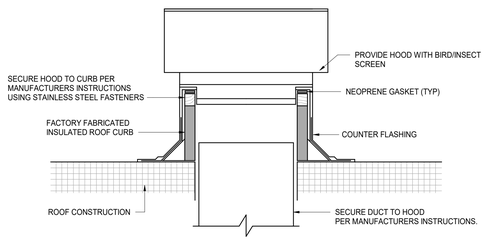


NOTE:

1. REFRIGERANT PIPING BOOT AND FLASHING SYSTEM SHALL BE INSTALLED PER THE ROOF MANUFACTURERS RECOMMENDATIONS AND GUIDELINES TO MAINTAIN EXISTING WARRANTY AND PROVIDE WATER PROOF CONDITION.

4 REFRIGERANT PIPING ROOF FLASHING DETAIL

SCALE: N.T.S.

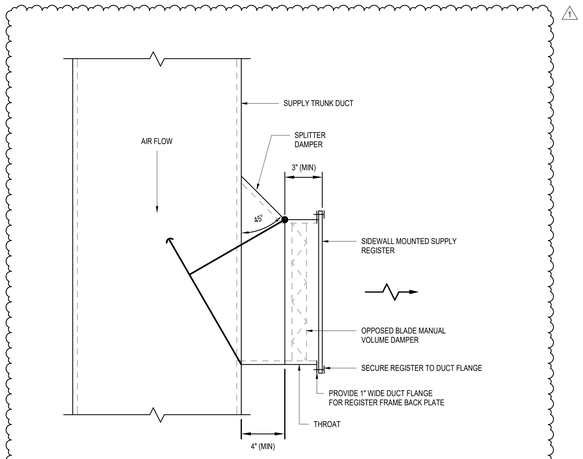


NOTES:

1. SECURE ROOF CURB, DUCTWORK AND DAMPER TO ROOF SYSTEM.
2. CURB INSTALLATION AND FLASHING SYSTEM SHALL BE INSTALLED PER THE ROOF MANUFACTURERS RECOMMENDATIONS AND GUIDELINES TO MAINTAIN EXISTING WARRANTY AND PROVIDE WATER PROOF CONDITION.
3. SIZE OF DUCT THRU ROOF SHALL NOT BE LARGER THAN CURB SUPPLIED WITH HOOD.
4. ENSURE THAT HOOD IS INSTALLED LEVEL.

5 GRAVITY VENTILATOR ROOF MOUNTING DETAIL

SCALE: N.T.S.



6 DUCT MOUNTED SUPPLY GRILLE DETAIL

SCALE: N.T.S.

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ILM

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ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS
PROJECT NUMBER:	

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SHEET TITLE:

HVAC DETAILS

SHEET ID:

M502

PROJECT STATUS:
100% BID SET

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COMM ROOM SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT DATA						
MARK	AC-01	AC-02 1	AC-03 1	AC-04	AC-05	AC-06
LOCATION	ELECTRICAL ROOM 102	IDF/ELECTRICAL 221	IDF/ELECTRICAL 222	IDF/ELECTRICAL 223	IDF/ELECTRICAL 224	IDF/ELECTRICAL 232
MANUFACTURER	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI
MODEL	TPKA0A0121LA10A	TPKA0A0121LA10A	TPKA0A0121LA10A	TPKA0A0121LA10A	TPKA0A0121LA10A	TPKA0A0121LA10A
COOLING DATA						
MAXIMUM CAPACITY (BTU/HR)	12,000	12,000	12,000	12,000	12,000	12,000
SENSIBLE CAPACITY (BTU/HR)	10,560	10,560	10,560	10,560	10,560	10,560
AIRFLOW MAXIMUM (CFM)	385	385	385	385	385	385
RATED ENTERING AIR TEMP. (DB / WB °F)	80/67	80/67	80/67	80/67	80/67	80/67
FAN POWER (W)	56	56	56	56	56	56
INDOOR UNIT ELECTRICAL DATA						
VOLTAGE / PHASE / HZ	208 / 1 / 60	208/230 / 1 / 60	208/230 / 1 / 60	208/230 / 1 / 60	208/230 / 1 / 60	208/230 / 1 / 60
FLA / MCA	0.19 / 1.0	0.19 / 1.0	0.19 / 1.0	0.19 / 1.0	0.19 / 1.0	0.19 / 1.0
OUTDOOR UNIT DATA						
MARK	CU-01	CU-02	CU-03	CU-04	CU-05	CU-06
MOUNTING STYLE	ROOF	WALL	WALL	WALL	WALL	WALL 2
REFRIGERANT	R410A	R410A	R410A	R410A	R410A	R410A
VOLTAGE/PHASE/HZ	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60	208 / 1 / 60
FLA / MCA / MOCP	0.5 / 11 / 28	0.5 / 11 / 28	0.5 / 11 / 28	0.5 / 11 / 28	0.5 / 11 / 28	0.5 / 11 / 28
MANUFACTURER	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI	MITSUBISHI
MODEL	TRUYA012KA70NA	TRUYA012KA70NA	TRUYA012KA70NA	TRUYA012KA70NA	TRUYA012KA70NA	TRUYA012KA70NA
EER / SEER	13.3 / 21.3	13.3 / 21.3	13.3 / 21.3	13.3 / 21.3	13.3 / 21.3	13.3 / 21.3
NOTES	1-5	1-5	1-5	1-5	1-5	1-5 2

1

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY MOUNTED HARD WIRED THERMOSTAT WITH TOUCHSCREEN AND HUMIDITY CONTROL.
2. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT.
3. PROVIDE WITH BLUE DIAMOND (ADVANCED) MINI CONDENSATE PUMP WITH RESERVOIR (208 V, OPTION X87-721). UNIT MARK CD-1. PROVIDE RESERVOIR WITH LEVEL SENSOR FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS.
4. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED WITH FIRERETARDANT ARMAFLEX THAT COMPLIES WITH 2024 NORTH CAROLINA MECHANICAL AND ENERGY CODES.
5. PROVIDE FACTORY INSTALLED BACNET COMMUNICATIONS CARD FOR INTEGRATION OF UNIT FOR MONITORING VIA EXISTING TERMINAL WIDE BAS.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	DESCRIPTION	FACE SIZE, W X H (IN.)	MANUFACTURER	MODEL	NOTES
A	ARCHITECTURAL SQUARE PANEL SUPPLY REGISTER	24 X 24	PRICE	SPD	1,2
B	SINGLE DEFLECTION SIDEWALL REGISTER	SEE PLANS	PRICE	600	2,3,5
C	4' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY: 1, SLOT WIDTH: 1"	-	PRICE	SDS	2,4,5,7,9
D	4' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY: 1, SLOT WIDTH: 1-1/2"	-	PRICE	SDS	2,4,5,6,7
E	4' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY 1, SLOT WIDTH: 1"	-	PRICE	SDS	2,4,5,7,8
F	PERFORATED RETURN/EXHAUST GRILLE	SEE PLANS	PRICE	10	2,3,5
G	ALUMINUM TRANSFER GRILLE	SEE PLANS	PRICE	ATG	2,5
H	AIRFOIL DUCT MOUNTED SUPPLY GRILLE	12" X 8"	PRICE	20	2,3,5

2

NOTES:

1. PROVIDE DEVICE FOR FOUR WAY THROW UNLESS NOTED OTHERWISE, THEN PROVIDE DIRECTIONAL BLOW CLIPS AS NECESSARY.
2. UNIT SHALL BE OF ALUMINUM CONSTRUCTION.
3. PROVIDE INTEGRAL OPPOSED BLADE DAMPER FOR DUCT MOUNTED APPLICATIONS FOR BALANCING.
4. PROVIDE PRICE SDS MOUNTING STYLE SUITABLE FOR APPLICATION.
5. PROVIDE BORDER TYPE SUITABLE FOR INDIVIDUAL LOCATIONS.
6. AIR TERMINAL TO BE SINGLE DIRECTION HORIZONTAL THROW PATTERN IN DIRECTION SHOWN ON PLAN.
7. PROVIDE AND INSTALL 4' 0" SDB PLENUM (OR APPROVED EQUAL) WITH CONNECTION SIZE INDICATED ON PLANS.
8. UNIT TO BE SINGLE DIRECTION VERTICAL DOWN THROW PATTERN.
9. UNIT TO BE DOUBLE DIRECTION HORIZONTAL THROW PATTERN.

EXHAUST FAN SCHEDULE

MARK	EF-01
FAN TYPE	DOWNBLAST
MANUFACTURER	GREENHECK
MODEL	G-095-VG
AIRFLOW (CFM)	500
ESP (IN. W.G.)	0.65
RPM	1626
MOTOR POWER (HP)	1/6
VOLTAGE / PHASE / HZ	208 / 1 / 60
WEIGHT (LBS)	45
NOTES	1 - 5

NOTES:

1. FACTORY MOUNTED NEC COMPLIANT DISCONNECT
2. BACKDRAFT DAMPER
3. SOLID STATE SPEED CONTROL
4. DIRECT DRIVE
5. THERMAL OVERLOAD MOTOR

VAV AHU SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

INDOOR UNIT DATA		
INDOOR UNIT MARK	SAHU-01	SAHU-02
INDOOR UNIT LOCATION	MECHANICAL 104	MECHANICAL 304
INDOOR UNIT MANUFACTURER	TRANE	TRANE
INDOOR UNIT MODEL	ODYSSEY - TWE072K4B	ODYSSEY - TWE180K4B
COOLING DATA		
TOTAL NOMINAL CAPACITY (BTU/HR)	72,000	180,000
SUPPLY AIRFLOW (CFM)	2,400	5,830
MINIMUM OUTSIDE AIRFLOW (CFM)	260	450
COOLING ENTERING MIXED AIR TEMP. (DB °F)	75.3	75.5
LEAVING AIR TEMP. DB/WB (°F)	55.0 / 54.5	55.0 / 54.5
ESP (IN. W.G.)	0.75	1.2
HEATING DATA		
TOTAL GROSS CAPACITY @ 22°F AMBIENT AND 70°F SPACE TEMP (BTU/HR)	44,500	114,200
ELECTRICAL DATA		
FAN MOTOR (HP)	2	5
INDOOR UNIT VOLTAGE/PHASE/HZ	460 / 3 / 60	460 / 3 / 60
INDOOR UNIT UNIT FLA	3.3	7.1
MCA / MOCP	5 / 15	9 / 15
OUTDOOR UNIT DATA		
OUTDOOR UNIT MARK	SCU-01	SCU-02
OUTDOOR UNIT LOCATION	MECHANICAL YARD 103	MECHANICAL YARD 103
REFRIGERANT	R-454B	R-454B
OUTDOOR UNIT VOLTAGE/PHASE/HZ	460 / 3 / 60	460 / 3 / 60
MCA / MOCP	17 / 20	33 / 40
OUTDOOR UNIT MANUFACTURER	TRANE	TRANE
OUTDOOR UNIT MODEL	ODYSSEY - TWA072K4D	ODYSSEY - TWA180K4D
EER / IEER	11.2 / 14.1	10.8 / 13.5
NOTES	1-10	1-9

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY MOUNTED WIRELESS THERMOSTAT WITH TOUCHSCREEN AND HUMIDITY CONTROL. INTEGRATE WITH BAS.
2. PROVIDE UNIT WITH INTEGRAL FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS
3. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT
4. CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE HOUSEKEEPING PAD SUITABLE FOR OUTDOOR CONDITIONS.
5. UNIT TO HAVE 100% ECONOMIZER MODE. SEE CONTROLS SCHEMATIC ON M701 FOR MORE INFORMATION.
6. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED WITH FIRE RETARDANT ARMAFLEX THAT COMPLIE WITH 2024 NC MECHANICAL AND ENERGY CODES
7. PROVIDE BACNET COMMUNICATION INTERFACE FOR CONNECTION TO EXISTING TERMINAL BUILDING AUTOMATION SYSTEM FOR CONTROL AND MONITORING.
8. PROVIDE UNIT WITH 2 INCH MERV 13 FILTERS AND RUBBER ISOLATORS
9. UNIT TO HAVE FACTORY INSTALLED REFRIGERANT LEAK DETECTION SYSTEM.
10. FILTER RACK FOR UNIT SHALL BE FIELD CONVERTED TO ALLOW FOR USE OF 2 INCH DEEP PANEL FILTERS PER MANUFACTURER CUTSHEET.

EXTERIOR LOUVER SCHEDULE

MARK	LV-01	LV-02	LV-03	LV-04
AIRFLOW (MIN / MAX CFM)	260 / 2400	450 / 5830	150 / 150	150 / 150
INTAKE OR EXHAUST	INTAKE	INTAKE	INTAKE / EXHAUST	INTAKE / EXHAUST
OVERALL DIMENSIONS (WxH, IN.)	78" x 18"	120" X 24"	26" X 14"	26" X 14"
MAX. PRESSURE DROP (IN. W.G.)	0.10	0.10	0.01	0.01
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL	EHH-501	EHH-501	EHH-501	EHH-501
NOTES	1 - 4	1 - 4	1 - 5	1 - 5

NOTES:

1. WIND-DRIVEN LOUVER CONSTRUCTED OF HEAVY GAUGE ALUMINUM WITH BIRDSCREEN, EXTENDED SILL, AND KYNAR FINISH IN ARCH SELECTED COLOR.
2. DRAINABLE STATIONARY 5" DEEP LOUVER CONSTRUCTED OF 16ga. GALVANIZED STEEL. 50% FREE AREA, WITH INTEGRAL BIRD SCREEN AND WATER STOP.
3. PERFORMANCE OF LOUVER SHALL BE CERTIFIED BY AMCA PUBLICATION 500L, 550 AND 540.
4. PROVIDE CORROSIVE RESISTANT COATING IN ARCHITECTURAL APPROVED COLOR.
5. LOUVER TO BE USED FOR NATURAL CROSSFLOW VENTILATION AND AIRFLOW (MIN. / MAX.) WAS USED FOR SIZING PURPOSES ONLY.

ROOF VENT SCHEDULE

MARK	GV-01	GV-02	GV-03
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL	FGR-20X36	FGR-26X46	FGR-24X24
AIRFLOW (CFM)	1000	5525	2,400
THROAT SIZE, W X H (IN.)	20 X 36	26 X 46	24 X 24
THROAT AREA (FT*2)	5	8	4
MAX. PRESSURE DROP (IN. W.G.)	0.01	0.075	0.065

NOTES:

1. PROVIDE ROOF VENT CONSTRUCTED OF HEAVY GAUGE ALUMINUM WITH BIRD/INSECT SCREEN.
2. ROOF CURB OF SUFFICIENT HEIGHT TO PROVIDE A MINIMUM OF 10" FROM FINISHED ROOF SURFACE TO AIR INLET.

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WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
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DATE ISSUED: 03/14/2025
REVIEWED BY: KMN
DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER:
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SHEET TITLE:
MECHANICAL SCHEDULES

SHEET ID:
M601

PROJECT STATUS:
100% BID SET

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ELECTRICAL ABBREVIATIONS

A	AMPERES
A/C	AIR CONDITIONING
AC	ABOVE COUNTER
AC	AIR COMPRESSOR
ACCU	AIR COOLED CONDENSER UNIT
ACT	ACOUSTIC CEILING TILE
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
ADAAG	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
AF	AMP FUSE
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CURRENT
AIR	AMPERE INTERUPTING RATING
AL	ALUMINUM
AMP	AMPERE
AMS	ACCESS MANAGEMENT SYSTEM
AP	ACCESS PANEL
APU	AUXILIARY POWER UNIT
AT/PP	ANTITERRORISM/FORCE PROTECTION
ATR	ALL THREADED ROD
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BCW	BARE COPPER WIRE
BDCT	BUILDING DESIGN AND CONSTRUCTION TEAM
BFG	BELOW FINISHED GRADE
BHS	BAGGAGE HANDLING SYSTEM
BID	BAGGAGE INFORMATION DISPLAY
BTS	BEAM TRANSPORT SYSTEM
C	CONDUIT
CAT6	CATEGORY 6 ETHERNET CABLE
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CC	CRANE CONTROL
CCP	CONCRETE CAMERA POLE
CCTV	CLOSED CIRCUIT TELEVISION
CE	COMMUNICATIONS ENCLOSURE
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFL	COMPACT FLUORESCENT
CH	CHILLER
CKT	CIRCUIT
CLP	CONCRETE LIGHT POLE
CMH	COMMUNICATIONS MANHOLE
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROLLER
CO	CONDUIT ONLY
COMM	COMMUNICATION
CONC	CONCRETE
CP	CONSOLIDATION POINT
CR	CARD READER
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CT	CURRENT TRANSFORMER
CTWP	COOLING TOWER WATER PUMP
CU	COPPER
CUB	CENTRAL UTILITIES BUILDING
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
DAS	DISTRIBUTED ANTENNA SYSTEM
DC	DIRECT CURRENT
DCU	DUCTLESS SPLIT AIR CONDITIONING OUTDOOR UNIT
DDC	DIRECT DIGITAL CONTROL PANEL
DH	DOOR HOLDER
DHZ	DAYLIGHT HARVESTING ZONE
DISC	DISCONNECT
DTCO	DOUBLE-THROW CENTER OFF
DWG	DRAWING
E	EXISTING
E	EAST
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EL	ELEVATION
EL	EMERGENCY LIGHT
ELEC	ELECTRIC/ELECTRICAL
EM	EMERGENCY
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMH	ELECTRICAL MANHOLE
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EOR	ENGINEER OF RECORD
EPO	EMERGENCY POWER-OFF
EQ	EQUAL
ER	EXISTING TO BE REMOVED
ERU	ENERGY RECOVERY UNIT
ESS	ENERGY SELECTION SYSTEM
ETSP	ELECTRONIC TRAP SEAL PRIMER
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING TO REMAIN
EXR	EXISTING TO BE RELOCATED
F/P	FAX / PRINTER
FA	FIRE ALARM
FAAA	FIRE ALARM AUDIO AMPLIFIER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAGA	FIRE ALARM GRAPHIC ANNUNCIATOR
FAIC	FIRE ALARM INTERFACE CABINET
FAPS	FIRE ALARM POWER SUPPLY
FATC	FIRE ALARM TERMINAL CABINET
FCU	FAN COIL UNIT
FID	FLIGHT INFORMATION DISPLAY
FLA	FULL LOAD AMPS
FLR	FLOOR
FO	FIBER OPTIC
FPB	FAN POWERED TERMINAL BOX
FPU	FAN POWERED TERMINAL UNIT
FS	FLOW SWITCH
FSPC	FLUSH/FAUCET SENSOR POWER CONVERTER
FTU	FAN POWERED VAV TERMINAL UNIT
G	GROUND
GC	GENERAL CONTRACTOR
GDF	GAS DUCT FURNACE
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GFP	GROUND FAULT PROTECTION
GID	GATE INFORMATION DISPLAY
GPU	GROUND POWER UNIT
GR	GROUND ROD
GRC	GALVANIZED RIGID CONDUIT
GUH	GAS UNIT HEATER
GWH	GAS WATER HEATER
HB	HIGH BAY
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
IC	INTERCOM
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IR	INFRARED
ITC	INTERCOM TERMINAL CABINET
J	JUNCTION
JB	JUNCTION BOX
KAIC	(THOUSAND) AMPERE INTERRUPTING CAPACITY
Kcmil	THOUSANDS OF CIRCULAR MILS
KO	KNOCK OUT
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LBS	LOAD BREAK SWITCH
LC	LIGHTING CONTACTOR
LED	LIGHT EMITTING DIODE
LPS	LIGHTNING PROTECTION SYSTEM
LSI	LONG TIME, SHORT TIME, INSTANTANEOUS
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT
LT	LIGHT
LTG	LIGHTING
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MNS	MASS NOTIFICATION SYSTEM
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MUFID	MULTI-USER FLIGHT INFORMATION DISPLAY
N	NEUTRAL
N	NORTH
N/A	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NE	NORTH ENTRANCE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
OAE	OR APPROVED EQUAL
OAHU	OUTSIDE AIR HANDLING UNIT
OH	OVERHEAD
OS	OCCUPANCY SENSOR
P	PHASE
PBB	PASSENGER BOARDING BRIDGE
PBX	PRIVATE BRANCH EXCHANGE
PCHWP	PRIMARY CHILLED WATER PUMP
PIV	POST INDICATOR VALVE
PNEU	PNEUMATIC
PNL	PANELBOARD
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER PANEL
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYLCHLORIDE
RAF	RETURN AIR FAN
RECP	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMC	RIGID METAL CONDUIT
RTU	ROOF TOP UNIT
S	SOUTH
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCCR	SHORT CIRCUIT CURRENT RATING
SCHWP	SECONDARY CHILLED WATER PUMP
SD	SUB-DISTRIBUTION CABINET
SE	SOUTH ENTRANCE
SEC	SECURITY
SEGB	SERVICE ENTRANCE GROUND BAR
SF	SUPPLY FAN
SHWP	SECONDARY HOT WATER PUMP
SIM	SIMILAR
SLC	SIGNAL LINE CIRCUIT
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATION
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SS	STAINLESS STEEL
SSF	SIDE STREAM FILTER
ST	SHUNT TRIP COIL
STC	SECURITY TERMINAL CABINET
STR	STARTER
STS	STAINLESS STEEL
STS	STATIC TRANSFER SWITCH
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	TRANSFORMER
TB	TELEPHONE BACKBOARD
TE	THERMAL ELEMENT
TEFC	TOTALLY ENCLOSED FAN COOLED
TEL	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
TR	TAMPER RESISTANT
TS	TAMPER SWITCH
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
UDS	UTILITY DISTRIBUTION SYSTEM
UG	UNDERGROUND
UGC	UNDERGROUND COMMUNICATIONS
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNSW	UNSWITCHED
UON	UNLESS OTHERWISE NOTED
UT	UTILITY
UTR	UP THROUGH ROOF
V	VOLTS
VAV	VARIABLE AIR VOLUME (HVAC)
VFD	VARIABLE FREQUENCY DRIVE
VFI	VACUUM FAULT INTERRUPTER
VT	VOLTAGE TRANSFORMER
W	WIRE
W	WALL MOUNTED
W	WATTS
W	WEST
WP	WEATHERPROOF
WR	WEATHER-RESISTANT
Y	WYE (CONNECTED)
Z	ZONE
Z	IMPEDANCE

ELECTRICAL SYMBOLS

LIGHTING SYMBOLS

GENERAL NOTE: UPPER CASE LETTER INDICATES LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE. LOWER CASE LETTER INDICATES SWITCH CIRCUIT.

- RECESSED LUMINAIRE
- RECESSED EMERGENCY OR NIGHTLIGHT LUMINAIRE
- RECESSED OR SURFACE STANDBY LUMINAIRE
- SURFACE LUMINAIRE
- SURFACE EMERGENCY OR NIGHTLIGHT LUMINAIRE
- SURFACE LUMINAIRE
- STANDBY RECESSED OR SURFACE LUMINAIRE
- EMERGENCY RECESSED OR SURFACE LUMINAIRE
- EMERGENCY WALL LUMINAIRE
- PENDANT LUMINAIRE
- EXTERIOR SURFACE OR RECESSED WALL MOUNTED LUMINAIRE
- EXTERIOR EMERGENCY SURFACE OR RECESSED WALL MOUNTED LUMINAIRE
- CEILING MOUNTED TRACK AND LUMINAIRES
- BOLLARD OR POLE MOUNTED LUMINAIRE WITHOUT ARM
- AREA LUMINAIRE WITH MOUNTING ARM ONLY
- POLE MOUNTED AREA LUMINAIRE
- POLE MOUNTED DUAL AREA LUMINAIRE
- POLE MOUNTED TRIPLE AREA LUMINAIRE
- POLE MOUNTED QUAD AREA LUMINAIRE
- CEILING MOUNTED EXIT LUMINAIRE, PROVIDE ARROWS AS REQUIRED
- WALL MOUNTED PHOTOCELL
- SINGLE POLE SWITCH
- SINGLE POLE 3-WAY SWITCH
- SINGLE POLE 4-WAY SWITCH
- SINGLE POLE DIMMER SWITCH, 2000 W OR LMDM-101, UON
- SINGLE POLE SWITCH WITH PILOT LIGHT
- SINGLE POLE OCCUPANCY SENSOR SWITCH, WATTSTOPPER PW-301 OR LMPW-100, OAE
- SINGLE POLE KEY OPERATED SWITCH
- SINGLE POLE TIMER OPERATED SWITCH
- SINGLE POLE CEILING FAN SWITCH
- SINGLE POLE LOW VOLTAGE MASTER SWITCH
- SINGLE POLE VACANCY SENSOR SWITCH, WATTSTOPPER CS-50 OR LMDW-101, OAE
- DOUBLE POLE SWITCH
- LOW VOLTAGE, 3 POSITION MOMENTARY, CENTER OFF SWITCH
- CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR, WATTSTOPPER CI-300-1 OR LMPC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W2000A OR 2 LMUC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W1000A OR LMUC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W2000H OR 2 LMUC-100, OAE
- WALL MOUNTED OCCUPANCY SENSOR, WATTSTOPPER CB-100 OR LMDX-100, OAE
- JUNCTION BOX FOR REMOTE LED DRIVER
- JUNCTION BOX FOR BACKLIT MIRROR

POWER SYSTEMS

- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE ABOVE COUNTER
- DUPLEX RECEPTACLE AUTOMATICALLY CONTROLLED
- DUPLEX ISOLATED GROUND RECEPTACLE
- DUPLEX GFCI RECEPTACLE
- DUPLEX RECEPTACLE MOUNTED @ SPECIFIC HEIGHT
- DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
- DOUBLE DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE ABOVE COUNTER
- DOUBLE DUPLEX RECEPTACLE AUTOMATICALLY CONTROLLED
- SPECIAL RECEPTACLE MOUNTED @ SPECIFIC HEIGHT & NEMA TYPE
- DUPLEX RECEPTACLE IN FLOOR BOX
- DOUBLE DUPLEX RECEPTACLE IN FLOOR BOX
- DUPLEX RECEPTACLE CEILING MOUNTED
- SINGLE POLE MANUAL MOTOR SWITCH
- SINGLE POLE THERMAL ELEMENT SWITCH
- JUNCTION BOX CEILING MOUNTED
- JUNCTION BOX WALL MOUNTED
- JUNCTION BOX IN FLOOR
- DATA RECEPTACLE
- DATA RECEPTACLE IN FLOOR BOX
- DISCONNECT SWITCH FUSED
- DISCONNECT SWITCH NON-FUSED
- COMBINATION MOTOR STARTER FUSED
- PUSH BUTTON START/STOP
- PUSHBUTTON
- LIGHTING RELAY
- DISTRIBUTION TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- SURGE PROTECTIVE DEVICE
- ELECTRONIC WALL CLOCK
- RECEPTACLE ON DROP CORD
- RECEPTACLE ON CORD REEL

GROUNDING SYSTEMS

- LIGHTNING PROTECTION AIR TERMINAL
- GROUND ROD
- LIGHTNING PROTECTION COND. SPLICE
- GROUND BAR
- GROUND TEST WELL

MOUNTING HEIGHTS

ABOVE COUNTER DEVICES	6" TO BOTTOM WITHOUT BACKSPLASH 4" TO BOTTOM WITH BACKSPLASH
WALL LUMINAIRES	SEE LUMINAIRE SCHEDULE OR KEYNOTE
EXTERIOR SPEAKERS	10'-0" TO CENTER OF BOX, UON
TV OUTLETS & TV RECEPTACLE	72" TO BOTTOM OF BOX, UON
RECEPTACLES IN INDUSTRIAL AREAS	48" AFF TO CENTER LINE, UON
RECEPTACLES	18" AFF TO CENTER LINE, UON
SWITCHES	48" AFF TO CENTER OF BOX, UON
GROUND BAR	18" AFF TO BOTTOM OF BAR OR BOX, UON
EMERGENCY PHONE	54" AFF TO CENTER LINE, UON
CARD READER	48" AFF TO CENTER LINE, UON
EPO SWITCHES	54" AFF TO CENTER LINE, UON
CEILING MOUNTED DEVICES	EQUAL HEIGHT TO ROOM LUMINAIRES

ELECTRICAL SYMBOL NOTES

D3 / 1d — THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.

E1 / 1 — EXIT LIGHTS: STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILING MOUNTING. SHADED AREA INDICATES ILLUMINATED FACE(S). ARROW INDICATES DIRECTIONAL ARROW ON ILLUMINATED FACE(S). THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER.

1d — DEVICES: THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.

d — THE CONTROL DEVICE DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "d" TO CONTROL LIGHTING FIXTURES INDICATED BY "d".

PANELBOARDS: PANELBOARD DOORS MAY BE SHOWN TO INDICATE OPENING SIDE OF RECESSED PANELBOARDS. SEE PANELBOARD IDENTIFICATION FOR DESIGNATION CODES.

FLOOR CLEARANCE AREA

TA — TRANSFORMERS: "TA" INDICATES THE TRANSFORMER IDENTIFIER, SEE ONE-LINE DIAGRAM FOR TRANSFORMER RATING.

XX-1 — MOTOR CONNECTIONS: THE MOTOR IS INDICATED BY A NUMBER WITHIN OR CHARACTERS ADJACENT TO THE MOTOR SYMBOL. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE MOTOR DESCRIPTION AND ELECTRICAL REQUIREMENTS.

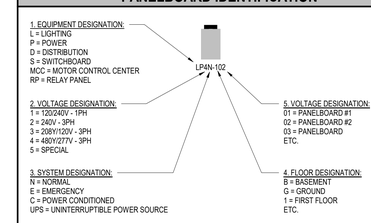
GRAPHICAL REPRESENTATION OF PHASING, TYPICAL FOR ALL SYMBOLS

XX-1 XX-1 XX-1

EXISTING TO REMAIN

NEW

PANELBOARD IDENTIFICATION



GENERAL NOTES

1. ALL ELECTRICAL WORK MUST COMPLY WITH NATIONAL ELECTRICAL CODE, NFPA 70, THE NATIONAL FIRE CODES, THE AMERICANS WITH DISABILITIES ACT, AND NORTH CAROLINA BUILDING CODES.
2. THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK MUST MEET OR EXCEED THE ABOVE REQUIREMENTS. ANY ALLEGED DISCREPANCIES MUST BE BROUGHT TO THE ENGINEER'S ATTENTION.
3. OBTAIN COPIES OF ALL RELATED PLANS, SPECIFICATIONS, SHOP DRAWINGS AND ADDENDA TO COORDINATE THE RELATED WORK AND SCHEDULING.
4. THE ELECTRICAL SERVICE TO AND FOR MECHANICAL AND OTHER EQUIPMENT IS BASED ON EQUIPMENT DESIGN DATA. THE ACTUAL VALUES MAY DIFFER DEPENDING UPON THE EQUIPMENT TO BE FURNISHED. ANY MODIFICATION TO THE ELECTRICAL INSTALLATION, BASED UPON ACTUAL EQUIPMENT SELECTION, MUST RESULT IN NO ADDITIONAL COST TO THE OWNER.
5. THOROUGHLY REVIEW THE ARCHITECTURAL AND MECHANICAL PLANS TO ENSURE THAT ELECTRICAL SERVICE FOR ALL ITEMS AND/OR EQUIPMENT REQUIRING ELECTRICAL SERVICE IS INCLUDED. ANY ITEM AND/OR EQUIPMENT NOT FURNISHED AND INSTALLED WITH ELECTRICAL SERVICE, REQUIRING ELECTRICAL SERVICE, MUST BE BROUGHT TO THE ENGINEER'S ATTENTION.
6. MECHANICAL, FIRE PROTECTION AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED AND ARRANGED TO MINIMIZE THE INTERFERENCES OF EQUIPMENT AND STRUCTURE. THOROUGHLY FAMILIARIZE ONESELF WITH THE WORK TO BE PERFORMED BY OTHER TRADES AND THE PHYSICAL CHARACTERISTICS OF THE STRUCTURE IN ORDER TO SCHEDULE AND INSTALL EQUIPMENT AND TO MINIMIZE POSSIBLE INTERFERENCE. FAILURE TO PROPERLY COMMUNICATE AND SCHEDULE WORK WITH OTHER TRADES THAT RESULTS IN ADDITIONAL WORK AND MATERIAL MUST BE THE RESPONSIBILITY OF THE CONTRACTOR. THE MODIFICATIONS REQUIRED TO RESOLVE THE CONFLICT MUST BE DECIDED BY THE ENGINEER.
7. ALL PANELBOARDS MUST BE FURNISHED AND INSTALLED WITH A TYPEWRITTEN SCHEDULE SHOWING CIRCUIT NUMBERS AND A COMPLETE DESCRIPTION OF EACH CIRCUIT, INCLUDING OFFICIAL ROOM NUMBER. HANDWRITTEN SCHEDULES ARE NOT ACCEPTABLE.
8. ALL LIGHT SWITCHES AND DUPLEX RECEPTACLES MUST BE RATED FOR 20 AMPERES AT 120/277 VOLTS AC. WIRING DEVICES MUST BE SPECIFICATION GRADE.
9. ALL ELECTRICAL WIRING DEVICES INDICATED TO BE INSTALLED IN MASONRY WALLS OR FLOORS MUST BE FLUSH MOUNTED, INCLUDING BRANCH CIRCUIT PANELBOARDS, UON. THE CONDUITS TO ASSOCIATED ELECTRICAL EQUIPMENT MUST BE CONCEALED IN WALLS OR FLOOR.
10. ALL CONDUIT RUNS MUST BE CONCEALED, UON.
11. THE LUMINAIRE SCHEDULE IS FOR REFERENCE ONLY. MODEL NUMBERS LISTED MAY NOT INCLUDE ALL REQUIRED OPTIONS, HOWEVER, THESE OPTIONS MUST BE FURNISHED AND INSTALLED WITH THE LUMINAIRES. ALL SUBSTITUTIONS ARE SUBJECT TO PRIOR APPROVAL AS EQUAL BY THE ENGINEER OF RECORD.
12. ALL EXIT LIGHTS MUST BE FURNISHED AND INSTALLED WITH UNIVERSAL MOUNTING BRACKETS. VERIFY ALL DIRECTIONAL ARROWS WITH ARCHITECTURAL EGRESS PLANS PRIOR TO ORDERING LUMINAIRES.
13. FURNISH THE AIR CONDITIONING SUBCONTRACTOR AND THE CEILING SUBCONTRACTOR COPIES OF APPROVED LUMINAIRE SHOP DRAWINGS.
14. ALL RECESSED LUMINAIRES IN FIRE RATED CEILINGS MUST BE TENTED TO COMPLY WITH THE APPLICABLE CEILING RATING. VERIFY REQUIREMENTS.
15. ALL COMMUNICATIONS OUTLET BOXES MUST BE MIN. 4" WIDE BY 4" HIGH BY 2 1/2" DEEP WITH SINGLE GANG MUD RING.
16. FURNISH AND INSTALL 1" C FROM COMMUNICATIONS OUTLET TO THE ACCESSIBLE CEILING SPACE, UON. FURNISH AND INSTALL CABLING AS REQUIRED. CABLE ROUTING WILL BE VIA CONDUIT (INACCESSIBLE SPACES) OR J" HOOKS AND CABLE TRAY SYSTEM (ACCESSIBLE SPACES) TO COMMUNICATION ROOM OR ROOM OF TERMINATION. FURNISH AND INSTALL RACEWAY SYSTEM OVER THE INACCESSIBLE CEILING SPACE AS INDICATED ON PLANS. COMMUNICATIONS CONDUITS ARE TO BE LONG RADIUS TYPE AND MUST CONTAIN PULL STRINGS. FURNISH AND INSTALL PLATES FOR ALL OUTLETS. CAT6 CABLES MUST BE PLENUM RATED.
17. ALL SPECIAL PURPOSE OUTLETS MUST BE FURNISHED AND INSTALLED TO MATCH EQUIPMENT TO BE SUPPLIED.
18. THE PLANS INDICATE THE DESIRED ARRANGEMENT AND GENERAL LOCATIONS OF LUMINAIRES. THE ARCHITECTURAL CEILING PLANS INDICATE ADDITIONAL DATA AS TO THE FINAL FIXTURE PLACEMENT.
19. ALL CONDUITS MUST INCLUDE A SEPARATE GREEN EQUIPMENT GROUNDING CONDUCTOR.
20. ANY EXISTING UTILITIES LOCATED IN THE AREA OF CONSTRUCTION THAT REQUIRE RELOCATION OR TIE-IN MUST BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. PROVIDE 72 HOUR ADVANCE NOTICE.
21. ALL DISCONNECT SWITCHES MUST BE THE HEAVY DUTY TYPE. FUSED DISCONNECTS MUST HAVE LITTLEFUSE TIME DELAY, CLASS RK5 AND INDICATING CLASS RK5.
22. CHECK THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND/OR DIMENSIONS FOR INSTALLATION OF ALL ELECTRICAL ITEMS. ALL QUESTIONABLE LOCATIONS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
23. ALL EMPTY CONDUITS MUST CONTAIN JET LINE #232 POLYOLEFIN 200 LB. TEST PULL STRING.
24. ALL WORK SHOWN ON THE ELECTRICAL PLANS MUST BE PERFORMED BY THE CONTRACTOR, UON.
25. ALL EXIT FIXTURES MUST BE CONNECTED TO THE BUILDING LIFE SAFETY PANEL AND/OR HAVE INTEGRAL EMERGENCY BATTERY.
26. ALL SURGE PROTECTED OUTLETS MUST BE EQUAL TO HUBBELL #5352.
27. EQUIPMENT INSTALLED WITHIN CONCEALED SPACES MUST HAVE REASONABLE ACCESS PANELS FURNISHED AND INSTALLED NEARBY FOR INSPECTION, TESTING, AND SERVICE CONSIDERATIONS. LOCATION OF ACCESS PANELS PER APPROVAL OF ARCHITECT/ENGINEER.
28. SECURITY WIRING MUST BE IN CONDUIT AND MUST BE A SEPARATE, COMPLETE, AND FULLY FUNCTIONAL SYSTEM.
29. VERIFY CEILING TYPES AND INSTALLATION REQUIREMENTS PRIOR TO ORDERING LUMINAIRES.
30. WHERE CABLES OR CONDUITS ARE REQUIRED TO PASS THROUGH A FIRE RATED WALL, FLOOR, OR CEILING THEY MUST BE SEALED WITH FIRESTOP. THE APPROVED FIRESTOP METHOD MUST COMPLY WITH ARTICLES 300.21 OF NEC AND MUST BE UL LISTED UNDER "THROUGH-PENETRATION FIRESTOP SYSTEM (XHEZ)" IN UL FIRE RESISTANCE DIRECTORY. ALL UNSPRINKLERED FACILITIES MUST BE CONSIDERED TO HAVE INTERIOR CORRIDORS WITH FIRE RATED WALLS, UNO. ANY PENETRATION THROUGH THESE WALLS AND OTHER FIRE RATED WALLS MUST BE SEALED WITH FIRESTOP. FURNISH AND INSTALL MINIMUM 1" EMT THROUGH WALL PENETRATIONS.
31. SPARE CONDUITS, WIREWAYS, AND CABLE TRAYS MUST BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM OTHER PIPES, DUCTS, OR EXISTING RACKS, UON.
32. EXTERIOR BURIED CONDUIT RUNS MUST BE MINIMUM 24" BELOW FINISHED GRADE. FURNISH AND INSTALL CAUTION TAPE 12" BELOW GRADE. FURNISH AND
33. FURNISH AND INSTALL GROUND STRAP ACROSS ALL CABLE TRAY JOINTS. GROUND CABLE TRAY TO SERVICE GROUND WITH #1/0 AWG BARE COPPER.
34. ALL CONDUIT BENDS FOR COMMUNICATIONS WIRING MUST BE SMOOTH LONG RADIUS TYPE. "LB" TYPE FITTINGS MUST NOT BE USED FOR COMMUNICATION RACEWAY.
35. DO NOT LOCATE ELECTRICAL OUTLETS AND DEVICES ON WALL PANEL JOINTS. REFER TO ARCHITECTURAL BUILDING ELEVATIONS FOR WALL PANEL LAYOUT AND PANEL JOINT LOCATIONS.
36. FURNISH AND INSTALL A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR OF SINGLE POLE BRANCH CIRCUITS THAT SERVE HIGH HARMONIC LOADS, SUCH AS, BALLAST OR SWITCH MODE POWER SUPPLIES (I.E. PERSONAL COMPUTERS AND SERVERS).
37. RACEWAYS INSTALLED IN OUTDOOR LOCATIONS MUST BE HOT DIPPED GALVANIZED, AT MINIMUM, FOR CORROSION RESISTANCE. FOR HIGHLY CORROSIVE ENVIRONMENTS, SUCH AS COASTAL AREAS, ALUMINUM, STAINLESS STEEL, OR PVC COATED RACEWAYS MUST BE REQUIRED.
38. POWER CHANGE EXPENSES RESULTING FROM EQUIPMENT SUBSTITUTIONS THAT DIFFER FROM ITEMS CALLED FOR IN DRAWINGS OR SPECIFICATIONS MUST BE BORNE BY THE CONTRACTOR OR THEIR SUB. THESE MUST INCLUDE CHANGES IN VOLTAGE OR FULL LOAD AMPS RESULTING IN LARGER FEEDERS AND OR CIRCUIT BREAKERS.
39. COORDINATE FINAL ELECTRICAL DEVICE AND LUMINAIRE LOCATIONS WITH FINAL SPRINKLER HEAD LOCATIONS TO COMPLY WITH NFPA REQUIREMENTS.
40. WATERPROOF RECEPTACLE COVER MUST BE WP EXTRA DUTY WHILE IN-USE TYPE.
41. ALL EXISTING ELECTRICAL DEVICES THAT ARE NOT SHOWN ARE EXISTING TO REMAIN, UON.
42. COORDINATE WITH DIVISION 23 FOR DISCONNECT REQUIREMENTS ON MECHANICAL EQUIPMENT. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR INFORMATION. FURNISH AND INSTALL DISCONNECTS FOR THOSE DEVICES THAT DO NOT COME WITH FACTORY INSTALLED DISCONNECTS.
43. BEFORE INITIATING ANY UNDERGROUND WORK, LOCATE ALL UTILITIES.
44. INTERIOR FIRE ALARM CONDUCTORS MUST BE INSTALLED IN RED EMT CONDUIT. EXTERIOR FIRE ALARM CONDUIT MUST BE RED RMC CONDUIT.
45. RAMP LEVEL CONDUIT INSTALLED IN UNCONDITIONED AIR SPACE MUST BE RMC WITH COMPRESSION FITTINGS. CONDUIT LEAVING TENANT SPACE MUST BE 1) LABELED BEFORE AND AFTER THE WALL PENETRATED BY THE CONDUIT. 2) LABELED EVERY 50' OR ON EVERY 90 DEGREE TURN. LABEL MUST BE 1 1/2" LABEL TAPE IDENTIFYING THE ORIGIN AND DESTINATION (ROOM NAME AND NUMBER), CIRCUIT NUMBER AND SYSTEM NAME.

NOTE: LIST IS A MASTER LIST, ALL SYMBOLS AND ABBREVIATIONS MAY NOT USED IN THIS PROJECT.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD,
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD

PROJECT NUMBER:
2003-0070-006

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SEAL:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SHEET TITLE:
ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

SHEET ID:
E001

PROJECT STATUS:
100% BID SET

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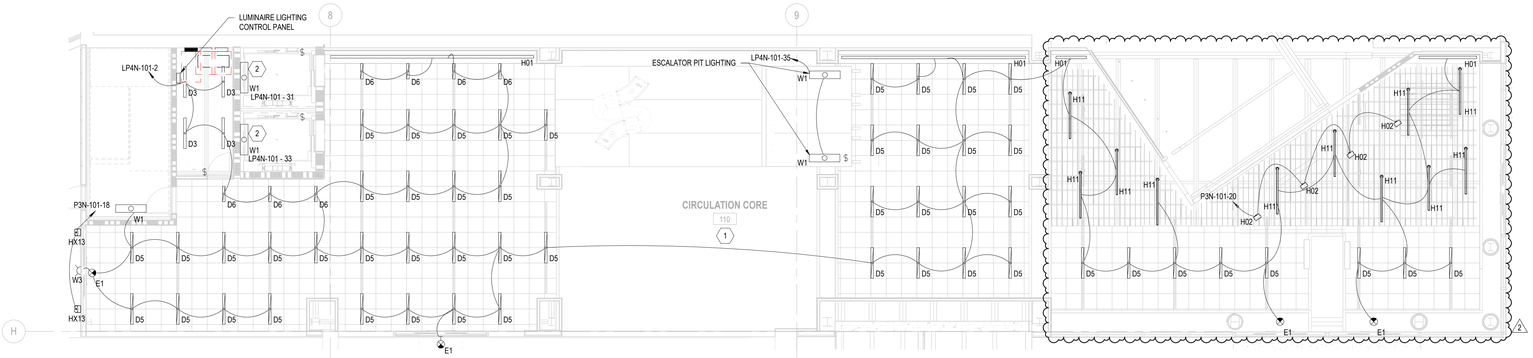
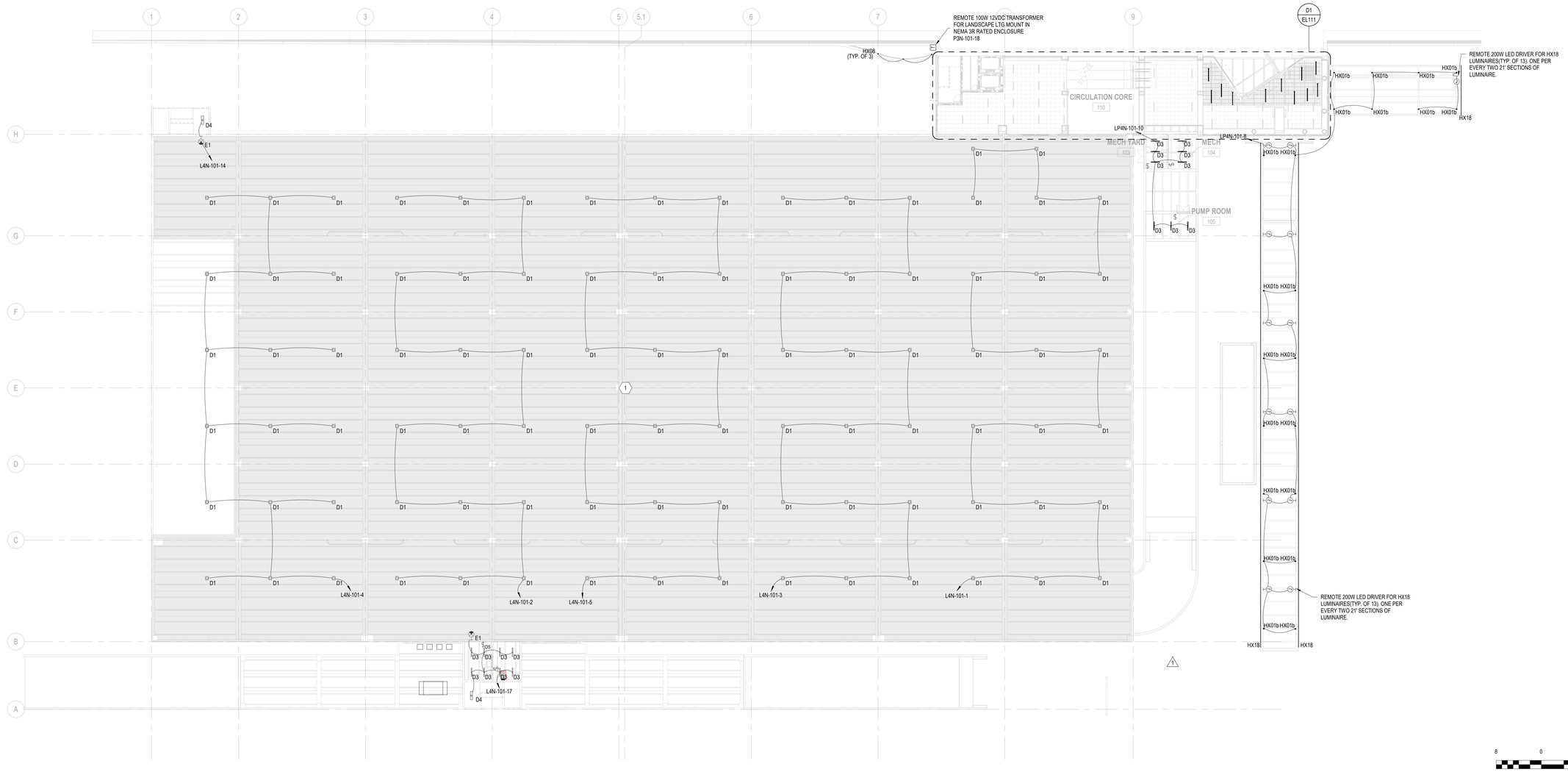


D1 FIRST FLOOR ELECTRICAL LIGHTING PLAN - VERTICAL CORE

SCALE: 1/8" = 1'-0"



A1 FIRST FLOOR ELECTRICAL LIGHTING PLAN

SCALE: 3/64" = 1'-0"

SCALE: 1/8" = 1'-0"

SCALE: 3/64" = 1'-0"

GENERAL NOTES

A. REFER TO SHEET EL601 FOR THE LIGHTING FIXTURE SCHEDULE

B. ALL EXTERIOR LUMINAIRES CONTROLLED VIA PHOTOCELL VIA LIGHTING SYSTEM CONTROL.

C. NEW LUMINAIRES WITH "HOX" OR "HXOX" DESIGNATIONS ARE BEING DESIGNED BY HARTRANFT LIGHTING DESIGN. SEE HARTRANFT PROVIDED LUMINAIRE SCHEDULES ON SHEETS EL601 AND EL601

D. LUMINAIRES WITH RGBW CAPABILITIES ARE TO BE CONTROLLED VIA DMX LIGHTING CONTROL SYSTEM. LOCATED IN ELECTRICAL ROOM 102. SEE LUMINAIRE SCHEDULES ON SHEET EL601 AND EL602 LUMINAIRES CONTROLLED VIA DMX LIGHTING CONTROL SYSTEM.

KEYNOTES

1 LUMINAIRES SHALL BE CONTROLLED BY LUMINAIRE LIGHTING CONTROLLER AND PROGRAMMED TIME SCHEDULE, TYPICAL FOR ALL AREAS WITHOUT LOCAL CONTROL.

2 ELEVATOR PIT LIGHTING. COORDINATE MOUNTING WITH ELEVATOR EQUIPMENT LOCATION. PIT LIGHTING AND LIGHTING CONTROLS TO COMPLY WITH ASME 17.1.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD
PROJECT NUMBER:	2003-0070-006

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SEAL:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SHEET TITLE:
FIRST FLOOR ELECTRICAL LIGHTING PLAN

SHEET ID:
EL111

PROJECT STATUS:
100% BID SET

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LUMINAIRE SCHEDULE

GENERAL NOTES:

A. SEE ARCHITECTURAL PLANS FOR CEILING TYPE.
B. 'E' SUFFIX ON LUMINAIRE DESIGNATION INDICATES LUMINAIRE WITH FACTORY INSTALLED EMERGENCY BATTERY UNIT RATED AT 800 OR 1400 LUMENS.
C. EXIT SIGN TYPES WITHOUT 'E' SUFFIX SHALL BE FURNISH AND INSTALLED WITH FACTORY INSTALLED EMERGENCY BATTERY UNIT.

KEYNOTES:

1. MOUNTING HEIGHT SHALL BE 8' AFF OR ABOVE FINISHED STAIR PLATFORM, UON.
2. LUMINAIRE TO BE MOUNTED 9'6" AFF MEASURED AT THE BOTTOM OF THE FIXTURE.
3. LUMINAIRE TO BE MOUNTED 120" AFF MEASURED AT THE BOTTOM OF THE FIXTURE.
4. LUMINAIRE TO BE MOUNTED 113" AFF.
5. POLE BOD: WJM, INC MODEL NO: RT6101120 - G/BK-3.5BC

MARK	DESCRIPTION	MOUNT	MANUFACTURER (OAE)	MODEL	VOLTAGE	LAMP	LUMENS	WATTAGE	KEYNOTES
D1	PARKING GARAGE TANDEM LUMINAIRE, 1000mA, TSM DISTRIBUTION, 40K COLOR TEMPERATURE	PENDANT	LITHONIA	DSXPGT LED 60C 1000 40K TSM MVOLT	277 V	LED	23128 lm	214 W	3
D2	PARKING GARAGE TANDEM LUMINAIRE, 530mA, TSW DISTRIBUTION, 40K COLOR TEMPERATURE	PENDANT	LITHONIA	DSXPGT LED 60C 530 40K TSW MVOLT	277 V	LED	12723 lm	106 W	2
D3	4' LINEAR LED STRIP LIGHT, STANDARD EFFIECENCY, WIDE DIFFUSE LENS, 40K COLOR TEMPERATURE, 80 CRI,	SUSPENDED	LITHONIA	CLX L48 4000LM SEF WDL MVOLT 40K 80CRI WGCLX48	277 V	LED	2628 lm	20 W	4
D4	4' SURFACE MOUNTED LED GASKETED LINEAR, LOW PROFILE, WIDE DIFFUSED LENS, EZ1, 80CRI 40K COLOR TEMPERATURE	SURFACE	LITHONIA	FEM L48 6000LM LPPFL WD MVOLT GZ10 40K 80CRI	277 V	LED	6000 lm	40 W	
D5	4' RECESSED LINEAR, 80CRI, 30K COLOR TEMPERATURE, 475 LUMENS PER FOOT	LAY-IN	PRUDENTIAL	STR4 LED3 LO 4' TMW D1 SC UNV TBD DM01 *EMHE	277 V	LED	1900 lm	16 W	
D6	2' RECESSED LINEAR, 80CRI, 30K COLOR TEMPERATURE, 475 LUMENS PER FOOT	LAY-IN	PRUDENTIAL	STR4 LED3 LO 2' TMW D1 SC UNV TBD DM01 *EMHE	277 V	LED	950 lm	8 W	
D7	4' WALL MOUNTED INDIRECT DIRECT LINEAR, 400LMF DIRECT 800LMF INDIRECT, 30K COLOR TEMPERATURE 90CRI	LAY-IN	LITHONIA	S4WD LLP 4FT MSL4 90CRI 30K 400LMF I90 I40K I800LMF AS SCT MIN1 FLL DCF MVOLT WHTT	277 V	LED	1600 lm	32 W	
E1	CONTEMPORARY LED SINGLE FACED EXIT SIGN WITH BLACK POWDER PAINT ALUMINUM HOUSING, BRUSHED ALUMINUM FACE, RED LETTERS, AND CHEVRON ARROWS AS SHOWN ON PLANS	UNIVERSAL	LITHONIA	EDG	277 V	LED	500 lm	5 W	
M1	POLE MOUNTED AREA LUMINAIRE, 20FT POLE	POLE	VISIONARE	ODN-2-L T4L 20L 4K UNV UAM BK C5 H2 DIM	277 V	LED	21229 lm	150 W	5
W1	1x4 SURFACE WALL MOUNTED LED WRAPAROUND, CURVED RIBBED DIFFUSE EZ1 80CRI 40K COLOR TEMPERATURE	SURFACE WALL	LITHONIA	BLWPA 48L ADPT LP840	277 V	LED	4800 lm	40 W	1
W2	ARCHITECTURAL WALL SCONCE, 40K COLOR TEMPERATURE, FORWARD THROW DISTRIBUTION, SURFACE MOUNTED BACK BOX	EXTERIOR WALL	LITHONIA	WDGE4 LED P1 40K 80CRI RFT MVOLT SRM PBBW	277 V	LED	12000 lm	77 W	
W3	EXTERIOR LED WALL PACK, EXTRUDED ALUMINUM HOUSING, TYPE III MEDIUM DISTRIBUTION, P3, DARK BRONZE FINISH, 4000K	EXTERIOR WALL	LITHONIA	DSXW1 LED P3 40K 80CRI T3M 120 BBW	277 V	LED	3200 lm	21 W	
X1	12' COLUMN LIGHT, BLACK FINISH, 40K COLOR TEMPERATURE, SYMETRIC WIDE DISTRIBUTION	SURFACE	LITON	BL2RZ	120 V	LED	2600 lm	50 W	

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REVISION: REV.# NO. MM DD YYYY

LUMINAIRE SCHEDULE - CONSTRUCTION DOCUMENTATION

PROJECT: ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS

DATE: 03 12 2025

SPECIFICATION NOTES FOLLOW THIS SCHEDULE AND ARE INCORPORATED HEREIN

LUMINAIRE TYPE	IMAGE	DESCRIPTION	LAMPING	MANUFACTURER and SERIES	CATALOG NUMBER	POWER SUPPLY/ CONTROL PROTOCOL	SYSTEM WATTS (W)	VOLTAGE(V)	DEPTH	MOUNTING	LOCATION	NOTES
H01		LINEAR COVE LUMINAIRE	3000K LED 445 LUMENS PER FOOT 90 CRI	PRUDENTIAL MICROCOVEPRO	MIC-PRO-LED35-90-LO-LENGTH PER PLAN-SC-UNV-DM01-	0-10V TO 1%	3.5 PER FOOT	MVOLT	2.5"	COVE SURFACE	GARAGE LOBBY	EC TO COORDINATE FIELD VERIFIED OVERALL RUNS PRIOR TO ORDER FIELD REPLACEABLE DRIVER AND LED MODULES
H02		LED PROJECTOR	5500K LED 3000 LUMENS	ROSCO X-EFFECTS LED PROJECTOR	XFXLED-X-EFFEXTS-90-5-C-LENS TBD-ACCESSORY TBD-S-P / 296000005101 /	ONBOARD DIMMING AND SPEED CONTROLS	90	100-240 VAC		POLE MOUNT	GARAGE LOBBY	WEIGHT: 9 POUNDS PROVIDE BRACING AS REQUIRED TO ACCOMMODATE STEM MOUNT
H03		ACRYLIC SIDE LIT 'WAVE'	RGBW LED	SENSITILE	SENSITILE PRODUCTION 'WAVE' ASSEMBLY AND CONTROLS	DMX	16.000 MAX	12V		SURFACE	CONNECTOR	SEE ARCHITECTURAL SPECIFICATION FOR DETAILS
H04		LINEAR PERIMETER	3000K LED 400 LUMENS UP 475 LUMENS DOWN CRI	PRUDENTIAL BIONICPRO4	BPRO2-04 -LIN-FLSH-LED3090-LO-R156-PFL-NU-SC-UNV-WM-DM01-SEE	INTEGRAL 0-10V DIMMING TO 1%	6 PER FOOT	MVOLT	5"	PENDANT OR WALL MOUNT	CONNECTOR	MOUNT PER ARCHITECTS DETAIL
H05					NOT USED							
H06		4" APERTURE DOWNLIGHT	3000K LED 1007 LUMENS 95 CRI	GOTHAM IVO	IVO4-D-10LM-30K-95CRI-50D-MIN1-MVOLT / ICAT-SF-BEV-CUSTOM COLOR TBD-LD-FLANGE CUSTOM COLOR TBD	INTEGRAL 0-10V DIMMING TO 1%	9.8	MVOLT	8"	RECESSED	METAL CEILING AT ESCALATOR LOWER LOBBY	CUSTOM COLOR FINISHES PER INTERIOR DESIGNER FIELD CHANGEABLE OPTICS EVERY 5 DEGREES
H07		SCONCE	3000K LED 2023 LUMENS 90 CRI	BEGA	B24503-K30-COLOR	0-10V / TRIAC / ELV DIMMABLE	17	MVOLT	9-1/8"	SURFACE	TERMINAL LOBBY STAIRWELL	FINISH PER ARCHITECT
H08		CYLINDER DOWNLIGHT	3000K LED 1471 LUMENS 90 CRI	GOTHAM EVO	EVO6SC-30-1500-TRIM COLOR TBD-LD-ND-MVOLT-GZ1-/BX- - -90CRI-FINISH TBD	INTEGRAL 0-10V DIMMING TO 1%	15	MVOLT	12-5/8"	SURFACE	TERMINAL LOBBY	CONFIRM FINISH WITH INTERIOR DESIGNER CONDUIT MOUNT AVAILABLE - EC TO CONFIRM PRIOR TO ORDER
H09		BACKLIT COLUMN COVERS	3000K LED 100 LUMENS PER FOOT	MOZ / DIODELED STREAMLITE RGBW	DI-24V-STMLT-RGBW-LENGTH PER PLAN-WH-MOUNTING TBD-O/O-DELIVERY PER INTERIOR DESIGNER-DMX CONTROLLED	DMX	ASSUME 200 PER COLUMM ASSEMBLY	24VDC	0.08"	SURFACE	CONNECTOR ESCALATOR LOBBY	COORDINATE COLUMN COVER / ACRYLIC LENS AND INSTALLATION PER INTERIOR DESIGNER EC TO PROVIDE ALL FEEDS,DRIVERS, CONNECTORS, CAPS, CONTROLLER, ETC TO FORM A COMPLETE WORKING SYSTEM THIS LUMINAIRE TYPE REQUIRES FULLY COORDINATED MANUFACTURER-PROVIDED SHOP DRAWINGS FOR REVIEW PRIOR TO APPROVAL
H10		CUSTOM PENDANT	TBD	TBD	TBD		ASSUME 1,000				GARAGE VERTICAL LOBBY	
H11		LINEAR PENDANT DIRECT INDIRECT	3000K LED ~845 LUMENS DIRECT ~1050 LUMENS INDIRECT 90 CRI	PRUDENTIAL BIONICPRO2	BPRO2-LIN-FLSH-LED3-SO-6FT-CC-BTW-SYM-DC-UNV- CA96"-X3-DM01	INTEGRAL 0-10V DIMMING TO 1%	15.6W PER FOOT	MVOLT	5.0"	PENDANT	GARAGE LOBBY AT CONNECTOR	DUAL CIRCUIT, CUSTOM COLOR PER ID, COORDINATE MOUNTINGS HEIGHTS IN THE FIELD AT FINAL INSTALLATION.
H12		CYLINDER DOWNLIGHT TYPE IV DISTRIBUTION	3000K LED 2407 LUMENS 90 CRI	LUMINIS SYRIOS PRO	SYP600-L1L25-LD5-30K-MVOLT-SWK-SP-CUSTOM FINISH TBD	INTEGRAL 0-10V DIMMING TO 1%	19	MVOLT	13"	SURFACE	ALTERNATE 4 VESTIBULE	CUSTOM FINISH PER INTERIOR DESIGNER

SPECIFICATION NOTES (MUST BE INCLUDED ON DRAWINGS WITH LUMINAIRE SCHEDULE):

1 ELECTRICAL ENGINEER TO SPECIFY AND CONFIRM ALL VOLTAGES AND PROPERLY SIZE ALL REMOTE POWER SUPPLIES

2 CONTRACTOR SHALL PROVIDE LUMINAIRES AND LIGHTING EQUIPMENT THAT MEETS PERFORMANCE, AESTHETICS, AND MATERIAL AS NOTED IN THE WRITTEN LUMINAIRE SPECIFICATION. ALTERNATES OR SUBSTITUTIONS ARE NOT PERMITTED WITHOUT REVIEW AND APPROVAL BY THE LIGHTING DESIGNER. CONTRACTOR TO COORDINATE LEAD TIMES, DEPOSIT REQUIREMENTS, SHOP DRAWING DEVELOPMENT AND SUBMITTAL, ETC. TO ASSURE TIMELY DELIVERY IN ACCORDANCE WITH OVERALL PROJECT SCHEDULE. ALL PROPOSED SUBSTITUTIONS MUST BE SUBMITTED NO LESS THAN FOURTEEN (14) DAYS PRIOR TO THE BID DUE DATE. FAILURE TO SUBMIT PROPOSED SUBSTITUTIONS WITHIN THAT DEADLINE CONSTITUTES A GUARANTEE THAT THE SPECIFIED PRODUCTS WILL BE SUPPLIED.

3 INSTALLING CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL WIRING SCHEMES AND OTHER INSTALLATION DETAILS WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

4 SUBSTANTIAL COMPLETION IN THIS CONTEXT REFERS TO COMPLETELY INSTALLED AND OPERATIONAL LIGHTING AND LIGHTING CONTROL SYSTEMS. CONTRACTOR SHALL VERIFY THE CORRECT INSTALLATION AND DIMMING OPERATION OF ALL LUMINAIRES, SENSORS, AND OF THE CONTROL SYSTEM AS AWHOLE PRIOR TO REQUESTING THE LIGHTING DESIGNER'S ATTENDANCE AT ANY FOCUSSING OR LEVEL SETTING SESSIONS. IN THE EVENT THAT THE LIGHTING CONTROL ZONES OR OTHER OPERATIONAL CHARACTERISTICS OF THE COMPLETED SYSTEM ARE NOT FULLY READY AT THE TIME OF THE FIRST FOCUSSING APPOINTMENT, THE LIGHTING DESIGNER SHALL BE ENTITLED TO REQUEST FEES FOR ADDITIONAL SERVICES FROM THE CONTRACTOR WHICH SHALL NOT BE PASSED ON TO THE CLIENT.

5 CATALOGUE OR SERIES NUMBERS ARE INTENDED TO PROVIDE ASSISTANCE IN ESTABLISHING IDENTIFICATION OF MANUFACTURER'S MODEL, SERIES, OR LUMINAIRE STYLE, AND MAY NOT BE COMPLETE AND SHALL NEVER BE USED TO ORDER LUMINAIRES. MANUFACTURER'S CATALOG NUMBERS ARE SUBJECT TO CHANGE AND ANY DISCREPANCIES BETWEEN THE CATALOG NUMBER, LUMINAIRE DESCRIPTION, REMARKS, LAMP AND SUPPLY VOLTAGE, AND ARCHITECTURAL DRAWINGS MUST BE BROUGHT TO THE ATTENTION TO THE LIGHTING DESIGNER PRIOR TO THE RELEASE OF A PURCHASE ORDER.

6 CATALOGUE CUTS, WHEN INCLUDED, ARE FOR GENERAL ASSISTANCE AND IMAGE REFERENCE ONLY AND ARE NOT A PART OF THESE SPECIFICATIONS. MANUFACTURER'S CATALOG CUTS ARE SUBJECT TO CHANGE AND CURRENT CATALOG CUTS FROM THE MANUFACTURER ARE REQUIRED TO BE SUBMITTED DURING SHOP DRAWING REVIEW FOR APPROVAL.
A. ARCHITECTURAL DETAIL SKETCHES OR CUSTOM LUMINAIRE DRAWINGS INCLUDED IN THESE LUMINAIRE SPECIFICATIONS ARE PART OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BRING ANY DISCREPANCIES BETWEEN SKETCHES AND CONSTRUCTION DOCUMENTS TO THE ATTENTION OF THE ARCHITECT BEFORE SUBMITTING BIDS.

7 AUXILIARY EMERGENCY EQUIPMENT OPTIONS MUST BE DETERMINED, VERIFIED, AND APPROVED BY THE ELECTRICAL ENGINEER.

8 "CONTINUOUS", WHEN NOTED, REQUIRES BUTTED END TO END LAYOUTS WITH NO GAPS BETWEEN LUMINAIRE HOUSINGS. NOTE MINIMUM OR MAXIMUM GAPS OR LAYOUT WHEN PROVIDED.

9 "FLANGELESS" OR "TRIMLESS" OR "FLUSH", WHEN NOTED, REQUIRES CONTRACTOR TO REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR PLASTER FRAME. PROPER ALIGNMENT OF BOTTOM OF APERTURE THROAT WITH FACE OF FINISHED CEILING IS CRITICAL FOR INSTALLATION; CONTRACTOR TO COORDINATE.

10 "REMOTE DRIVERS" OR "ACCESSIBLE" WHEN NOTED REQUIRES CONTRACTOR TO COORDINATE WITH BOTH THE ARCHITECT AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS TO LOCATE A SUITABLE LOCATION REMOVED FROM THE LUMINAIRE ITSELF FOR THE DRIVER/POWER SUPPLY. SAID LOCATION SHALL BE CONCEALED FROM GERENAL VIEW, WELL VENTILATED, SECURE AND REACHABLE BY NO MORE THAN A 10' LADDER PLACED SECURELY, ON FLAT GROUND.

A. ELECTRICAL CONTRACTOR TO COORDINATE MOUNTING DETAILS AND ELECTRICAL CONNECTIONS, ADVISE MANUFACTURER OF LEAD LENGTHS, AND VERIFY THAT INSTALLATION COMPLIES WITH NATIONAL AND LOCAL CODES, AND PROVIDE FUSE FOR SECONDARY WIRING, WHEN REQUIRED.

B. LUMINAIRE MANUFACTURER TO DETERMINE REQUIRED WIRE SIZE BETWEEN LUMINAIRES AND DRIVERS, LENGTH OF RUNS, OR QUANTITY OF LUMINAIRES PER CIRCUIT, AND TO ASSURE THAT VOLTAGE DROP DOES NOT EXCEED 5% - VERIFICATION OF VOLTAGE DROP MUST BE CONDUCTED ON SITE BY THE ELECTRICAL CONTRACTOR USING A "TRUE RMS" VOLTMETER TO MEASURE THE SECONDARY VOLTAGE.

11 "ALLOWANCES", WHEN NOTED, ARE TO BE IN U.S. DOLLARS AND COVER THE COST, TO THE OWNER, OF THE LIGHTING LUMINAIRES, LAMPS, AND ACCESSORIES AS NOTED. AN ALLOWANCE DOES NOT INCLUDE LAMPS, DELIVERY TO THE SITE, HANDLING, INSTALLATION OR CONTRACTOR'S OVERHEAD OR MARK-UP. CONTRACTOR MUST PROVIDE UNIT PRICING TO THE ARCHITECT- FOR EACH LUMINAIRE TYPE COMPLETE WITH ALL ACCESSORIES AND LAMP.

12 SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND LIGHTING CONSULTANT FOR REVIEW AND APPROVAL IN ACCORDANCE WITH ARCHITECT'S GENERAL TERMS AND CONDITIONS. DO NOT OBTAIN LUMINAIRES WITHOUT APPROVAL.

A. SHOP DRAWINGS FOR ALL LIGHTING EQUIPMENT SHALL INCLUDE DETAILS AND CUTS OF EACH LUMINAIRE TYPE, AND SHALL INCLUDE INFORMATION ON LIGHT SOURCE, HOUSING SIZE AND MATERIAL, DRIVER TYPE (WHERE APPLICABLE), LENSES, BAFFLES, FINISHES, AND MEANS AND METHODS OF ATTACHMENT AND SUPPORT, JOINING, AND ELECTRICAL CONNECTION.

B. IN ADDITION, SHOP DRAWINGS FOR CONTINUOUS OR CUSTOM LENGTH LIGHTING EQUIPMENT REQUIRE FIELD DIMENSIONS, AND SHOP DRAWINGS SHALL INCLUDE FIELD DIMENSIONS AND LAYOUTS.

13 CONTROL SAMPLES WHEN REQUESTED, SUBMIT AT LEAST 1 WORKING SAMPLE OF EACH LUMINAIRE TYPE SPECIFIED FOR USE AS A CONTROL SAMPLE TO VERIFY COLOR FIDELITY AND COMPATABILITY WITH CONTROL SYSTEM. CONTROL SAMPLES SHALL BE PROVIDED DURING SHOP DRAWING SUBMITAL PROCESS AND SHALL BE OF THE SAME BIN/PRODUCTION RUN AS THE LUMINAIRES ULTIMATELY SUPPLIED FOR THE PROJECT AS A WHOLE. AFTER APPROVAL, CONTROL SAMPLES MAY BE INSTALLED AS PART OF THE OVERALL LUMINAIRE COUNT, OR MAY SERVE AS A PORTION OF THE ATTIC STOCK REQUIRED FOR THE PROJECT. LUMINAIRES SPECIFIED AS PART OF A SERIES (HA, HA-1, E.G.) MAY BE REPRESENTED BY A SINGLE SAMPLE, BUT ADDITIONAL UNITS MAY STILL BE REQUIRED AS ATTIC STOCK.

14 "FOCUSING REQUIRED", WHEN NOTED, REQUIRES CONTRACTOR TO PROVIDE ALLOWANCE FOR LABOR, SCAFFOLDING, AND TOOLS TO ADJUST, AIM, OR INSTALL LUMINAIRES AND ACCESSORIES PER THE LIGHTING CONSULTANT'S DIRECTION DURING EVENING HOURS (IF REQUIRED). FOCUSING CAN ONLY OCCUR AFTER INSTALLATION AND CONFIRMED OPERATION OF ALL LUMINAIRES, AND AFTER THE CONTRACTOR HAS VERIFIED INSTALLATION AND CONFIRMED OPERATION OF CONTROL SYSTEMS. SPECIFIC ARCHITECTURAL ORNAMENT OR ART INTENDED TO BE ILLUMINATED MUST BE IN PLACE PRIOR TO FOCUS SESSION.

A. WHEN KNOWN INITIAL AIMING ANGLES ARE DEFINED ABOVE, LUMINAIRES MAY BE "PRE-AIMED" AS INDICATED. HOWEVER, THESE "INITIAL" AIMING ANGLES WILL BE VERIFIED IN THE FIELD BY THE LIGHTING DESIGNER AND MAY REQUIRE ADDITIONAL RE-AIMING FOR FINAL FOCUSING.

B. DURING FINAL FOCUSING THE LIGHTING DESIGNER WILL PROVIDE AIMING DIRECTION, INSTRUCTION, AND DEFINE AIMING ANGLES FOR TYPICAL LUMINAIRES SO THE CONTRACTOR MAY COMPLETE THE FOCUSING DURING DAYTIME HOURS. THE CONTRACTOR IS TO LOCK BUT NOT OVER-TIGHTEN ALL LUMINAIRES SO THAT LAMPHOLDERS WILL NOT MOVE DURING SUBSEQUENT RELAMPING.

15 "CUSTOM COLOR", WHEN NOTED, REQUIRES THE CONTRACTOR TO COORDINATE AND PROVIDE SPECIAL COLORS. CONTRACTOR TO VERIFY ALL OCCURRENCES WITH THE ARCHITECT, AND NOTE LUMINAIRE TYPES MAY BE INSTALLED AT DIFFERENT ARCHITECTURAL CEILING OR WALL FINISHES, THUS SEPARATE COLORS FOR EACH MATERIAL MAY BE REQUIRED. INCLUDE WITHIN COST ADDITIONAL SET-UP CHARGES FOR "CUSTOM COLORS".

16 ATTIC STOCK: CONTRACTOR TO INCLUDE COST OF 20% ATTIC STOCK IN BID FOR THE FOLLOWING TYPES OF LUMINAIRES, ACCESSORIES, AND COMPONENTS: LINEAR LUMINAIRE TYPES IN QUANTITIES AND LENGTHS AS REPRESENTED IN THE DRAWINGS, LENSES, REMOVABLE LUMINAIRE TRIMS, DRIVERS, BOTH REMOTE AND INTEGRAL, HOUSINGS, WHERE LUMINAIRE AND HOUSING ARE SEPARATE ENTITIES, CUSTOMIZED COMPONENTS INCLUDING HOUSINGS WITH CUSTOMIZED FINISHES (ARMS, MOUNTING BRACKETS, ETC.). LUMINAIRE TYPES WHICH ARE SUPPLIED ON SPOOLS, REQUIRE ONE ADDITIONAL FULL SPOOL .

17 CONTROL SYSTEM: CONTRACTOR TO PROVIDE PERSONNEL AND EQUIPMENT AS REQUIRED BY LIGHTING CONTROL SYSTEM MANUFACTURER FOR SYSTEM START-UP, LEVEL SET, AND COMMISSIONING. UNDER NO CIRCUMSTANCES SHALL CONTRACTOR EXCLUDE THE COST OF FACTORY START-UP AND TRAINING VISITS FROM THEIR BID IF SUCH SERVICES ARE REQUIRED BY CONTROL SYSTEM MANUFACTURER. CONTRACTOR TO NOTE THAT CONTROL SYSTEM MANUFACTURER MAY HAVE SPECIFIC TIME-LINES AND/OR REQUIRED, PHASED, SITE VISITS DURING THE INSTALLATION OF THE SYSTEM AND TO COORDINATE SAME WITH PROJECT SCHEDULE AND LEAD TIME.
A. AS NOTED IN #4 ABOVE, ALL DIMMING, SENSOR OPERATION, AND CONTROL ZONE GROUPINGS SHALL BE TESTED AND OPERATIONAL PRIOR TO COMMENCING ANY START-UP ACTIVITIES.

18 A CONTROL SYSTEMS INTEGRATOR IS REQUIRED FOR THIS PROJECT. GENERAL CONTRACTOR, OR THEIR ELECTRICAL SUB TO CONTRACT WITH A QUALIFIED LIGHTING CONTROL SYSTEMS INTEGRATOR TO ENSURE THAT THE CONTROL INTENT SPECIFIED ELSEWHERE CAN BE ACHEIVED AND THAT THE LUMINAIRES CONTROLED VIA DMX-512A AND THOSE CONTROLED BY OTHER PROTOCOLS CAN BE OPERATED SIMALTANEOUSLY AND WITHOUT VISIBLE LAGS. DO NOT EXCLUDE THE COST OF SAID INTEGRATOR FROM THE BID. INTEGRATOR SHALL BE RESPONSIBLE FOR CODE SEQUENCES AS DETAILED ELSEWHERE.

19 LED REPLACEMENT LAMPS: WHERE NOTED REQUIRES DISTRIBUTOR TO COORDINATE AND PROVIDE APPROPRIATE LED REPLACEMENT LAMPS FOR LUMINAIRES WITH SCREW BASE SOCKETS. TAKE CARE TO ASSURE THAT ALL REPLACEMENT LAMPS, REGARDLESS OF BASE ARE CONSISTENT IN COLOR APPEARANCE AND WILL DIM WITH SPECIFIED SYSTEM. ALL NON-SHIELDED LAMPS SHALL HAVE FILAMENT STYLE LIGHT ELEMENT. PROVIDE A FULL SUITE OF LAMPS FOR LIGHTING DESIGNER'S APPROVAL WITH SUBMISSION. PROVIDE A COMPLETE LIST OF ALL LAMPS WHICH WILL BE FURNISHED ON THE PROJECT. THIS LIST SHALL BE ORGANIZED ALPHABETICALLY BY LUMINAIRE TYPE INDICATED ON THE LUMINAIRE SCHEDULE, AND INCLUDE THE MANUFACTURER AND EXACT MODEL ORDERING CODE OF EACH LAMP.

20 CUSTOM OR CUSTOMIZED LUMINAIRE: WHERE NOTED REFERS TO EITHER A LUMINAIRE DESIGNED FOR THIS SPECIFIC PROJECT ONLY, OR MAY REFER TO A SPECIFIC ELEMENT OF THE LUMINAIRE THAT IS BEING CHANGED FOR USE WITHIN THIS PROJECT. IN EITHER CASE, BIDDERS ARE ENCOURAGED TO COMMUNICATE WITH MANUFACTURERS WHERE NOTED DURING THE PREPARATION OF BIDS AND TO REFER ANY QUESTIONS TO THE DESIGN TEAM IN THE FORM OF RFI'S. REQUESTS FOR CHANGE ORDERS THAT COULD HAVE BEEN RESOLVED IN ADVANCE, BASED ON THE INFORMATION PROVIDED AND A STANDARD RFI WILL NOT BE HONORED OR REFERRED TO THE CLIENT. IN INSTANCES WHERE THE LUMINAIRE IS DESCRIBED AS IN DEVELOPMENT WITH THE SELECTED MANUFACTURER, CONFIRM THAT PROVIDED PRICE IS SUFFICIENT TO INCLUDE ADJUSTMENTS TO THE OVERALL SIZE, FINISH, MATERIALS, ETC. DURING THE SUBMISSION PROCESS.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

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1	Addendum 2	4/18/2025

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SHEET TITLE:
LUMINAIRE SCHEDULE

SHEET ID:
EL601

PROJECT STATUS:
100% BID SET

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GENERAL NOTES

A. ALL FEEDER SIZES ARE INDICATED ON EP601 OR ON PANEL SCHEDULES.

B. SEATING OUTLETS MUST BE TR TYPE OUTLETS PER NFPA 70.

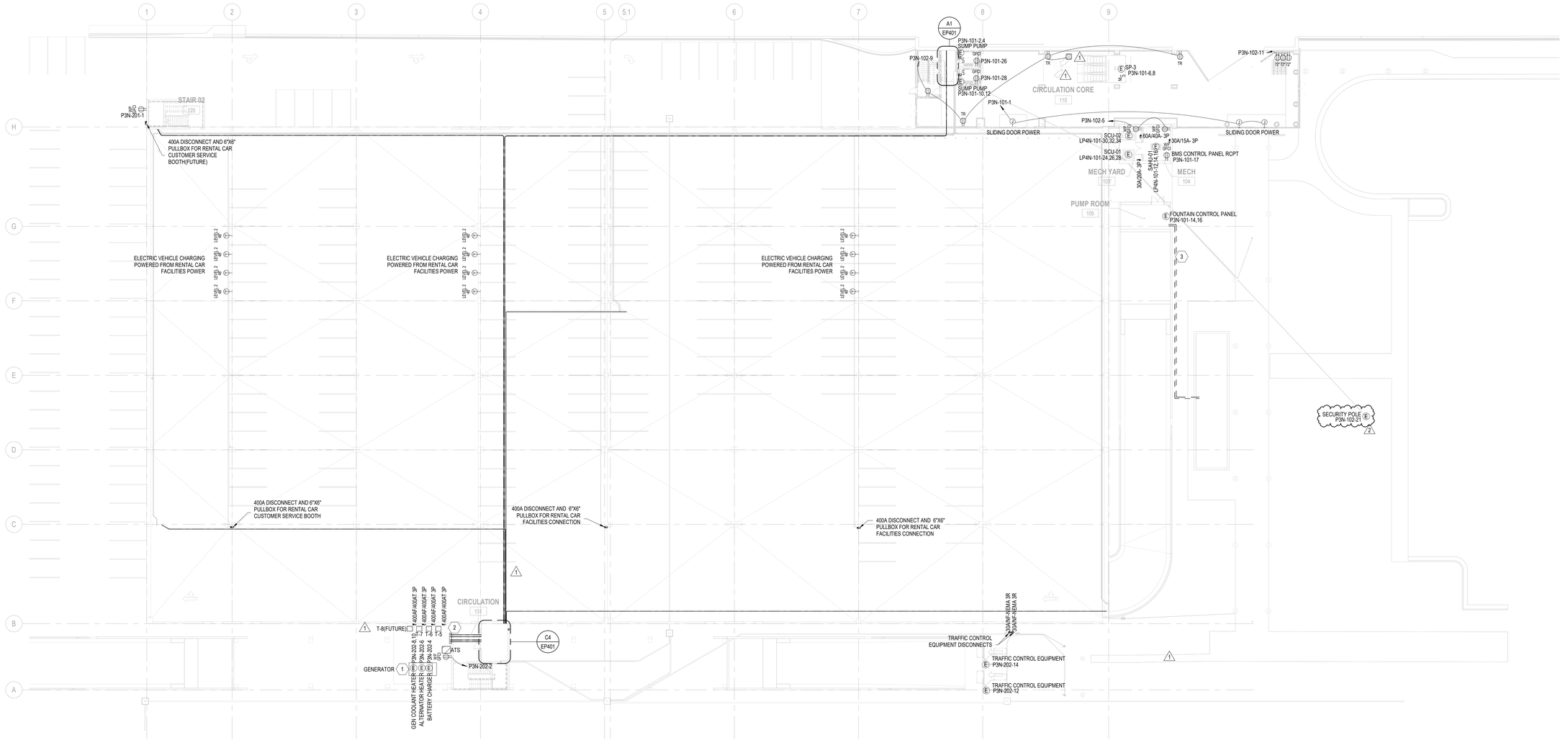
C. ALL CONDUIT ROUTING SHOWN IS APPROXIMATE. COORDINATE EXACT ROUTING WITH OTHER DISCIPLINES IN THE FIELD. SEE SHEET EP601 FOR CONDUIT SIZING.

KEYNOTES

1 PROVIDE 500KW DIESEL GENERATOR, WITH LEVEL 2 SOUNDS ATTENUATED ENCLOUSURE, AND A BELLY TANK SIZED FOR 24HR RUNTIME AT 80% LOAD. EXHAUST TO BE DIRECTED TO THE EXTERIOR OF THE GARAGE.

2 5'x1'x1' WALL MOUNTED PULL BOX MOUNTED 3' AFG. CONDUIT FROM SWITCHBOARD TO PULLBOX TO BE ROUTED OVERHEAD. CONDUITS FROM PULLBOX TO TRANSFORMERS ARE TO BE ROUTED BELOW GRADE. COUNDUIT ROUTING SHOWN IS APPROXIMATE COORDINATE EXACT ROUTING IN THE FIELD.

3 2- MIN. 1" CONDUITS FOR FOUNTAIN LIGHTING AND CONTROLS. COORDINATE REQUIREMENTS WITH MANUFACTURER.



A1 FIRST FLOOR POWER PLAN

SCALE: 3/64" = 1'-0"

SCALE: 1/8" = 1'-0"

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: RS&H
DRAWN BY: BWG
DESIGNED BY: CRD
PROJECT NUMBER: 2003-0070-006

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SEAL:
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SHEET TITLE:
FIRST FLOOR ELECTRICAL POWER PLAN

SHEET ID:
EP111

PROJECT STATUS:
100% BID SET

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GENERAL NOTES

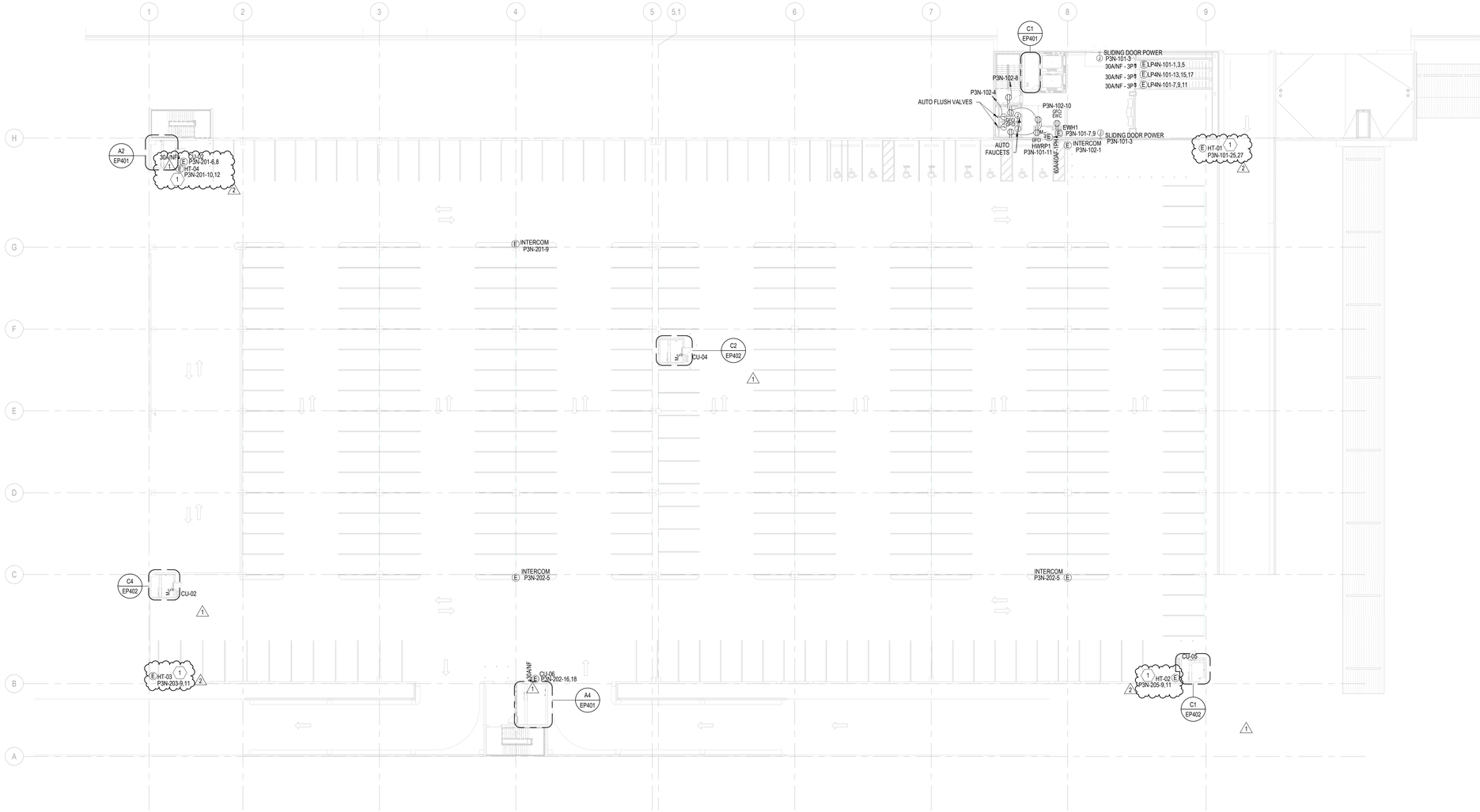
A. ALL FEEDER SIZES ARE INDICATED ON EP601 OR ON PANEL SCHEDULES.

B. SEATING OUTLETS MUST BE TR TYPE OUTLETS PER NFPA 70.

C. ALL CONDUIT ROUTING SHOWN IS APPROXIMATE. COORDINATE EXACT ROUTING WITH OTHER DISCIPLINES IN THE FIELD. SEE SHEET EP601 FOR CONDUIT SIZING.

KEYNOTES

1 DOMESTIC COLD WATER HEAT TRACING:
SELF REGULATING PARALLEL RESISTANCE HEATING CABLES, 16 AWG, NICKERL-PLATED COPPER BUS WIRE, MODIFIED POLYOLEFIN INNER JACKET, TINNED-COPPER BRAID FLUOROPOLYMER OUTER JACKET WITH PRINTED INDICATOR INFORMATION. 2.5 WATTS/FT POWER RATING FOR FREEZE PROTECTION TEMPERATURE OF 40°F, 208-277 VOLT, SINGLE PHASE ELECTRICAL OPERATION. PROVIDE WITH SINGLE-POINT COMMERCIAL HEATING CABLE CONTROL SYSTEM WITH INTEGRATED GROUND-FAULT PROTECTION. HEAT TRACE CABLE AND TEMPERATURE CONTROL SHALL BE EQUAL TO - RAYCHEM XL-TRACE EDGE WITH RAYCHEM EC-TS ADJUSTABLE (30-110°F) ELECTRONIC T-STAT - 30 AMP RATING MAXIMUM, NEMA4X UL LISTED ENCLOSURE.



PN

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A1 SECOND FLOOR ELECTRICAL POWER PLAN

SCALE: 3/64" = 1'-0"

16 0 16 32 48

SCALE: 3/64" = 1'-0"

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
SECOND FLOOR ELECTRICAL POWER PLAN

SHEET ID:
EP121

PROJECT STATUS:
100% BID SET

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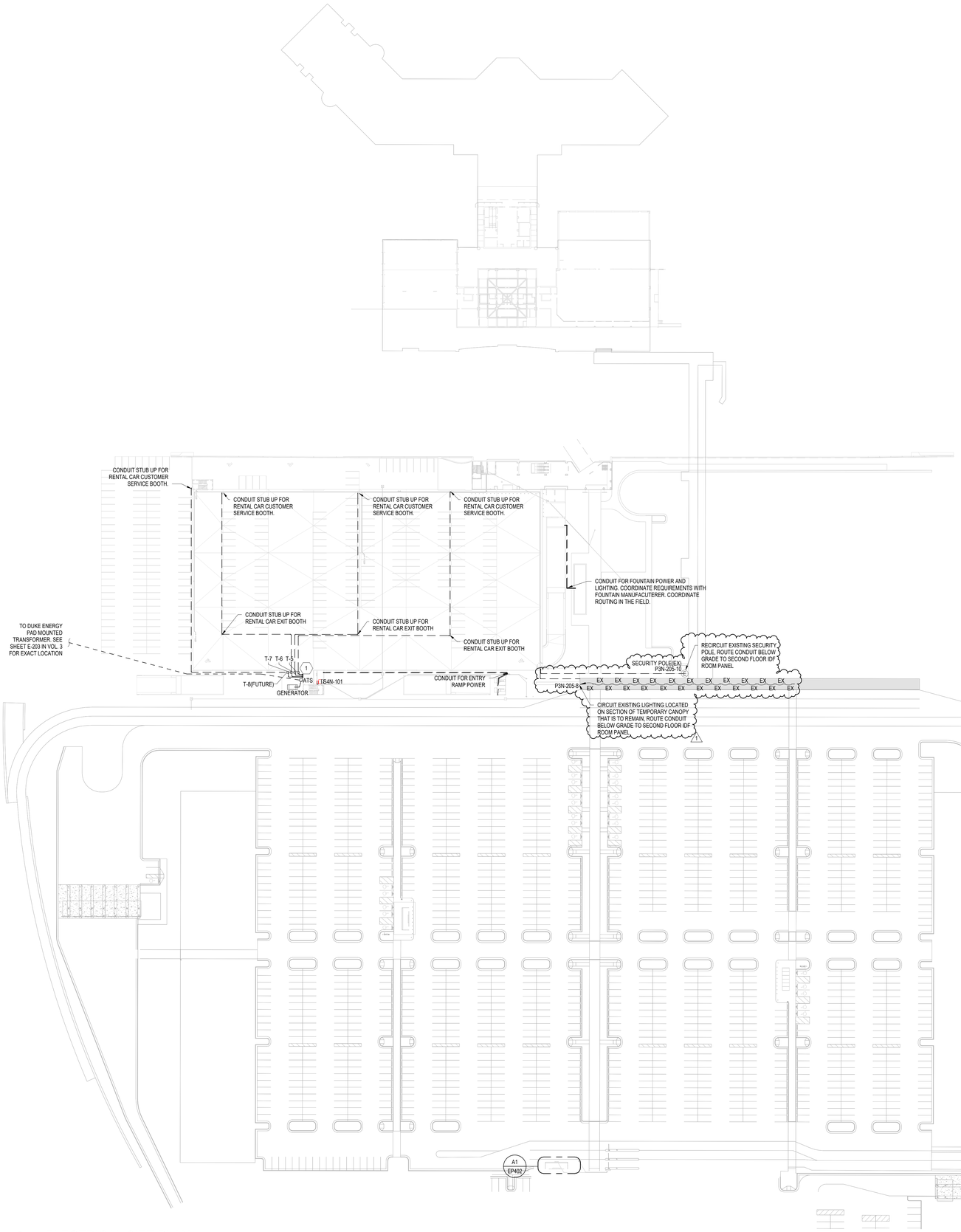

PN
N

A1 ELECTRICAL SITE PLAN

SCALE: 1" = 60'-0"

60 0 60 120

SCALE: 1" = 60'-0"

GENERAL NOTES

A. CONDUIT ROUTING IS APPROXIMATE. COORDINATE CONDUIT ROUTE WITH OTHER DISCIPLINES IN THE FIELD. SEE SHEET EP601 AND EP602 FOR SIZE AND QUANTITY OF CONDUCTORS AND CONDUITS.

KEYNOTES

1 5'x1'x1' WALL MOUNTED PULL BOX MOUNTED 3' AFG. CONDUIT FROM SWITCHBOARD TO PULLBOX TO BE ROUTED OVERHEAD. CONDUITS FROM PULLBOX TO TRANSFORMERS ARE TO BE ROUTED BELOW GRADE. COUNDUIT ROUTING SHOWN IS APPROXIMATE COORDINATE EXACT ROUTING IN THE FIELD.

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ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD

PROJECT NUMBER:
2003-0070-006

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SEAL:

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SHEET TITLE:
ELECTRICAL SITE PLAN

SHEET ID:
ES111

PROJECT STATUS:
100% BID SET

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480Y/277 VAC | SWITCHBOARD S4N-101 | 1200 A BUS W/ 1200 A
3 PHASE4 WIRE | LOCATION ELECTRICAL 132 | 65 kA SCCR

CKT NO	BREAKER FRAME	BREAKER TRIP / POLE	LOAD CLASS & LOCATION	ID	NOTES	A	B	C
1	200 A	200 A	3 L4N-101			14862 VA	13226 VA	11528 VA
2	400 A	400 A	3 LP4N-101			60785 VA	58781 VA	51841 VA
3	60 A	60 A	3 T-3			2178 VA	3120 VA	3398 VA
4	60 A	60 A	3 T-4			5311 VA	7886 VA	4458 VA
5	200 A	200 A	3 T-5			30743 VA	30743 VA	30743 VA
6	200 A	200 A	3 T-6			30743 VA	30743 VA	30743 VA
7	200 A	200 A	3 T-7			30743 VA	30743 VA	30743 VA
8	200 A	200 A	3 T-8(FUTURE)			30743 VA	30743 VA	30743 VA
9	30 A	30 A	3 T-11			3727 VA	3318 VA	1370 VA
10	30 A	30 A	3 T-10			2218 VA	2918 VA	2420 VA
11	30 A	30 A	3 T-9			2218 VA	2975 VA	2476 VA
12								
13								
14								
15								
16								
17								
18	30 A	30 A	3 SPD			0 VA	0 VA	0 VA
			CONNECTED LOAD:			214271 VA	215195 VA	200463 VA

Load Classification	Connected Load	Demand Factor	Esitmated Demand
MOTR	81743 VA	105.6%	86302 VA
HVAC	54943 VA	100.0%	54943 VA
EQUIPMENT	422327 VA	100.0%	422327 VA
HEAT	7125 VA	100.0%	7125 VA
LITE	50530 VA	100.0%	50530 VA
RCPT	13260 VA	87.7%	11630 VA

Panel Totals
Total Conn. Load: 629929 VA
Total Est. Demand: 632857 VA
Total Conn. Current: 757.7 A
Total Est. Demand Current: 761.2 A

GENERAL NOTES:

NOTES:

Branch Panel: L4N-101

Location: ELECTRICAL 132 | **Volts:** 480Y/277 VAC | **A.I.C. Rating:** 30kA
Supply From: S4N-101 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 200 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1	1ST FLOOR LTG	20 A	1		4.28 kVA	3.85 kVA			1	20 A	1ST FLOOR LTG	2
3	1ST FLOOR LTG	20 A	1			3.85 kVA	3.85 kVA		1	20 A	1ST FLOOR LTG	4
5	1ST FLOOR LTG	20 A	1				3.85 kVA	2.27 kVA	1	20 A	2ND FLOOR LTG	6
7	2ND FLOOR LTG	20 A	1		1.91 kVA	1.64 kVA			1	20 A	2ND FLOOR LTG	8
9	2ND FLOOR LTG	20 A	1			2.06 kVA	3.00 kVA		1	20 A	ROOF LTG	10
11	2ND FLOOR LTG	20 A	1				1.91 kVA	1.80 kVA	1	20 A	ROOF LTG	12
13	ROOF LTG	20 A	1		2.10 kVA	1.09 kVA			1	20 A	NW STAIR LIGHTING	14
15	RENTAL CAR RAMP LIGHTING	20 A	1			0.46 kVA						16
17	SOUTH CENTER STAIR LTG 1	20 A	1				1.70 kVA					18
19												20
21												22
23												24
25												26
27												28
29												30
31												32
33												34
35												36
37												38
39												40
41												42
		Total Load:			14862 VA	13226 VA	11528 VA					
		Total...			54.6 A	48.7 A	41.6 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
LITE	39615 VA	100.0%	39615 VA	
				Total Conn. Load: 39615 VA
				Total Est. Demand: 39615 VA
				Total Conn.: 47.6 A
				Total Est. Demand: 47.6 A

Branch Panel: LP4N-101

Location: ELECTRICAL 102 | **Volts:** 480Y/277 VAC | **A.I.C. Rating:** 30kA
Supply From: S4N-101 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1					3.88 kVA	2.52 kVA			1	20 A	VERTICAL CORE LTG 1ST FLR	2
3	ESCALATOR	30 A	3			3.88 kVA	0.69 kVA		1	20 A	VERTICAL CORE LTG 2ND...	4
5							3.88 kVA	2.47 kVA	1	20 A	VERTICAL CORE LTG 3RD...	6
7					3.88 kVA	3.01 kVA			1	20 A	CANOPY LIGHTING	8
9	ESCALATOR	30 A	3			3.88 kVA	0.34 kVA		1	20 A	LITE ROOM 103, 104, 105	10
11							3.88 kVA	1.11 kVA				12
13					3.88 kVA	1.11 kVA			3	15 A	SAHU-01	14
15	ESCALATOR	30 A	3			3.88 kVA	1.11 kVA					16
17							3.88 kVA	2.00 kVA				18
19					6.08 kVA	2.00 kVA			3	15 A	SAHU-02	20
21	ELEVATOR	30 A	3			6.08 kVA	2.00 kVA					22
23							6.08 kVA	3.77 kVA				24
25					6.08 kVA	3.77 kVA			3	20 A	SCU-01	26
27	ELEVATOR	30 A	3			6.08 kVA	3.77 kVA					28
29							6.08 kVA	7.32 kVA				30
31	ELEVATOR PIT LTG	20 A	1		0.02 kVA	7.32 kVA			3	40 A	SCU-02	32
33	ELEVATOR PIT LTG	20 A	1			0.02 kVA	7.32 kVA					34
35	ESCALATOR PIT LIGHTING	20 A	1				0.03 kVA					36
37												38
39												40
41												42
43						6.44 kVA						44
45							7.23 kVA		3	70 A	T-2(45KVA	46
47								7.18 kVA				48
49					10.82 kVA	0.00 kVA						50
51	T-1(45KVA)	70 A	3				12.52 kVA	0.00 kVA	3	20 A	SPD	52
53								4.18 kVA 0.00 kVA				54
		Total Load:			60785 VA	58781 VA	51841 VA					
		Total...			223.3 A	216.1 A	187.2 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
EQUIPMENT	19766 VA	100.0%	19766 VA	
LITE	10606 VA	100.0%	10606 VA	**Total Conn. Load:** 171407 VA
HVAC	44959 VA	100.0%	44959 VA	**Total Est. Demand:** 175965 VA
HEAT	6113 VA	100.0%	6113 VA	**Total Conn.:** 206.2 A
MOTR	81743 VA	105.6%	86302 VA	**Total Est. Demand:** 211.7 A
RCPT	8220 VA	100.0%	8220 VA	

Branch Panel: P3N-101

Location: ELECTRICAL 102 | **Volts:** 208Y/120 VAC | **A.I.C. Rating:** 18kA
Supply From: T-1 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 150 A
Enclosure: NEMA1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1	SLIDING DOOR POWER 1ST	20 A	1		1.80 kVA	0.92 kVA			2	20 A	SUMP PUMP	2
3	SLIDING DOOR POWER 2ND	20 A	1				1.20 kVA 0.92 kVA					4
5	SLIDING DOOR POWER 3RD	20 A	1				0.60 kVA	0.00 kVA	2	20 A	SUMP PUMP	6
7	EHW-1	40 A	2		3.00 kVA	0.00 kVA						8
9						3.00 kVA	0.92 kVA		2	20 A	SUMP PUMP	10
11	HWRP1	20 A	1				0.04 kVA	0.92 kVA				12
13	CU-01	30 A	2		1.00 kVA	3.33 kVA			2	45 A	FOUNTAIN CONTROL PANEL	14
15						1.00 kVA	3.33 kVA					16
17	BMS RCPT	20 A	1				0.18 kVA	0.51 kVA	1	20 A	LANDSCAPE LTG	18
19	BMS RCPT	20 A	1		0.18 kVA	0.36 kVA			1	20 A	TUNNEL PROJECTORS	20
21	EF-01	20 A	2			0.20 kVA	1.73 kVA		1	20 A	CAB LTG AND POWER	22
23							0.20 kVA	1.73 kVA	1	20 A	CAB LTG AND POWER	24
25	HEAT TRACE HT-01	20 A	2	1	0.06 kVA	0.18 kVA			1	20 A	ELEVATOR PIT RCPT	26
27						0.06 kVA	0.18 kVA		1	20 A	ELEVATOR PIT RCPT	28
29												30
31												32
33												34
35												36
37												38
39												40
41												42
43												44
45	SPARE	20 A	1			0.00 kVA	0.00 kVA		1	20 A	SPARE	46
47	SPARE	20 A	1				0.00 kVA	0.00 kVA	1	20 A	SPARE	48
49	SPARE	20 A	1		0.00 kVA	0.00 kVA						50
51	SPARE	20 A	1			0.00 kVA	0.00 kVA		3	20 A	SPD	52
53	SPARE	20 A	1				0.00 kVA	0.00 kVA				54
		Total Load:			10818 VA	12519 VA	4178 VA					
		Total...			98.7 A	112.8 A	34.8 A					

Legend:
1. GFCI CIRCUIT BREAKER 2

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
EQUIPMENT	7056 VA	100.0%	7056 VA	
LITE	873 VA	100.0%	873 VA	**Total Conn. Load:** 27515 VA
HVAC	2392 VA	100.0%	2392 VA	**Total Est. Demand:** 29179 VA
HEAT	6113 VA	100.0%	6113 VA	**Total Conn.:** 76.4 A
MOTR	10361 VA	116.1%	12025 VA	**Total Est. Demand:** 81 A
RCPT	720 VA	100.0%	720 VA	

Branch Panel: P3N-102

Location: ELECTRICAL 102 | **Volts:** 208Y/120 VAC | **A.I.C. Rating:** 18kA
Supply From: T-2 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 150 A
Enclosure: NEMA1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1	INTERCOM	20 A	1		0.18 kVA	0.36 kVA			1	20 A	ROOFTOP RCPT	2
3	INTERCOM	20 A	1			0.18 kVA	0.56 kVA		1	20 A	AUTO PLUMBING FIXTURES	4
5	RCPT MECH YARD	20 A	1				0.36 kVA	0.50 kVA	1	20 A	COMM EQUIPMENT	6
7	RCPT ELEC. RM 102	20 A	1		0.72 kVA	1.62 kVA			1	20 A	RCPT RM 202	8
9	RCPT CIRCULATION CORE	20 A	1			0.90 kVA	1.00 kVA		1	20 A	EWC	10
11	FIDS MONITORS	20 A	1				0.54 kVA	1.44 kVA	1	20 A	RCPT 3RD FLR	12
13	COMM EQUIPMENT	20 A	1		0.50 kVA	0.50 kVA			1	20 A	COMM EQUIPMENT	14
15	COMM EQUIPMENT	20 A	1			1.92 kVA	0.50 kVA		1	20 A	COMM EQUIPMENT	16
17	COMM EQUIPMENT	20 A	1				1.92 kVA	0.50 kVA	1	20 A	COMM EQUIPMENT	18
19	BACK LIT MIRRORS	20 A	1		0.64 kVA	1.92 kVA			1	20 A	COMM EQUIPMENT	20
21	SECURITY POLE	20 A	1			0.25 kVA	1.92 kVA		1	20 A	COMM EQUIPMENT	22
23								1.92 kVA	1	20 A	COMM EQUIPMENT	24
25												26
27												28
29												30
31												32
33												34
35												36
37												38
39												40
41												42
43												44
45							0.00 kVA		1	20 A	SPARE	46
47	SPARE	20 A	1				0.00 kVA	0.00 kVA	1	20 A	SPARE	48
49	SPARE	20 A	1		0.00 kVA	0.00 kVA						50
51	SPARE	20 A	1			0.00 kVA	0.00 kVA		3	20 A	SPD	52
53	SPARE	20 A	1				0.00 kVA	0.00 kVA				54
		Total Load:			6441 VA	7230 VA	7180 VA					
		Total...			53.7 A	61.2 A	60.8 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
EQUIPMENT	12710 VA	100.0%	12710 VA	
LITE	641 VA	100.0%	641 VA	**Total Conn. Load:** 20851 VA
RCPT	7500 VA	100.0%	7500 VA	**Total Est. Demand:** 20851 VA
				Total Conn.: 57.9 A
				Total Est. Demand: 57.9 A

Branch Panel: P3N-201

Location: IDF/ELEC 221 | **Volts:** 208Y/120 VAC | **A.I.C. Rating:** 18kA
Supply From: T-3 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1	EXT RCPT	20 A	1		0.18 kVA	0.50 kVA			1	20 A	COMM EQUIPMENT	2
3	RCPT IDF/ELECTRICAL 221	20 A	1			0.72 kVA	1.92 kVA		1	20 A	COMM EQUIPMENT	4
5	COMM EQUIPMENT	20 A	1				1.92 kVA	1.00 kVA	2	20 A	CU-02	6
7	COMM EQUIPMENT	20 A	1		0.50 kVA	1.00 kVA						8
9	INTERCOM	20 A	1		0.18 kVA	0.30 kVA						10
11	INTERCOM	20 A	1			0.18 kVA	0.30 kVA		1	2	20 A HEAT TRACE HT-04	12
13												14
15												16
17												18
19												20
21												22
23												24
25												26
27												28
29												30
31												32
33	SPARE	20 A	1			0.00 kVA	0.00 kVA		1	20 A	SPARE	34
35	SPARE	20 A	1				0.00 kVA	0.00 kVA	1	20 A	SPARE	36
37	SPARE	20 A	1		0.00 kVA	0.00 kVA						38
39	SPARE	20 A	1			0.00 kVA	0.00 kVA		3	20 A	SPD	40
41	SPARE	20 A	1				0.00 kVA	0.00 kVA				42
		Total Load:			2178 VA	3120 VA	3398 VA					
		Total...			18.2 A	27.2 A	29.5 A					

Legend:
1. GFCI CIRCUIT BREAKER 2

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
EQUIPMENT	4840 VA	100.0%	4840 VA	
HVAC	1997 VA	100.0%	1997 VA	**Total Conn. Load:** 8697 VA
HEAT	600 VA	100.0%	600 VA	**Total Est. Demand:** 8697 VA
RCPT	1260 VA	100.0%	1260 VA	**Total Conn.:** 24.1 A
				Total Est. Demand: 24.1 A

Branch Panel: P3N-202

Location: IDF/ELEC 232 | **Volts:** 208Y/120 VAC | **A.I.C. Rating:** 18kA
Supply From: T-4 | **Phases:** 3 | **Mains Type:** MCB
Mounting: SURFACE | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: NEMA 1

Notes:
2#4, 1-#6GND IN 1-1/2"C

CKT	Circuit Description	Trip	Poles	Notes	A	B	C	Notes	Poles	Trip	Circuit Description	CKT
1	INTERCOM	20 A	1		0.18 kVA	0.18 kVA			1	20 A	EXT RCPT	2
3	INTERCOM	20 A	1			0.18 kVA	1.54 kVA		1	20 A	GEN. BATTERY CHARGER	4
5	INTERCOM	20 A	1				0.36 kVA	0.20 kVA	1	20 A	GEN ALT HEATER	6
7	RCPT IDF/ELEC 232	20 A	1		0.72 kVA	1.33 kVA			2	20 A	GENERATOR COOLANT HEATER	8
9	COMM EQUIPMENT	20 A	1			1.92 kVA	1.33 kVA					10
11	COMM EQUIPMENT	20 A	1				0.50 kVA	2.40 kVA	1	1	30 A ENTRY TRAFFIC CTRL ARM	12
13	COMM EQUIPMENT	20 A	1		0.50 kVA	2.40 kVA			1	1	30 A ENTRY TRAFFIC CTRL ARM	14
15	COMM EQUIPMENT	20 A	1			1.92 kVA	1.00 kVA		2	20 A	CU-03	16
17								1.00 kVA				18
19												20
21												22
23												24
25												26
27												28
29												30
31												32
33							0.00 kVA		1	20 A	SPARE	34
35	SPARE	20 A	1				0.00 kVA	0.00 kVA	1	20 A	SPARE	36
37	SPARE	20 A	1		0.00 kVA	0.00 kVA						38
39	SPARE	20 A	1			0.00 kVA	0.00 kVA		3	20 A	SPD	40
41	SPARE	20 A	1				0.00 kVA	0.00 kVA				42
		Total Load:			5311 VA	7886 VA	4458 VA					
		Total...			45.4 A	66.8 A	37.2 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
EQUIPMENT	14038 VA	100.0%	14038 VA	
HVAC	1997 VA	100.0%	1997 VA	**Total Conn. Load:** 17655 VA
RCPT	1620 VA	100.0%	1620 VA	**Total Est. Demand:** 17655 VA
				Total Conn.: 49 A
				Total Est. Demand: 49 A

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: RS&H
DRAWN BY: BWG
DESIGNED BY: CRD
PROJECT NUMBER: 2003-0070-006

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SEAL:
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SHEET TITLE:
ELECTRICAL POWER PANEL SCHEDULES

SHEET ID:
EP602

PROJECT STATUS:
100% BID SET

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Branch Panel: P3N-203

Location: IDF/ELEC 222
Supply From: T-9
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120 VAC
Phases: 3
Wires: 4

A.I.C. Rating: 18
Mains Type: MCB
Mains Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1					1.00 kVA	0.50 kVA						1	20 A	COMM EQUIPMENT	2
3	CU-02	20 A	2				1.00 kVA	1.92 kVA				1	20 A	COMM EQUIPMENT	4
5	COMM EQUIPMENT	20 A	1						1.92 kVA	0.50 kVA		1	20 A	COMM EQUIPMENT	6
7	RCPT	20 A	1		0.72 kVA										8
9	HEAT TRACE HT-03	20 A	2	1			0.06 kVA								10
11									0.06 kVA						12
13															14
15															16
17															18
19															20
21															22
23															24
25															26
27															28
29															30
		Total Load:			2218 VA		2975 VA		2476 VA						
		Total...			18.5 A		25.1 A		21 A						

Legend:
1. GFCI CIRCUIT BREAKER 2

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	4840 VA	100.0%	4840 VA		
HVAC	1997 VA	100.0%	1997 VA	**Total Conn. Load:**	7669 VA
HEAT	113 VA	100.0%	113 VA	**Total Est. Demand:**	7669 VA
RCPT	720 VA	100.0%	720 VA	**Total Conn.:**	21.3 A
				Total Est. Demand:	21.3 A

Branch Panel: P3N-204

Location: IDF/ ELEC 223
Supply From: T-10
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120 VAC
Phases: 3
Wires: 4

A.I.C. Rating: 18
Mains Type: MCB
Mains Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1					1.00 kVA	0.50 kVA						1	20 A	EQUIPMENT	2
3	CU-04	20 A	2				1.00 kVA	1.92 kVA				1	20 A	EQUIPMENT	4
5	EQUIPMENT	20 A	1						1.92 kVA	0.50 kVA		1	20 A	EQUIPMENT	6
7	RCPT	20 A	1		0.72 kVA										8
9															10
11															12
13															14
15															16
17															18
19															20
21															22
23															24
25															26
27															28
29															30
		Total Load:			2218 VA		2918 VA		2420 VA						
		Total...			18.5 A		24.6 A		20.4 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	4840 VA	100.0%	4840 VA		
HVAC	1997 VA	100.0%	1997 VA	**Total Conn. Load:**	7557 VA
RCPT	720 VA	100.0%	720 VA	**Total Est. Demand:**	7557 VA
				Total Conn.:	21 A
				Total Est. Demand:	21 A

Branch Panel: P3N-205

Location: IDF/ELEC 224
Supply From: T-11
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 208Y/120 VAC
Phases: 3
Wires: 4

A.I.C. Rating: 18
Mains Type: MCB
Mains Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1					1.00 kVA	0.50 kVA						1	20 A	COMM EQUIPMENT	2
3	CU-05	20 A	2				1.00 kVA	1.92 kVA				1	20 A	COMM EQUIPMENT	4
5	RCPT	20 A	1						0.72 kVA	0.50 kVA		1	20 A	COMM EQUIPMENT	6
7	COMM EQUIPMENT	20 A	1		1.92 kVA	0.31 kVA						1	20 A	CANOPY LIGHTING	8
9	HEAT TRACE HT-02	20 A	2	1			0.15 kVA	0.25 kVA				1	20 A	EXISTING SECURITY POLE	10
11									0.15 kVA						12
13															14
15															16
17															18
19															20
21															22
23															24
25															26
27															28
29															30
		Total Load:			3727 VA		3318 VA		1370 VA						
		Total...			33.6 A		30.2 A		11.4 A						

Legend:
1. GFCI CIRCUIT BREAKER 2

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	5090 VA	100.0%	5090 VA		
LITE	308 VA	100.0%	308 VA	**Total Conn. Load:**	8415 VA
HVAC	1997 VA	100.0%	1997 VA	**Total Est. Demand:**	8415 VA
HEAT	300 VA	100.0%	300 VA	**Total Conn.:**	23.4 A
RCPT	720 VA	100.0%	720 VA	**Total Est. Demand:**	23.4 A

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: RS&H
DRAWN BY: BWG
DESIGNED BY: CRD
PROJECT NUMBER:
2003-0070-006

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SEAL:

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SHEET TITLE:
ELECTRICAL POWER PANEL SCHEDULES

SHEET ID:
EP603

1

PROJECT STATUS:
100% BID SET

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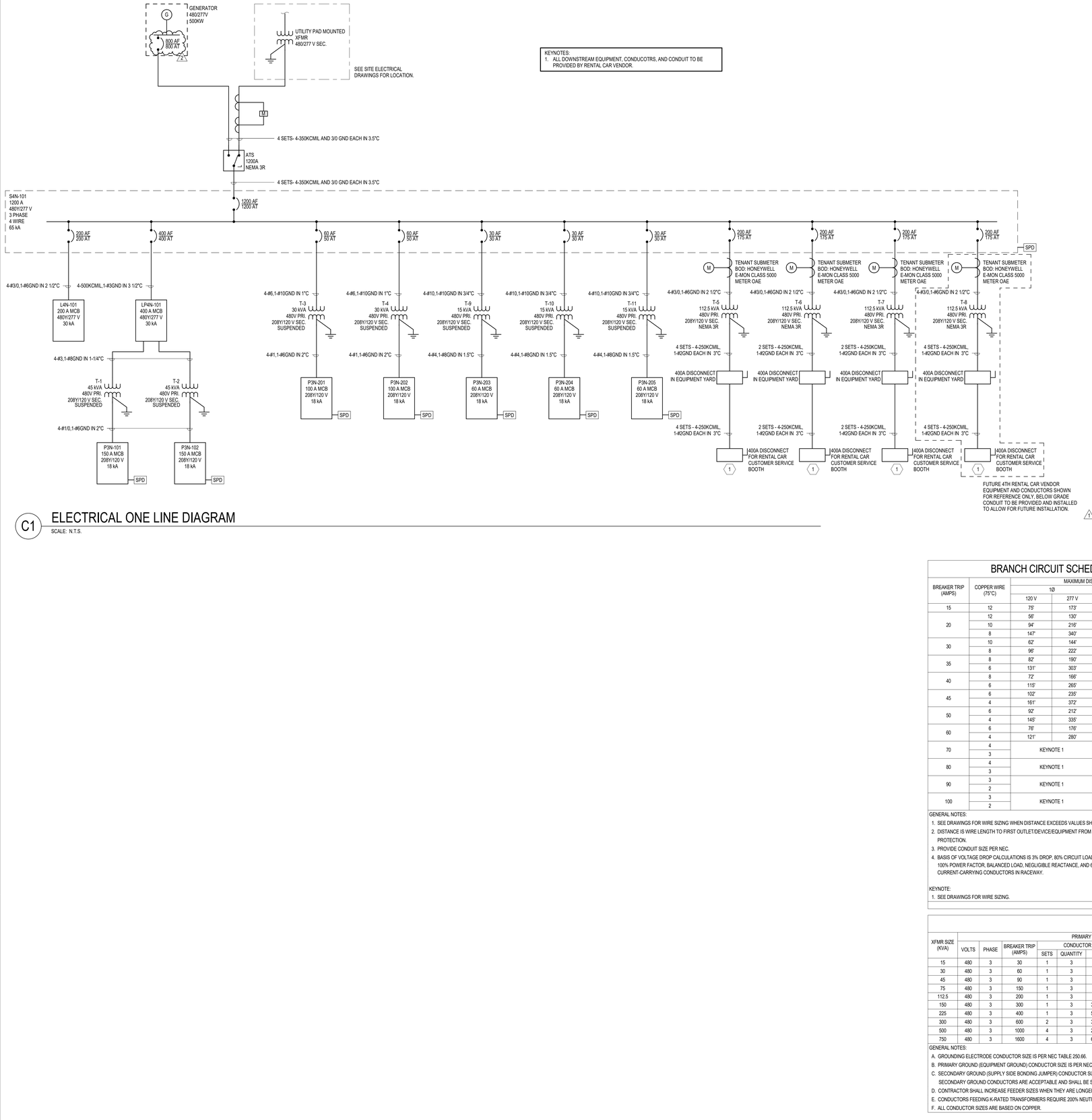

KEYNOTES:
1. ALL DOWNSTREAM EQUIPMENT, CONDUCOTRS, AND CONDUIT TO BE PROVIDED BY RENTAL CAR VENDOR.

C1 ELECTRICAL ONE LINE DIAGRAM

SCALE: N.T.S.

FEEDER SCHEDULE

BREAKER TRIP (AMPS)	TYPE	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GAUGE	MIN. GEC (SE) MIN. EGC (ΔY)	MINIMUM CONDUIT SIZE
30	Δ	1	3	#10	#10	3/4"
	Y		4			
40	Δ	1	3	#8	#10	3/4"
	Y		4			1"
50	Δ	1	3	#6	#10	1"
	Y		4			
60	Δ	1	3	#6	#10	1"
	Y		4			
70	Δ	1	3	#4	#8	1 1/4"
	Y		4			
90	Δ	1	3	#3	#8	1 1/4"
	Y		4			
100	SE	1	4	#2	#1/0	1 1/4"
	Δ		3		#8	
	Y		4			
110	Δ	1	3	#2	#6	1 1/4"
	Y		4			1 1/2"
125	SE	1	4	#1	#6	1 1/2"
	Δ		3		#6	
	Y		4			2"
150	SE	1	4	#1/0	#6	2"
	Δ		3		#6	
	Y		4			
175	Δ	1	3	#2/0	#6	2"
	Y		4			
200	SE	1	4	#3/0	#4	2"
	Δ		3		#6	
	Y		4			2 1/2"
225	SE	1	4	#4/0	#2	2 1/2"
	Δ		3		#4	
	Y		4			
250	Δ	1	3	250 KCMIL	#4	2 1/2"
	Y		4			3"
300	Δ	1	3	300 KCMIL	#4	3"
	Y		4			
350	Δ	1	3	350 KCMIL	#3	3"
	Y		4			
400	SE	1	4	500 KCMIL	#1/0	3 1/2"
	Δ		3		#3	
	Y		4			
500	Δ	2	3	#4/0	#2	EACH SET IN 2 1/2"
	Y		4			
600	SE	2	4	300 KCMIL	#1/0	EACH SET IN 3"
	Δ		3		#1	
	Y		4			
800	SE	2	4	500 KCMIL	#2/0	EACH SET IN 3 1/2"
	Δ		3		#1/0	
	Y		4			
1000	SE	4	4	250 KCMIL	#2/0	EACH SET IN 2 1/2"
	Δ		3			
	Y		4			
1200	SE	4	4	350 KCMIL	#3/0	EACH SET IN 3"
	Δ		3			
	Y		4			
1600	SE	4	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		#4/0	
	Y		4			
2000	SE	5	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		250 KCMIL	
	Y		4			
2500	SE	6	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		350 KCMIL	
	Y		4			
3000	SE	8	4	500 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		400 KCMIL	
	Y		4			
G	REFER TO "GROUNDING RISER DETAIL" FOR CONDUCTOR SIZE.					
T	REFER TO "TRANSFORMER SCHEDULE" FOR CONDUCTOR SIZE.					
U	REFER TO "ELECTRICAL UTILITY MATRIX" FOR ADDITIONAL INFORMATION.					

GENERAL NOTES:
1. ALL FEEDER TYPES SCHEDULED MAY NOT APPLY TO THIS PROJECT.
2. MAXIMUM 2% VOLTAGE DROP FOR FEEDERS; 3% VOLTAGE DROP FOR BRANCH CIRCUITS.
3. ADJUST CONDUCTOR & GEC SIZE FOR LONG RUNS AND TEMPERATURE ABOVE DESIGN AMBIENT TEMPERATURE.
4. CONDUIT SIZING IS BASED ON CONDUCTORS WITH THHW INSULATION.

BRANCH CIRCUIT SCHEDULE

BREAKER TRIP (AMPS)	COPPER WIRE (75°C)	MAXIMUM DISTANCE (FEET) 1Ø 120 V	1Ø 277 V	3Ø 208 V	3Ø 480 V
15	12	75'	173'	150'	346'
20	12	56'	130'	113'	260'
	10	94'	216'	187'	443'
	8	147'	340'	295'	681'
30	10	62'	144'	125'	289'
	8	96'	222'	192'	444'
35	8	82'	190'	165'	381'
	6	131'	303'	263'	605'
40	8	72'	166'	144'	333'
	6	115'	265'	230'	530'
45	6	102'	235'	204'	471'
	4	161'	372'	323'	745'
50	6	92'	212'	184'	424'
	4	145'	335'	291'	670'
60	6	76'	176'	152'	353'
	4	121'	280'	243'	559'
70	4	KEYNOTE 1		208'	479'
	3			257'	594'
80	4	KEYNOTE 1		182'	421'
	3			225'	520'
90	3	KEYNOTE 1		200'	462'
	2			250'	578'
100	3	KEYNOTE 1		180'	415'
	2			225'	520'

GENERAL NOTES:
1. SEE DRAWINGS FOR WIRE SIZING WHEN DISTANCE EXCEEDS VALUES SHOWN.
2. DISTANCE IS WIRE LENGTH TO FIRST OUTLET/DEVICE/EQUIPMENT FROM OVERCURRENT PROTECTION.
3. PROVIDE CONDUIT SIZE PER NEC.
4. BASIS OF VOLTAGE DROP CALCULATIONS IS 3% DROP, 80% CIRCUIT LOAD, THWN &THWN, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, AND 6 OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.

KEYNOTE:
1. SEE DRAWINGS FOR WIRE SIZING.

TRANSFORMER SCHEDULE

XFMR SIZE (KVA)	PRIMARY VOLTS	PHASE	BREAKER TRIP (AMPS)	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GUAGE	GROUND GUAGE	CONDUIT SIZE	GROUNDING ELECTRODE CONDUCTOR	SECONDARY VOLTS	PHASE	BREAKER TRIP (AMPS)	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GUAGE	GROUND GUAGE	CONDUIT SIZE
15	480	3	30	1	3	#10	#10	3/4"	#8	208	3	60	1	4	#4	#8	1 1/4"
30	480	3	60	1	3	#6	#10	1"	#8	208	3	100	1	4	#1	#6	2"
45	480	3	90	1	3	#3	#8	1 1/4"	#8	208	3	150	1	4	#1/0	#6	2"
75	480	3	150	1	3	#1/0	#6	2"	#6	208	3	225	1	4	#4/0	#2	2 1/2"
112.5	480	3	200	1	3	#3/0	#6	2"	#4	208	3	400	2	4	#3/0	#2	EACH SET IN 2 1/2"
150	480	3	300	1	3	300 KCMIL	#4	2 1/2"	#2	208	3	600	2	4	350 KCMIL	#2/0	EACH SET IN 3"
225	480	3	400	1	3	500 KCMIL	#3	3"	#1/0	208	3	800	2	4	600 KCMIL	#3/0	EACH SET IN 4"
300	480	3	600	2	3	300 KCMIL	#1	EACH SET IN 2 1/2"	#2	208	3	1200	4	4	350 KCMIL	#4/0	EACH SET IN 3"
500	480	3	1000	4	3	250 KCMIL	#2/0	EACH SET IN 2 1/2"	#2	208	3	2000	5	4	600 KCMIL	400 KCMIL	EACH SET IN 4"
750	480	3	1600	4	3	600 KCMIL	#4/0	EACH SET IN 3 1/2"	#1/0	208	3	3000	8	4	500 KCMIL	500 KCMIL	EACH SET IN 3 1/2"

GENERAL NOTES:
A. GROUNDING ELECTRODE CONDUCTOR SIZE IS PER NEC TABLE 250.66.
B. PRIMARY GROUND (EQUIPMENT GROUND) CONDUCTOR SIZE IS PER NEC TABLE 250.122.
C. SECONDARY GROUND (SUPPLY SIDE BONDING JUMPER) CONDUCTOR SIZE IS PER NEC 250.102(C)(1). SECONDARY GROUND CONDUCTOR SIZE ASSUMES A SINGLE CONDUCTOR FOR SINGLE OR PARALLEL SETS, MULTIPLE SECONDARY GROUND CONDUCTORS ARE ACCEPTABLE AND SHALL BE SIZED PER NEC TABLE 250.102.
D. CONTRACTOR SHALL INCREASE FEEDER SIZES WHEN THEY ARE LONGER THEN 165' FOR 208 V AND 185' FOR 480 V.
E. CONDUCTORS FEEDING K-RATED TRANSFORMERS REQUIRE 200% NEUTRAL CONDUCTORS WITH CONDUIT SIZED PER NEC.
F. ALL CONDUCTOR SIZES ARE BASED ON COPPER.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025
2	Addendum 2	4/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD
PROJECT NUMBER:	2003-0070-006

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SEAL:

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SHEET TITLE:
ELECTRICAL ONE LINE DIAGRAM

SHEET ID:
EP601

PROJECT STATUS:
100% BID SET

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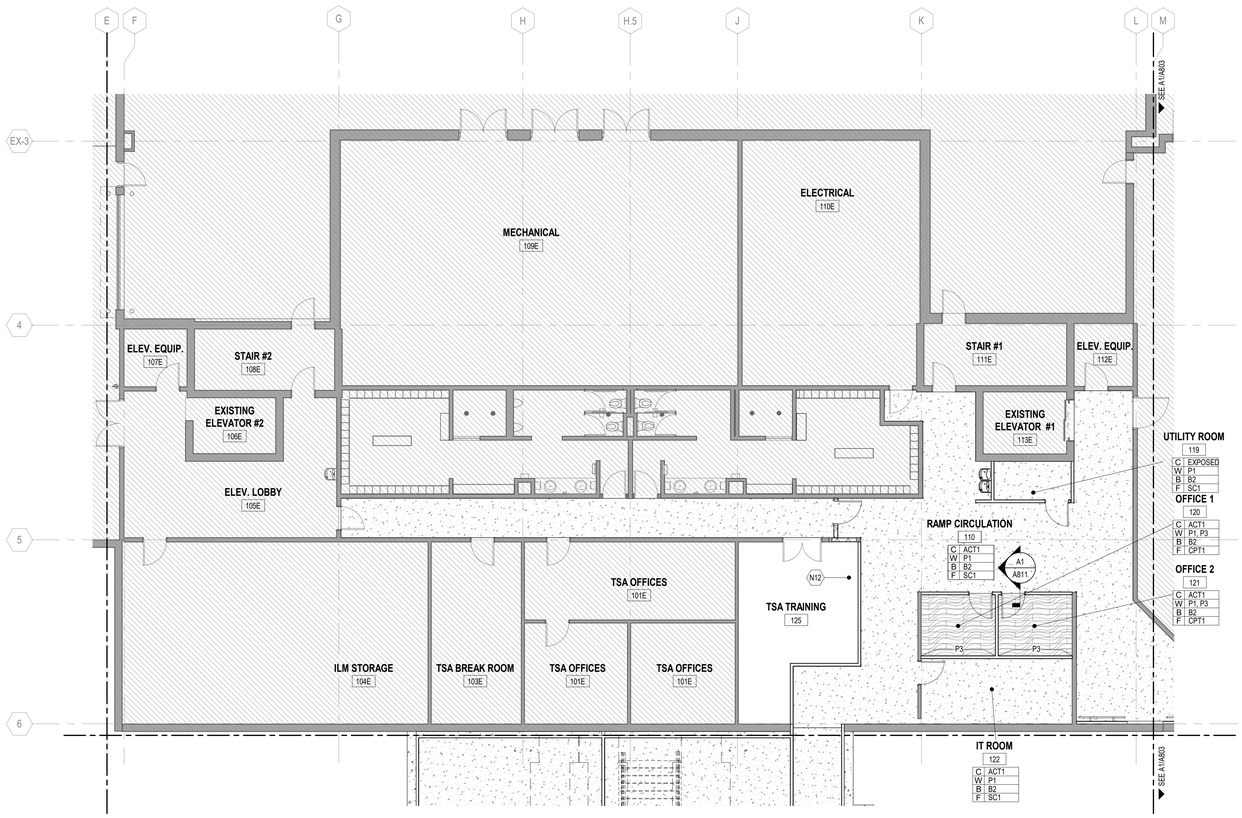
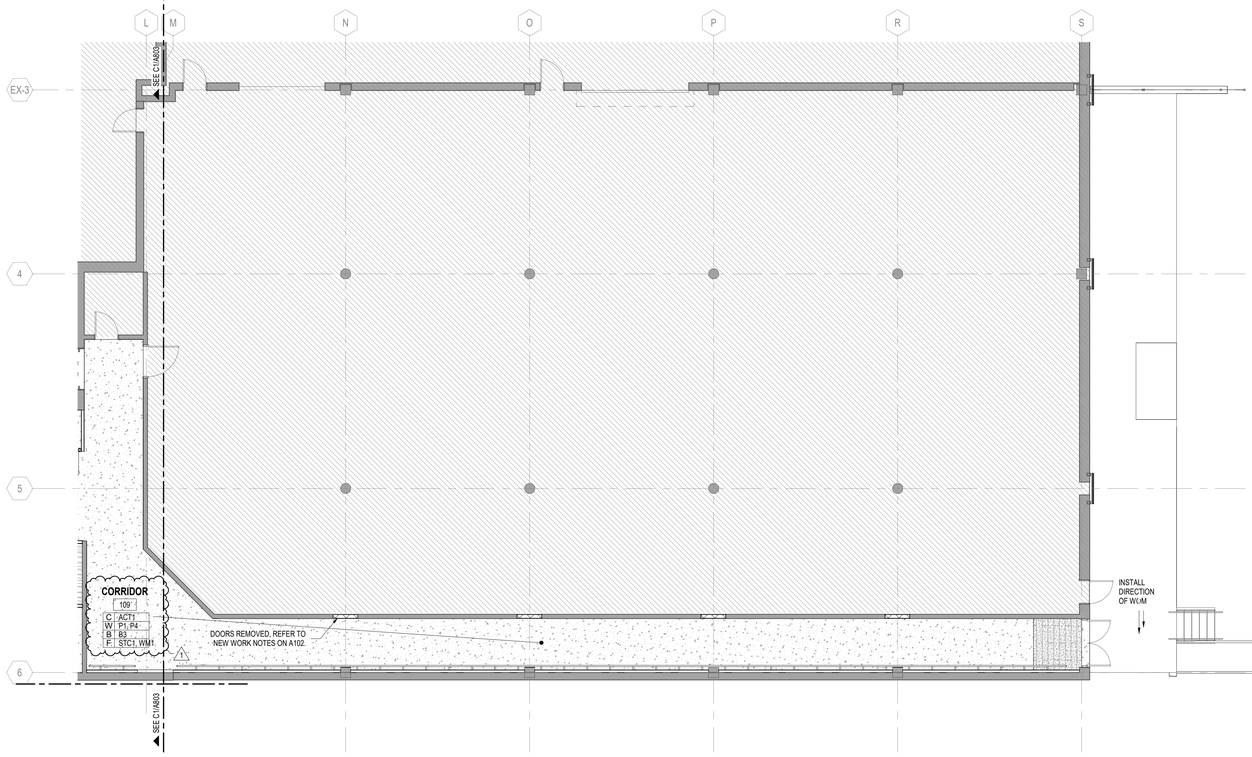


C1 PARTIAL RAMP LEVEL INTERIOR FINISH PLAN - AREA B

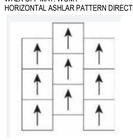
SCALE: 1/8" = 1'-0"



A1 PARTIAL RAMP LEVEL INTERIOR FINISH PLAN - AREA C

SCALE: 1/8" = 1'-0"

WALK OFF MAT: WOM1
HORIZONTAL ASHLAR PATTERN DIRECTION



8 0 8 16

SCALE: 1/8" = 1'-0"

NEW WORK KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
N12	CONTRACTOR TO MATCH COLOR, TYPE, HEIGHT OF NEW FLOOR PORTION WITH EXISTING FLOOR.

GENERAL INTERIOR FINISH NOTES

AREA LEGEND

NO WORK IN AREA. U.N.O.

REFER TO VOLUME 1 PACKAGE

GENERAL

1. FOR BIDDING AND PRICING PURPOSES, NO SUBSTITUTIONS WILL BE ACCEPTED. SUBMIT SAMPLES OF FINISHES TO ARCHITECT FOR APPROVAL.
2. FOR BIDDING AND PRICING PURPOSES, CONTACT ARCHITECT TO OBTAIN MANUFACTURER CONTACT INFORMATION PER EACH FINISH.
3. ALL TILE, EXCEPT MESH MOUNTS ARE TO BE INSTALLED WITH 1/8" GROUT JOINTS OR SMALLER. ALL FLOOR TILE AND WALL TILE JOINTS ARE TO ALIGN IN ONE OR BOTH DIRECTIONS.
4. ALL WALLS ARE TO BE PAINTED WITH P1, UNLESS NOTED OTHERWISE.
5. ALL DOORS AND DOOR FRAMES SHALL BE COORDINATED WITH THE FINISH LEGEND AND THE DOOR HARDWARE SCHEDULE.
6. ASSESS EXISTING WALL FINISH PLAN FOR REMOVAL OF EXISTING WALL FINISHES WHERE PAINT IS SCHEDULED OR SHOWN ON PLAN OR CALLED OUT AS A GENERAL FINISH. ALL WALLS TO BE RESTORED TO A LEVEL 4 FINISH UPON REMOVAL OF EXISTING FINISHES.
7. USE LOW VOC'S FOR ALL PAINTS, PRIMERS, AND ADHESIVES.
8. LEAD TIMES FOR ALL MANUFACTURERS SHOULD BE CHECKED AT RECEIPT OF CONSTRUCTION DOCUMENTS TO ENSURE PRODUCTS ARE ORDERED IN THE APPROPRIATE TIME FRAME FOR SHIPPING AND RECEIVING PRIOR TO SCHEDULED INSTALLATION DATE.
9. PROVIDE REQUIRED BLOCKING AT WALL HUNG CABINETRY, TV MONITORS, AND DRY ERASE BOARDS.
10. ALL HOLLOW METAL FRAMES IN SCOPE TO BE PAINTED TO MATCH ADJACENT WALL COLOR IN A SEMI-GLOSS FINISH UNLESS NOTED OTHERWISE.
11. PROVIDE LEVEL 5 DRYWALL FINISH AT ALL PARTITIONS/ WALLS TO RECEIVE SCHEDULED COVERING.
12. ALL FINISH MATERIALS TO BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS. REFER TO MANUFACTURER FOR INSTALLATION INSTRUCTIONS. GC TO PROVIDE 6"X6" SAMPLE, U.O.N. IN SPECIFICATIONS FOR MATERIALS LISTED IN FINISH LEGEND.
13. MANUFACTURER AND PRODUCT NAMES ARE "BASIS OF DESIGN". REFER TO SPECS FOR ADDITIONAL APPROVED MANUFACTURERS AND ALLOWABLE SUBSTITUTIONS.
14. SEE INTERIOR FINISH PLANS AND ELEVATIONS FOR CLARIFICATION ON LIMITS AND LOCATIONS OF FINISHES.
15. ALL INTERIOR FINISHES ARE TO BE IN COMPLIANCE WITH ALL CODES, NATIONAL AND LOCAL. REFER TO TOILET ACCESSORIES SCHEDULE FOR TOILET PARTITION FINISH.
16. GC SHALL PROVIDE MOCK UPS FOR COLUMNS, RESTROOM VANITIES WITH FAUCETS AND SOAP DISPENSERS. TEST FOR WATER PRESSURE OUTPUT AND CONFIRM PRESSURE MEETS OWNERS APPROVAL.
17. LOCATIONS LISTED ON FINISH LEGEND ARE APPROXIMATE LOCATIONS AND ARE NOT LIMITED TO THOSE AREAS LISTED. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.

FLOORING

1. ALL FLOOR FINISH CHANGES TO OCCUR AT CENTERLINE OF DOOR FRAMES, UNLESS NOTED OTHERWISE. REFER TO FINISH PLAN FOR ALL TRANSITION CHANGES.
2. RUBBER BASE SHALL BE USED UNLESS NOTED OTHERWISE.
3. REFER TO FINISH PLANS FOR ANY FLOOR PATTERNS AND FLOOR TRANSITION DETAILS ON FINISH SHEETS.
4. REFER TO FINISH PLANS AND INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION ON THE LIMITS OF FINISHES.
5. REFER TO FINISH PLAN FOR CARPET TILE AND PATTERN LOCATIONS AND DIRECTION.
6. MITER TILE TO CORNERS OF SQUARE DRAIN - SEE DIAGRAM FOR REFERENCE, SUBMIT SEAMING DIAGRAM FOR APPROVAL.
7. PROVIDE INSTALLATION DIRECTION FOR EACH PRODUCT AND INCLUDE SEAMING DIAGRAM.
8. CONTRACTOR TO EXTEND FINISH FLOORING UNDER ALL LAVATORIES. PLUMBING FIXTURES, MILLWORK, ETC. TO PROVIDE CONTINUOUS FLOOR FINISH U.O.N.

MILLWORK

1. REFER TO MILLWORK SECTIONS FOR EDGE PROFILE.
2. CONFIRM WOOD GRAIN, VENEER, SOLID SURFACE, AND PLASTIC LAMINATE DIRECTION ON SHOP DRAWINGS.
3. SCRIBE ALL COUNTERS TO WALL, CAULK TO MATCH WALL COLOR. SUBMIT CAULK COLOR TO ARCHITECT/PROJECT DESIGNER PRIOR TO INSTALLATION IN ORDER TO CONFIRM WALL COLOR.
4. ALL CABINET PULLS TO BE HAFELE BAR HANDLE, STEEL COSMOPOLITAN COLLECTION, BRUSHED NICKEL, 4" CTC, 8-32 THREAD
5. ALL PLASTIC LAMINATE CABINET DOOR AND DRAWER EDGES TO BE COLOR MATCHED PLASTIC LAMINATE. FINISHES TO BE SELECTED FROM SHOP DRAWING SUBMITTALS FOR APPROVAL.
6. PLASTIC LAMINATE ON ALL OPEN CUBBIES OF INTERIOR OF ENCLOSED CABINETS TO BE PLASTIC LAMINATE TO MATCH ADJACENT FINISH ON VERTICAL SURFACES. UNLESS NOTED OTHERWISE. PROVIDE TPO EDGE BAND TO MATCH PLASTIC LAMINATE COLOR. SUBMIT SAMPLE FOR APPROVAL.

CEILINGS

1. ALL GWB SOFFITS/CEILINGS SHALL BE PAINTED WITH THE DESIGNATED PAINT FOR CEILINGS.
2. REFER TO REFLECTED CEILING PLAN FOR GYPSUM BOARD DROPS AND SOFFITS.

ELEVATORS

1. FOR ELEVATOR CAB INTERIORS REFER TO ELEVATOR FINISH DETAILS ON SHEET A408.

ELECTRICAL

1. COORDINATE SPECIALTY ITEMS WITH ELECTRICAL ENGINEERING SHEETS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: ACRYLIC BACKLIT PANELS, COLUMNS INCLUDING LIGHTING, ELEVATOR CAB INTERIORS, MILLWORK.

FINISH PLAN LEGEND & SHEET NOTES

FLOORING TYPES LEGEND

- CPT1: CARPET CUSTOM GRAPHIC
- TERR: TERRAZO TO MATCH EXISTING
- TER1: TERRAZO - DARK BLUE
- TER2: TERRAZO - LIGHT BLUE
- TER3: TERRAZO - GENERAL
- TER4: TERRAZO - SAND
- EPX: CLEAR EPOXY
- SC1: SEALED CONCRETE
- WOM1: WALKOFF MAT
- WOM2: WALKOFF MAT

GENERAL SHEET NOTES

1. REFER TO A610 ROOM FINISH SCHEDULE, LEGEND, AND NOTES.
2. REFER TO A810 FOR TRANSITION DETAILS.
3. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.
4. CASEWORK/MILLWORK, FURNITURE AND EQUIPMENT NOT SHOWN FOR CLARITY TO ILLUSTRATE EXTENT OF FINISHES.
5. FOR CEILINGS TAGGED AS EXPOSED (EXP), REFER TO A121 FOR ROOF DECK DIAGRAMS AND A810 FOR DECK FINISH INFORMATION
6. SEE SHEETS A401 AND A402 FOR RESTROOM FINISH INFORMATION AND DETAILS.

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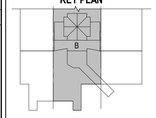
ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	ADDEMDUM #2	04/16/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: SG
DRAWN BY: SS
DESIGNED BY: FG
PROJECT NUMBER: 1003-0070-004

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SHEET TITLE:
PARTIAL RAMP LEVEL INTERIOR FINISH PLAN - AREA B & AREA C

SHEET ID:
A803-2

PROJECT STATUS:
100% BID SET

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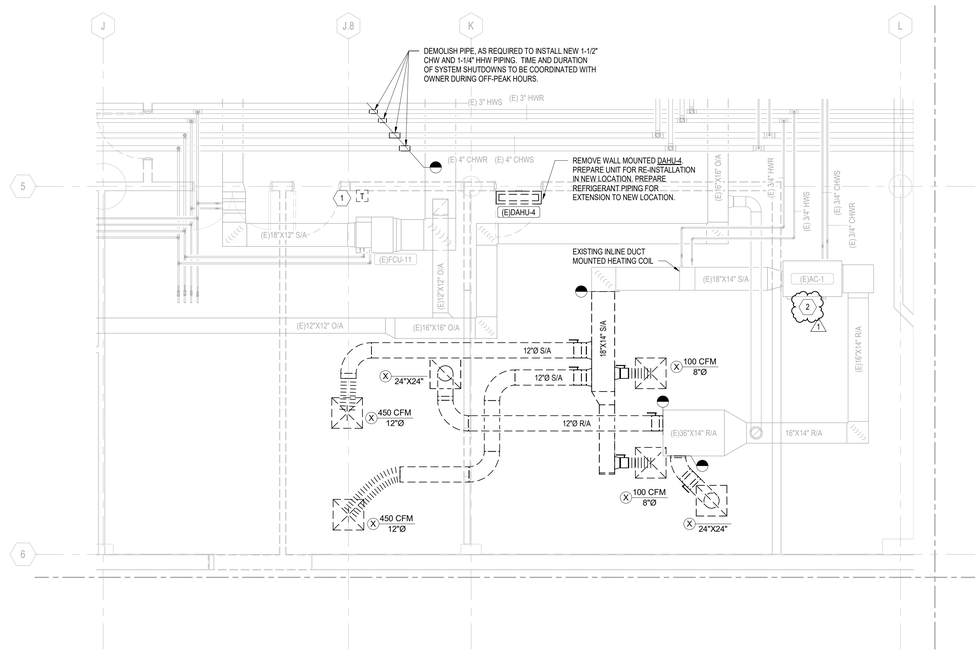
4/21/2025 11:56:24 AM Autodesk Docs://1003007004_ILM TO4 Rdwy Inf Improv Design/1003007004_ILM_TO4 Terminal and Tunnel_A_R24.rvt

KEYED NOTES

1. MECHANICAL CONTRACTOR TO VERIFY LOCATION OF THERMOSTAT SERVING (E) AC-1. EXISTING THERMOSTAT TO BE PREPARED FOR RELOCATION. (1)
2. MECHANICAL CONTRACTOR TO CONDUCT PRE TEST AND BALANCE FOR EXISTING FAN COIL UNIT AC-1 DUCTWORK AND HYDRONIC FLOW THROUGH COOLING COIL AND DUCT MOUNTED HEATING COIL.



PN

C4 ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
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REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:

ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN

SHEET ID:

MD401-2

PROJECT STATUS:
100% BID SET

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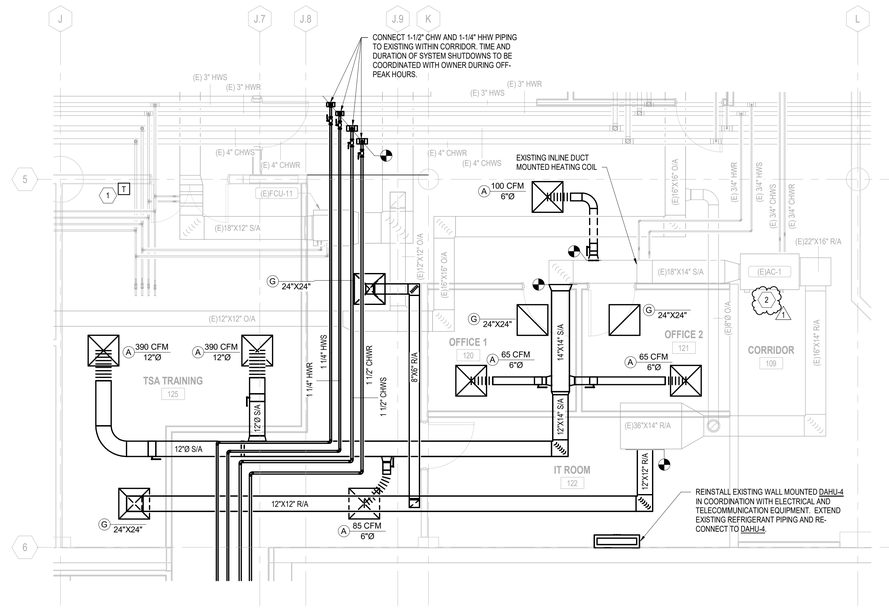
KEYED NOTES

1. EXISTING THERMOSTAT SERVING (E) AC-1 TO BE RELOCATED TO LOCATION SHOWN.
2. MECHANICAL CONTRACTOR TO REBALANCE DIFFUSERS PER PLAN FOR EXISTING FAN COIL UNIT AC-1.



PN

N

C4 ENLARGED RAMP LEVEL MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: KMN
DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
ENLARGED RAMP LEVEL MECHANICAL PLAN

SHEET ID:
M401-2

PROJECT STATUS:
100% BID SET

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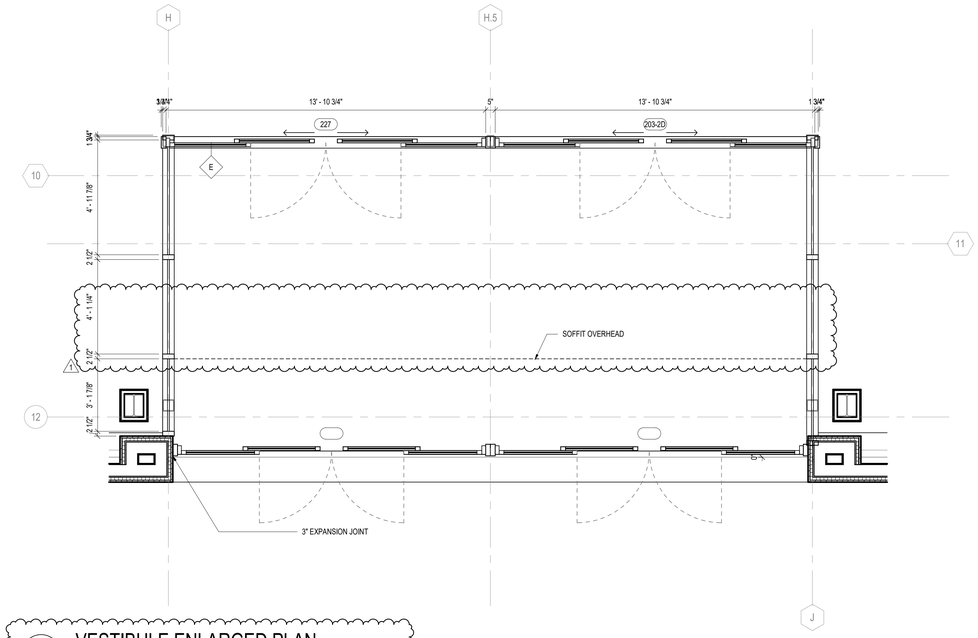
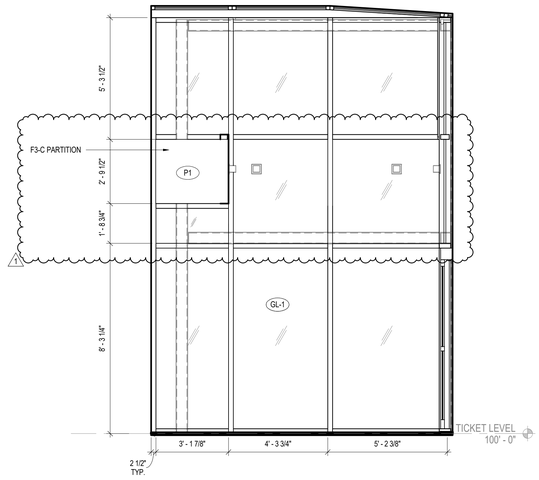


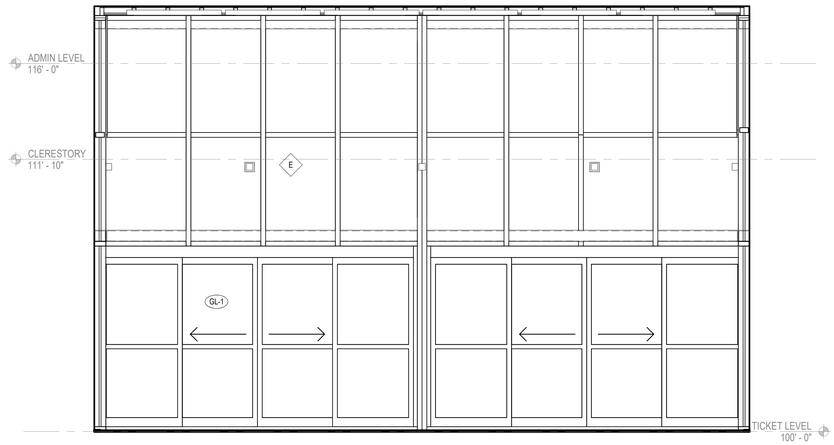
C1 VESTIBULE ENLARGED PLAN

SCALE: 3/8" = 1'-0"



C4 VESTIBULE TYPICAL SIDE INTERIOR ELEVAITON

SCALE: 3/8" = 1'-0"



A4 VESTIBULE NORTH INTERIOR ELEVATION

SCALE: 3/8" = 1'-0"

2 0 2 4 6

SCALE: 3/8" = 1'-0"

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ILM

PROJECT TITLE:
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PROJECT ADDRESS:
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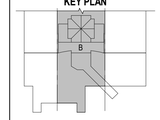
KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
1003-0070-004

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SHEET TITLE:
ENLARGED VESTIBULE PLANS AND ELEVATIONS

SHEET ID:
A401-4

PROJECT STATUS:
100% BID SET

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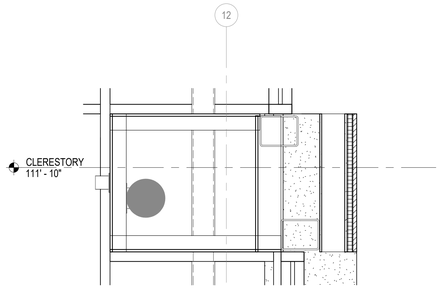
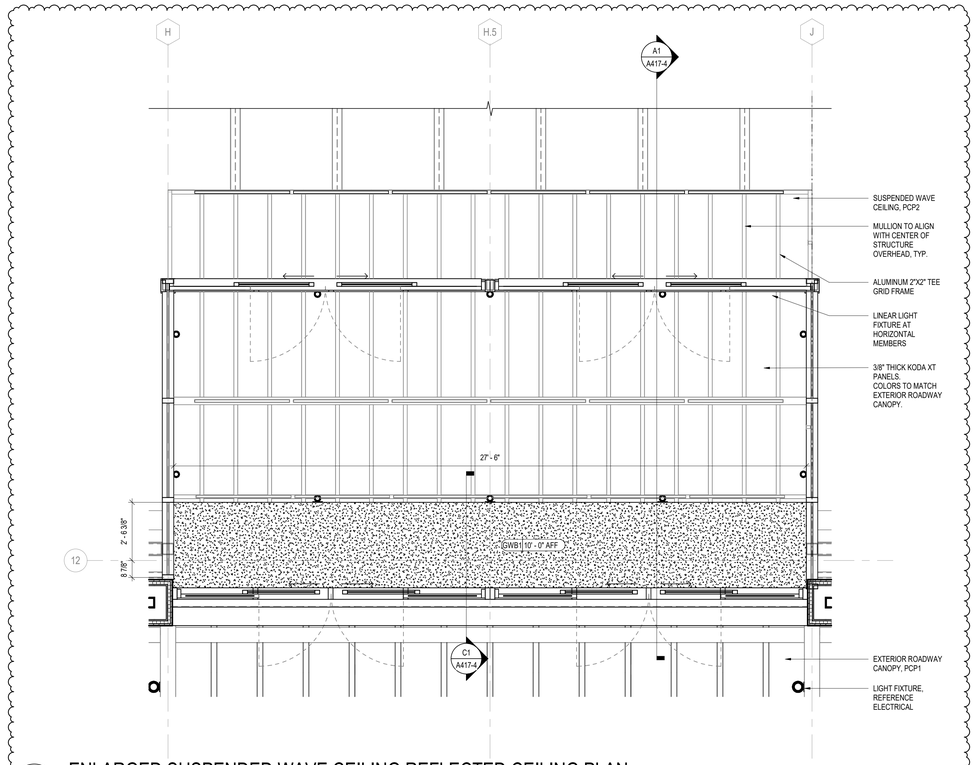


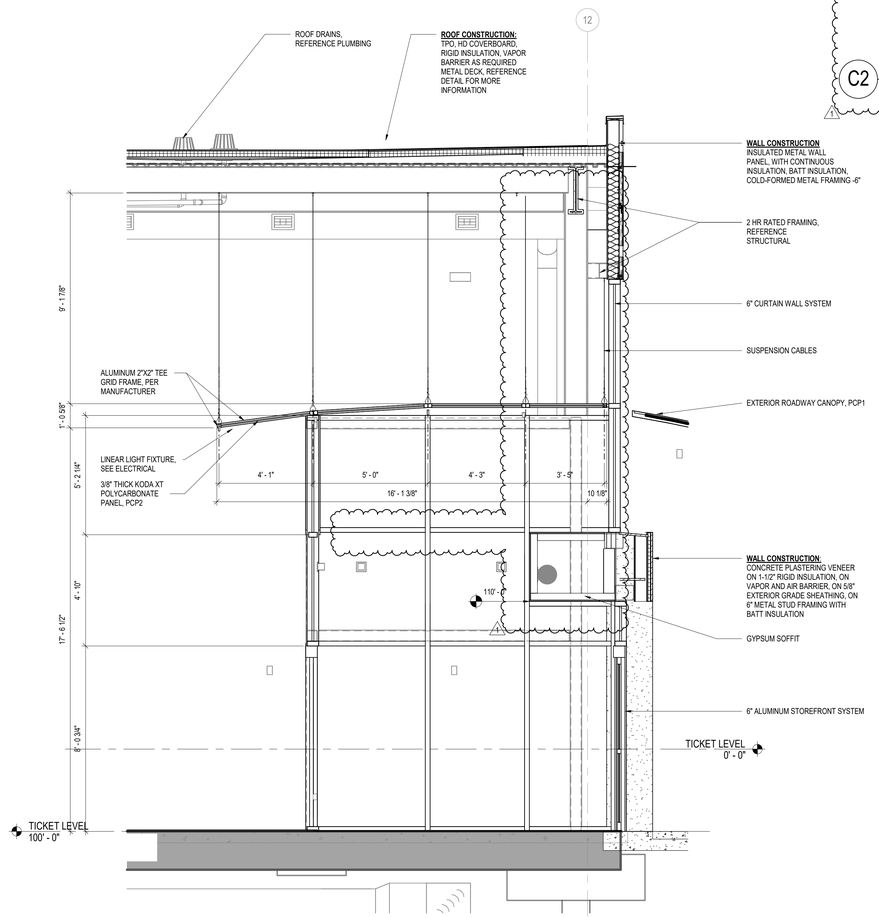
C1 SECTION THRU SOFFIT

SCALE: 3/4" = 1'-0"



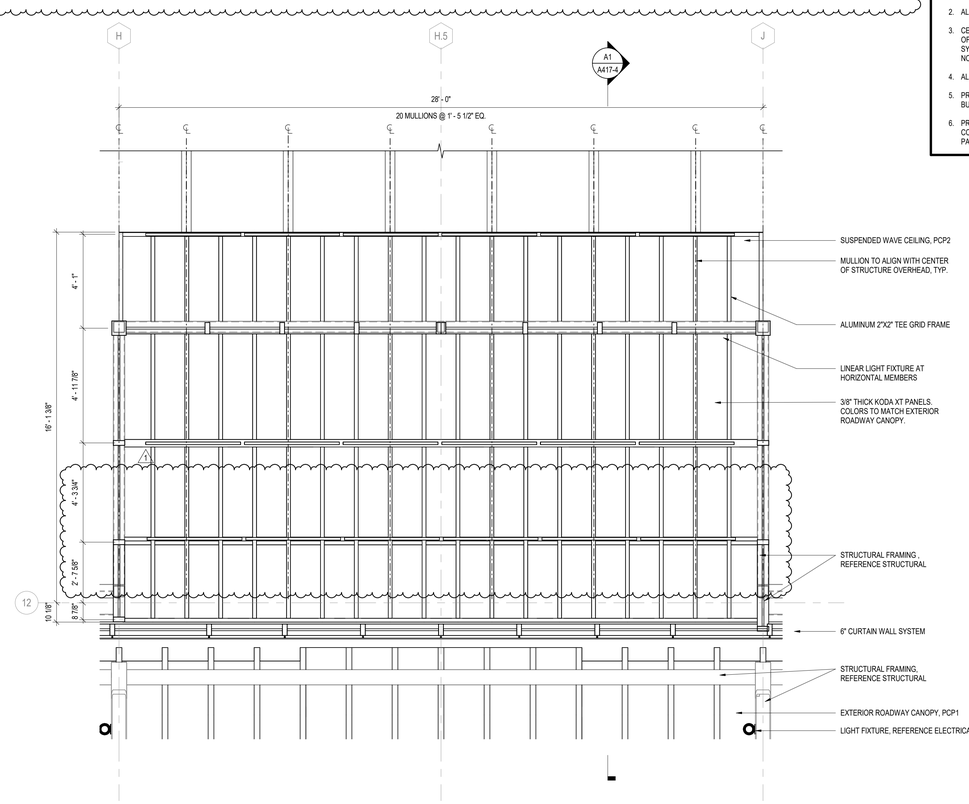
C2 ENLARGED SUSPENDED WAVE CEILING REFLECTED CEILING PLAN

SCALE: 3/8" = 1'-0"



A1 SUSPENDED WAVE CEILING SECTION

SCALE: 3/8" = 1'-0"



A3 ENLARGED SUSPENDED WAVE CEILING REFLECTED CEILING PLAN

SCALE: 3/8" = 1'-0"

CEILING PLAN LEGEND & SHEET NOTES

- NO WORK IN AREA, U.N.O.
- REFER TO VOLUME 1 PACKAGE
- BID ALTERNATE #1 (EXISTING RESTROOM RENOVATIONS)
- BID ALTERNATE #2 (EXISTING BOH CORRIDOR RENOVATIONS)

CEILING TYPES & FIXTURES LEGEND

- ACT1: 2' X 2' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
- ACT4: 2' X 6' SUSPENDED ACOUSTICAL CEILING TILE SYSTEM
- GWB: 5/8" GWB ON METAL FRAMING
- EXP: EXPOSED TO ABOVE
- PCP2: SUSPENDED POLYCARBONATE PANEL AND FRAME SYSTEM
- 4" x 4' FLUORESCENT LIGHT FIXTURE
- 9" x 4' FLUORESCENT LIGHT FIXTURE
- 4" x 8' FLUORESCENT LIGHT FIXTURE
- 2' x 2' FLUORESCENT LIGHT FIXTURE
- 2' x 2' EMERGENCY FLUORESCENT LIGHT FIXTURE
- 2' x 2' STANDBY FLUORESCENT LIGHT FIXTURE
- 1' x 1' FLUORESCENT LIGHT FIXTURE
- 1' x 1' EMERGENCY FLUORESCENT LIGHT FIXTURE
- 6" ROUND STANDBY RECESSED CAN LIGHT FIXTURE
- 6" ROUND RECESSED CAN LIGHT FIXTURE
- 6" ROUND PENDENT LIGHT FIXTURE
- OCCUPANCY SENSOR
- EXIT SIGN
- 2' x 2' SUPPLY AIR DIFFUSER
- 2' x 2' RETURN AIR GRILLE
- 2' x 2' EXHAUST AIR GRILLE
- 6" WALL SCONCE CYLINDER LIGHT FIXTURE

GENERAL SHEET NOTES

1. DEVICES HAVE BEEN SHOWN FOR COORDINATION PURPOSES. SEE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ITEMS NOT SHOWN ON REFLECTED CEILING PLANS. CONTACT THE ARCHITECT IF ANY CONFLICTS OCCUR.
2. ALL CEILING MOUNTED DEVICES MUST BE CENTERED IN BOTH DIRECTIONS IN ACOUSTICAL CEILING PANELS U.N.O.
3. CENTER SPRINKLER HEADS IN ACOUSTICAL CEILING PANELS WHERE THEY OCCUR. COORDINATE THE LOCATION OF THE SPRINKLER HEADS WITH OTHER CEILING FIXTURES AND EQUIPMENT IN ALL CEILINGS. ENSURE THAT A SYMMETRICAL AND BALANCED ARRANGEMENT IS INSTALLED. CONTRACTING OFFICER IS TO REVIEW INSTANCES OF NON-EQUAL SPACING PRIOR TO INSTALLATION.
4. ALL NEW GYP. SOFFITS TO BE 5/8" TYPE "X" GYP, U.N.O.
5. PROVIDE 5/8" MOISTURE-RESISTANT GWB FOR CEILINGS IN LIEU OF TYPICAL GWB AT ALL WET AREAS INCLUDING, BUT NOT LIMITED TO RESTROOMS, JANITOR CLOSETS AND KITCHEN AREAS.
6. PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO PLUMBING VALUES AND MECHANICAL DAMPER BALANCE CONTROLS. COORDINATE ALL LOCATIONS WITH TRADES AND ARCHITECT, TYP. ALL ACCESS PANELS TO BE PAINTED TO MATCH ADJACENT SURFACES.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: SG
DRAWN BY: TP
DESIGNED BY: FG
PROJECT NUMBER:
1003-0070-004

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SHEET TITLE:
ENLARGED SUSPENDED WAVE CEILING PLANS AND SECTIONS

SHEET ID:
A417-4

PROJECT STATUS:
100% BID SET

0 1
SCALE: 3" = 1'-0"
2 0 2 4
SCALE: 1/2" = 1'-0"

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GENERAL MECHANICAL SYMBOLS

REVISION NUMBER - SHOWN ON PLANS

POINT WHERE NEW CONNECTS TO EXISTING

DISCONNECT SYMBOL

XX — NUMBER OF DETAIL ON SHEET
XXXXX — NUMBER OF SHEET WHERE DETAIL APPEARS

0 — KEYNOTE

CONTINUATION SYMBOL

Room
5 — ROOM NAME AND NUMBER

EXISTING CONSTRUCTION

2" — AREA NOT IN CONTRACT

PIPE SIZE TAG (DIAMETER)

ABOVE GROUND PIPING

1/8" / 12" SLOPE — PIPE SLOPE TAG

BELOW GROUND PIPING

INVERT: -105' - 1" — PIPE INVERT ELEVATION TAG

(E) — EXISTING PIPE TAG

PIPING BEING DEMOLISHED

ABBREVIATIONS

(E)	EXISTING
ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACS	AIR CONDITIONING SYSTEM
ACU	AIR CONDITIONING UNIT
ADJ	ADJUSTABLE
AF	AIRFOIL
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AS	AIR SEPARATOR
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BD	BELT DRIVE
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BTUH	BRITISH THERMAL UNIT/HOUR
C	CONDENSATE
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CD	CONDENSATE DRAIN
CDL	CONDENSATE DRAIN LINE
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWR	CHILLER WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CS	CURRENT SENSOR
CT	CONTROL TRANSFORMER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER
CWR	CONDENSOR WATER RETURN
CWS	CONDENSOR WATER SUPPLY
DB	DRY BULB
DD	DIRECT DRIVE
DIFF	DIFFUSER
DL	DOOR LOUVER
DMPR	DAMPER
DN	DOWN
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DTS	DUCT TEMPERATURE SENSOR
DWDI	DOUBLE WIDTH, DOUBLE INLET
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
ENT	ENTERING
EQ	EQUAL
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINAL FILTER
FG	FLOOR GRILLE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE CONNECTION
FLR	FLOOR
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FR	FLOOR RETURN
FT	FAN TERMINAL
FTR	FINNED TUBE RADIATION
FTU	FAN POWERED VAV TERMINAL UNIT
GA	GAUGE
GAL	GALLON

GALV	GALVANIZED
GH	GRAVITY HOOD
GPM	GALLONS PER MINUTE
GUV	GRAVITY UNIT VENTILATOR
H	HUMIDIFIER
HC	HEATING COIL
HP	HORSEPOWER
HRC	HEAT RECOVERY UNIT
HVAC	HEATING VENTILATION AND AIR
HVU	HEATING AND VENTILATING UNIT
HWC	HOT WATER COIL
IN WC	INCH OF WATER COLUMN
IN WG	INCH OF WATER GAUGE
IRH	INFRARED HEATER
ISOTR	ISOLATION TRANSFORMER
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LINEAR DIFFUSER
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMP
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MIN	MINIMUM
MZ	MULTI-ZONE
NC	NOISE CRITERIA
NEC	NATIONAL ELECTRIC CODE (NFPA-70)
No	NUMBER
OAHU	OUTSIDE AIR HANDLING UNIT
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP
PF	PRE-FILTER
PH	PREHEAT COIL
PHWP	PRIMARY HOT WATER PUMP
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RAF	RETURN AIR FAN
RELA	RELIEF AIR
REQD	REQUIRED
RG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMP
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SENSOR
RTS	ROOM TEMPERATURE SENSOR
RTU	ROOF TOP UNIT
S	SMOKE DETECTOR
SA	SOUND ATTENUATOR
SCHWP	SECONDARY CHILLED WATER PUMP
SF	SUPPLY FAN
SF	SQUARE FEET
SHWP	SECONDARY HOT WATER PUMP
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
STR	STARTER
SW	SWITCH
T	TEMPERATURE SENSOR
TA	TRANSFER AIR
TAO	TRANSFER AIR OPENING
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOAC	TRANSFER OPENING ABOVE CEILING
TSTAT	THERMOSTAT
TUX	TERMINAL UNIT CONTROLLER
TYP	TYPICAL
UH	UNIT HEATER
UTR	UP THROUGH ROOF
V-PH-HZ	VOLTS-PHASE-HERTZ
VAF	VENTILATION AIR FAN
VAFC	VENTILATION AIR FAN CONTROLLER
VAV	VARIABLE AIR VOLUME
VCD	VOLUME CONTROL DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VTR	VENT THRU ROOF
W	WATTS
WB	WET BULB
WHP	WATER SOURCE HEAT PUMP
WP	WEATHER PROOF
WWF	WOVEN WIRE FABRIC

HVAC SYMBOLS

16"X8" — SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)

16"Ø — ROUND DUCT SIZE TAG (DIAMETER)

(E) — EXISTING DUCT TAG

DUCT BEING DEMOLISHED

S/A SUPPLY AIR — SUPPLY AIR

O/A OUTSIDE AIR — OUTSIDE AIR

R/A RETURN AIR — RETURN AIR

T/A TRANSFER AIR — TRANSFER AIR

E/A EXHAUST AIR — EXHAUST AIR

L/A RELIEF AIR — RELIEF AIR

GE/A GREASE EXHAUST AIR — GREASE EXHAUST AIR

DROP — RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE

DROP — ROUND SUPPLY/OUTSIDE AIR DUCT RISE

DROP — RECTANGULAR RETURN/TRANSFER AIR DUCT RISE

DROP — ROUND RETURN/TRANSFER AIR DUCT RISE

DROP — RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE

DROP — ROUND EXHAUST/RELIEF AIR DUCT RISE

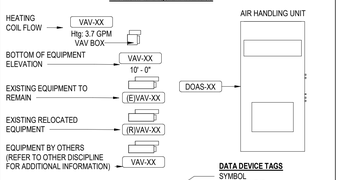
GRILLES, REGISTERS & DIFFUSERS TAG

400 CFM 10"Ø — 3-CONE DIFFUSER

D 500 CFM 12"X10" — LOUVERED GRILLE

500 CFM 12"X10" — EGGCRATE RETURN GRILLE

MECHANICAL EQUIPMENT TAGS



DATA DEVICE TAGS

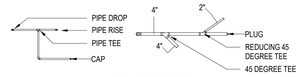
		SYMBOL	EQUIPMENT ID	
CARBON DIOXIDE SENSOR	CO2	TH	RTU-XX	TEMPERATURE & HUMIDITY SENSOR
CARBON MONOXIDE SENSOR	CO	TS	VAV-XX	TEMPERATURE SENSOR
NITROGEN DIOXIDE SENSOR	NO2	T		THERMOSTAT
HUMIDITY SENSOR	HS	MS		MANUAL SWITCH
HUMIDISTAT	H	S		SENSOR

DAMPER TAGS

FIRE DAMPER	F	B	MANUAL BALANCING DAMPER
SMOKE DAMPER	S	D	BACKDRAFT DAMPER
MOTORIZED DAMPER	M	C	COMBINATION FIRE/SMOKE DAMPER

PIPING SYMBOLS

CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CD	CONDENSATE DRAINAGE
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
GWR	GEOTHERMAL WATER RETURN
GWS	GEOTHERMAL WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
G	NATURAL GAS
PG	PROPANE GAS
REF-L	REFRIGERANT-LIQUID
REF-S	REFRIGERANT-SUCTION
REF-HG	REFRIGERANT-HOT GAS
STM	STEAM
CDR	CONDENSATE RETURN



PIPE ACCESSORY TAGS

2" DOM. WM — DOMESTIC WATER METER
2" BALANCING — BALANCING VALVE
2" SHUTOFF — 1/4 TURN BALL VALVE
2" CHECK — CHECK VALVE
2" TMV — 3-WAY MIXING VALVE
2" M-CNTRL — MOTORIZED CONTROL VALVE
2" 3-WAY CNTRL — 3 WAY MOTORIZED CONTROL VALVE
2" REGULATOR — PRESSURE REGULATING VALVE
2" BUTTERFLY — BUTTERFLY VALVE

GENERAL NOTES

1. PROVIDE COMPLETE PRODUCT DATA (SIZE, WEIGHT, OPERATING CHARACTERISTICS, WIRING DIAGRAMS, ETC.) FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE DRAWINGS.
2. ALL HVAC SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODE REQUIREMENTS, STATE MECHANICAL CODE, STATE PLUMBING CODE, NATIONAL ELECTRICAL CODE AND STATE BUILDING CODE.
3. SMOKE DETECTORS ARE FURNISHED BY DIVISION 26 AND INSTALLED IN DUCTWORK AND AHU's BY DIVISION 23.
4. PROVIDE OFFSETS IN NEW DUCT AND PIPING SYSTEMS AS REQUIRED TO FACILITATE INSTALLATION OF NEW WORK AT NO ADDITIONAL COST TO THE CONTRACT.
5. PROVIDE 45 DEGREE ENTRANCE AND EXIT TAPS AT DUCT BRANCH CONNECTIONS.
6. ALL NON-GALVANIZED SUPPORTS AND HANGERS FOR DUCTWORK, PIPING, AND EQUIPMENT MUST BE CLEANED OF DEBRIS AND RUST, PROPERLY PREPPED, PRIMED AND PAINTED. REFER TO DIVISION 9 OF SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
7. THE INSIDE OF DUCTWORK THAT IS VISIBLE THROUGH A DIFFUSER, REGISTER OR GRILLE, MUST BE PAINTED FLAT BLACK.
8. PROVIDE CEILING ACCESS PANELS IN HARD CEILINGS TO ACCESS AND SERVICE FIRE DAMPERS, SMOKE DAMPERS, CONTROL DAMPERS, TERMINAL BOXES, VALVES AND EQUIPMENT LOCATED ABOVE THEM. REFER TO SPEC SECTION 08305 FOR ACCESS DOOR REQUIREMENTS.
9. IN ADDITION TO THE SPECIFICATION REQUIREMENTS AND PRIOR TO ORDERING EQUIPMENT AND INSTALLATION OF NEW WORK, SUBMIT A COMPOSITE SHOP DRAWING (1/4" MIN. SCALE PLAN AND SECTIONS) SHOWING DUCTWORK, PIPING AND EQUIPMENT LAYOUT. THIS SHOP DRAWING MUST ALSO INDICATE MAINTENANCE/SERVICE SPACE FOR ALL EQUIPMENT.
10. CONCRETE PADS FOR MECHANICAL EQUIPMENT MUST BE SIZED, LOCATED AND PROVIDED BY DIVISION 23. PROVIDE 4" HIGH x UNIT LENGTH PLUS 4" x UNIT WIDTH PLUS 4" CONCRETE PADS FOR ALL HVAC EQUIPMENT MOUNTED ON GRADE OR FLOOR SLAB.
11. MANUAL VOLUME DAMPERS MUST HAVE OPPOSED BLADE TYPE DAMPERS.
12. WALL LOUVERS ARE INDICATED FOR INFORMATION ONLY. SEE MECHANICAL LOUVER SCHEDULE FOR SIZE AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION.
13. VERIFY ALL EQUIPMENT WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
14. ALL DIFFUSER AND REGISTER LOCATIONS IN SUSPENDED CEILINGS MUST BE COORDINATED WITH REFLECTED CEILING PLANS, SPRINKLER PLANS AND ELECTRICAL PLANS BEFORE INSTALLATION.
15. ALL DUCTWORK MUST BE INSTALLED AS CLOSE AS POSSIBLE TO WALLS AND UNDERSIDE OF BEAMS UNLESS OTHERWISE NOTED.
16. PROVIDE ACCESS PANELS IN DUCTWORK FOR OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL FANS, VALVES, FIRE DAMPERS, CONTROL DAMPERS, SMOKE DETECTORS, AND AIRFLOW MEASURING STATIONS.
17. FLEXIBLE DUCT CONNECTING MAIN DUCT TO SUPPLY DIFFUSER OR AIR BOOT MUST NOT EXCEED 8 FEET IN LENGTH. IF THIS DISTANCE EXCEEDS THIS LIMIT, AN INSULATED METAL DUCT OF REQUIRED LENGTH AND EQUAL DIAMETER MUST BE INSTALLED WITH DAMPER AT MAIN DUCT TO REDUCE FLEXIBLE DUCT TO MAXIMUM LENGTH OF 8 FEET.
18. ALL DUCT MUST BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER BRAIDED GROUNDING STRAP.
19. ALL RETURN AIR OPENINGS ABOVE CEILINGS MUST BE PROVIDED WITH REMOVABLE 1/2 INCH WIRE MESH ALUMINUM SCREEN AND FRAME AT ALL LOCATIONS WHERE GRILLES AND REGISTERS ARE NOT UTILIZED.
20. ALL DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
21. UNLESS OTHERWISE INDICATED ALL CONDENSATE DRAIN LINES FROM EACH AHU OR FAN COIL UNIT COOLING COIL MUST BE PIPED FULL SIZE OF DRAIN OUTLET, WITH P-TRAP TO FLOOR DRAIN OR JANITOR SINK.
22. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., MUST BE SUPPORTED AS DETAILED AND SPECIFIED. ADDITIONAL SUPPORTS MUST BE PROVIDED AS REQUIRED TO PROPERLY SUPPORT ALL HVAC SYSTEM COMPONENTS.
23. MANUFACTURERS LISTED IN SCHEDULES WERE USED AS A BASIS FOR DESIGN. REFER TO THE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.
24. ALL FLEXIBLE DUCTWORK MUST BE NOMINAL SIZE AS THE NECK OF THE AIR DEVICE (DIFFUSERS, GRILLES, REGISTERS AND LINEARS) IT SERVES. REFER TO THE AIR DISTRIBUTION DEVICE SCHEDULE FOR NECK SIZES OF AIR DEVICES.
25. PROVIDE SINGLE THICKNESS, TRAILING EDGE TURNING VANES INSIDE ALL 90 AND 45 DEGREE SHEET METAL ELBOWS EXCEPT THOSE USED IN TRANSFER AIR DUCTS AND NON-DUCTED ELBOWS ON RETURN AIR GRILLES AND REGISTERS.
26. CAPPED DUCTS MUST BE BLANKED OFF WITH 18 GAUGE GALVANIZED SHEET METAL, CAULKED TO PROVIDE AN AIR TIGHT SEAL AND EXTERNALLY INSULATED.
27. VFD's IF REQUIRED ARE INDICATED ON THE HVAC EQUIPMENT SCHEDULES AND ARE PROVIDED BY DIVISION 23. UNLESS OTHERWISE NOTED, FIELD LOCATE EACH VFD IN THE SAME ROOM THAT THE EQUIPMENT IT SERVES IS LOCATED. VFD's MUST BE LOCATED SO THEY CAN EASILY BE ACCESSED. HAVE PROPER MAINTENANCE SPACE AND COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. GROUND VFD's IN ACCORDANCE WITH NEC. VFD's MUST NOT BE MOUNTED ON HVAC EQUIPMENT, UNLESS NOTED OTHERWISE OR FACTORY MOUNTED.
28. COORDINATE ROUTING OF DUCTWORK WITH THE REFLECTED CEILING PLANS, LIGHT FIXTURES, HVAC PIPING, PLUMBING PIPING AND SPRINKLER PIPING. WHEREVER POSSIBLE PROVIDE OFFSETS AND TRANSITIONS TO ROUTE DUCTWORK BETWEEN CEILING MOUNTED LIGHT FIXTURES IN LIEU OF ABOVE THEM.
29. LOUVERS ARE PROVIDED BY GENERAL CONTRACTOR. APPROXIMATE LOUVER PLENUM SIZES ARE INDICATED ON THE DRAWINGS. FIELD VERIFY THE ACTUAL PHYSICAL DIMENSIONS PRIOR TO FABRICATION OF PLENUMS AND CONNECTING DUCTWORK.
30. ALL HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS SHOWN ON THE CONTRACT DRAWINGS MUST BE NEW.
31. SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE HVAC DRAWINGS.
32. CONSTRUCT LOUVER PLENUMS OF 16 GAUGE GALVANIZED STEEL WITH BOTTOM AT 15 DEGREE SLOPE TOWARD LOUVER. PROVIDE 12"x12" INSULATED ACCESS DOOR. INSULATE PLENUM WITH 2" THICK, 3 POUND DENSITY, RIGID BOARD INSULATION AND SEAL ALL JOINTS AND SEAMS WITH 4" WIDE GLASS FABRIC BETWEEN TWO LAYERS OF MASTIC. REFER TO SPECIFICATIONS, FLOOR PLANS AND DETAILS FOR ADDITIONAL REQUIREMENTS.
33. THIS PROJECT REQUIRES COORDINATION DRAWINGS. REFER TO SPECIFICATION SECTIONS 01040, 13000 AND 230050 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
34. DISCREPANCIES AND CONFLICTS BETWEEN MECHANICAL SYSTEMS AND OTHER DISCIPLINE (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION) DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO CONSTRUCTION OF SUBJECT SYSTEMS. FAILURE TO NOTIFY A/E OF THE SUBJECT PROBLEMS MUST CONSTITUTE ACCEPTANCE OF ALL CONDITIONS AND ANY CORRECTIVE WORK REQUIRED, AS DIRECTED BY A/E. THE SUBJECT CORRECTIVE WORK MUST BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
35. ALL FURNISHED EQUIPMENT MUST FIT THE ALLOCATED SPACE. PROVIDE ALL MODIFICATIONS TO THE OPENINGS, IN ROOF OR SLAB, STEEL SUPPORTS, ELECTRICAL REQUIREMENTS AND ANY OTHER BUILDING COMPONENTS REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF SUBJECT EQUIPMENT.
36. PRIOR TO FINAL INSPECTION OF EQUIPMENT BY A/E, EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CLEANED AND ALL FOREIGN MATERIALS REMOVED. ALL PENETRATIONS THRU UNIT CASINGS MUST BE PROPERLY SEALED AND ALL CONTROL DEVICES MUST BE OPERATIONAL AND CALIBRATED.
37. ALL FINISHES DAMAGED DURING THE INSTALLATION OF NEW HVAC SYSTEM MUST BE REPAIRED TO MATCH EXISTING ADJACENT FINISHES.
38. COORDINATE LOCATION OF HVAC EQUIPMENT AND SYSTEM ROUTINGS SO THAT HVAC EQUIPMENT, PIPING AND DUCTWORK ARE NOT LOCATED ABOVE ELECTRICAL EQUIPMENT, PANELS OR ELEVATOR EQUIPMENT.
39. PROVIDE 3" DEEP 14 GAUGE GALVANIZED STEEL AUXILIARY DRAIN PAN BENEATH FAN COIL UNIT(FCU). DRAIN PAN MUST BE 4" LARGER THAN BOTTOM OF FCU. PROVIDED WITH A LEVEL SENSOR FLOW SWITCH THAT SHUTS DOWN THE FCU OPERATION IF SET LIMITS ARE EXCEEDED.
40. LOUVER MUST BE BLANKED OFF WITH 20 GAUGE GALVANIZED STEEL. DUCTWORK MUST BE CAPPED OR BLANKED -OFF WITH ONE SIZE GREATER THAN THE DUCT IT SERVES. ALL BLANK-OFF's AND CAPS MUST BE CAULKED TO PROVIDE AN AIR AND WATER TIGHT SEAL. LOUVER BLANK-OFF's MUST BE INSULATED WITH RIGID BOARD INSULATION, WELD PENS, GLASS CLOTH AND MASTIC AS SPECIFIED FOR DUCTWORK INSIDE EQUIPMENT ROOMS. DUCTWORK BLANK-OFF's MUST BE INSULATED TO MATCH ADJACENT INSULATION OF THE SUBJECT DUCT.
41. REFER TO CONTROL DRAWINGS FOR BOTH DUCTWORK AND EQUIPMENT DAMPERS (CONTROL, MANUAL BALANCING, BACKDRAFT AND ADJUSTABLE WEIGHTED) THAT MAY NOT BE SHOWN ON THE FLOOR PLANS BUT ARE REQUIRED.
42. PROJECT INCLUDES RETURN AIR PLENUM THROUGHOUT. UTILIZE PLENUM RATED MATERIALS AS NECESSARY.
43. FOR ALL THREE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT IN CONSTANT SPEED APPLICATIONS: PROVIDE FULL VOLTAGE, COMBINATION MAGNETIC TYPE, THREE-PHASE POWER, MOTOR STARTER/CONTROLLERS WITH UNDER VOLTAGE RELEASE, MOTOR CIRCUIT PROTECTOR TYPE DISCONNECT WITH SHORT-CIRCUIT PROTECTION, HANDS-OFF-AUTOMATIC SWITCH AND GREEN PILOT LIGHT IN CONTROL PANEL COVER. PROVIDE THE APPROPRIATE NUMBER OF NORMAL OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
44. FOR ALL SINGLE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT: PROVIDE ELECTRICAL DISCONNECT AND THE APPROPRIATE NUMBER OF NORMALLY OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EXAMINATION OF EXISTING CONDITIONS

1. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AND/OR PRESENT BUILDING AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK BEFORE SUBMITTING PROPOSAL.
2. SUBMISSION OF PROPOSAL WILL BE CONSTRUCTED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.

CONNECTION TO EXISTING SYSTEMS:

1. PLAN INSTALLATION OF NEW WORK AND CONNECTION TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.
2. SUBMIT TO THE OWNER FOR APPROVAL DATE AND SCHEDULE OF NECESSARY SHUT-DOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES THAT WILL NOT INTERFERE WITH REGULAR OPERATION OF EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVALS FROM OWNER.
3. TO INSURE CONTINUOUS OPERATION, MAKE NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT MANNER. RESTORE DISTURBED EXISTING WORK TO ORIGINAL CONDITION.
4. CONTRACTOR SHALL PROVIDE MEANS AND METHODS DOCUMENT REGARDING THE SEQUENCE AND PROCEDURES FOR NEW TO EXISTING TIE-IN WORK AND REPLACEMENT/MODIFICATION TO HVAC SYSTEM EQUIPMENT AND COMPONENTS. DOCUMENT TO BE REVIEWED BY OWNER REPRESENTATIVE, ILM FACILITIES PERSONNEL AND THE A/E BEFORE COMMENCEMENT OF WORK.
5. ALL HVAC SYSTEM SHUT DOWNS REQUIRED TO COMPLETE THE SOW SHALL OCCUR BETWEEN THE HOURS OF 11:00PM AND 5:00AM UNLESS OTHERWISE PRE-APPROVED BY THE OWNER. CONTRACTOR SHALL PROVIDE 7 DAYS ADVANCE NOTICE OF ANY SHUT DOWN OF EXISTING SYSTEM AND RECEIVE WRITTEN APPROVAL FROM THE OWNER PRIOR TO COMMENCING WORK. CONTRACTOR SHALL MAINTAIN CURRENT INTERNAL CONDITIONS AND SETPOINTS OF THE FACILITY AT ALL TIMES. IF CONDITIONS CANNOT BE MAINTAINED, CONTRACTOR SHALL PROVIDE TEMPORARY MEANS OF HEATING AND/OR COOLING THE FACILITY THROUGH TEMPORARY HVAC UNITS AND DUCTWORK SYSTEMS.

DEMOLITION

1. DEMOLITION SHALL BE AS SHOWN ON DRAWINGS OR SPECIFIED.
2. SCHEDULE ALL DEMOLITION WORK WITH REPRESENTATIVE OF AIRPORT FACILITIES TO CAUSE MINIMUM DOWNTIME OF ANY BUILDING SERVICE OR FUNCTION.
3. DURING DEMOLITION AND CONSTRUCTION, PROTECT FROM DAMAGE ALL EXISTING EQUIPMENT AND SERVICES THAT ARE TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES WILL BE REPAIRED OR REPLACED AT NO EXTRA COST TO THE CONTRACT.
4. ALL EQUIPMENT, VALVES, CONTROLS AND ANY ITEM SO DESIGNATED TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. CONTRACTOR SHALL REMOVE SAID ITEMS WITH CARE AND DELIVER THEM TO A LOCATION DESIGNATED BY REPRESENTATIVE OF OWNER.
5. RUBBISH FROM DEMOLITION SHALL BE REMOVED OFF SITE AS PROMPTLY AS POSSIBLE ON A DAILY BASIS.
6. DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY MAJOR OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE ROUTING OF NEW ELEMENTS AROUND EXISTING ABOVE CEILING SERVICES. CONTRACTOR SHALL RECEIVE WRITTEN OWNER APPROVAL FOR ANY RELOCATION OF EXISTING SERVICES.
7. CAPS IN INSULATED DUCTWORK OR PIPING SHALL BE INSULATED.
8. CONTRACTOR TO PROVIDE DUST MITIGATION MEASURES TO ASSURE HEALTHY AIR QUALITY IN PROJECT WORK AREA AND ADJACENT AREAS. PROJECT WORK AREA TO BE CLEANED DAILY.
9. CONTRACTOR TO INVESTIGATE SITE AND COORDINATE WITH AIRPORT TO IDENTIFY POTENTIAL HAZARDOUS MATERIALS PRIOR TO ANY DEMOLITION OR NEW WORK BEGINS. IF NECESSARY, CONTRACTOR TO COMMISSION TESTING OF MATERIAL AND NOTIFY ARCHITECT AND ENGINEER.

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS
PROJECT NUMBER:	**2003-0070-006**

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SHEET TITLE:
MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SHEET ID:
M001-4

PROJECT STATUS:
100% BID SET

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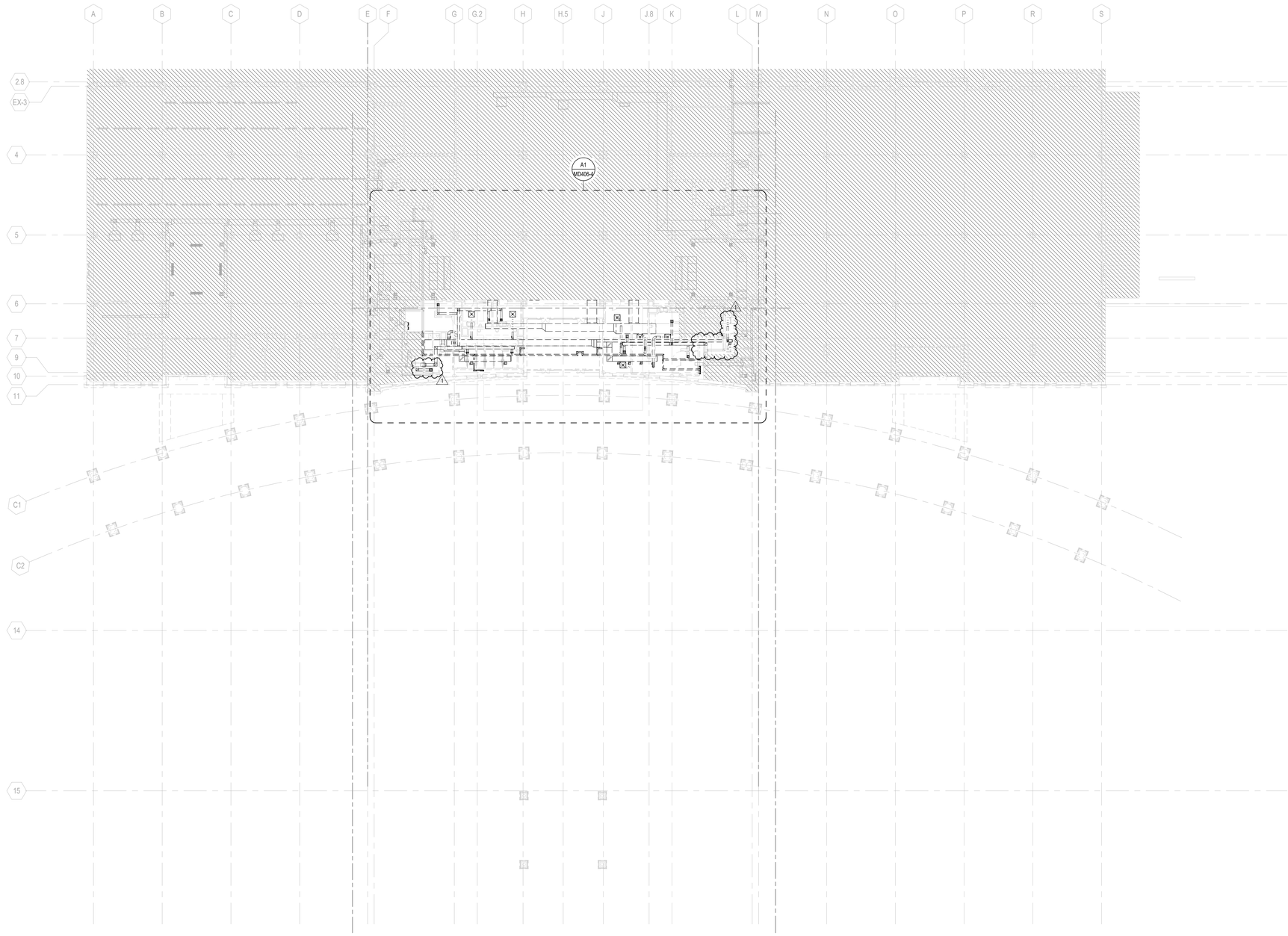
FLOOR PLAN LEGEND

	NO WORK IN AREA, U.N.O.



PN

N

A2 OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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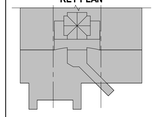
KEY PLAN



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REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:

OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

SHEET ID:

MD106-4

PROJECT STATUS:
100% BID SET

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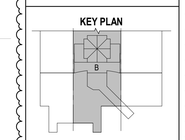
KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	CDW
DESIGNED BY:	RSS
PROJECT NUMBER:	**2003-0070-006**

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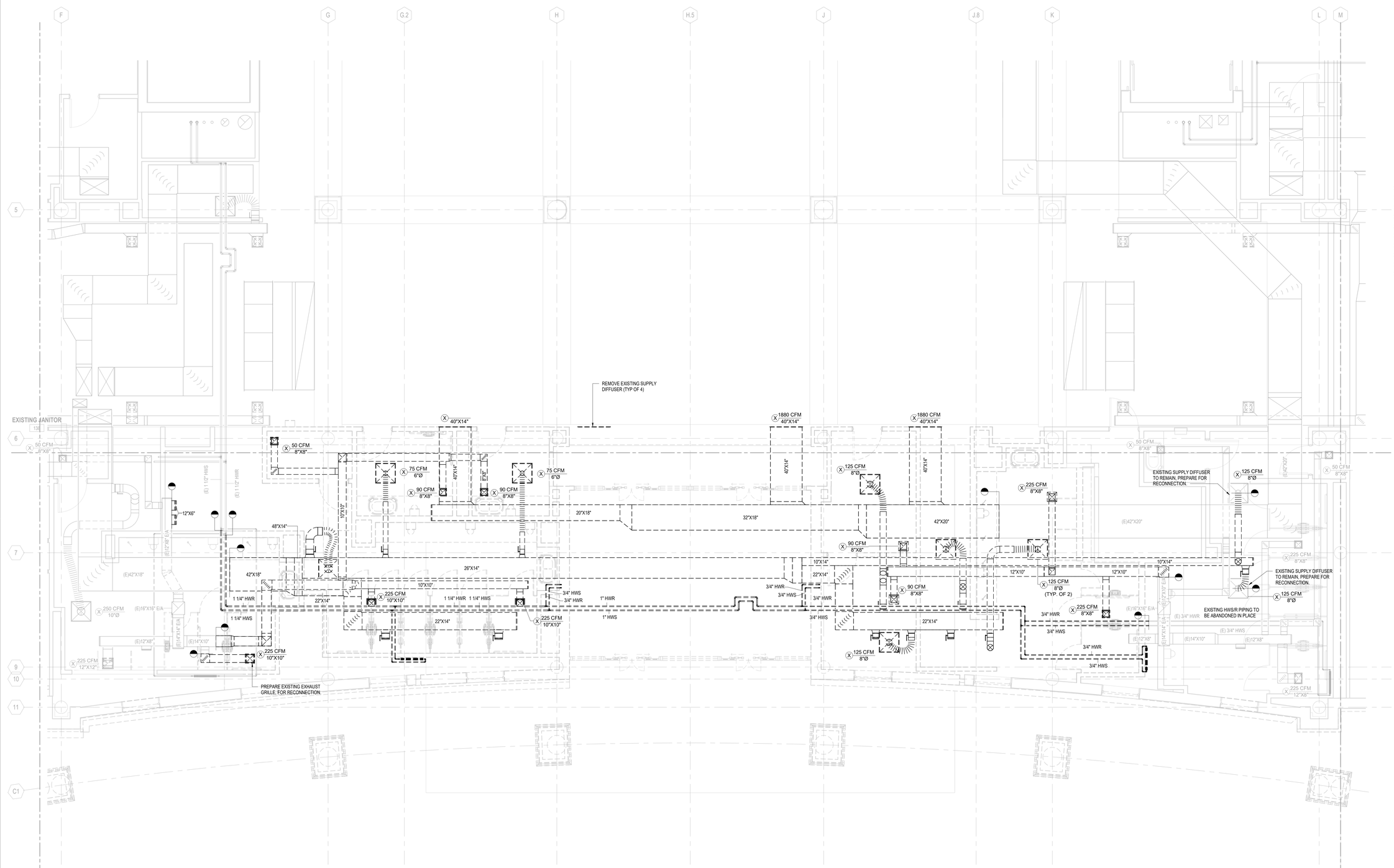
SHEET TITLE:

ENLARGED TICKET LEVEL MECHANICAL DEMOLITION PLAN

SHEET ID:

MD406-4

PROJECT STATUS:
100% BID SET



PN
N

A1 ENLARGED TICKET LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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FLOOR PLAN LEGEND

NO WORK IN AREA, U.N.O.

PN

N

A2 OVERALL TICKET LEVEL MECHANICAL PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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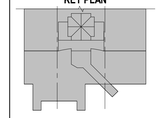

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1	Addendum 2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	CDW
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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SEAL:

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SHEET TITLE:
OVERALL TICKET LEVEL MECHANICAL PLAN

SHEET ID:
M106-4

PROJECT STATUS:
100% BID SET

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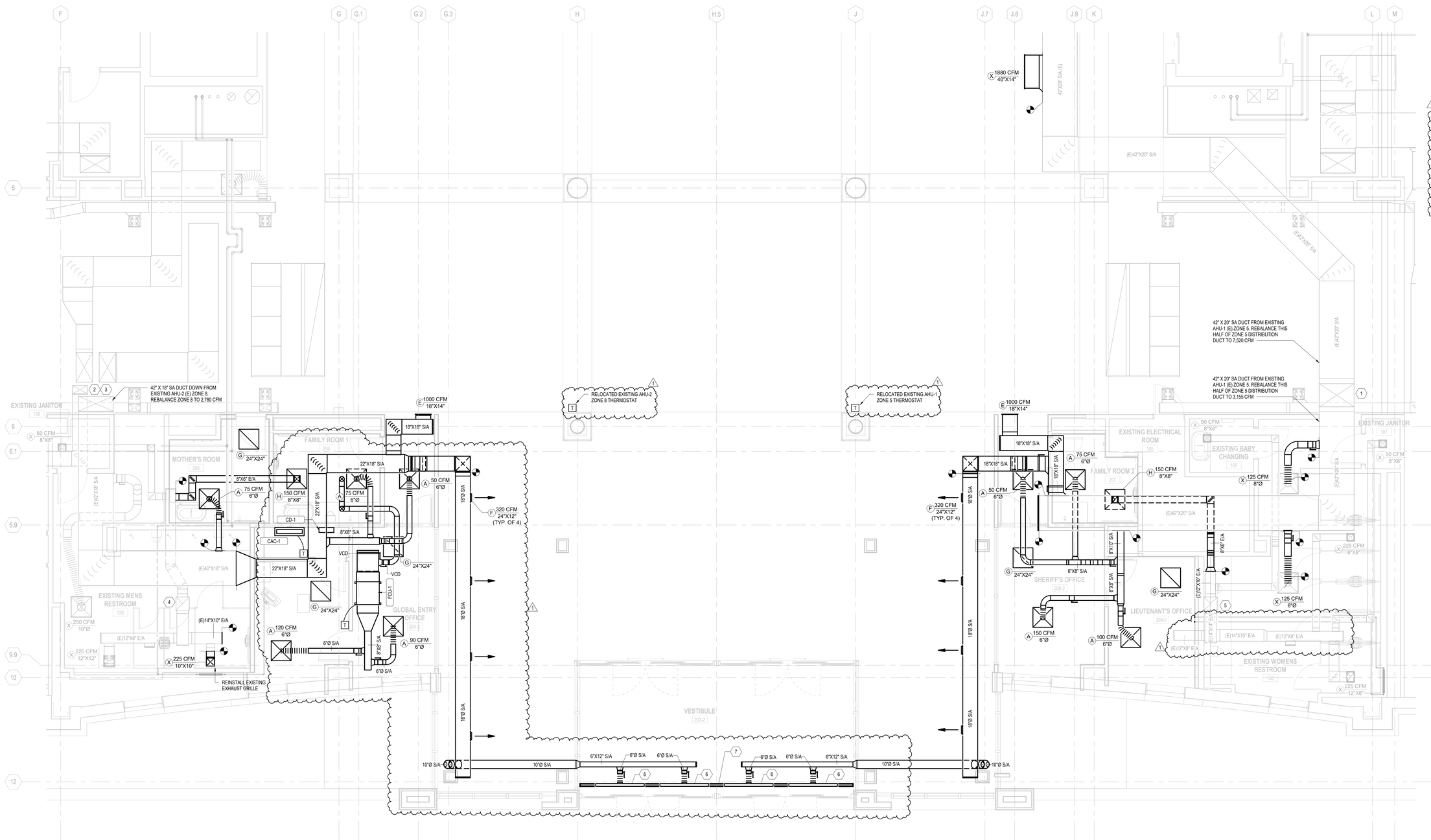
KEYED NOTES

1. EXISTING AHU-1 LOCATED ON THE LEVEL ABOVE SHALL BE RAMPED UP TO THE MAXIMUM AIRFLOW LIMIT PER THE MANUFACTURERS SPECIFICATIONS. CONTRACTOR TO COORDINATE UNIT ADJUSTMENT WITH EQUIPMENT MANUFACTURER AND TAB CONTRACTOR TO INCREASE MAXIMUM AIRFLOW TO 25,440 CFM. CONTRACTOR TO PROVIDE PRE-TAB REPORT FOR ZONE 5 DUCTWORK AND BMS OUTPUT DATA FOR ARU-1 AT CURRENT 100% FAN SPEED. DATA SHALL INCLUDE BUT NOT BE LIMITED TO FAN SPEED, SUPPLY AIRFLOW, STATIC PRESSURE READINGS, DAT, ETC.
2. EXISTING AHU-2 LOCATED ON THE LEVEL ABOVE SHALL BE RAMPED UP TO THE MAXIMUM AIRFLOW LIMIT PER THE MANUFACTURERS SPECIFICATIONS. CONTRACTOR TO COORDINATE UNIT ADJUSTMENT WITH EQUIPMENT MANUFACTURER AND TAB CONTRACTOR TO INCREASE MAXIMUM AIRFLOW TO 25,500 CFM. CONTRACTOR TO PROVIDE PRE-TAB REPORT FOR ZONE 8 DUCTWORK AND BMS OUTPUT DATA FOR AHU-2 AT CURRENT 100% FAN SPEED. DATA SHALL INCLUDE BUT NOT BE LIMITED TO FAN SPEED, SUPPLY AIRFLOW, STATIC PRESSURE READINGS, DAT, ETC.
3. DEMOLISH AND REPLACE EXISTING DUCT MOUNTED HEATING HOT WATER COIL LOCATED IN MECHANICAL ROOM ABOVE WITHIN THE EXISTING ZONE 8 42"X18" SUPPLY DUCT. EXISTING 1-1/4" HWS/R PIPING TO REMAIN. REPLACE SHUTOFF VALVES AND CONTROL VALVES WITH NEW VALVES MEETING THE INCREASED FLOW RATE. NEW COIL CAPACITY SHALL BE MINIMUM 118 MBH, 12GPM, 1-1/4" PIPE SIZE. COIL SHALL HAVE A MAXIMUM FACE VELOCITY OF 750 FPM AND A MAXIMUM AIR PRESSURE DROP OF 0.6 IN. WC.
4. REBALANCE EXHAUST SYSTEM DUCTWORK AND UTILIZE EXISTING INTEGRAL VARIABLE SPEED MOTOR CONTROLLER TO ADJUST SPEED OF A FAN AS NEEDED.
5. REBALANCE EXHAUST SYSTEM DUCTWORK AND UTILIZE EXISTING INTEGRAL VARIABLE SPEED MOTOR CONTROLLER TO ADJUST SPEED OF A FAN AS NEEDED.
6. SUPPLY DIFFUSER MARK B. 60" PLENUM, 6" INLET, 150 CFM. CONCEALED FRAME INSTALL. SEE AIR DISTRIBUTION SCHEDULE ON M601.
7. 1-1/2" ARCHITECTURAL SLOT BETWEEN DIFFUSERS SEE ARCHITECTURAL PLANS FOR CONSTRUCTION DETAILS.



PN

A1 ENLARGED TICKET LEVEL MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"

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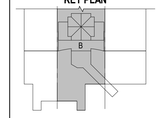
F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

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1	Addendum 2	04/18/2025

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DRAWN BY:	CDW
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SHEET TITLE:
ENLARGED TICKET LEVEL MECHANICAL PLAN

SHEET ID:
M406-4

PROJECT STATUS:
100% BID SET

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O/A GRAVITY VENT SCHEDULE

MARK	GV-02
SERVES	FCU-1
AIRFLOW (CFM)	50
MAXIMUM PRESS. DROP (IN. W.G.)	0.003
THROAT SIZE (INCHES)	28" x 20"
FREE AREA (SQFT)	4.00
OVERALL SIZE	8" x 8"
MANUFACTURER	GREENHECK
MODEL	GRSI-8
NOTES	1 THRU 3

NOTES:

1. PROVIDE WITH INTEGRAL BIRDSCREEN
2. PROVIDE MINIMUM 18" ROOF CURB
3. UNIT TO BE FULL ALUMINUM CONSTRUCTION

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	DESCRIPTION	FACE SIZE, W X H (IN.)	MANUFACTURER	MODEL	NOTES
A	ARCHITECTURAL SQUARE PANEL SUPPLY REGISTER	24 X 24	PRICE	SPD	1,2
B	5' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY: 1, SLOT WIDTH: 1-1/2"	-	PRICE	SPD	2,3,5
C	NOT USED				
D	NOT USED				
E	SIDEWALL AIRFOIL SUPPLY GRILLE	SEE PLANS	PRICE	20/30	2,5,7,9
F	HIGH CAPACITY DRUM LOUVER	SEE PLANS	PRICE	HCD	2,5,9
G	ARCHITECTURAL PERFORATED FACE RETURN GRILLE	SEE PLANS	PRICE	PDR	2,5
H	EGGCRATE EXHAUST REGISTER	SEE PLANS	PRICE	80	2,5,6,9
X	EXISTING AIR TERMINAL DEVICE	-	-	-	11

NOTES:

1. PROVIDE DEVICE FOR FOUR WAY THROW UNLESS NOTED OTHERWISE, THEN PROVIDE DIRECTIONAL BLOW CLIPS AS NECESSARY.
2. UNIT SHALL BE OF ALUMINUM CONSTRUCTION.
3. PROVIDE PRICE SDS MOUNTING STYLE TYPE 3 FOR CONCEALED MOUNTING INSTALLATION FOR SIDEWALL APPLICATIONS.
4. DEFLECTION BLADES SHALL BE SPACED ON 3/4" CENTERS WITH FRONT BLADES RUNNING IN THE SHORT DIMENSION.
5. PROVIDE BORDER TYPE SUITABLE FOR INDIVIDUAL LOCATIONS.
6. PROVIDE ALUMINUM CORE CONSTRUCTED IN 1/2" X 1/2" X 1/2" MATRIX.
7. INSTALL WITH 0 DEGREE DEFLECTION
8. NOT USED
9. PROVIDE WITH GRILLE MOUNTED OPPOSED BLADE DAMPER FOR BALANCING. BASIS OF DESIGN IS THE PRICE MODEL VCS3AL DAMPER.
10. NOT USED
11. INCLUDED FOR REFERENCE ONLY.

COMM ROOM SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT DATA	
MARK	CAC-1
LOCATION	IT ROOM
MANUFACTURER	MITSUBISHI
MODEL	TPKA-0A0121LA10A
COOLING DATA	
TOTAL CAPACITY (BTU/HR)	12,000
SENSIBLE CAPACITY (BTU/HR)	10,560
AIRFLOW MAXIMUM (CFM)	385
RATED ENTERING AIR TEMP. (DB / WB °F)	80/67
FAN POWER (W)	56
INDOOR UNIT ELECTRICAL DATA	
VOLTAGE / PHASE / HZ	208 / 1 / 60
FLA / MCA	0.19 / 1.0
OUTDOOR UNIT DATA	
MARK	CCU-1
REFRIGERANT	R410A
VOLTAGE/PHASE/HZ	208/230 / 1 / 60
FLA / MCA / MOCP	0.5 / 11 / 28
MANUFACTURER	MITSUBISHI
MODEL	TRUY-A012 1KA7ONA
NOTES	1 - 4

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY MOUNTED HARD WIRED THERMOSTAT WIT TOUCHSCREEN AND HUMIDITY CONTROL.
2. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT.
3. PROVIDE WITH BLUE DIAMOND (ADVANCED) MINI CONDENSATE PUMP WITH RESERVOIR). UNIT MARK CD-1. PROVIDE RESERVOIR WITH LEVEL SENSOR FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS. MECHANICAL CONTRACTOR TO PROCURE PUMP AND PLUMBING CONTRACTOR TO INSTALL PUMP AND PIPING.
4. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED WITH FIRE-RETARDANT ARMAFLEX THAT COMPLIES WITH 2018 NORTH CAROLINA MECHANICAL AND ENERGY CODES.

HEAT PUMP FAN COIL SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT DATA	
INDOOR UNIT MARK	FCU-1
INDOOR UNIT TYPE	DUCTED
INDOOR UNIT MANUFACTURER	MITSUBISHI
INDOOR UNIT MODEL	PEAD-A12AA9
SEER	21.8
EER	13.6
COOLING DATA	
TOTAL RATED CAPACITY (BTU/H)	12,000
SENSIBLE CAPACITY (BTU/H)	9,960
RATED ENTERING AIR TEMP. (DB/WB °F)	80/67
FAN POWER (W)	121
HEATING DATA	
MAX CAPACITY @ 47°F / 17°F (BTU/H)	18,000 / 9,000
RATED CAPACITY @ 47°F / 17°F (BTU/H)	14,000 / 9,000
AIRFLOW DATA	
AIRFLOW RATE (LOW LOW, LOW, MED, HIGH) (CFM)	353, 38, 424, 494
OUTSIDE AIRFLOW RATE (CFM)	50
OUTDOOR UNIT DATA	
OUTDOOR UNIT MARK	CU-1
REFRIGERANT	R410A
OUTDOOR UNIT VOLTAGE/PHASE/HZ	208 / 1 / 60
MCA / MOCP	11 / 28
OUTDOOR UNIT MANUFACTURER	MITSUBISHI
OUTDOOR UNIT MODEL	PUZ-A12NKA7
NOTES	1-9

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY SUPPLIED WIRELESS THERMOSTAT WITH TOUCHSCREEN AND AUTOMATIC FAN SETTING CAPABILITY.
2. PROVIDE UNIT WITH INTEGRAL FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS.
3. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT.
4. CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE EQUIPMENT PAD.
5. PROVIDE FB SERIES FILTER BOX SECTION (FBM2-3-A).
6. PROVIDE BUILT IN CONDENSATE LIFT MECHANISM.
7. TEST AND BALANCE SYSTEM ON HIGH FAN SETTING OF 494 CFM.
8. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED WITH FIRE RETARDANT ARMAFLEX THAT COMPLIES WITH 2024 NORTH CAROLINA MECHANICAL AND ENERGY CODES.
9. PROVIDE MOTORIZED OA INTAKE DAMPER INTERLOCKED WITH FCU-1. SEE PLANS FOR LOCATION.
10. OR EQUAL: DAIKIN, LG.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: KMN
DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
MECHANICAL SCHEDULES

SHEET ID:
M601-4

PROJECT STATUS:
100% BID SET

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GENERAL NOTES

A. REFER TO SHEET EL601 FOR THE LIGHTING FIXTURE SCHEDULE.

B. ALL EXTERIOR LUMINAIRES CONTROLLED VIA PHOTOCELL VIA LIGHTING SYSTEM CONTROL.

C. PROVIDE EMERGENCY TRANSFER RELAY FOR ALL EMERGENCY LUMINAIRES, CONNECT TO EMERGENCY AND NORMAL LIGHTING CIRCUIT IN SPACE.

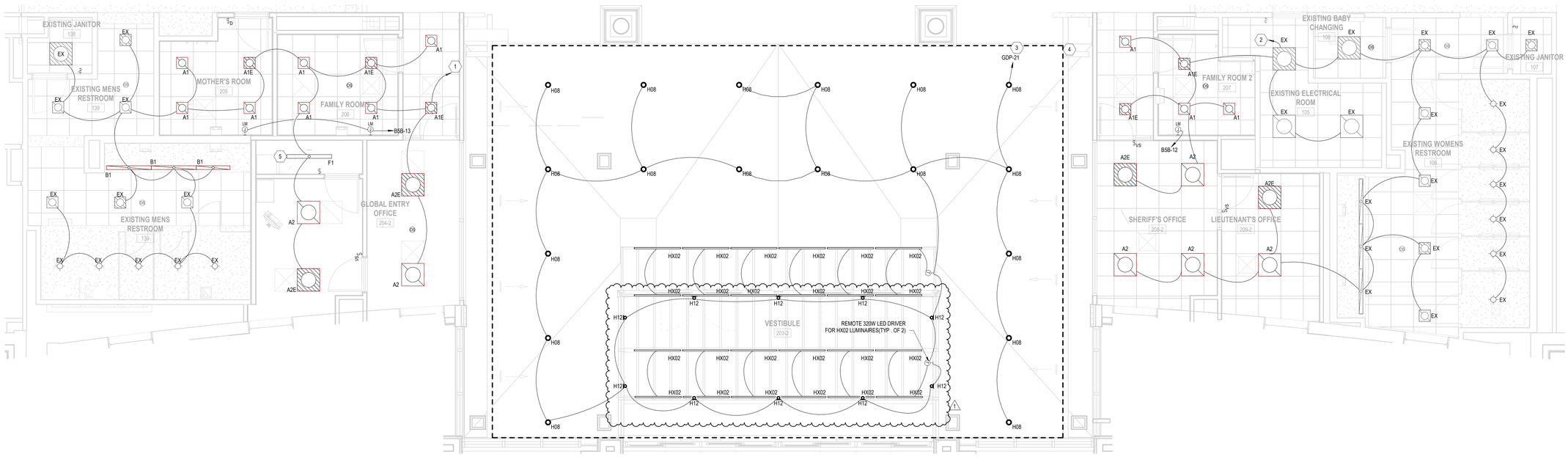
D. NEW LUMINAIRES WITH DESIGNATION "HXX" OR "HXXX" ARE BEING DESIGNED BY HARTRANFT LIGHTING DESIGN. SEE HARTRANFT PROVIDED LUMINAIRE SCHEDULES ON SHEETS EL601 AND EL602

E. SEE SHEET EP106 AND SHEET EP401 FOR LOCATION OF PANELBOARDS NOT LOCATED ON THIS SHEET.

F. LUMINAIRES WITH RGBW CAPABILITIES ARE TO BE CONTROLLED VIA DMX LIGHITNG CONTROL SYSTEM. LOCATED IN MECHANICAL RM 124. SEE LUMINAIRE SCHEDULES ON SHEET EL601 AND EL 602 LUMINAIRES CONTROLLED VIA DMX SYSTEM.

KEYNOTES

1 EXTEND EXISTING CIRCUIT GDP-11 TO NEW LUMINAIRES.
2 EXTEND EXISTING CIRCUIT GDP-13 TO NEW LUMINAIRES.
3 EXTEND LIGHTING CONTROLS FROM EXISTING ATRIUM AND TERMINAL LIGHTING CONTROL SYSTEM TO NEW ATRIUM LUMINAIRES.
4 LUMINAIRES IN THIS AREA SHALL BE CONTROLLED BY DAYLIGHT SENSOR VIA LIGHTING CONTROLLER.
5 SURFACE MOUNT TO HARD CEILING.



PN N

A1 PARTIAL TICKETING LEVEL ELECTRICAL LIGHTING PLAN - AREA B - ALT 4

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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Hartranft Lighting Design

ILM

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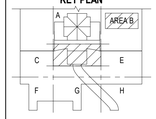
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	3/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD

PROJECT NUMBER:
2003-0070-006

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SHEET TITLE:
PARTIAL TICKETING LEVEL ELECTRICAL LIGHTING PLAN - AREA B

SHEET ID:
EL107-4

PROJECT STATUS:
100% BID SET

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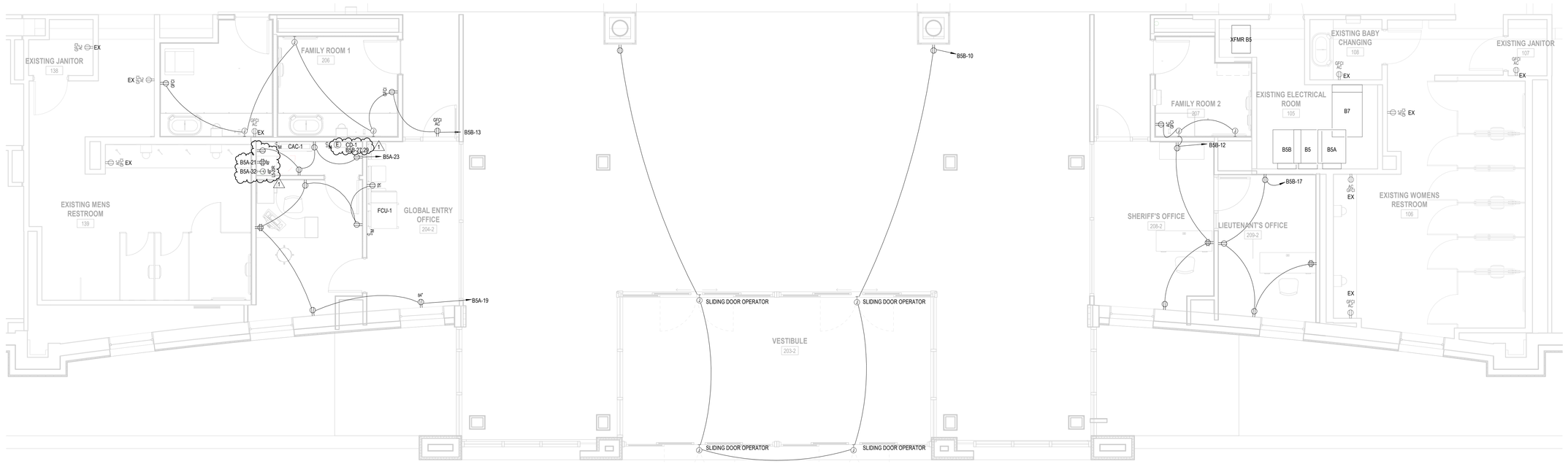
GENERAL NOTES

A. STAGE REMOVAL OF EXISTING ELECTRICAL DISTRIBUTION TO MINIMIZE DISRUPTION OF TERMINAL OPERATIONS. ALL OUTAGES WILL BE COORDINATED WITH AIRPORT AT LEAST 1 WEEK PRIOR TO OUTAGE.

B. ALL FEEDER SIZES ARE INDICATED ON EP602 OR ON PANEL SCHEDULES.

C. SEATING OUTLETS MUST BE TR TYPE OUTLETS PER NFPA 70.



PN N

A1 PARTIAL TICKET LEVEL ELECTRICAL POWER PLAN - AREA B - ALT 4

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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Hartranft Lighting Design

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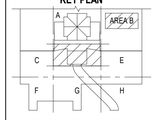

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PARTIAL TICKETING LEVEL ELECTRICAL POWER PLAN - AREA B

SHEET ID:
EP107-4

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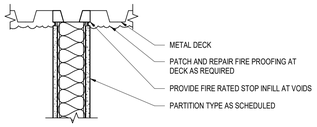
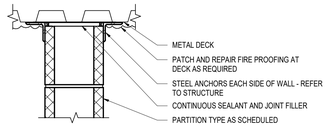
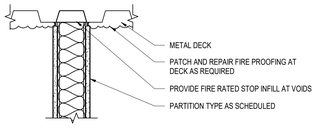


HEAD DETAIL @ STUD WALL AND MTL DECK



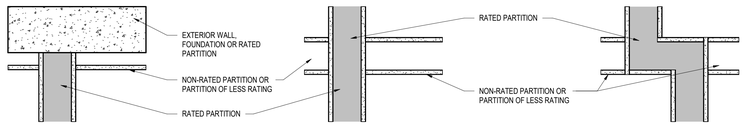
HEAD DETAIL @ CMU WALL AND MTL DECK



HEAD DETAIL @ STUD WALL AND MTL DECK

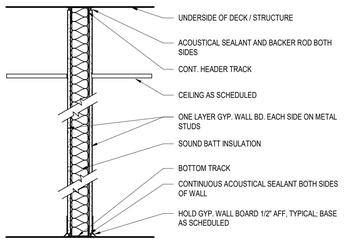
E3 HEAD DETAILS - FIRE RATED - HORIZONTAL

SCALE: 1 1/2" = 1'-0"



C3 RATED PARTITION CONTINUITY - HORIZONTAL

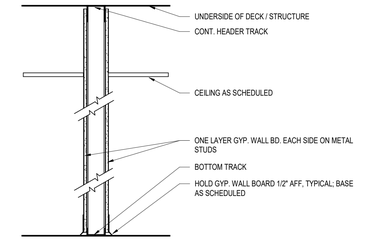
SCALE: 1 1/2" = 1'-0"



A#-D PARTITION TYPE

A#-D PARTITION TYPE SCHEDULE

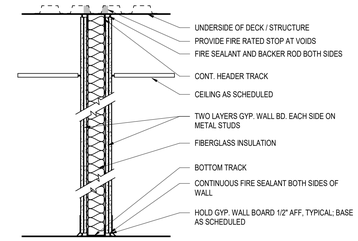
TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
A3-D	3 5/8" MTL STUD, 5/8" GWB, BATT INSULATION	-	-	-	51	
A4-D	3 5/8" METAL STUD, 5/8" BACKER BOARD, 1" TILE BOTH SIDES	-	-	-	51	
A5-D	3 5/8" METAL STUD, 5/8" BACKER BOARD, 1" TILE ONE SIDE, 5/8" GWB ONE SIDE	-	-	-	51	



B#-D PARTITION TYPE

B#-D PARTITION TYPE SCHEDULE

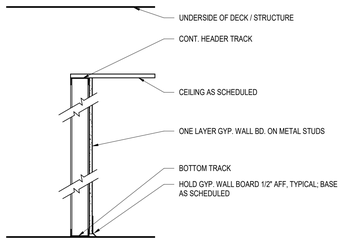
TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
B3-D	3 5/8" MTL STUD, 5/8" GWB ON BOTH SIDES	-	-	-	-	
B6-D	6" METAL STUD, 5/8" GWB BOTH SIDES	-	-	-	-	



R#-D PARTITION TYPE

R#-D PARTITION TYPE SCHEDULE

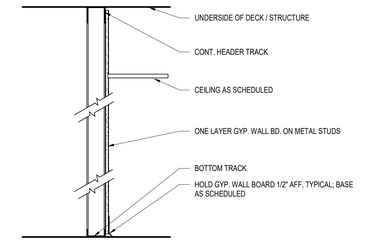
TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
R3-D	3 5/8" METAL STUD, FIBERGLASS INSULATION, 5/8" GWB BOTH SIDES	2 HR	U419		51	



F#-C PARTITION TYPE

F#-C PARTITION TYPE SCHEDULE

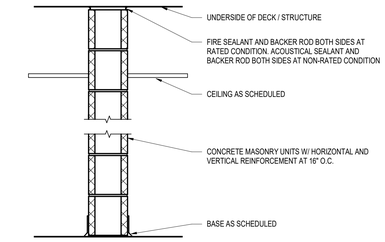
TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
F1-C	1 5/8" METAL STUD, 5/8" GWB ONE SIDE	-	-	-	-	
F3-C	3 5/8" MTL STUD, 5/8" GWB ONE SIDE	-	-	-	-	
F4-C	3 5/8" METAL STUD, 5/8" BACKER BOARD, 1" TILE ONE SIDE	-	-	-	-	



F#-D PARTITION TYPE

F#-D PARTITION TYPE SCHEDULE

TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
F0-D	7/8" METAL HAT CHANNEL, 5/8" GWB ONE SIDE	-				
F3-D	3 5/8" MTL STUD, 5/8" GWB ONE SIDE	-				
F4-D	3 5/8" MTL STUD, 5/8" BACKER BOARD, 3/8" TILE ONE SIDE	-				



M#-D PARTITION TYPE

M#-D PARTITION TYPE SCHEDULE

TYPE MARK	DESCRIPTION	FIRE RATING	UL No.	HEAD UL No.	STC	TYPE
M6-D	6" CMU	-	-	-	-	

SCALE: 1 1/2" = 1'-0"

GENERAL PARTITION TYPES NOTES

GENERAL NOTES

1. SEE PLANS FOR ALL LOCATIONS OF PARTITION TYPES.
2. PROVIDE WATER-RESISTANT CORE GYPSUM WALL BOARD AT TILED OR WET LOCATIONS, INCLUDING, BUT NOT LIMITED TO: RESTROOMS, LOCKER ROOMS, SHOWER AREAS, JANITOR CLOSETS, KITCHEN AREAS.
3. SEE STRUCTURAL DRAWINGS FOR MASONRY WALL SIZE AND CONSTRUCTION.
4. COLUMNS SHOWN W/ ENCLOSURES AS PER DETAILS ON ARCHITECTURAL DRAWINGS. WHERE COLUMNS INTERSECT PARTITIONS, PROVIDE RATED OR SOUND ATTENUATED PARTITION ACROSS COLUMN ENCLOSURE, TO MAINTAIN ASSEMBLY RATING.
5. REFER TO SPECIFICATIONS FOR ADDITIONAL WALL BOARD PRODUCT DATA, THICKNESS, AND ADDITIONAL PERFORMANCE REQUIREMENTS.
6. REFER TO SPECIFICATIONS FOR METAL STUD SPACING AND PERFORMANCE REQUIREMENTS FOR METAL STUD GAUGES.
7. GYPSUM WALLBOARD ON PARTITIONS REQUIRING A RATING OF ONE-HOUR OR MORE MUST MEET CONDITIONS STIPULATED BY UL DESIGN NUMBER, WHETHER OR NOT WALL TREATMENT IS SCHEDULED.
8. FRICTION FIT SOUND ATTENUATION INSULATION SNUG IN PLACE BETWEEN FRAMING USED IN PARTITIONS.
9. SCHEDULE CONSTRUCTION OF WALLS ACCORDING TO PRIORITY.

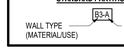
• TWO HOUR FIRE & SMOKE WALL	PRIORITY 1 (HIGHEST)
• TWO HOUR FIRE WALL	PRIORITY 2
• ONE HOUR FIRE & SMOKE WALL	PRIORITY 3
• ONE HOUR FIRE WALL	PRIORITY 4
• NON-RATED WALL	PRIORITY 5 (LOWEST)

PARTITION TAG

NOTE: PARTITION TAGS ARE READ LEFT TO RIGHT.

1. THE FIRST SECTION IN THE TAG INDICATES THE WALL TYPE BASED ON THE PRIMARY MATERIAL OR USE OF THE PARTITION AS REFERENCED IN THE WALL TYPE SCHEDULE'S FIRST TWO COLUMNS.
2. THE SECOND SECTION IN THE TAG INDICATES THE HEAD CONDITION OF THE WALL: A = 6" ABOVE CEILING, B = 6" BELOW STRUCTURE, C = TO CEILING, D = TO DECK/STRUCTURE, P = PARTIAL HEIGHT WALL
3. THE LAST SECTION IN THE TAG INDICATES WHETHER THE WALL ASSEMBLY IS FIRE RATED (IF APPLICABLE) AND IF SO, TO WHAT NUMERICAL HOUR RATING.

STANDARD PARTITION TAG



RATED PARTITION TAG

RS&H
1520 South Blvd., Suite 200
Charlotte, NC 28203
Phone: 704-752-0910, Fax: 704-949-2672
www.rsandh.com
North Carolina License Nos. 50073 * F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
1003-0070-004

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SEAL:

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SHEET TITLE:
PARTITION TYPES

SHEET ID:
A001

PROJECT STATUS:
100% BID SET

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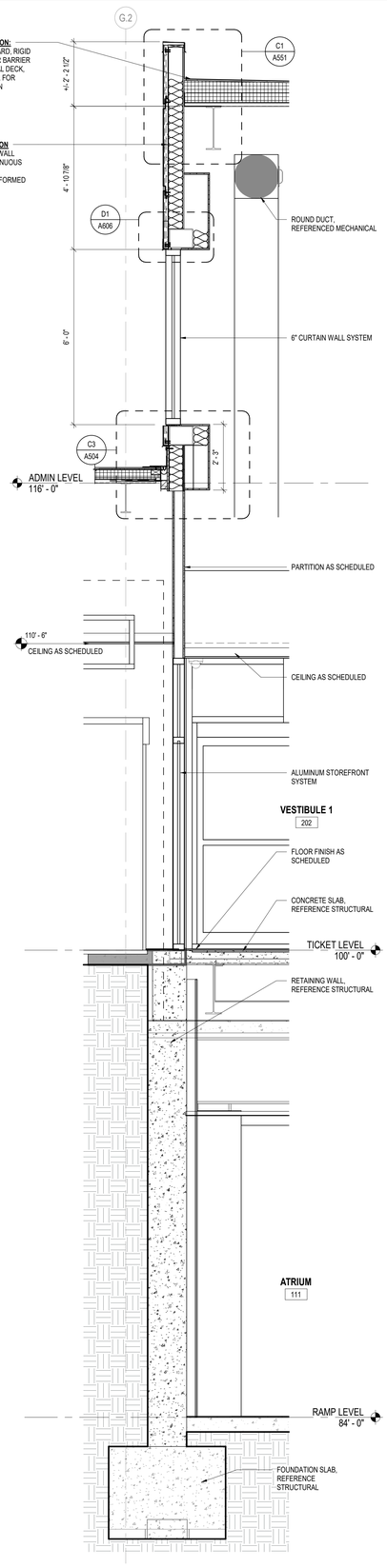
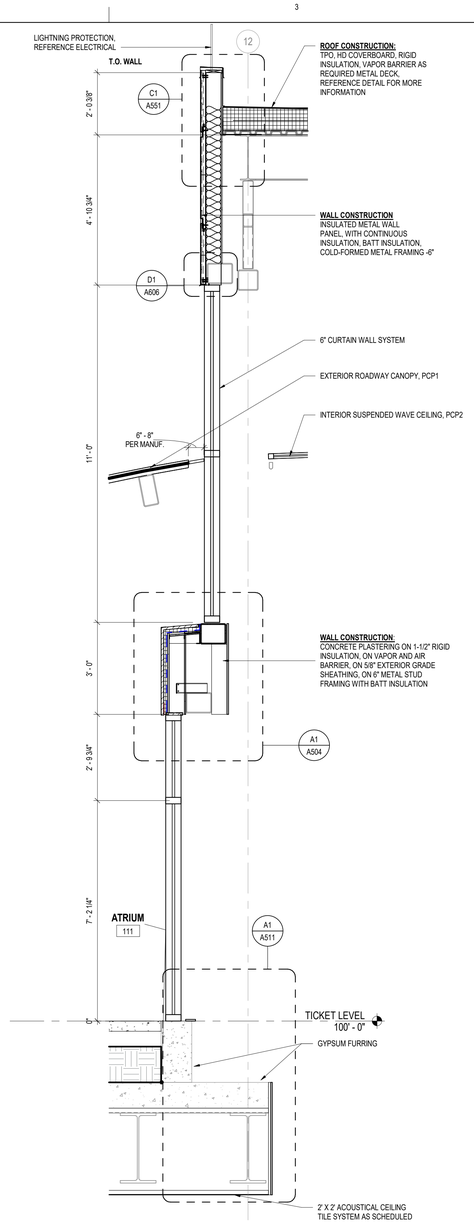


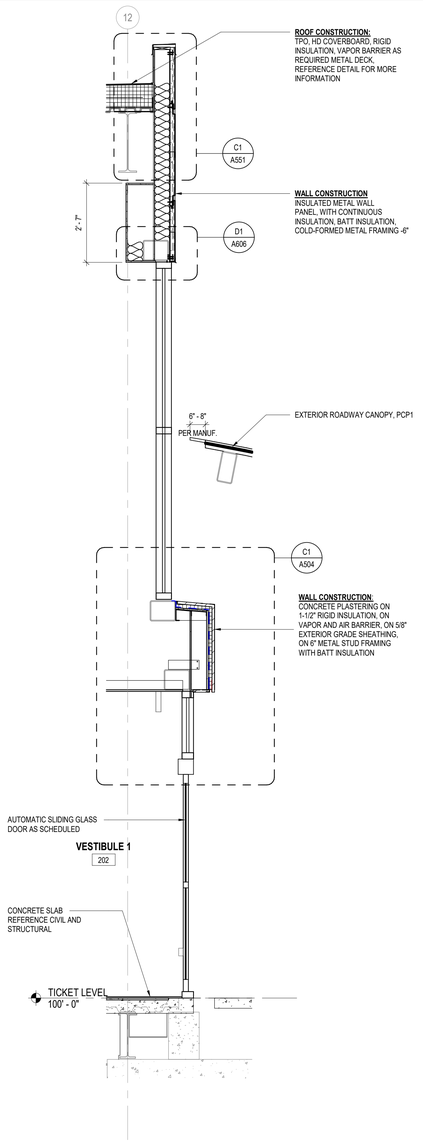
A1 NORTH VESTIBULE WALL SECTION AT EXISTING

SCALE: 1/2" = 1'-0"



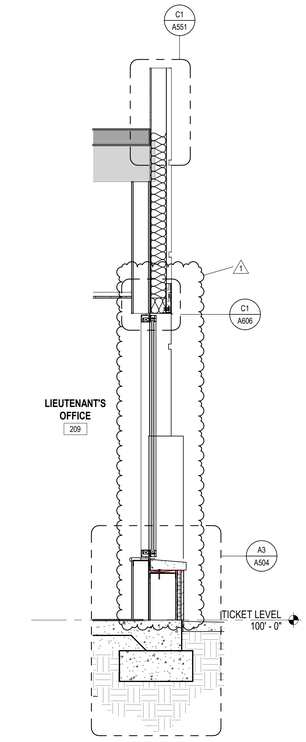
B3 SECTION AT METAL PANEL / CURTAIN WALL

SCALE: 1/2" = 1'-0"



B4 SECTION AT METAL PANEL / GLASS DOOR

SCALE: 1/2" = 1'-0"



B5 SECTION AT WINDOW

SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. THE CFMF & PLYWOOD SURFACE SHALL BE PLUMB & FLAT WITHIN +/- 1/8".
4. PLYWOOD SHALL EXTEND THE ENTIRETY OF THE VIDEO WALL SURFACE.
5. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
6. ALL EXPOSED PRIMARY STEEL TO BE 2 HR FIRE RATED.
7. ADD IN WALL PRESSURE TREATED BLOCKING AT ALL ROBE HOOK ATTACHMENTS.

2 0 2 4

SCALE: 1/2" = 1'-0"

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ILM

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WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG

PROJECT NUMBER:
1003-0070-004

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SHEET TITLE:
WALL SECTIONS

SHEET ID:
A306

PROJECT STATUS:
100% BID SET

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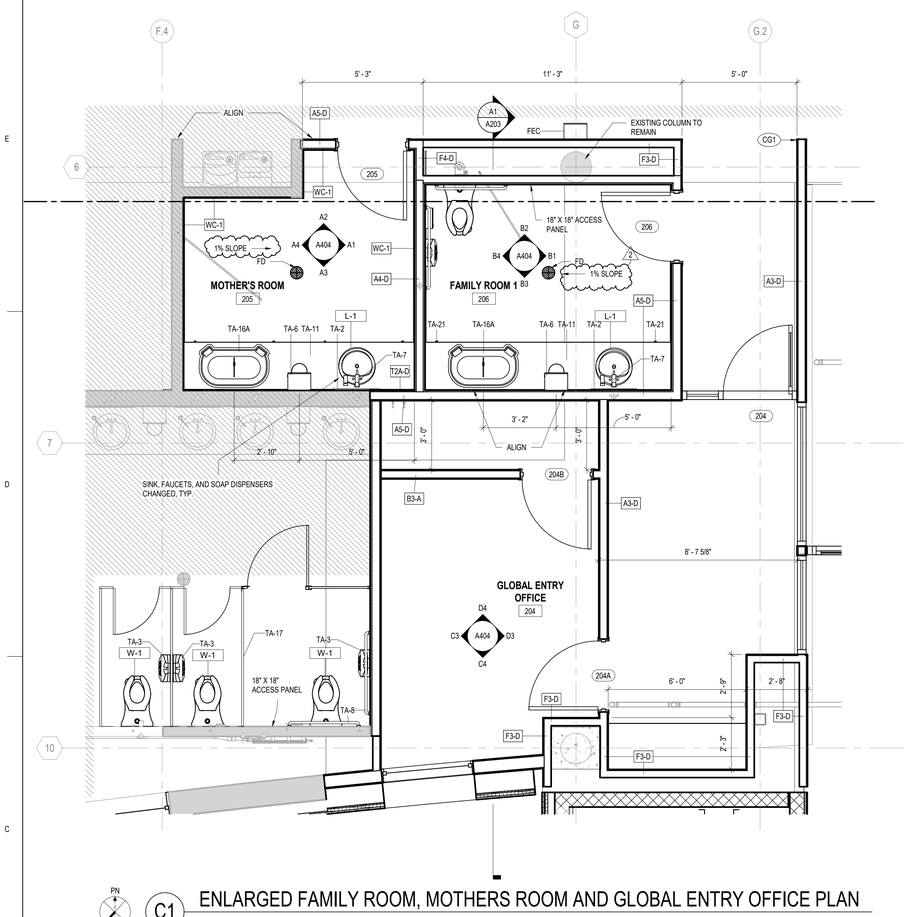

PN

C1 ENLARGED FAMILY ROOM, MOTHERS ROOM AND GLOBAL ENTRY OFFICE PLAN

SCALE: 3/8" = 1'-0"

TOILET ACCESSORY SCHEDULE

TAG	ACCESSORY	MANUFACTURER	MODEL	POWER REQUIREMENT	FINISH MATERIAL
TA-2	SILHOUETTE LIGHTED MIRROR - 24" X 48" LIGHTED LED MIRROR	ELECTRIC MIRROR	SIL3-24.00x48.00-LHED-30K	YES, SEE ELECTRICAL DRAWINGS	
TA-3	TOILET TISSUE(ROLL) DISPENSER	OFCI		NO	
TA-4	SANITARY NAPKIN DISPOSAL	BOBRICK WASHROOM EQUIPMENT, INC.	B-254	NO	STAINLESS STEEL
TA-5	SURFACE MOUNTED CONVERTIBLE AUTOMATIC, UNIVERSAL ROLL TOWEL DISPENSER/WASTE RECEPTACLE	BOBRICK	B-3979	YES, SEE ELECTRICAL DRAWINGS	STAINLESS STEEL
TA-6	PAPER TOWEL DISPENSER	OFCI		NO	STAINLESS STEEL
TA-7	SENSOR ACTIVATED ELECTRONIC SOAP DISPENSER	SLOAN	ESD-500	YES, SEE ELECTRICAL DRAWINGS	
TA-8	36" / 42" GRAB BAR	KOHLER	K-11896-BS	NO	BRUSHED STAINLESS
TA-9	SHOWER CURTAIN ROD	BOBRICK	B-207x48	NO	STAINLESS STEEL
TA-10	COAT HOOK (60" A.F.F.)	MOCKETT	CH53	NO	SATIN-FINISH STAINLESS STEEL
TA-11	UNDERCOUNTER PULL OUT TRASH RECEPTACLE	POLDER	1410-47	NO	SATIN-FINISH STAINLESS STEEL
TA-16A	BABY CHANGING STATION	KOALA KARE	KB112-01RE	NO	SEE SPECS
TA-16B	BABY CHANGING STATION	KOALA KARE	KB310-SSRE	NO	STAINLESS STEEL
TA-17	TOILET PARTITION - CEILING HUNG	BRADLEY CORP.	SERIES 600, CEILING HUNG, WITH OCCASIONAL FLOOR SUPPORT EVERY 3 STALLS	NO	STAINLESS STEEL, DIAMOND FINISH
TA-19	URINAL PARTITION	SEE SPECS		NO	
TA-21	SS PURSE HOOK	SUGATSUNE GLOBAL	PXB-UM05-101	NO	SATIN NICKEL
TA-22	SURFACE MOUNTED HOOKS	PETER PEPPER	2086	NO	NATURAL ANODIZED ALUMINUM

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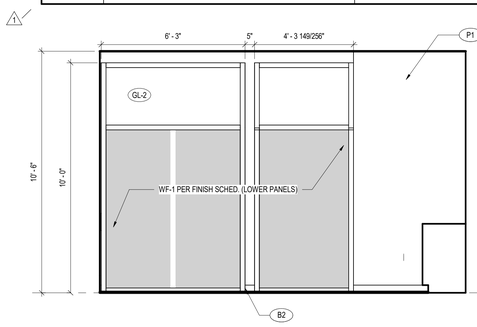
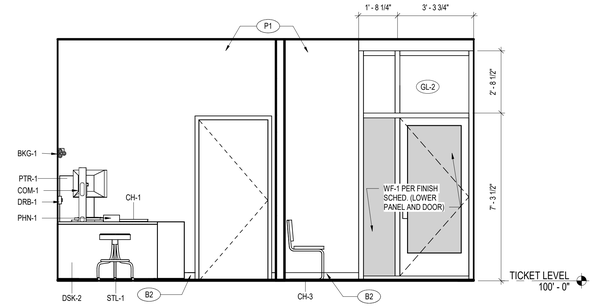


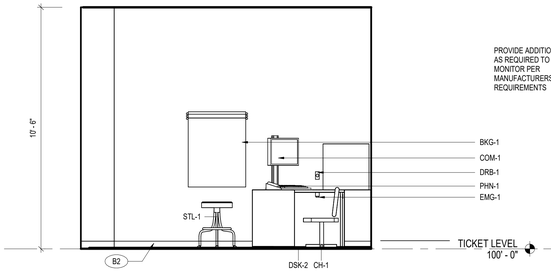
D3 GLOBAL ENTRY OFFICE EAST ELEVATION

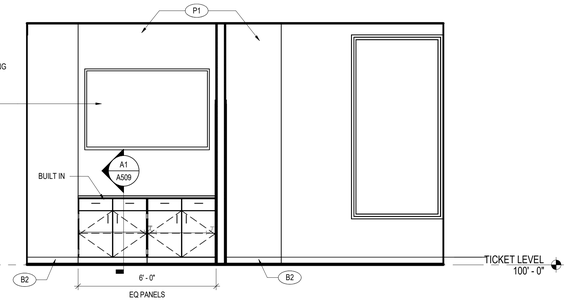
SCALE: 3/8" = 1'-0"



D4 GLOBAL ENTRY OFFICE NORTH ELEVATION

SCALE: 3/8" = 1'-0"



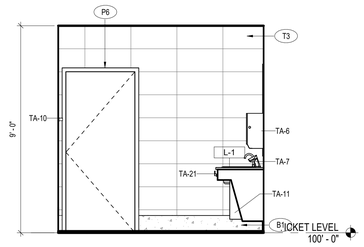


C3 GLOBAL ENTRY OFFICE WEST ELEVATION

SCALE: 3/8" = 1'-0"

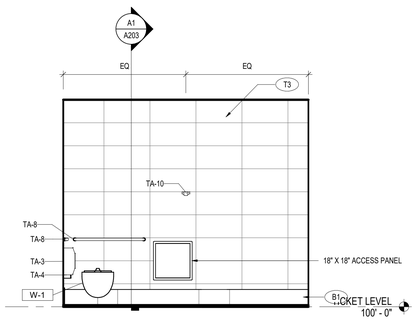
C4 GLOBAL ENTRY OFFICE SOUTH ELEVATION

SCALE: 3/8" = 1'-0"



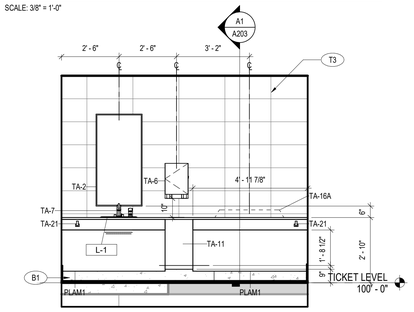
B1 FAMILY ROOM EAST ELEVATION

SCALE: 3/8" = 1'-0"



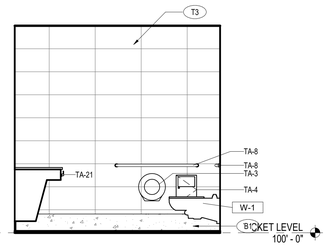
B2 FAMILY ROOM NORTH ELEVATION

SCALE: 3/8" = 1'-0"



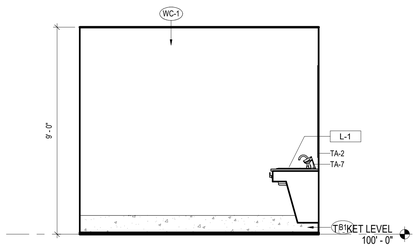
B3 FAMILY ROOM SOUTH ELEVATION

SCALE: 3/8" = 1'-0"



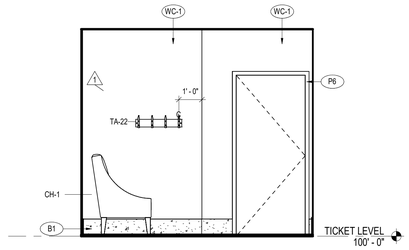
B4 FAMILY ROOM WEST ELEVATION

SCALE: 3/8" = 1'-0"



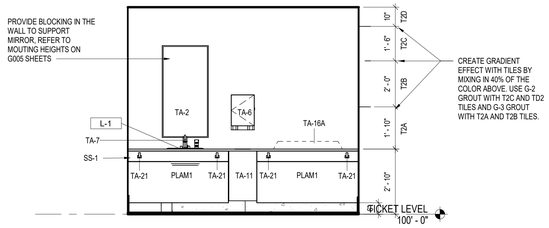
A1 MOTHERS ROOM EAST ELEVATION

SCALE: 3/8" = 1'-0"



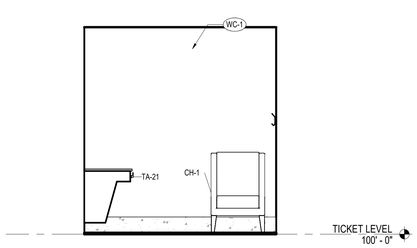
A2 MOTHERS ROOM NORTH ELEVATION

SCALE: 3/8" = 1'-0"



A3 MOTHERS ROOM SOUTH ELEVATION

SCALE: 3/8" = 1'-0"



A4 MOTHERS ROOM WEST ELEVATION

SCALE: 3/8" = 1'-0"

2 0 2 4 6

SCALE: 3/8" = 1'-0"

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Phone: 704-752-0610, Fax: 704-949-2672
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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	SS
DESIGNED BY:	FG
PROJECT NUMBER:	1003-0070-004

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SHEET TITLE:
ENLARGED FAMILY RESTROOM, MOTHERS ROOM, AND GLOBAL ENTRY OFFICE PLANS AND INTERIOR ELEVATIONS

SHEET ID:
A404

PROJECT STATUS:
100% BID SET

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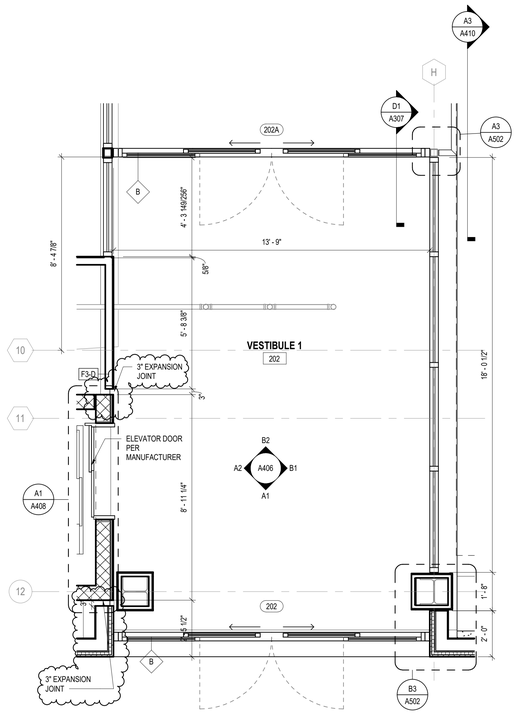
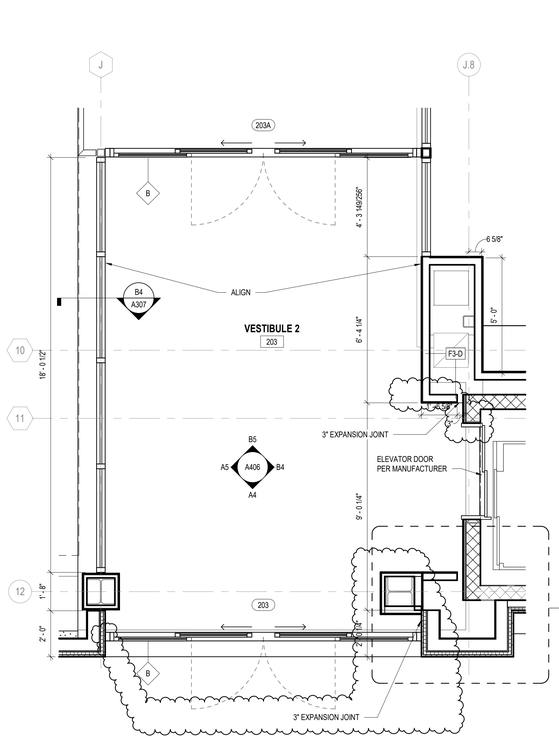


PN

C1 ENLARGED VESTIBULE 1 FLOOR PLAN

SCALE: 3/8" = 1'-0"



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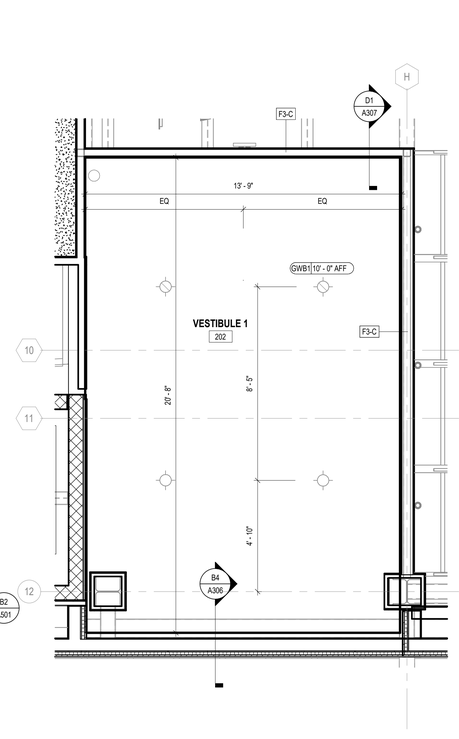
C2 ENLARGED VESTIBULE 2 FLOOR PLAN

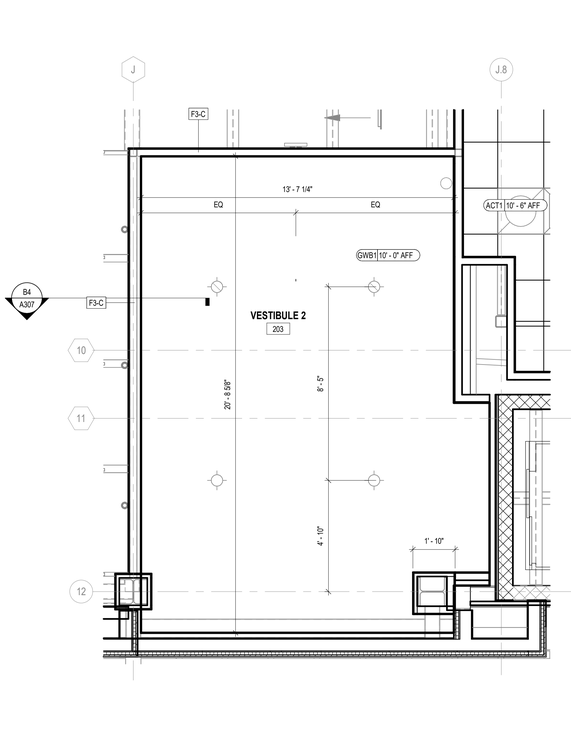
SCALE: 3/8" = 1'-0"



PN

C4 ENLARGED VESTIBULE 1 RCP

SCALE: 3/8" = 1'-0"



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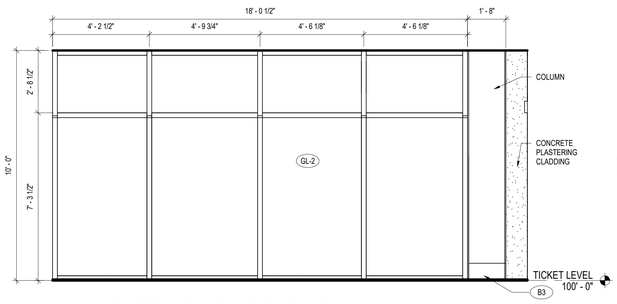
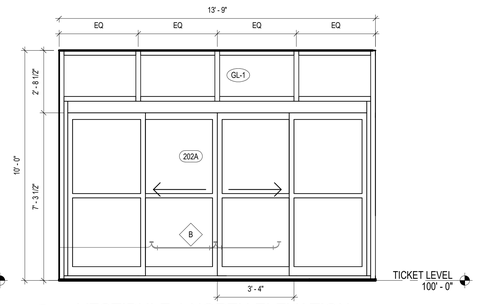
C5 ENLARGED VESTIBULE 2 RCP

SCALE: 3/8" = 1'-0"



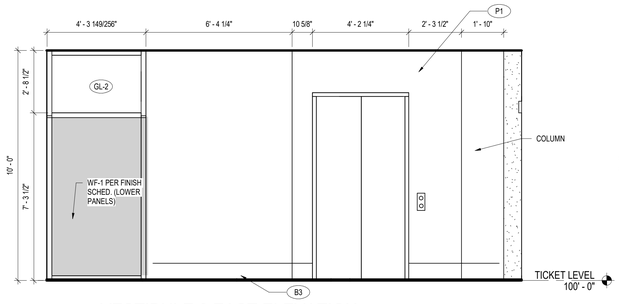
B1 VESTIBULE 1 EAST ELEVATION

SCALE: 3/8" = 1'-0"



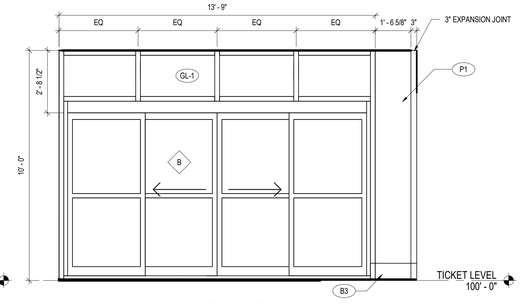
B2 VESTIBULE 1 NORTH ELEVATION

SCALE: 3/8" = 1'-0"



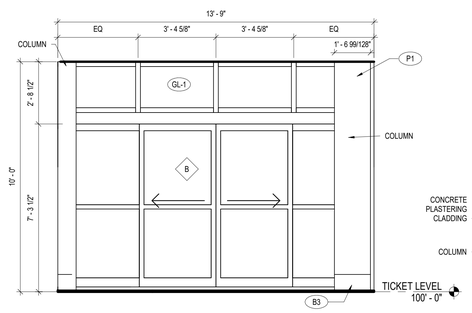
B4 VESTIBULE 2 EAST ELEVATION

SCALE: 3/8" = 1'-0"



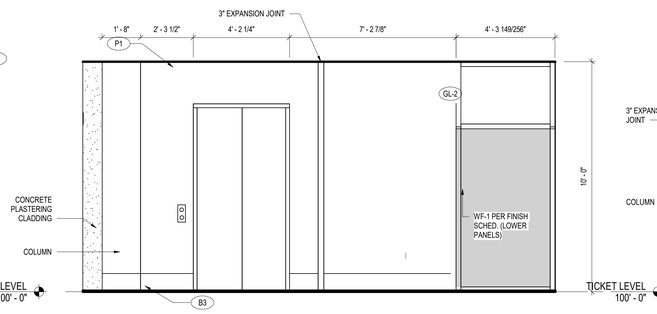
B5 VESTIBULE 2 NORTH ELEVATION

SCALE: 3/8" = 1'-0"



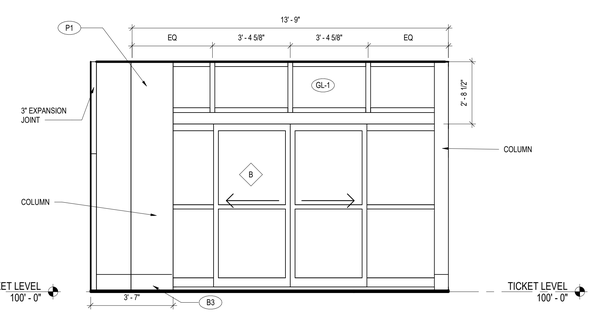
A1 VESTIBULE 1 SOUTH ELEVATION

SCALE: 3/8" = 1'-0"



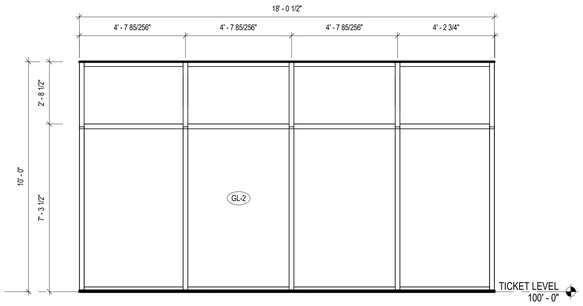
A2 VESTIBULE 1 WEST ELEVATION

SCALE: 3/8" = 1'-0"



A4 VESTIBULE 2 SOUTH ELEVATION

SCALE: 3/8" = 1'-0"



A5 VESTIBULE 2 WEST ELEVATION

SCALE: 3/8" = 1'-0"

2 0 2 4 6

SCALE: 3/8" = 1'-0"

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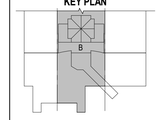
ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	SS
DESIGNED BY:	FG

PROJECT NUMBER:
1003-0070-004

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SHEET TITLE:
ENLARGED VESTIBULE PLANS AND INTERIOR ELEVATIONS

SHEET ID:
A406

PROJECT STATUS:
100% BID SET

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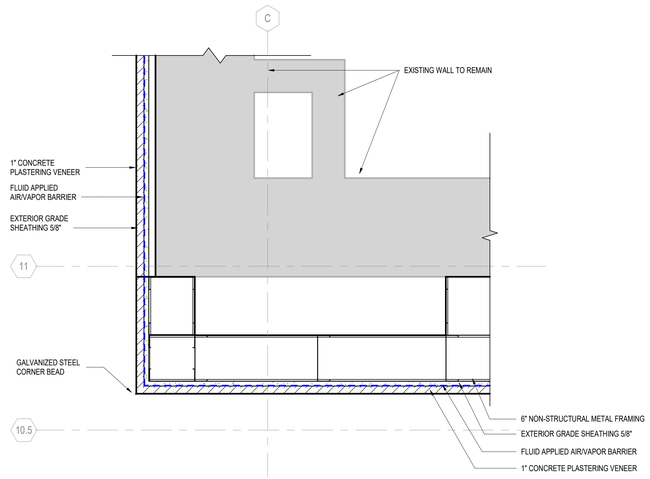
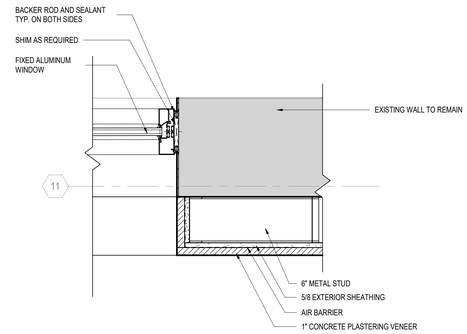


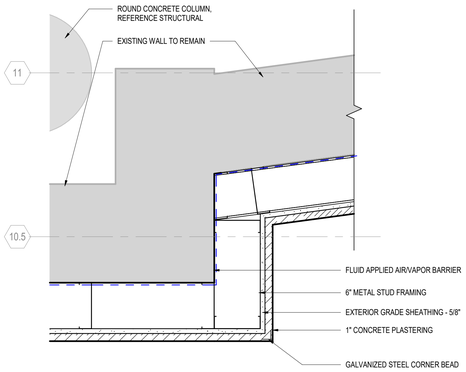
D1 TICKET LEVEL FLOOR PLAN ENTRY CORNER DETAIL

SCALE: 1 1/2" = 1'-0"



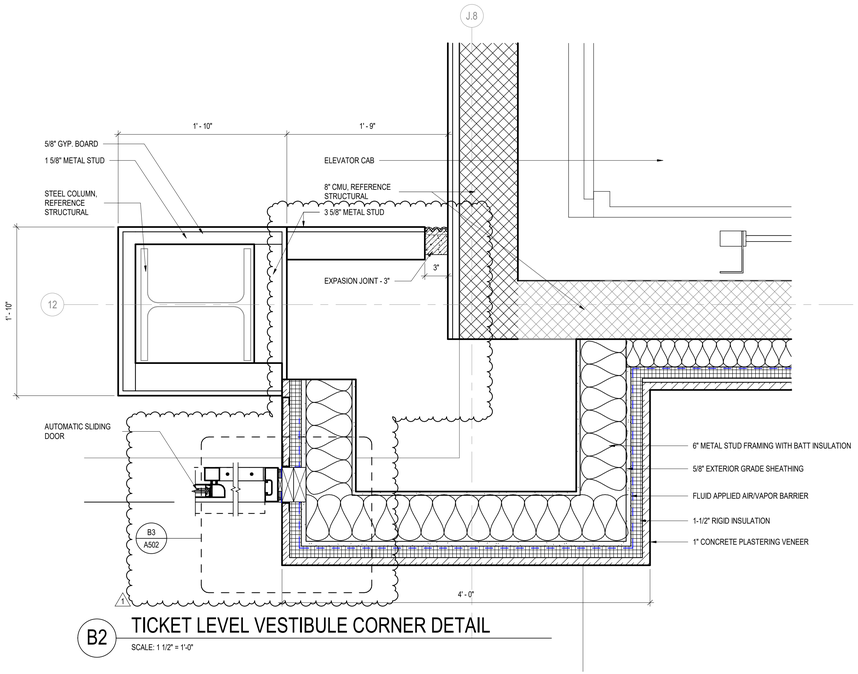
D3 TICKET LEVEL FLOOR PLAN ENTRY WALL DETAIL

SCALE: 1 1/2" = 1'-0"



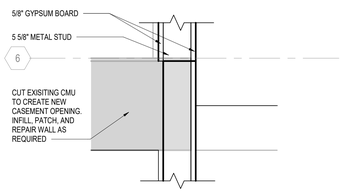
B1 TICKET LEVEL FLOOR PLAN COLUMN DETAIL

SCALE: 1 1/2" = 1'-0"



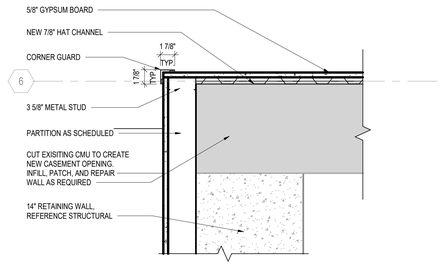
B2 TICKET LEVEL VESTIBULE CORNER DETAIL

SCALE: 1 1/2" = 1'-0"



A1 OPENING AT EXISTING RAMP - ADJACENT

SCALE: 1 1/2" = 1'-0"



A2 OPENING AT EXISTING RAMP - CORNER

SCALE: 1 1/2" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. THE CFMF & PLYWOOD SURFACE SHALL BE PLUMB & FLAT WITHIN +/- 1/8".
4. PLYWOOD SHALL EXTEND THE ENTIRETY OF THE VIDEO WALL SURFACE.
5. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
6. ALL EXPOSED PRIMARY STEEL TO BE 2 HR FIRE RATED.
7. ADD IN WALL PRESSURE TREATED BLOCKING AT ALL ROBE HOOK ATTACHMENTS.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	CD
DESIGNED BY:	FG
PROJECT NUMBER:	**1003-0070-004**

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SHEET TITLE:
PLAN DETAILS

SHEET ID:
A501

PROJECT STATUS:
100% BID SET

1 0 1
SCALE: 1 1/2"= 1'-0"

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GENERAL NOTES

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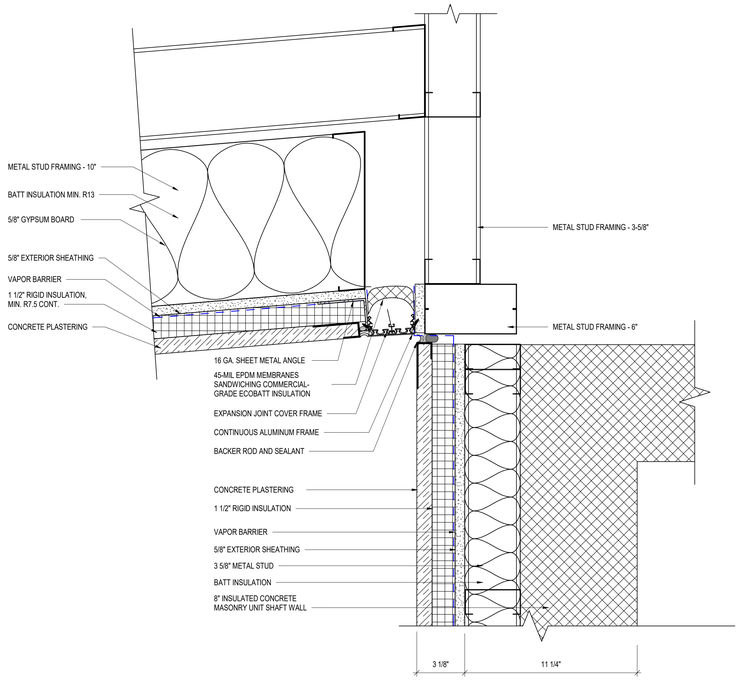
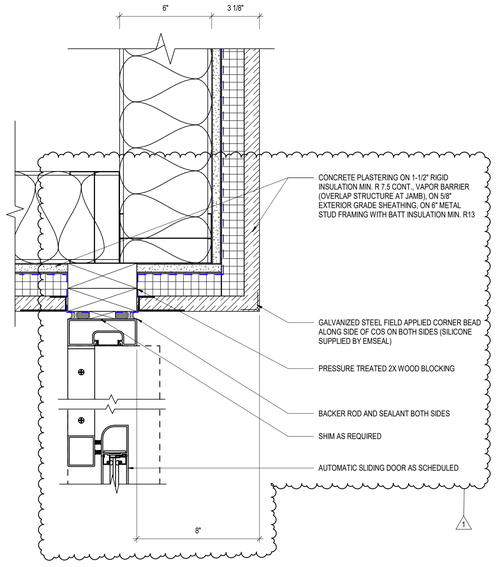
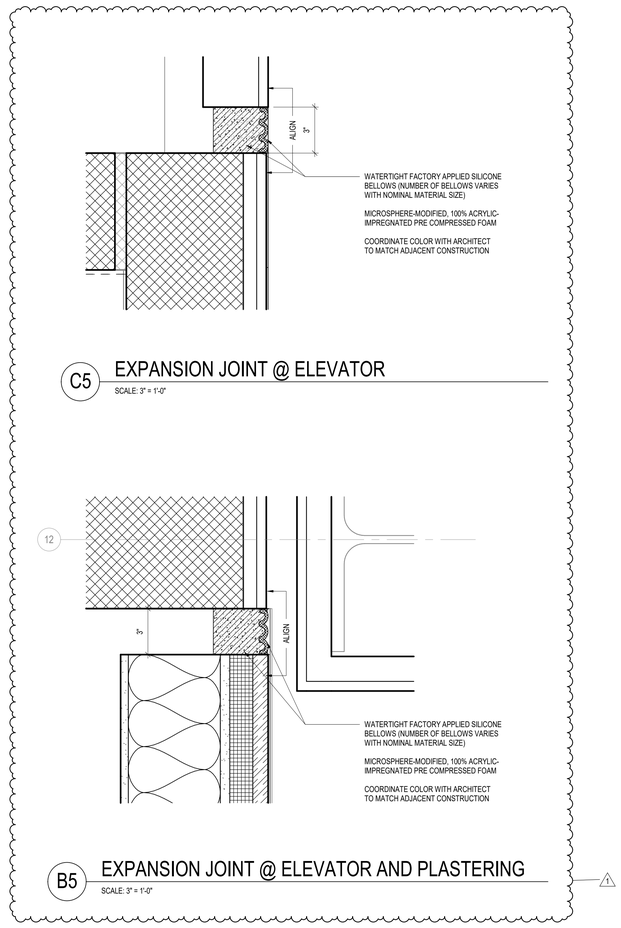


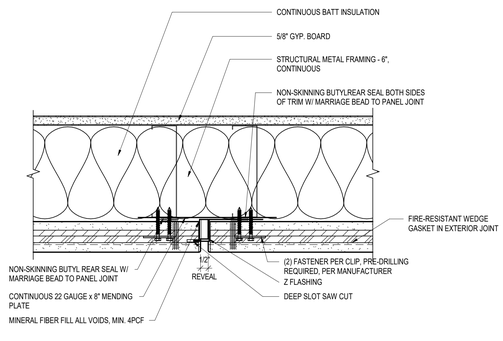
B1 EXPANSION JOINT - EXTERIOR CORNER DETAIL
SCALE: 3" = 1'-0"



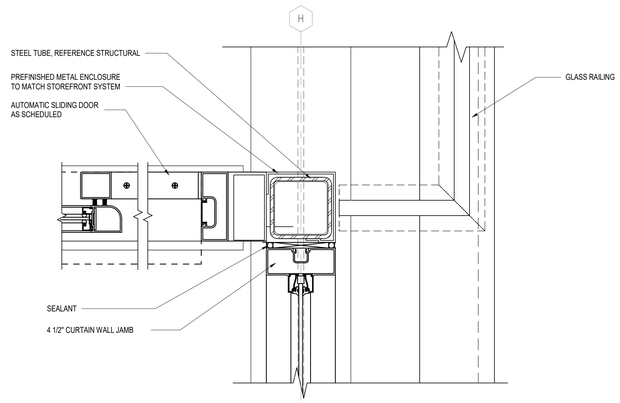
B3 EXPANSION JOINT @ EXT. AUTOMATIC DOOR JAMB
SCALE: 3" = 1'-0"



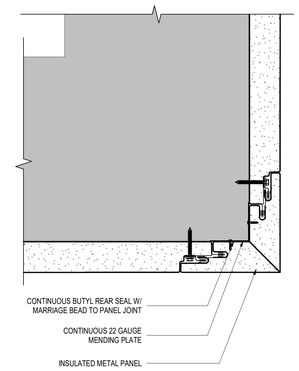
B5 EXPANSION JOINT @ ELEVATOR AND PLASTERING
SCALE: 3" = 1'-0"



A1 METAL PANEL TO PANEL (VERTICAL)
SCALE: 3" = 1'-0"



A3 INTERIOR AUTOMATIC DOOR JAMB @ GLASS RAIL
SCALE: 3" = 1'-0"



A5 METAL PANEL CORNER DETAIL
SCALE: 3" = 1'-0"

0 1
SCALE: 3" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	CD
DESIGNED BY:	FG
PROJECT NUMBER:	**1003-0070-004**

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SHEET TITLE:
PLAN DETAILS

SHEET ID:
A502

PROJECT STATUS:
100% BID SET

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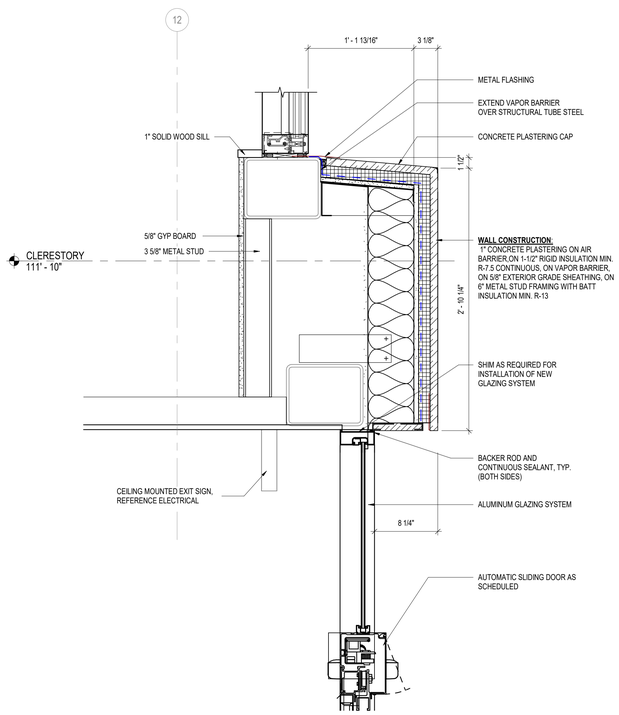
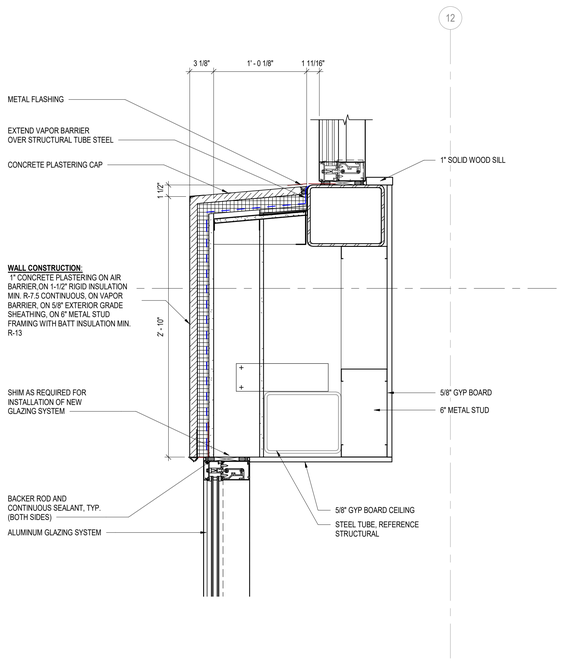


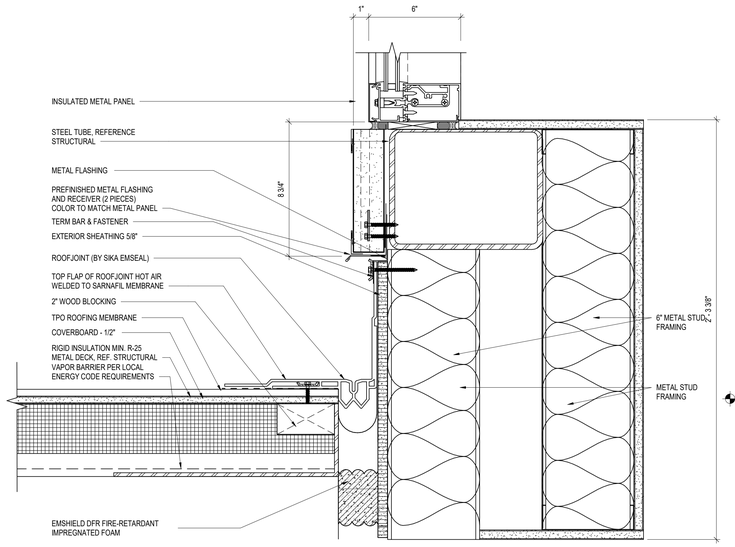
C1 FRONT ENTRY VESTIBULE DETAIL

SCALE: 1 1/2" = 1'-0"



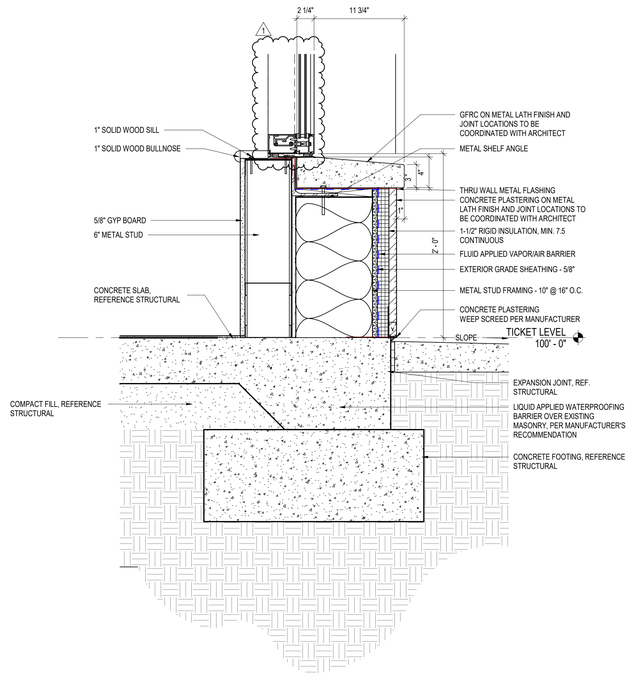
A1 SECTION DETAIL AT METAL PANEL / CURTAIN WALL

SCALE: 1 1/2" = 1'-0"



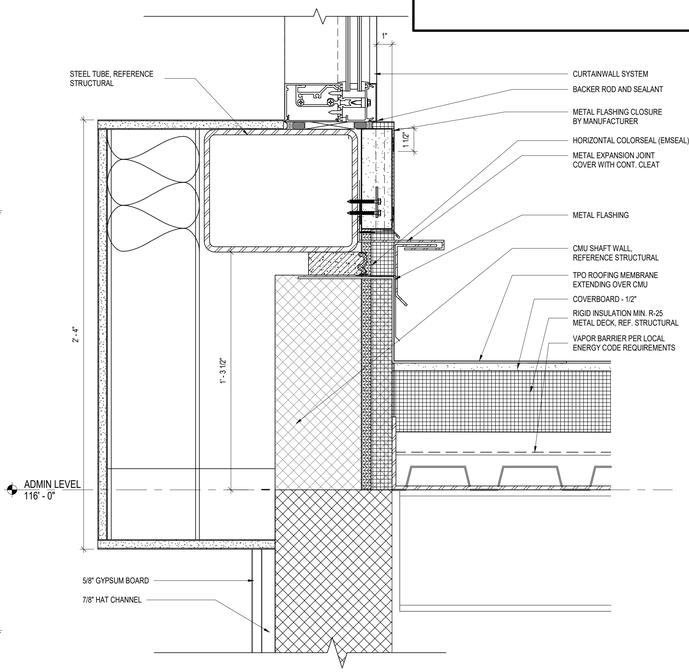
C3 ENLARGED EXPANSION JOINT DETAIL AT BASE OF METAL PANEL

SCALE: 3" = 1'-0"



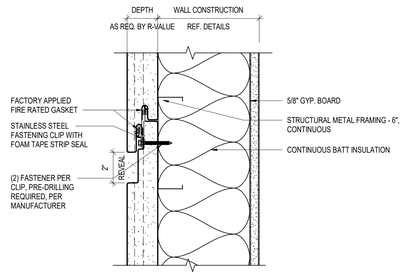
A3 CONCRETE PLASTERING - SILL - AT NEW ENTRY

SCALE: 1 1/2" = 1'-0"



C5 HORIZONTAL EXPANSION JOINT AT ROOF

SCALE: 3" = 1'-0"



A4 METAL PANEL TO PANEL (HORIZONTAL)

SCALE: 3" = 1'-0"

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ILM

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PROJECT ADDRESS:
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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	KS
DESIGNED BY:	FG
PROJECT NUMBER:	1003-0070-004

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SHEET TITLE:
EXTERIOR SECTION DETAILS

SHEET ID:
A504

PROJECT STATUS:
100% BID SET

0 1
SCALE: 3" = 1'-0"
1 0 1
SCALE: 1 1/2" = 1'-0"

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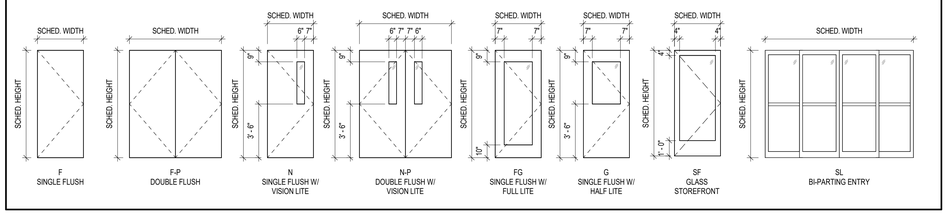
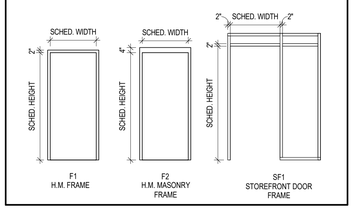
DOOR TYPES LEGEND



FRAME TYPES LEGEND



DOOR SCHEDULE

DOOR NO.	ROOM NAME	DOOR DIMENSIONS			DOOR PANEL INFORMATION			DOOR FRAME INFORMATION		DETAILS			FIRE RATING	HARDWARE SET	ACCESS CONTROL	COMMENTS
		WIDTH	HEIGHT	THICKNESS	PANEL TYPE	MATERIAL	FINISH	FRAME TYPE	MATERIAL	HEAD	JAMB	THRESHOLD				
RAMP LEVEL																
111		4' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	B1/A811		20.1	Yes	
112	CONNECTOR	18' - 10"	9' - 0"	1 3/4"	OH	MTL	A610	OH1	MTL	C1/A603	A1/A603	A3/A603	2 HR	01	No	AUTOMATIC OVERHEAD COILING DOOR
113	CONNECTOR	4' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C4/A603	C5/A603	E2/A811	2 HR	01	No	
115	MEN'S LOCKER ROOM	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	E1/A602	E2/A602	C3/A602		5	No	
118	WOMEN'S LOCKER ROOM	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	E1/A602	E2/A602	C3/A602		5	No	
123	STORAGE	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	B1/A811		13	No	EXTERIOR LOCKING
124	MECHANICAL ROOM	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	B1/A811		13	No	EXTERIOR LOCKING
TICKET LEVEL																
202	VESTIBULE 1	13' - 4"	7' - 7"		SL	GLASS		SL1	ALUM	C1/A504	D1/A502	A4/A602			No	AUTOMATIC SLIDING DOOR
202A	VESTIBULE 1	13' - 4"	7' - 7"		SL	GLASS		SL1	ALUM	C4/A602	A3/A502	A3/A602			No	AUTOMATIC SLIDING DOOR
203	VESTIBULE 2	13' - 4"	7' - 7"		SL	GLASS		SL1	ALUM	C1/A504	D1/A502	A4/A602			No	AUTOMATIC SLIDING DOOR
203A	VESTIBULE 2	13' - 4"	7' - 7"		SL	GLASS		SL1	ALUM	C4/A602	A3/A502	A3/A602			No	AUTOMATIC SLIDING DOOR
204	GLOBAL ENTRY OFFICE	3' - 0"	6' - 10 1/2"	1 3/4"	SF	GLASS		SF1	ALUM	B1/A602	B3/A602	C1/A811		13	Yes	ALUMINUM STOREFRONT DOOR W/ TEMPERED FROSTED GLASS
204A	GLOBAL ENTRY OFFICE	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	C3/A602			Yes	
204B	GLOBAL ENTRY OFFICE	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	C3/A602			Yes	
205	MOTHER'S ROOM	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	E2/A811		11	No	INTERIOR LOCKING
206	FAMILY ROOM 1	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	E2/A811		11	No	INTERIOR LOCKING
207	FAMILY ROOM 2	3' - 0"	7' - 0"	1 3/4"	F	HM	A610	F1	HM	C1/A602	C2/A602	E2/A811		11	No	INTERIOR LOCKING
208	SHERIFF'S OFFICE	3' - 0"	6' - 10 1/2"	1 3/4"	SF	GLASS		SF1	ALUM	B1/A602	B3/A602	C1/A811		13	Yes	ALUMINUM STOREFRONT DOOR W/ TEMPERED FROSTED GLASS
209	LIEUTENANT'S OFFICE	3' - 0"	6' - 10 1/2"	1 3/4"	SF 1/1	GLASS		SF1 1/1	ALUM	B1/A602	B2/A602	C1/A811		6	Yes	ALUMINUM STOREFRONT DOOR W/ TEMPERED FROSTED GLASS

DOOR AND FRAME GENERAL NOTES

1. PROVIDE CAULK / SEALANT ON BOTH SIDES OF FRAMES, TYPICAL.
2. PROVIDE TEMPERED GLAZING AT ALL STOREFRONT DOORS, AT NEW GLAZING WITHIN 24" HORIZONTALLY FROM A DOOR, WHERE NEW GLAZING LITE IS WITHIN 18" A.F.F.
3. FIELD VERIFY ALL CONDITIONS PRIOR TO ORDERING DOORS, HARDWARE, OR ACCESS CONTROLS, TYPICAL.
4. COORDINATE THRESHOLDS WITH FLOOR FINISHES.
5. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN DOOR SCHEDULE AND PLAN.
6. ENTIRE DOOR ASSEMBLIES TO MAINTAIN RATINGS AS SCHEDULED AND SHOWN ON THE LIFE SAFETY SHEETS. PROVIDE HARDWARE FOR RATED ASSEMBLIES TO MEET ALL APPLICABLE CODES TO INCLUDE BUT NOT LIMITED TO CLOSERS, PANIC DEVICES, CAULK / SEALANT, SWEEPS, SMOKE SEALS, ETC.
7. SET ALL THRESHOLDS IN EXTERIOR DOORS IN FULL BED OF SEALANT.
8. ALL EXTERIOR DOORS TO MEET WATER TIGHT CONDITION INCLUDING ALL WATERPROOF THRESHOLDS. BUMPER SEALS REQUIRED AT ALL EXTERIOR DOORS U.N.O.
9. SEE DOOR HARDWARE SPECIFICATION FOR DOOR HARDWARE.
10. COORDINATE ALL DOOR HARDWARE WITH ACCESS CONTROL AND FIRE ALARM SYSTEM AS REQUIRED.
11. OBTAIN OWNER'S APPROVAL OF ALL HARDWARE INTENDED FOR THIS PROJECT PRIOR TO ORDERING ANY HARDWARE.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: SG
DRAWN BY: SS
DESIGNED BY: FG
PROJECT NUMBER:
1003-0070-004

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SEAL:

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SHEET TITLE:
DOOR SCHEDULE, DOOR TYPES, AND NOTES

SHEET ID:
A601

PROJECT STATUS:
100% BID SET

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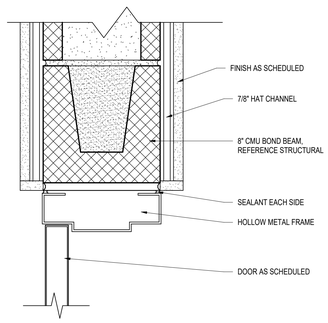
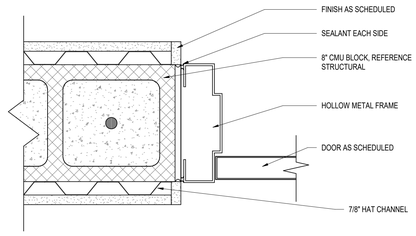
4/18/2025 3:20:35 PM Autodesk Docs://1003007004_ILM TO4 Rdwy Intl Improv Design/1003007004_ILM_TO4 Terminal and Tunnel_A_R24.rvt

GENERAL NOTES

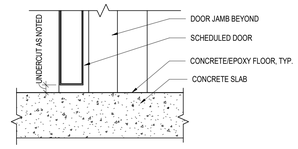
1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. THE CFMF & PLYWOOD SURFACE SHALL BE PLUMB & FLAT WITHIN +/- 1/8".
4. PLYWOOD SHALL EXTEND THE ENTIRETY OF THE VIDEO WALL SURFACE.
5. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
6. ALL EXPOSED PRIMARY STEEL TO BE 2 HR FIRE RATED.
7. ADD IN WALL PRESSURE TREATED BLOCKING AT ALL ROBE HOOK ATTACHMENTS.



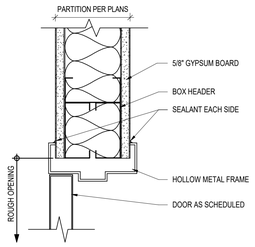
E1 CMU INTERIOR DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



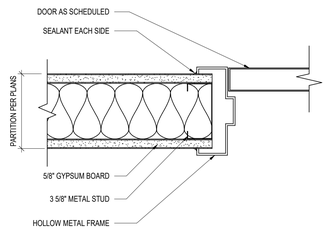
E2 CMU INTERIOR DOOR JAMB DETAIL
SCALE: 3" = 1'-0"



E3 INTERIOR DOOR SILL DETAIL - SC1
SCALE: 3" = 1'-0"



C1 INTERIOR HM DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



C2 INTERIOR HM DOOR JAMB DETAIL
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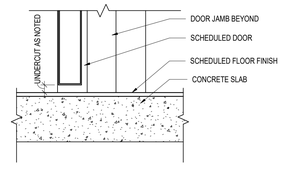
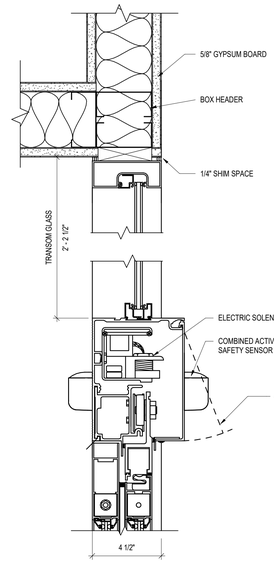
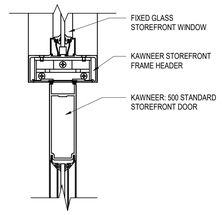


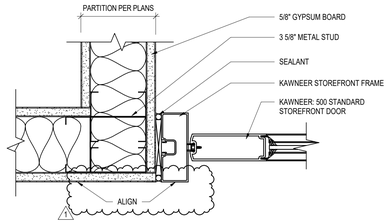
C3 INTERIOR DOOR SILL DETAIL - TYP.
SCALE: 3" = 1'-0"



C4 AUTOMATIC DOOR HEAD @ INT. SOFFIT DETAIL
SCALE: 3" = 1'-0"



B1 INTERIOR SF DOOR HEAD DETAIL
SCALE: 3" = 1'-0"



B2 INTERIOR SF DOOR JAMB DETAIL 1
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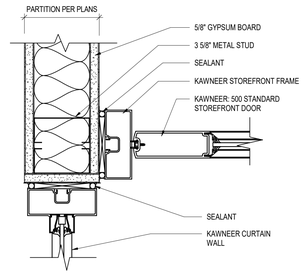

B3 INTERIOR SF DOOR JAMB DETAIL 2
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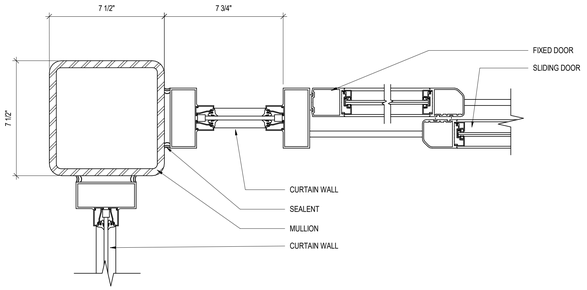
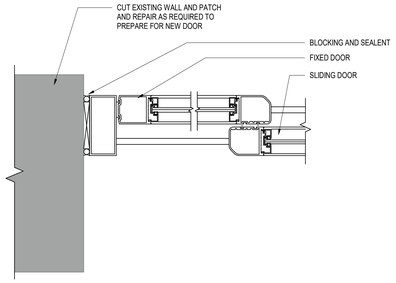
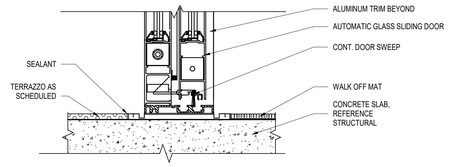


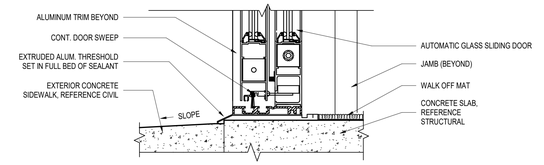
A1 SLIDING GLASS DOOR JAMB DETAIL 2
SCALE: 3" = 1'-0"



A2 SLIDING GLASS DOOR JAMB DETAIL
SCALE: 3" = 1'-0"



A3 AUTOMATIC DOOR AT TERRAZZO SILL DETAIL
SCALE: 3" = 1'-0"



A4 AUTOMATIC DOOR AT EXT. CONCRETE SILL DETAIL
SCALE: 3" = 1'-0"

0 1
SCALE: 3" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	SS
DESIGNED BY:	FG
PROJECT NUMBER:	**1003-0070-004**

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SHEET TITLE:
DOOR DETAILS

SHEET ID:
A602

PROJECT STATUS:
100% BID SET

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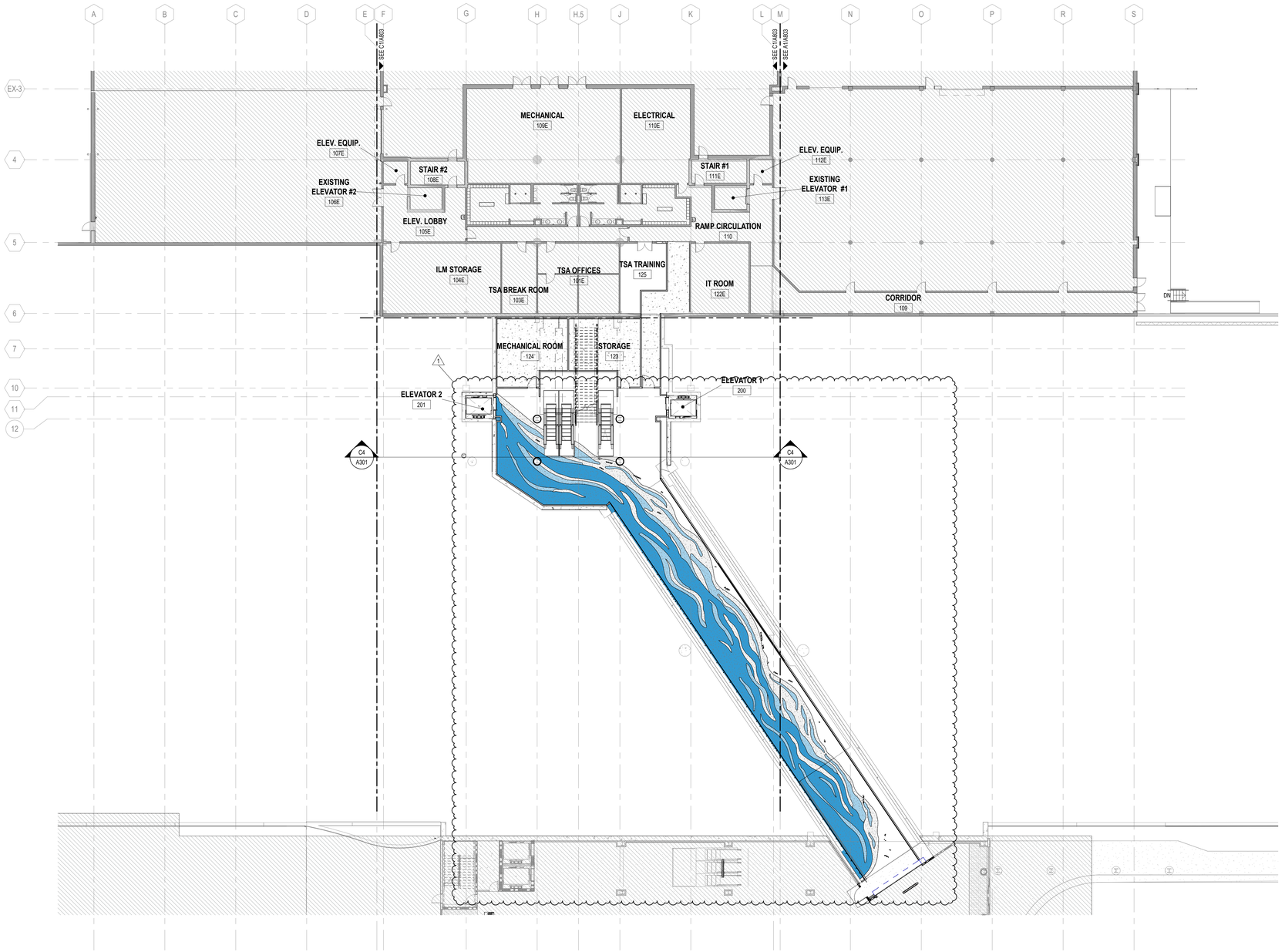

A1 OVERALL RAMP LEVEL INTERIOR FINISH PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

GENERAL INTERIOR FINISH NOTES

AREA LEGEND

NO WORK IN AREA, U.N.O.

REFER TO VOLUME 1 PACKAGE

GENERAL

1. FOR BIDDING AND PRICING PURPOSES, NO SUBSTITUTIONS WILL BE ACCEPTED. SUBMIT SAMPLES OF FINISHES TO ARCHITECT FOR APPROVAL.
2. FOR BIDDING AND PRICING PURPOSES, CONTACT ARCHITECT TO OBTAIN MANUFACTURER CONTACT INFORMATION PER EACH FINISH.
3. ALL TILE, EXCEPT MESH MOUNTS ARE TO BE INSTALLED WITH 1/8" GROUT JOINTS OR SMALLER. ALL FLOOR TILE AND WALL TILE JOINTS ARE TO ALIGN IN ONE OR BOTH DIRECTIONS.
4. ALL WALLS ARE TO BE PAINTED WITH P1, UNLESS NOTED OTHERWISE.
5. ALL DOORS AND DOOR FRAMES SHALL BE COORDINATED WITH THE FINISH LEGEND AND THE DOOR HARDWARE SCHEDULE.
6. ASSESS EXISTING WALL FINISH. PLAN FOR REMOVAL OF EXISTING WALL FINISHES WHERE PAINT IS SCHEDULED OR SHOWN ON PLAN OR CALLED OUT AS A GENERAL FINISH. ALL WALLS TO BE RESTORED TO A LEVEL 4 FINISH UPON REMOVAL OF EXISTING FINISHES.
7. USE LOW VOC'S FOR ALL PAINTS, PRIMERS, AND ADHESIVES.
8. LEAD TIMES FOR ALL MANUFACTURERS SHOULD BE CHECKED AT RECEIPT OF CONSTRUCTION DOCUMENTS TO ENSURE PRODUCTS ARE ORDERED IN THE APPROPRIATE TIME FRAME FOR SHIPPING AND RECEIVING PRIOR TO SCHEDULED INSTALLATION DATE.
9. PROVIDE REQUIRED BLOCKING AT WALL HUNG CABINETRY, TV MONITORS, AND DRY ERASE BOARDS.
10. ALL HOLLOW METAL FRAMES IN SCOPE TO BE PAINTED TO MATCH ADJACENT WALL COLOR IN A SEMI-GLOSS FINISH UNLESS NOTED OTHERWISE.
11. PROVIDE LEVEL 5 DRYWALL FINISH AT ALL PARTITIONS/ WALLS TO RECEIVE SCHEDULED COVERING.
12. ALL FINISH MATERIALS TO BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS. REFER TO MANUFACTURER FOR INSTALLATION INSTRUCTIONS. GC TO PROVIDE 6"X6" SAMPLE, U.O.N. IN SPECIFICATIONS FOR MATERIALS LISTED IN FINISH LEGEND.
13. MANUFACTURER AND PRODUCT NAMES ARE "BASIS OF DESIGN". REFER TO SPECS FOR ADDITIONAL APPROVED MANUFACTURERS AND ALLOWABLE SUBSTITUTIONS.
14. SEE INTERIOR FINISH PLANS AND ELEVATIONS FOR CLARIFICATION ON LIMITS AND LOCATIONS OF FINISHES.
15. ALL INTERIOR FINISHES ARE TO BE IN COMPLIANCE WITH ALL CODES, NATIONAL AND LOCAL.REFER TO TOILET ACCESSORIES SCHEDULE FOR TOILET PARTITION FINISH.
16. GC SHALL PROVIDE MOCK UPS FOR COLUMNS, RESTROOM VANITIES WITH FAUCETS AND SOAP DISPENSERS. TEST FOR WATER PRESSURE OUTPUT AND CONFIRM PRESSURE MEETS OWNERS APPROVAL.
17. LOCATIONS LISTED ON FINISH LEGEND ARE APPROXIMATE LOCATIONS AND ARE NOT LIMITED TO THOSE AREAS LISTED. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.

FLOORING

1. ALL FLOOR FINISH CHANGES TO OCCUR AT CENTERLINE OF DOOR FRAMES, UNLESS NOTED OTHERWISE. REFER TO FINISH PLAN FOR ALL TRANSITION CHANGES.
2. RUBBER BASE SHALL BE USED UNLESS NOTED OTHERWISE.
3. REFER TO FINISH PLANS FOR ANY FLOOR PATTERNS AND FLOOR TRANSITION DETAILS ON FINISH SHEETS.
4. REFER TO FINISH PLANS AND INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION ON THE LIMITS OF FINISHES.
5. REFER TO FINISH PLAN FOR CARPET TILE AND PATTERN LOCATIONS AND DIRECTION.
6. MITER TILE TO CORNERS OF SQUARE DRAIN - SEE DIAGRAM FOR REFERENCE, SUBMIT SEAMING DIAGRAM FOR APPROVAL.
7. PROVIDE INSTALLATION DIRECTION FOR EACH PRODUCT AND INCLUDE SEAMING DIAGRAM.
8. CONTRACTOR TO EXTEND FINISH FLOORING UNDER ALL LAVATORIES, PLUMBING FIXTURES, MILLWORK, ETC. TO PROVIDE CONTINUOUS FLOOR FINISH U.O.N.

MILLWORK

1. REFER TO MILLWORK SECTIONS FOR EDGE PROFILE.
2. CONFIRM WOOD GRAIN, VENEER, SOLID SURFACE, AND PLASTIC LAMINATE DIRECTION ON SHOP DRAWINGS.
3. SCRIBE ALL COUNTERS TO WALL. CAULK TO MATCH WALL COLOR. SUBMIT CAULK COLOR TO ARCHITECT/PROJECT DESIGNER PRIOR TO INSTALLATION IN ORDER TO CONFIRM WALL COLOR.
4. ALL CABINET PULLS TO BE HAFELE BAR HANDLE. STEEL COSMOPOLITAN COLLECTION, BRUSHED NICKEL, 4" CTC, 8-32 THREAD
5. ALL PLASTIC LAMINATE CABINET DOOR AND DRAWER EDGES TO BE COLOR MATCHED PLASTIC LAMINATE. FINISHES TO BE SELECTED FROM SHOP DRAWING SUBMITTALS FOR APPROVAL.
6. PLASTIC LAMINATE ON ALL OPEN CUBBIES OF INTERIOR OF ENCLOSED CABINETS TO BE PLASTIC LAMINATE TO MATCH ADJACENT FINISH ON VERTICAL SURFACES. UNLESS NOTED OTHERWISE. PROVIDE TPO EDGE BAND TO MATCH PLASTIC LAMINATE COLOR. SUBMIT SAMPLE FOR APPROVAL.

CEILINGS

1. ALL GWB SOFFITS/CEILINGS SHALL BE PAINTED WITH THE DESIGNATED PAINT FOR CEILINGS.
2. REFER TO REFLECTED CEILING PLAN FOR GYPSUM BOARD DROPS AND SOFFITS.

ELEVATORS

1. FOR ELEVATOR CAB INTERIORS REFER TO ELEVATOR FINISH DETAILS ON SHEET A408.

ELECTRICAL

1. COORDINATE SPECIALTY ITEMS WITH ELECTRICAL ENGINEERING SHEETS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: ACRYLIC BACKLIT PANELS, COLUMNS INCLUDING LIGHTING, ELEVATOR CAB INTERIORS, MILLWORK.

FINISH PLAN LEGEND & SHEET NOTES

FLOORING TYPES LEGEND

- CPT1: CARPET CUSTOM GRAPHIC
- TERR: TERRAZO TO MATCH EXISTING
- TER1: TERRAZO - DARK BLUE
- TER2: TERRAZO - LIGHT BLUE
- TER3: TERRAZO - GENERAL
- TER4: TERRAZO - SAND
- EPX: CLEAR EPOXY
- SC1: SEALED CONCRETE
- WOM1: WALKOFF MAT
- WOM2: WALKOFF MAT

GENERAL SHEET NOTES

1. REFER TO A610 ROOM FINISH SCHEDULE, LEGEND, AND NOTES.
2. REFER TO A810 FOR TRANSITION DETAILS.
3. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.
4. CASEWORK/MILLWORK, FURNITURE AND EQUIPMENT NOT SHOWN FOR CLARITY TO ILLUSTRATE EXTENT OF FINISHES.
5. FOR CEILINGS TAGGED AS EXPOSED (EXP), REFER TO A121 FOR ROOF DECK DIAGRAMS AND A810 FOR DECK FINISH INFORMATION
6. SEE SHEETS A401 AND A402 FOR RESTROOM FINISH INFORMATION AND DETAILS.

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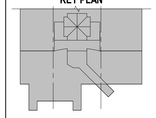
ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	SS
DESIGNED BY:	FG
PROJECT NUMBER:	**1003-0070-004**

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SEAL:

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SHEET TITLE:
OVERALL RAMP LEVEL INTERIOR FINISH PLAN

SHEET ID:
A801

PROJECT STATUS:
100% BID SET

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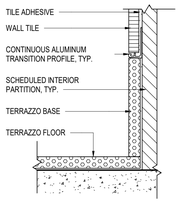

E1 TR5 - WALL TILE TERMINATION

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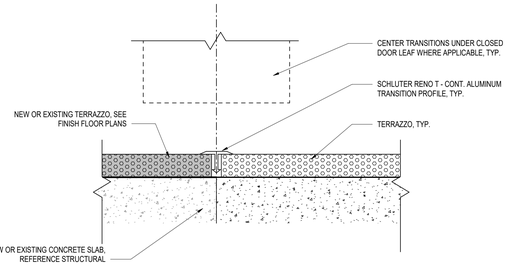
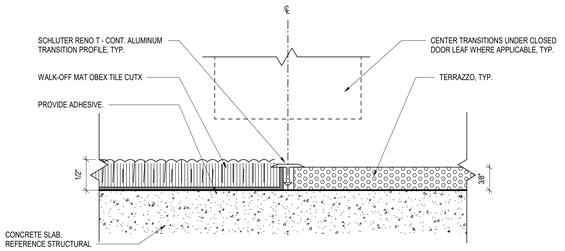


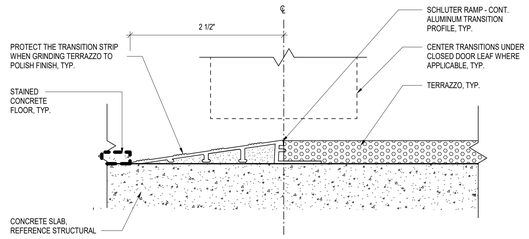
E2 TR6 TERRAZZO TRANSITION

SCALE: 12" = 1'-0"



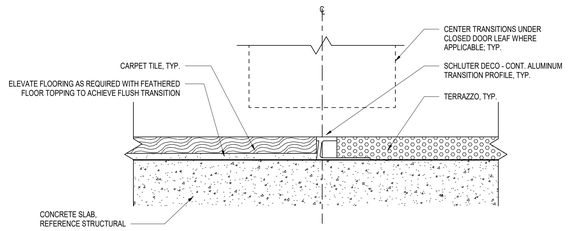
D1 TR4 - TERRAZZO TO INTERIOR WALK OFF MAT

SCALE: 12" = 1'-0"



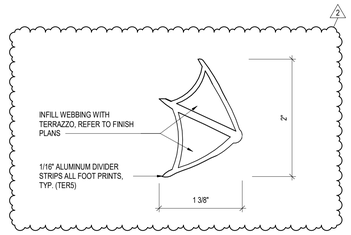
D2 TR7 - TERRAZZO TO STAINED CONCRETE

SCALE: 12" = 1'-0"



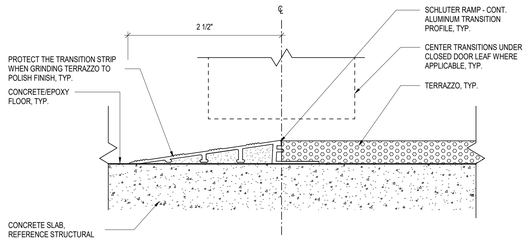
C1 TR3 - TERRAZZO TO CARPET

SCALE: 12" = 1'-0"



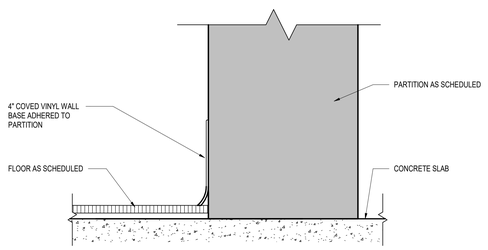
C2 TERRAZZO DETAIL - BIRD PRINT

SCALE: 12" = 1'-0"



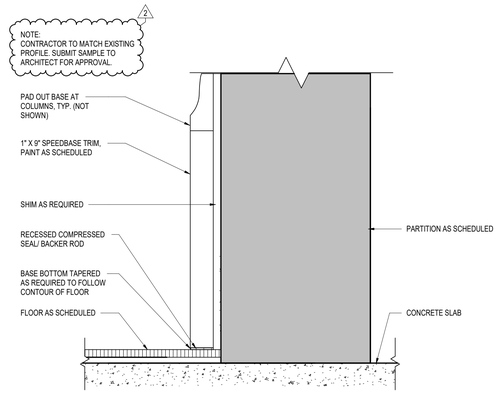
B1 TR2 - TERRAZZO TO SEALED CONCRETE

SCALE: 12" = 1'-0"



B2 B2 - VINYL BASE DETAIL

SCALE: 6" = 1'-0"



B4 B3 - WOOD BASE DETAIL

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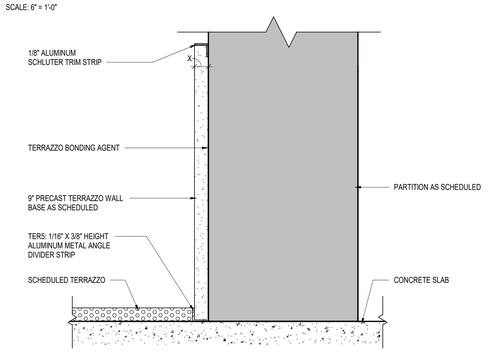
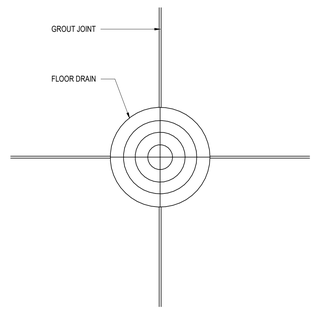


A2 B1 - TERRAZZO BASE DETAIL

SCALE: 6" = 1'-0"



A4 RESTROOM FLOOR DRAIN DETAIL, TYP.

SCALE: 3" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DIMENSIONS FROM DRAWINGS - THE CONTRACTOR MUST REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
2. ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
3. THE CFMF & PLYWOOD SURFACE SHALL BE PLUMB & FLAT WITHIN +/- 1/8".
4. PLYWOOD SHALL EXTEND THE ENTIRETY OF THE VIDEO WALL SURFACE.
5. PROTECT THE TRANSITION STRIPS WHEN GRINDING TERRAZZO TO POLISH FINISH WITH PROTECTION TAPE.
6. ALL EXPOSED PRIMARY STEEL TO BE 2 HR FIRE RATED.
7. ADD IN WALL PRESSURE TREATED BLOCKING AT ALL ROBE HOOK ATTACHMENTS.

SCALE: 1" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	04/10/2025
2	ADDENDUM #2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	SG
DRAWN BY:	SS
DESIGNED BY:	FG
PROJECT NUMBER:	

1003-0070-004

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SEAL:

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NOT FOR CONSTRUCTION

SHEET TITLE:
FLOOR FINISH TRANSITION DETAILS

SHEET ID:
A811

PROJECT STATUS:
100% BID SET

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GENERAL MECHANICAL SYMBOLS

REVISION NUMBER - SHOWN ON PLANS

POINT WHERE NEW CONNECTS TO EXISTING

DISCONNECT SYMBOL

XX / XXXXX — NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS

0 — KEYNOTE

CONTINUATION SYMBOL

Room / 5 — ROOM NAME AND NUMBER

EXISTING CONSTRUCTION

AREA NOT IN CONTRACT

2" — PIPE SIZE TAG (DIAMETER)

ABOVE GROUND PIPING

1/8" / 12" SLOPE — PIPE SLOPE TAG

BELOW GROUND PIPING

INVERT: -105' - 1" — PIPE INVERT ELEVATION TAG

(E) — EXISTING PIPE TAG

PIPING BEING DEMOLISHED

ABBREVIATIONS

(E)	EXISTING
ABV	ABOVE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACS	AIR CONDITIONING SYSTEM
ACU	AIR CONDITIONING UNIT
ADJ	ADJUSTABLE
AF	AIRFOIL
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AS	AIR SEPARATOR
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BD	BELT DRIVE
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BTUH	BRITISH THERMAL UNIT/HOUR
C	CONDENSATE
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CD	CONDENSATE DRAIN
CDL	CONDENSATE DRAIN LINE
CFF	CAPPED FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWR	CHILLER WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CS	CURRENT SENSOR
CT	CONTROL TRANSFORMER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER
CWR	CONDENSOR WATER RETURN
CWS	CONDENSOR WATER SUPPLY
DB	DRY BULB
DD	DIRECT DRIVE
DIFF	DIFFUSER
DL	DOOR LOUVER
DMPR	DAMPER
DN	DOWN
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DTS	DUCT TEMPERATURE SENSOR
DWDI	DOUBLE WIDTH, DOUBLE INLET
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
ENT	ENTERING
EQ	EQUAL
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINAL FILTER
FG	FLOOR GRILLE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE CONNECTION
FLR	FLOOR
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FR	FLOOR RETURN
FT	FAN TERMINAL
FTR	FINNED TUBE RADIATION
FTU	FAN POWERED VAV TERMINAL UNIT
GA	GAUGE
GAL	GALLON

GALV	GALVANIZED
GH	GRAVITY HOOD
GPM	GALLONS PER MINUTE
GUV	GRAVITY UNIT VENTILATOR
H	HUMIDIFIER
HC	HEATING COIL
HP	HORSEPOWER
HRC	HEAT RECOVERY UNIT
HVAC	HEATING VENTILATION AND AIR
HVU	HEATING AND VENTILATING UNIT
HWC	HOT WATER COIL
IN WC	INCH OF WATER COLUMN
IN WG	INCH OF WATER GAUGE
IRH	INFRARED HEATER
ISOTR	ISOLATION TRANSFORMER
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LINEAR DIFFUSER
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMP
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MIN	MINIMUM
MZ	MULTI-ZONE
NC	NOISE CRITERIA
NEC	NATIONAL ELECTRIC CODE (NFPA-70)
No	NUMBER
OAHU	OUTSIDE AIR HANDLING UNIT
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP
PF	PRE-FILTER
PH	PREHEAT COIL
PHWP	PRIMARY HOT WATER PUMP
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RAF	RETURN AIR FAN
RELA	RELIEF AIR
REQD	REQUIRED
RG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMP
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SENSOR
RTS	ROOM TEMPERATURE SENSOR
RTU	ROOF TOP UNIT
S	SMOKE DETECTOR
SA	SOUND ATTENUATOR
SCHWP	SECONDARY CHILLED WATER PUMP
SF	SUPPLY FAN
SF	SQUARE FEET
SHWP	SECONDARY HOT WATER PUMP
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
STR	STARTER
SW	SWITCH
T	TEMPERATURE SENSOR
TA	TRANSFER AIR
TAO	TRANSFER AIR OPENING
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOAC	TRANSFER OPENING ABOVE CEILING
TSTAT	THERMOSTAT
TUX	TERMINAL UNIT CONTROLLER
TYP	TYPICAL
UH	UNIT HEATER
UTR	UP THROUGH ROOF
V-PH-HZ	VOLTS-PHASE-HERTZ
VAF	VENTILATION AIR FAN
VAFC	VENTILATION AIR FAN CONTROLLER
VAV	VARIABLE AIR VOLUME
VCD	VOLUME CONTROL DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VTR	VENT THRU ROOF
W	WATTS
WB	WET BULB
WHP	WATER SOURCE HEAT PUMP
WP	WEATHER PROOF
WWF	WOVEN WIRE FABRIC

HVAC SYMBOLS

16"X8" — SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)

16"Ø — ROUND DUCT SIZE TAG (DIAMETER)

(E) — EXISTING DUCT TAG

DUCT BEING DEMOLISHED

S/A SUPPLY AIR — SUPPLY AIR

O/A OUTSIDE AIR — OUTSIDE AIR

R/A RETURN AIR — RETURN AIR

T/A TRANSFER AIR — TRANSFER AIR

E/A EXHAUST AIR — EXHAUST AIR

L/A RELIEF AIR — RELIEF AIR

GE/A GREASE EXHAUST AIR — GREASE EXHAUST AIR

DROP — RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE

DROP — ROUND SUPPLY/OUTSIDE AIR DUCT RISE

DROP — RECTANGULAR RETURN/TRANSFER AIR DUCT RISE

DROP — ROUND RETURN/TRANSFER AIR DUCT RISE

DROP — RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE

DROP — ROUND EXHAUST/RELIEF AIR DUCT RISE

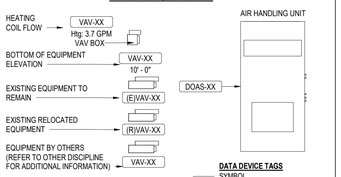
GRILLES, REGISTERS & DIFFUSERS TAG

400 CFM / 10"Ø — 3-CONE DIFFUSER

Ø / 500 CFM / 12"X10" — LOUVERED GRILLE

500 CFM / 12"X10" — EGGCRATE RETURN GRILLE

MECHANICAL EQUIPMENT TAGS



DATA DEVICE TAGS

SYMBOL / EQUIPMENT ID

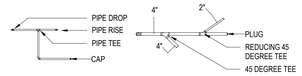
CARBON DIOXIDE SENSOR	CO2	TH	RTU-XX	TEMPERATURE & HUMIDITY SENSOR
CARBON MONOXIDE SENSOR	CO	TS	VAV-XX	TEMPERATURE SENSOR
NITROGEN DIOXIDE SENSOR	NO2	T		THERMOSTAT
HUMIDITY SENSOR	HS	MS		MANUAL SWITCH
HUMIDISTAT	H	S		SENSOR

DAMPER TAGS

FIRE DAMPER	F	B	MANUAL BALANCING DAMPER
SMOKE DAMPER	S	D	BACKDRAFT DAMPER
MOTORIZED DAMPER	M	C	COMBINATION FIRE/SMOKE DAMPER

PIPING SYMBOLS

CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CD	CONDENSATE DRAINAGE
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
GWR	GEOTHERMAL WATER RETURN
GWS	GEOTHERMAL WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
G	NATURAL GAS
PG	PROPANE GAS
REF-L	REFRIGERANT-LIQUID
REF-S	REFRIGERANT-SUCTION
REF-HG	REFRIGERANT-HOT GAS
STM	STEAM
CDR	CONDENSATE RETURN



PIPE ACCESSORY TAGS

2" DOM. WM — DOMESTIC WATER METER	2" M-CNTRL — MOTORIZED CONTROL VALVE
2" BALANCING — BALANCING VALVE	2" 3-WAY CNTRL — 3 WAY MOTORIZED CONTROL VALVE
2" SHUTOFF — 1/4 TURN BALL VALVE	2" REGULATOR — PRESSURE REGULATING VALVE
2" CHECK — CHECK VALVE	2" BUTTERFLY — BUTTERFLY VALVE
2" TMV — 3-WAY MIXING VALVE	

GENERAL NOTES

1. PROVIDE COMPLETE PRODUCT DATA (SIZE, WEIGHT, OPERATING CHARACTERISTICS, WIRING DIAGRAMS, ETC.) FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE DRAWINGS.
2. ALL HVAC SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODE REQUIREMENTS, NORTH CAROLINA 2024 MECHANICAL CODE, NORTH CAROLINA 2024 PLUMBING CODE, NATIONAL ELECTRICAL CODE AND NORTH CAROLINA 2024 BUILDING CODE.
3. SMOKE DETECTORS ARE FURNISHED BY DIVISION 26 AND INSTALLED IN DUCTWORK AND AHU's BY DIVISION 23.
4. PROVIDE OFFSETS IN NEW DUCT AND PIPING SYSTEMS AS REQUIRED TO FACILITATE INSTALLATION OF NEW WORK AT NO ADDITIONAL COST TO THE CONTRACT.
5. PROVIDE 45 DEGREE ENTRANCE AND EXIT TAPS AT DUCT BRANCH CONNECTIONS.
6. ALL NON-GALVANIZED SUPPORTS AND HANGERS FOR DUCTWORK, PIPING, AND EQUIPMENT MUST BE CLEANED OF DEBRIS AND RUST, PROPERLY PREPPED, PRIMED AND PAINTED. REFER TO DIVISION 9 OF SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
7. THE INSIDE OF DUCTWORK THAT IS VISIBLE THROUGH A DIFFUSER, REGISTER OR GRILLE, MUST BE PAINTED FLAT BLACK.
8. PROVIDE CEILING ACCESS PANELS IN HARD CEILINGS TO ACCESS AND SERVICE FIRE DAMPERS, SMOKE DAMPERS, CONTROL DAMPERS, TERMINAL BOXES, VALVES AND EQUIPMENT LOCATED ABOVE THEM. REFER TO SPEC SECTION 08305 FOR ACCESS DOOR REQUIREMENTS.
9. IN ADDITION TO THE SPECIFICATION REQUIREMENTS AND PRIOR TO ORDERING EQUIPMENT AND INSTALLATION OF NEW WORK, SUBMIT A COMPOSITE SHOP DRAWING (1/4" MIN. SCALE PLAN AND SECTIONS) SHOWING DUCTWORK, PIPING AND EQUIPMENT LAYOUT. THIS SHOP DRAWING MUST ALSO INDICATE MAINTENANCE/SERVICE SPACE FOR ALL EQUIPMENT.
10. CONCRETE PADS FOR MECHANICAL EQUIPMENT MUST BE SIZED, LOCATED AND PROVIDED BY DIVISION 23. PROVIDE 4" HIGH x UNIT LENGTH PLUS 4" x UNIT WIDTH PLUS 4" CONCRETE PADS FOR ALL HVAC EQUIPMENT MOUNTED ON GRADE OR FLOOR SLAB.
11. MANUAL VOLUME DAMPERS MUST HAVE OPPOSED BLADE TYPE DAMPERS.
12. WALL LOUVERS ARE INDICATED FOR INFORMATION ONLY. SEE MECHANICAL LOUVER SCHEDULE FOR SIZE AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION.
13. VERIFY ALL EQUIPMENT WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
14. ALL DIFFUSER AND REGISTER LOCATIONS IN SUSPENDED CEILINGS MUST BE COORDINATED WITH REFLECTED CEILING PLANS, SPRINKLER PLANS AND ELECTRICAL PLANS BEFORE INSTALLATION.
15. ALL DUCTWORK MUST BE INSTALLED AS CLOSE AS POSSIBLE TO WALLS AND UNDERSIDE OF BEAMS UNLESS OTHERWISE NOTED.
16. PROVIDE ACCESS PANELS IN DUCTWORK FOR OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL FANS, VALVES, FIRE DAMPERS, CONTROL DAMPERS, SMOKE DETECTORS, AND AIRFLOW MEASURING STATIONS.
17. FLEXIBLE DUCT CONNECTING MAIN DUCT TO SUPPLY DIFFUSER OR AIR BOOT MUST NOT EXCEED 8 FEET IN LENGTH. IF THIS DISTANCE EXCEEDS THIS LIMIT, AN INSULATED METAL DUCT OF REQUIRED LENGTH AND EQUAL DIAMETER MUST BE INSTALLED WITH DAMPER AT MAIN DUCT TO REDUCE FLEXIBLE DUCT TO MAXIMUM LENGTH OF 8 FEET.
18. ALL DUCT MUST BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER BRAIDED GROUNDING STRAP.
19. ALL RETURN AIR OPENINGS ABOVE CEILINGS MUST BE PROVIDED WITH REMOVABLE 1/2 INCH WIRE MESH ALUMINUM SCREEN AND FRAME AT ALL LOCATIONS WHERE GRILLES AND REGISTERS ARE NOT UTILIZED.
20. ALL DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
21. UNLESS OTHERWISE INDICATED ALL CONDENSATE DRAIN LINES FROM EACH AHU OR FAN COIL UNIT COOLING COIL MUST BE PIPED FULL SIZE OF DRAIN OUTLET, WITH P-TRAP TO FLOOR DRAIN OR JANITOR SINK.
22. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., MUST BE SUPPORTED AS DETAILED AND SPECIFIED. ADDITIONAL SUPPORTS MUST BE PROVIDED AS REQUIRED TO PROPERLY SUPPORT ALL HVAC SYSTEM COMPONENTS.
23. MANUFACTURERS LISTED IN SCHEDULES WERE USED AS A BASIS FOR DESIGN. REFER TO THE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.
24. ALL FLEXIBLE DUCTWORK MUST BE NOMINAL SIZE AS THE NECK OF THE AIR DEVICE (DIFFUSERS, GRILLES, REGISTERS AND LINEARS) IT SERVES. REFER TO THE AIR DISTRIBUTION DEVICE SCHEDULE FOR NECK SIZES OF AIR DEVICES.
25. PROVIDE SINGLE THICKNESS, TRAILING EDGE TURNING VANES INSIDE ALL 90 AND 45 DEGREE SHEET METAL ELBOWS EXCEPT THOSE USED IN TRANSFER AIR DUCTS AND NON-DUCTED ELBOWS ON RETURN AIR GRILLES AND REGISTERS.
26. CAPPED DUCTS MUST BE BLANKED OFF WITH 18 GAUGE GALVANIZED SHEET METAL, CAULKED TO PROVIDE AN AIR TIGHT SEAL AND EXTERNALLY INSULATED.
27. VFD's IF REQUIRED ARE INDICATED ON THE HVAC EQUIPMENT SCHEDULES AND ARE PROVIDED BY DIVISION 23. UNLESS OTHERWISE NOTED, FIELD LOCATE EACH VFD IN THE SAME ROOM THAT THE EQUIPMENT IT SERVES IS LOCATED. VFD's MUST BE LOCATED SO THEY CAN EASILY BE ACCESSED. HAVE PROPER MAINTENANCE SPACE AND COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. GROUND VFD's IN ACCORDANCE WITH NEC. VFD's MUST NOT BE MOUNTED ON HVAC EQUIPMENT, UNLESS NOTED OTHERWISE OR FACTORY MOUNTED.
28. COORDINATE ROUTING OF DUCTWORK WITH THE REFLECTED CEILING PLANS, LIGHT FIXTURES, HVAC PIPING, PLUMBING PIPING AND SPRINKLER PIPING. WHEREVER POSSIBLE PROVIDE OFFSETS AND TRANSITIONS TO ROUTE DUCTWORK BETWEEN CEILING MOUNTED LIGHT FIXTURES IN LIEU OF ABOVE THEM.
29. LOUVERS ARE PROVIDED BY GENERAL CONTRACTOR. APPROXIMATE LOUVER PLENUM SIZES ARE INDICATED ON THE DRAWINGS. FIELD VERIFY THE ACTUAL PHYSICAL DIMENSIONS PRIOR TO FABRICATION OF PLENUMS AND CONNECTING DUCTWORK.
30. ALL HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS SHOWN ON THE CONTRACT DRAWINGS MUST BE NEW.
31. SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA FOR ALL EQUIPMENT AND DEVICES SPECIFIED ON THE HVAC DRAWINGS.
32. CONSTRUCT LOUVER PLENUMS OF 16 GAUGE GALVANIZED STEEL WITH BOTTOM AT 15 DEGREE SLOPE TOWARD LOUVER. PROVIDE 12"x12" INSULATED ACCESS DOOR. INSULATE PLENUM WITH 2" THICK, 3 POUND DENSITY, RIGID BOARD INSULATION AND SEAL ALL JOINTS AND SEAMS WITH 4" WIDE GLASS FABRIC BETWEEN TWO LAYERS OF MASTIC. REFER TO SPECIFICATIONS, FLOOR PLANS AND DETAILS FOR ADDITIONAL REQUIREMENTS.
33. THIS PROJECT REQUIRES COORDINATION DRAWINGS. REFER TO SPECIFICATION SECTIONS 01040, 13000 AND 230050 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
34. DISCREPANCIES AND CONFLICTS BETWEEN MECHANICAL SYSTEMS AND OTHER DISCIPLINE (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION) DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO CONSTRUCTION OF SUBJECT SYSTEMS. FAILURE TO NOTIFY A/E OF THE SUBJECT PROBLEMS MUST CONSTITUTE ACCEPTANCE OF ALL CONDITIONS AND ANY CORRECTIVE WORK REQUIRED, AS DIRECTED BY A/E. THE SUBJECT CORRECTIVE WORK MUST BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
35. ALL FURNISHED EQUIPMENT MUST FIT THE ALLOCATED SPACE. PROVIDE ALL MODIFICATIONS TO THE OPENINGS, IN ROOF OR SLAB, STEEL SUPPORTS, ELECTRICAL REQUIREMENTS AND ANY OTHER BUILDING COMPONENTS REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF SUBJECT EQUIPMENT.
36. PRIOR TO FINAL INSPECTION OF EQUIPMENT BY A/E, EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CLEANED AND ALL FOREIGN MATERIALS REMOVED. ALL PENETRATIONS THRU UNIT CASINGS MUST BE PROPERLY SEALED AND ALL CONTROL DEVICES MUST BE OPERATIONAL AND CALIBRATED.
37. ALL FINISHES DAMAGED DURING THE INSTALLATION OF NEW HVAC SYSTEM MUST BE REPAIRED TO MATCH EXISTING ADJACENT FINISHES.
38. COORDINATE LOCATION OF HVAC EQUIPMENT AND SYSTEM ROUTINGS SO THAT HVAC EQUIPMENT, PIPING AND DUCTWORK ARE NOT LOCATED ABOVE ELECTRICAL EQUIPMENT, PANELS OR ELEVATOR EQUIPMENT.
39. PROVIDE 3" DEEP 14 GAUGE GALVANIZED STEEL AUXILIARY DRAIN PAN BENEATH FAN COIL UNIT(FCU). DRAIN PAN MUST BE 4" LARGER THAN BOTTOM OF FCU. PROVIDE WITH A LEVEL SENSOR FLOW SWITCH THAT SHUTS DOWN THE FCU OPERATION IF SET LIMITS ARE EXCEEDED..
40. LOUVER MUST BE BLANKED OFF WITH 20 GAUGE GALVANIZED STEEL. DUCTWORK MUST BE CAPPED OR BLANKED -OFF WITH ONE SIZE GREATER THAN THE DUCT IT SERVES. ALL BLANK-OFF's AND CAPS MUST BE CAULKED TO PROVIDE AN AIR AND WATER TIGHT SEAL. LOUVER BLANK-OFF's MUST BE INSULATED WITH RIGID BOARD INSULATION, WELD PENS, GLASS CLOTH AND MASTIC AS SPECIFIED FOR DUCTWORK INSIDE EQUIPMENT ROOMS. DUCTWORK BLANK-OFF's MUST BE INSULATED TO MATCH ADJACENT INSULATION OF THE SUBJECT DUCT.
41. REFER TO CONTROL DRAWINGS FOR BOTH DUCTWORK AND EQUIPMENT DAMPERS (CONTROL, MANUAL BALANCING, BACKDRAFT AND ADJUSTABLE WEIGHTED) THAT MAY NOT BE SHOWN ON THE FLOOR PLANS BUT ARE REQUIRED.
42. PROJECT INCLUDES RETURN AIR PLENUM THROUGHOUT. UTILIZE PLENUM RATED MATERIALS AS NECESSARY.
43. FOR ALL THREE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT IN CONSTANT SPEED APPLICATIONS: PROVIDE FULL VOLTAGE, COMBINATION MAGNETIC TYPE, THREE-PHASE POWER, MOTOR STARTER/CONTROLLERS WITH UNDER VOLTAGE RELEASE, MOTOR CIRCUIT PROTECTOR TYPE DISCONNECT WITH SHORT-CIRCUIT PROTECTION, HANDS-OFF-AUTOMATIC SWITCH AND GREEN PILOT LIGHT IN CONTROL PANEL COVER. PROVIDE THE APPROPRIATE NUMBER OF NORMAL OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
44. FOR ALL SINGLE-PHASE MOTORS POWERING MECHANICAL EQUIPMENT: PROVIDE ELECTRICAL DISCONNECT AND THE APPROPRIATE NUMBER OF NORMALLY OPEN (N.O.) AND NORMALLY CLOSED (N.C.) CONTACTS REQUIRED TO OPERATE AND CONTROL THE EQUIPMENT IN ACCORDANCE WITH THE SEQUENCES OF OPERATION AS SPECIFIED. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EXAMINATION OF EXISTING CONDITIONS

1. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AND/OR PRESENT BUILDING AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK BEFORE SUBMITTING PROPOSAL.
2. SUBMISSION OF PROPOSAL WILL BE CONSTRUCTED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.

CONNECTION TO EXISTING SYSTEMS:

1. PLAN INSTALLATION OF NEW WORK AND CONNECTION TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.
2. SUBMIT TO THE OWNER FOR APPROVAL DATE AND SCHEDULE OF NECESSARY SHUT-DOWNS OF EXISTING SERVICES. ALL SHUTDOWNS SHALL BE MADE AT SUCH TIMES THAT WILL NOT INTERFERE WITH REGULAR OPERATION OF EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVALS FROM OWNER.
3. TO INSURE CONTINUOUS OPERATION, MAKE NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT MANNER. RESTORE DISTURBED EXISTING WORK TO ORIGINAL CONDITION.
4. CONTRACTOR SHALL PROVIDE MEANS AND METHODS DOCUMENT REGARDING THE SEQUENCE AND PROCEDURES FOR NEW TO EXISTING TIE-IN WORK AND REPLACEMENT/MODIFICATION TO HVAC SYSTEM EQUIPMENT AND COMPONENTS. DOCUMENT TO BE REVIEWED BY OWNER REPRESENTATIVE, ILM FACILITIES PERSONNEL AND THE A/E BEFORE COMMENCEMENT OF WORK.
5. ALL HVAC SYSTEM SHUT DOWNS REQUIRED TO COMPLETE THE SOW SHALL OCCUR BETWEEN THE HOURS OF 11:00PM AND 5:00AM UNLESS OTHERWISE PRE-APPROVED BY THE OWNER. CONTRACTOR SHALL PROVIDE 7 DAYS ADVANCE NOTICE OF ANY SHUT DOWN OF EXISTING SYSTEM AND RECEIVE WRITTEN APPROVAL FROM THE OWNER PRIOR TO COMMENCING WORK. CONTRACTOR SHALL MAINTAIN CURRENT INTERNAL CONDITIONS AND SETPOINTS OF THE FACILITY AT ALL TIMES. IF CONDITIONS CANNOT BE MAINTAINED, CONTRACTOR SHALL PROVIDE TEMPORARY MEANS OF HEATING AND/OR COOLING THE FACILITY THROUGH TEMPORARY HVAC UNITS AND DUCTWORK SYSTEMS.

DEMOLITION

1. DEMOLITION SHALL BE AS SHOWN ON DRAWINGS OR SPECIFIED.
2. SCHEDULE ALL DEMOLITION WORK WITH REPRESENTATIVE OF AIRPORT FACILITIES TO CAUSE MINIMUM DOWNTIME OF ANY BUILDING SERVICE OR FUNCTION.
3. DURING DEMOLITION AND CONSTRUCTION, PROTECT FROM DAMAGE ALL EXISTING EQUIPMENT AND SERVICES THAT ARE TO REMAIN. ANY DAMAGE TO EXISTING FACILITIES WILL BE REPAIRED OR REPLACED AT NO EXTRA COST TO THE CONTRACT.
4. ALL EQUIPMENT, VALVES, CONTROLS AND ANY ITEM SO DESIGNATED TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. CONTRACTOR SHALL REMOVE SAID ITEMS WITH CARE AND DELIVER THEM TO A LOCATION DESIGNATED BY REPRESENTATIVE OF OWNER.
5. RUBBISH FROM DEMOLITION SHALL BE REMOVED OFF SITE AS PROMPTLY AS POSSIBLE ON A DAILY BASIS.
6. DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY MAJOR OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE ROUTING OF NEW ELEMENTS AROUND EXISTING ABOVE CEILING SERVICES. CONTRACTOR SHALL RECEIVE WRITTEN OWNER APPROVAL FOR ANY RELOCATION OF EXISTING SERVICES.
7. CAPS IN INSULATED DUCTWORK OR PIPING SHALL BE INSULATED.
8. CONTRACTOR TO PROVIDE DUST MITIGATION MEASURES TO ASSURE HEALTHY AIR QUALITY IN PROJECT WORK AREA AND ADJACENT AREAS. PROJECT WORK AREA TO BE CLEANED DAILY.
9. CONTRACTOR TO INVESTIGATE SITE AND COORDINATE WITH AIRPORT TO IDENTIFY POTENTIAL HAZARDOUS MATERIALS PRIOR TO ANY DEMOLITION OR NEW WORK BEGINS. IF NECESSARY, CONTRACTOR TO COMMISSION TESTING OF MATERIAL AND NOTIFY ARCHITECT AND ENGINEER.

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	KMN
DRAWN BY:	MA
DESIGNED BY:	RSS
PROJECT NUMBER:	**2003-0070-006**

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SHEET TITLE:
MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SHEET ID:
M001

PROJECT STATUS:
100% BID SET

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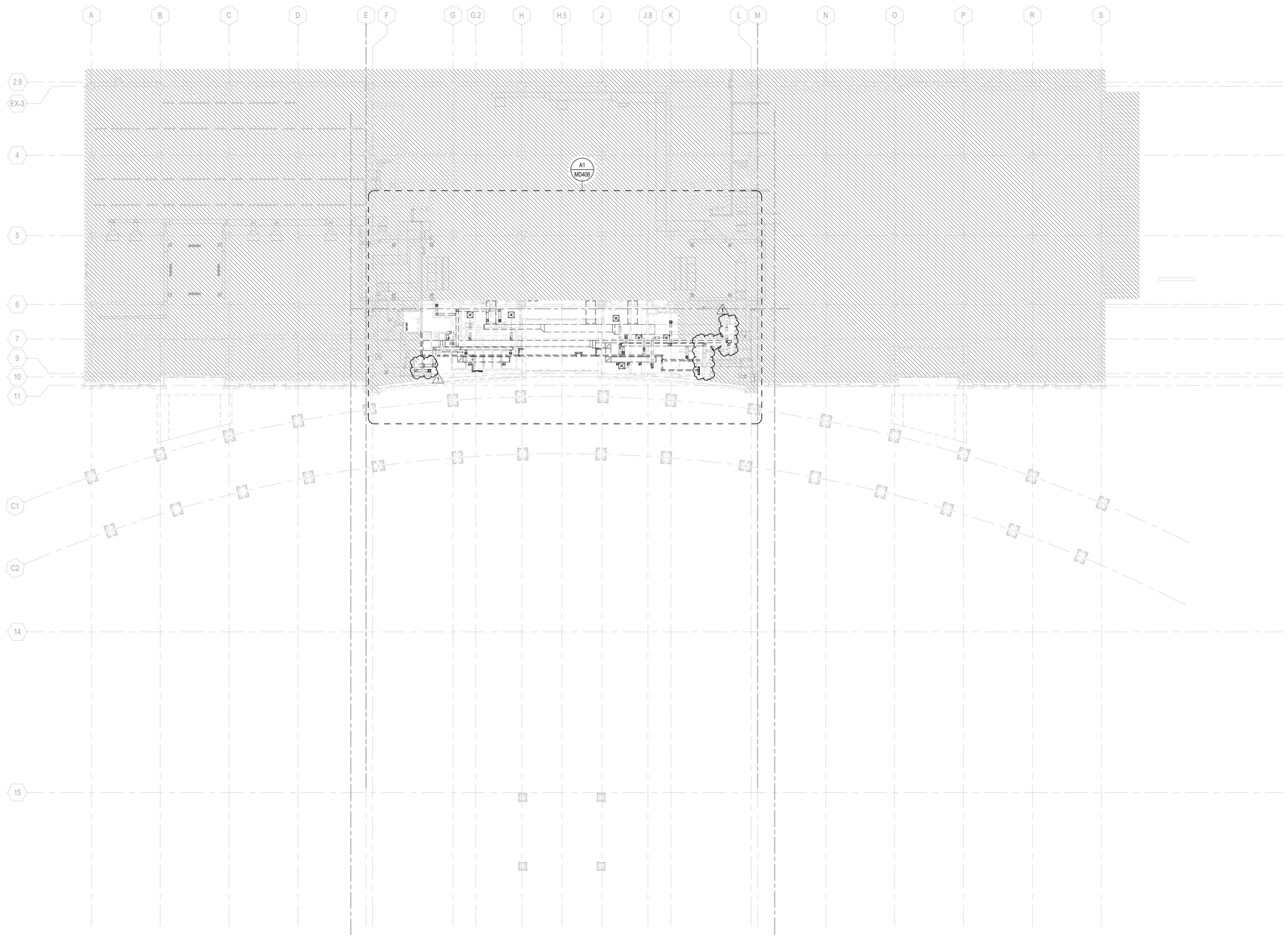
FLOOR PLAN LEGEND

NO WORK IN AREA, U.N.O.



PN

N

A2 OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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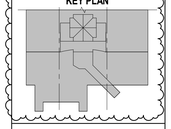
1

KEY PLAN



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1	Addendum 2	04/18/2025

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DESIGNED BY:	RSS

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SHEET TITLE:

OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

SHEET ID:

MD106

PROJECT STATUS:
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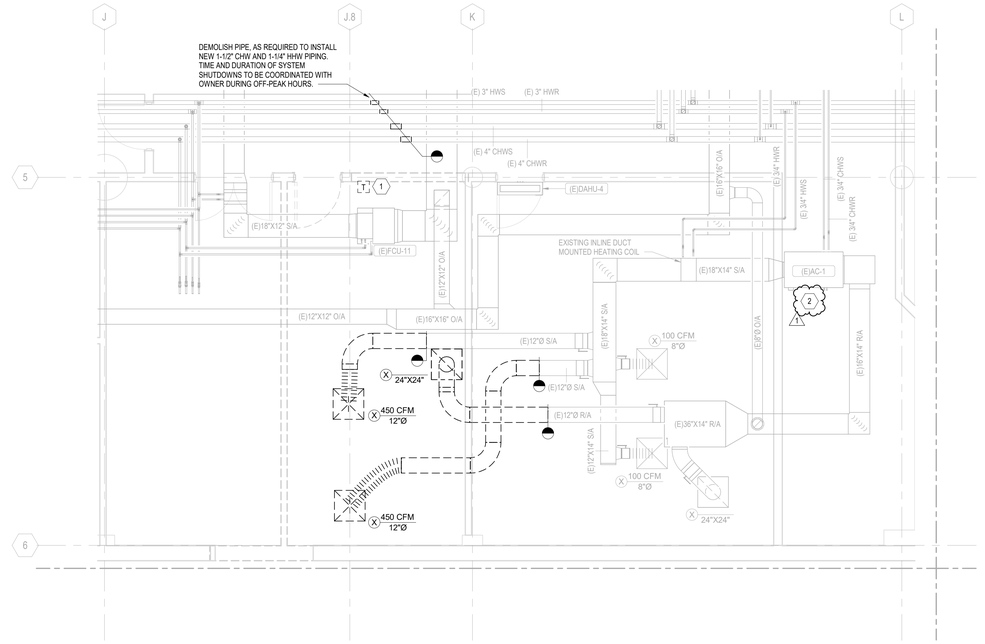
KEYED NOTES

1. MECHANICAL CONTRACTOR TO VERIFY LOCATION OF THERMOSTAT SERVING (E) AC-1. EXISTING THERMOSTAT TO BE PREPARED FOR RELOCATION. (1)
2. MECHANICAL CONTRACTOR TO CONDUCT PRE TEST AND BALANCE FOR EXISTING FAN COIL UNIT AC-1 DUCTWORK AND HYDRONIC FLOW THROUGH COOLING COIL AND DUCT MOUNTED HEATING COIL.



PN N

C4 ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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REVISIONS

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DATE ISSUED: 03/14/2025
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DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER:
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ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN

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MD401

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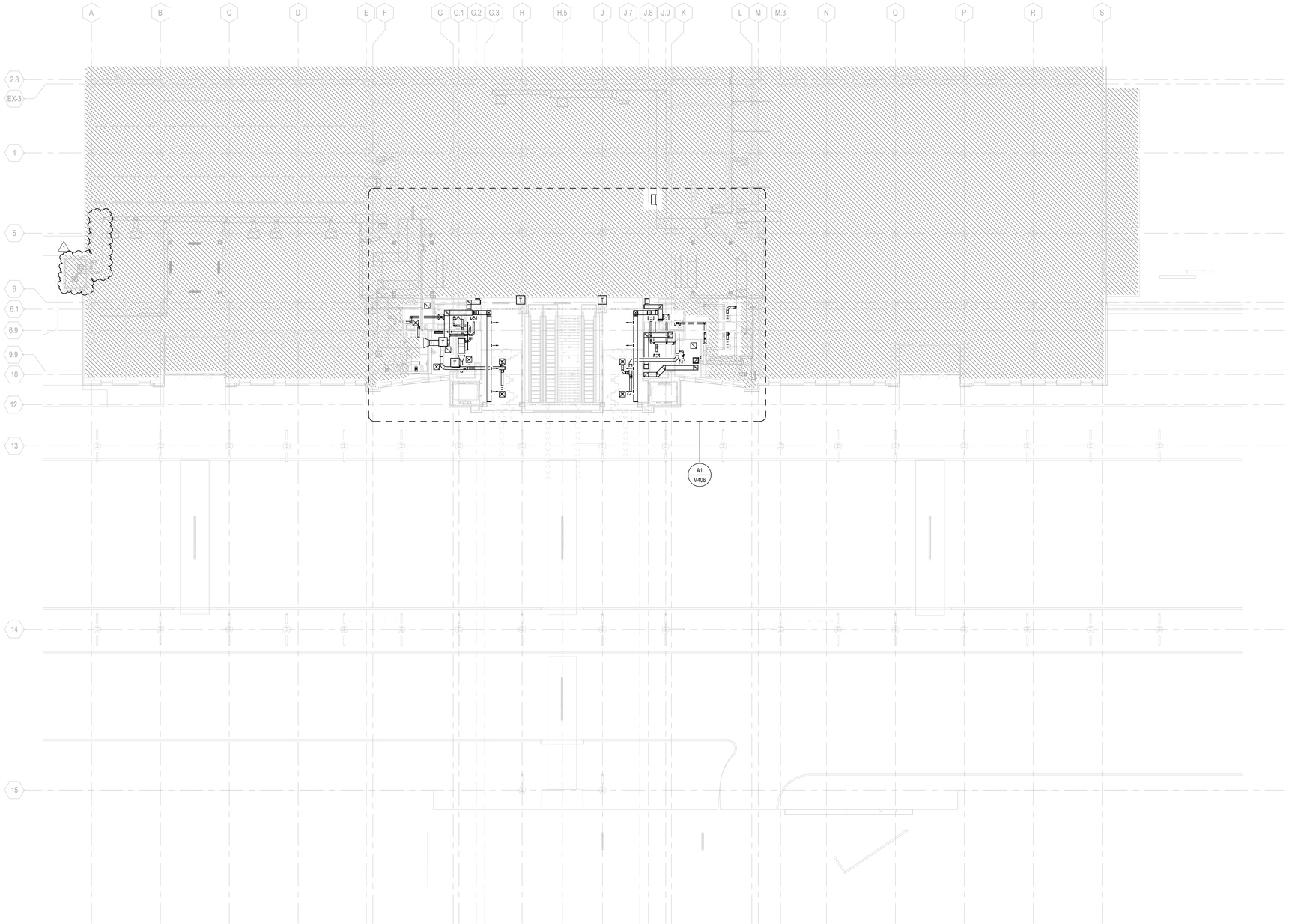
FLOOR PLAN LEGEND

NO WORK IN AREA, U.N.O.



PN

A2 OVERALL TICKET LEVEL MECHANICAL PLAN

SCALE: 1/16" = 1'-0"

16 0 16 32

SCALE: 1/16" = 1'-0"

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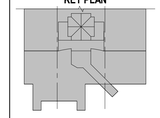
KEY PLAN



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DESIGNED BY:	RSS

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OVERALL TICKET LEVEL MECHANICAL PLAN

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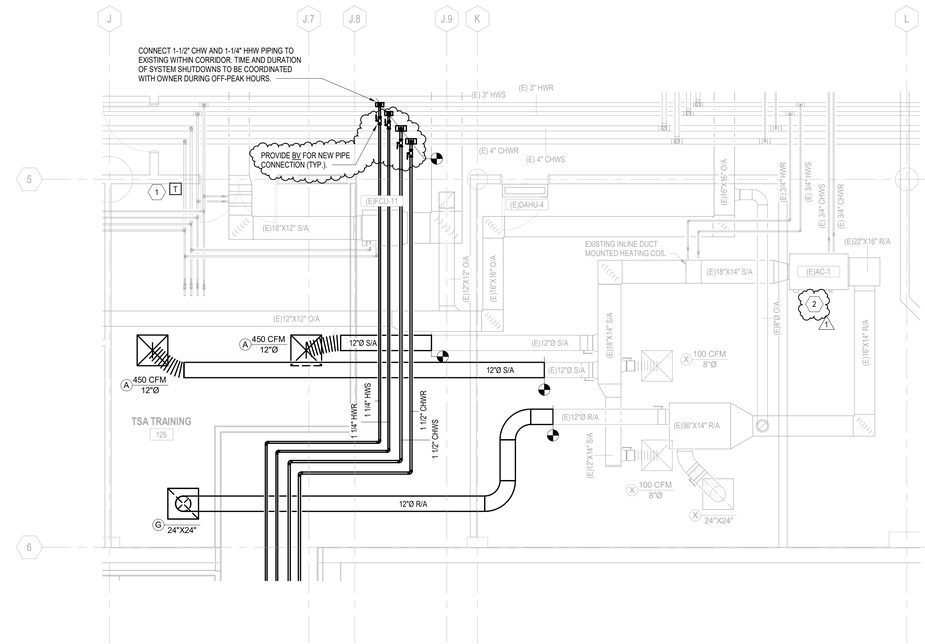
KEYED NOTES

1. EXISTING THERMOSTAT SERVING (E) AC-1 TO BE RELOCATED TO LOCATION SHOWN. 1
2. MECHANICAL CONTRACTOR TO REBALANCE DIFFUSERS PER PLAN FOR EXISTING FAN COIL UNIT AC-1. 2



PN

N

C4 ENLARGED RAMP LEVEL MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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DRAWN BY: MA
DESIGNED BY: RSS
PROJECT NUMBER: 2003-0070-006

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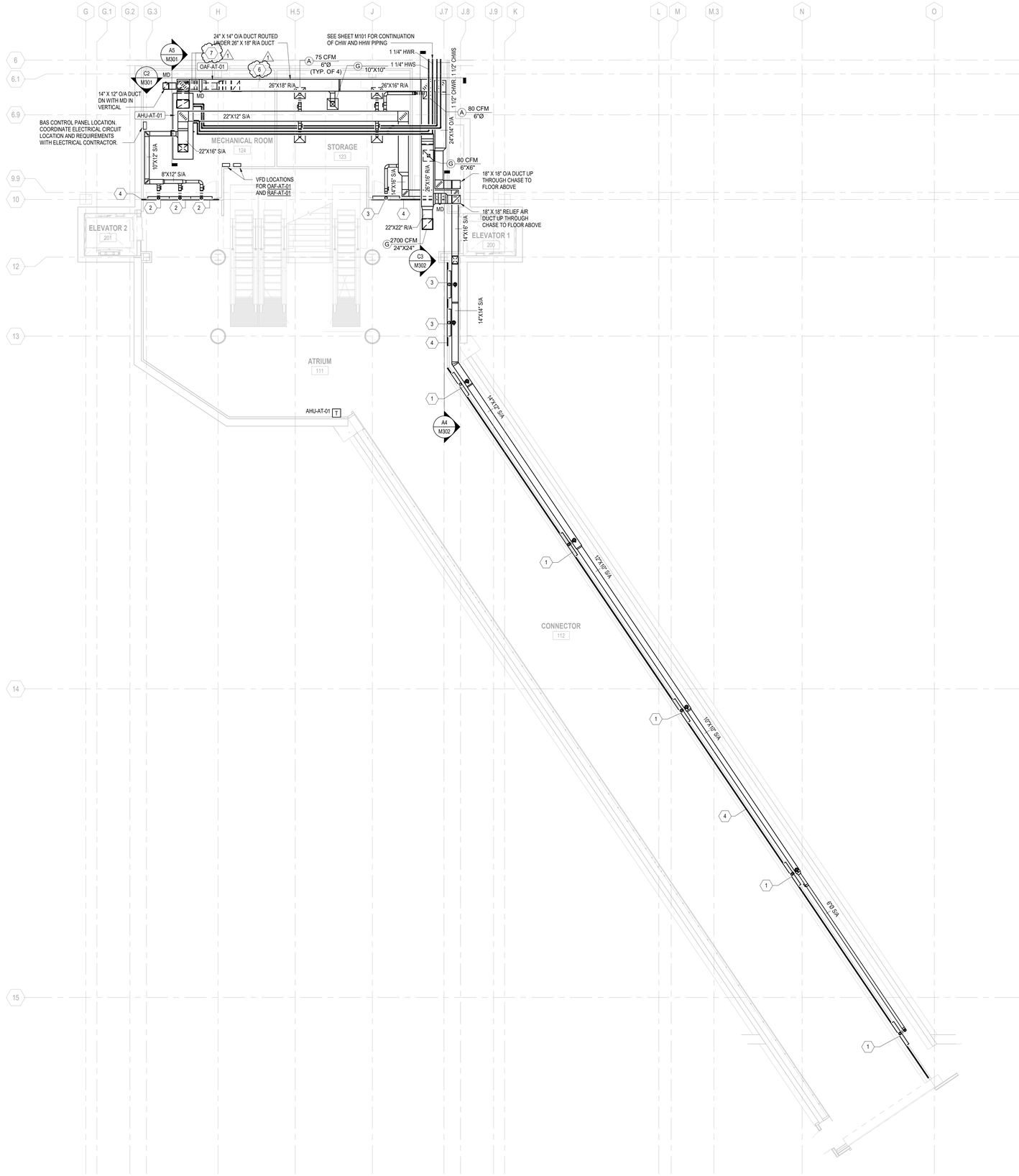

KEYED NOTES

1. SUPPLY DIFFUSER MARK B. 60" PLENUM, 6" INLET, 200 CFM. CONCEALED FRAME INSTALL. SEE AIR DISTRIBUTION SCHEDULE ON M601.
2. SUPPLY DIFFUSER MARK C. 48" PLENUM, 6" INLET, 220 CFM. CONCEALED FRAME INSTALL. SEE AIR DISTRIBUTION SCHEDULE ON M601.
3. SUPPLY DIFFUSER MARK B. 60" PLENUM, 6" INLET, 220 CFM. CONCEALED FRAME INSTALL. SEE AIR DISTRIBUTION SCHEDULE ON M601.
4. 1" ARCHITECTURAL SLOT BETWEEN DIFFUSERS SEE ARCHITECTURAL DETAILS FOR AFF ELEVATION AND CONSTRUCTION.
5. PROVIDE R/A DUCT WITH 1/2" X 1/2" WIRE MESH SCREEN.
6. 24" X 18" O/A DUCT TAPPED OF BOTTOM ROUTED TO OAF-AT-01.
7. 14" X 12" O/A DUCT ROUTED OVER OAF-AT-01. 22" X 22" ECONOMIZER O/A DUCT ROUTED UNDER.

PN

N

A2 ENLARGED RAMP LEVEL MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

8 0 8 16

SCALE: 1/8" = 1'-0"

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ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

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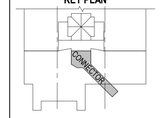
KEY PLAN



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1	Addendum 2	04/18/2025

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DRAWN BY:	MA
DESIGNED BY:	RSS

PROJECT NUMBER:
2003-0070-006

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ENLARGED RAMP LEVEL MECHANICAL PLAN

SHEET ID:
M402

PROJECT STATUS:
100% BID SET

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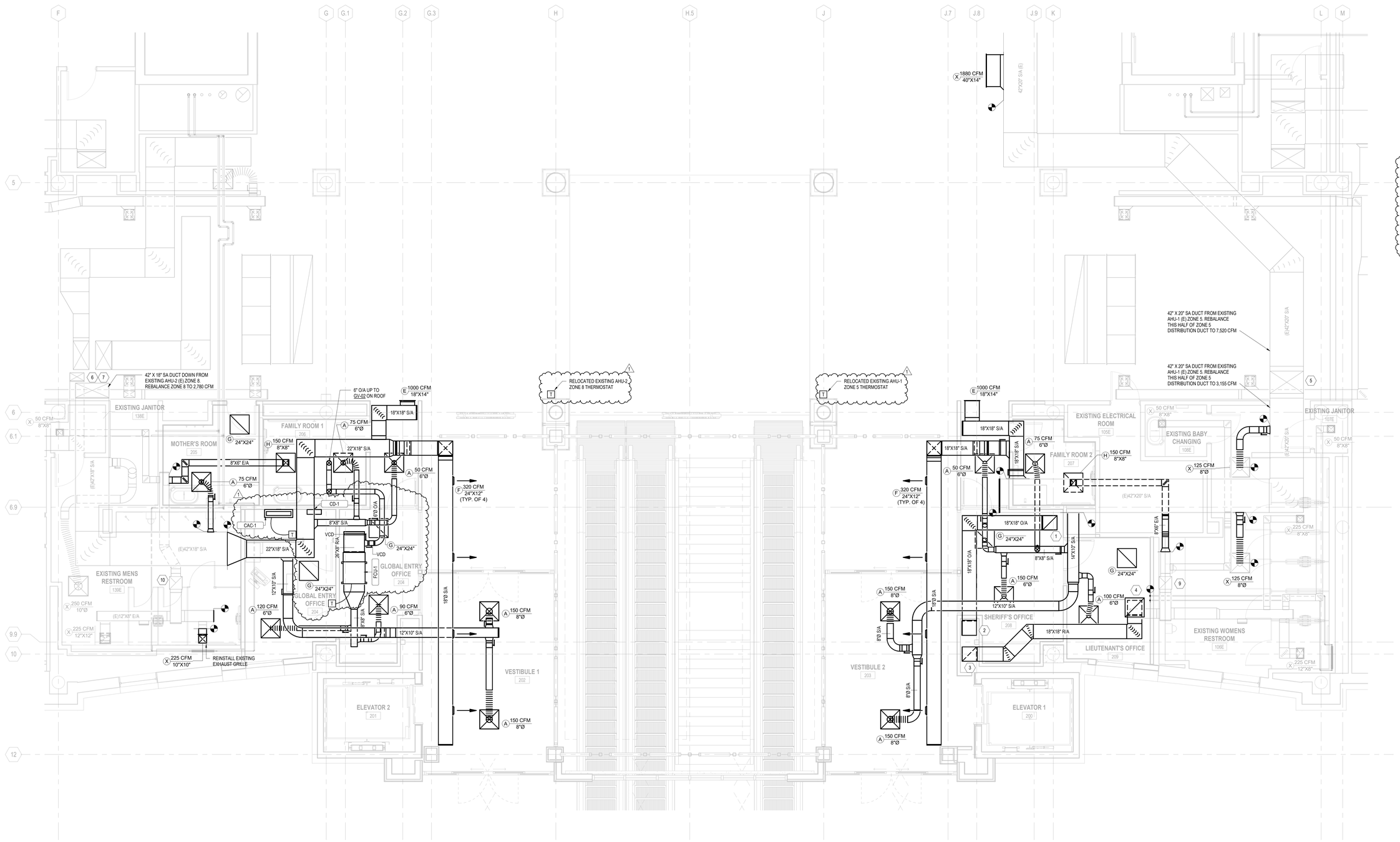
KEYED NOTES

1. 18" X 18" O/A DUCT UP TO ROOF MOUNTED GRAVITY VENT GV-AT-01.
2. 18" X 18" O/A DUCT UP FROM LEVEL BELOW TO ABOVE CEILING.
3. 18" X 18" RELIEF AIR DUCT UP FROM LEVEL BELOW TO ABOVE CEILING.
4. 18" X 18" RELIEF AIR DUCT UP TO ROOF MOUNTED RELIEF AIR FAN RAF-AT-01.
5. EXISTING AHU-1 LOCATED ON THE LEVEL ABOVE SHALL BE RAMPED UP TO THE MAXIMUM AIRFLOW LIMIT PER THE MANUFACTURERS SPECIFICATIONS. CONTRACTOR TO COORDINATE UNIT ADJUSTMENT WITH EQUIPMENT MANUFACTURER AND TAB CONTRACTOR TO INCREASE UNIT MAXIMUM AIRFLOW TO 35,000 CFM. CONTRACTOR TO PROVIDE PRE-TAB REPORT FOR ZONE 5 DUCTWORK AND BMS OUTPUT DATA FOR AHU-1 AT CURRENT 100% FAN SPEED. DATA SHALL INCLUDE BUT NOT BE LIMITED TO FAN SPEED, SUPPLY AIRFLOW, STATIC PRESSURE READINGS, DAT, ETC.
6. EXISTING AHU-2 LOCATED ON THE LEVEL ABOVE SHALL BE RAMPED UP TO THE MAXIMUM AIRFLOW LIMIT PER THE MANUFACTURERS SPECIFICATIONS. CONTRACTOR TO COORDINATE UNIT ADJUSTMENT WITH EQUIPMENT MANUFACTURER AND TAB CONTRACTOR TO INCREASE UNIT MAXIMUM AIRFLOW TO 35,000 CFM. CONTRACTOR TO PROVIDE PRE-TAB REPORT FOR ZONE 8 DUCTWORK AND BMS OUTPUT DATA FOR AHU-2 AT CURRENT 100% FAN SPEED. DATA SHALL INCLUDE BUT NOT BE LIMITED TO FAN SPEED, SUPPLY AIRFLOW, STATIC PRESSURE READINGS, DAT, ETC.
7. DEMOLISH AND REPLACE EXISTING DUCT MOUNTED HEATING HOT WATER COIL LOCATED IN MECHANICAL ROOM ABOVE WITHIN THE EXISTING ZONE 8 42"X18" SUPPLY DUCT. EXISTING 1-1/4" HWS/R PIPING TO REMAIN. REPLACE SHUTOFF VALVES AND CONTROL VALVES WITH NEW VALVES MEETING THE INCREASED FLOW RATE. NEW COIL CAPACITY SHALL BE MINIMUM 116 MBH, 12GPM, 1-1/4" PIPE SIZE. COIL SHALL HAVE A MAXIMUM FACE VELOCITY OF 750 FPM AND A MAXIMUM AIR PRESSURE DROP OF 0.6 IN. WC.
8. REBALANCE EXHAUST SYSTEM DUCTWORK AND UTILIZE EXISTING INTEGRAL VARIABLE SPEED MOTOR CONTROLLER TO ADJUST SPEED OF FAN AS NEEDED.
9. REBALANCE EXHAUST SYSTEM DUCTWORK AND UTILIZE EXISTING INTEGRAL VARIABLE SPEED MOTOR CONTROLLER TO ADJUST SPEED OF FAN AS NEEDED.



PN

A1 ENLARGED TICKET LEVEL MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

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ILM

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PROJECT ADDRESS:
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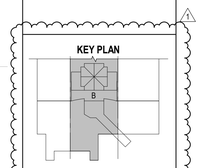
KEY PLAN



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REVIEWED BY:	KMN
DRAWN BY:	CDW
DESIGNED BY:	RSS
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ENLARGED TICKET LEVEL MECHANICAL PLAN

SHEET ID:
M406

PROJECT STATUS:
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OUTSIDE AIR FAN SCHEDULE

MARK	OAF-01
FAN TYPE	INLINE
MANUFACTURER	GREENHECK
MODEL	SQ-160-VG
SERVES	AHU-AT-01
AIRFLOW (CFM)	2,700
ESP (IN. W.G.)	0.55
RPM	1141
MOTOR POWER (HP)	2
VOLTAGE / PHASE / HZ	208 / 3 / 60
MCA / MOP	9.4 / 15

NOTES:

1. FACTORY MOUNTED NEC COMPLIANT DISCONNECT
2. PROVIDE WITH MOTORIZED DAMPER INTERLOCKED TO FAN AND AHU OPERATION
3. PROVIDE FAN WITH VFD LOCATED IN MECHANICAL ROOM FOR BALANCING AND MODULATION
4. FAN MOTOR SHALL BE DIRECT DRIVE
5. THERMAL OVERLOAD MOTOR
6. FAN SHALL OPERATE BASED ON INTERLOCK WITH AHU-AT-01 ECONOMIZER SEQUENCE.

RELIEF AIR FAN SCHEDULE

MARK	RAF-AT-01
FAN TYPE	ROOF MOUNTED
MANUFACTURER	GREENHECK
MODEL	CUE-160-A
SERVES	AHU-AT-01
AIRFLOW (CFM)	2,450
ESP (IN. W.G.)	0.6
RPM	1,095
MOTOR POWER (HP)	2
VOLTAGE / PHASE / HZ	208 / 3 / 60
MCA / MOP	9.4 / 15

NOTES:

1. FACTORY MOUNTED NEC COMPLIANT DISCONNECT
2. PROVIDE WITH MOTORIZED DAMPER INTERLOCKED TO FAN AND AHU OPERATION
3. PROVIDE FAN WITH VFD LOCATED IN MECHANICAL ROOM FOR BALANCING AND MODULATION
4. FAN MOTOR SHALL BE DIRECT DRIVE
5. THERMAL OVERLOAD MOTOR
6. FAN SHALL OPERATE BASED ON INTERLOCK WITH AHU-AT-01 ECONOMIZER SEQUENCE.

AIR HANDLING UNIT SCHEDULE

MARK	AHU-AT-01
MANUFACTURER	TRANE
MODEL	CLIMATE CHANGER CSAA006
FAN DATA	
SUPPLY AIRFLOW (CFM)	2,700
OUTSIDE AIRFLOW (CFM)	500
STATIC PRESSURES (IN. W.G.)	
EXTERNAL	1.8
INTERNAL	2.53
TOTAL	4.33
UNIT ELECTRICAL DATA	
FANS	
FAN QUANTITY	1
FAN RPM	1800
FAN MOTOR POWER (HP)	3
FAN MOTOR FLA (V / Ph / Hz)	460 / 3 / 60
UNIT	
FULL LOAD AMPS	4.80
MCA / MOCP	6.00 | 15.0
VOLTAGE / PHASE / HZ	460 / 3 / 60
COOLING DATA	
COOLING AIRFLOW (CFM)	2,700
COOLING FACE VELOCITY MAX. (FPM)	446
TOTAL CAPACITY (BTU/HR)	91,940
SENSIBLE CAPACITY (BTU/HR)	69,120
COOLING ENTERING AIR TEMP. (DB/WB °F)	78.25
COOLING LEAVING AIR TEMP. (DB/WB °F)	55.00 | 54.38
COOLING ROWS	6
COOLING ENTERING WATER TEMP. (°F)	44
COOLING LEAVING WATER TEMP. (°F)	54
COOLING WATER PRESSURE DROP (FT.)	3.43
CHILLED WATER FLOW RATE (GPM)	18.32
HEATING COIL DATA	
HEATING AIRFLOW (CFM)	2,700
HEATING FACE VELOCITY (FPM)	506
HEATING CAPACITY (BTUH)	133,400
HEATING ENTERING AIR TEMP. (°F)	45.00
HEATING LEAVING AIR TEMP. (°F)	85.00
HEATING ROWS	2
HEATING ENTERING WATER TEMP. (°F)	180
HEATING LEAVING WATER TEMP. (°F)	160
HEATING WATER PRESSURE DROP (FT.)	0.17
HEATING WATER FLOW RATE (GPM)	13.32

NOTES:

1. PROVIDE UNIT WITH MANUFACTURER START-UP AND CERTIFIED TEST REPORT.
2. PROVIDE UNIT WITH CLOSED-CELL FOAM DOUBLE WALL CONSTRUCTION WITH FACTORY AND FIELD LEAKAGE TEST.
3. PROVIDE UNIT WITH HINGED AND GASKETED ACCESS PANELS WITH CAM-LOCK LATCHES FOR ALL SERVICE POINTS.
4. PROVIDE UNIT WITH INTERNAL MOTOR/BLOWER VIBRATION ISOLATION.
5. PROVIDE UNIT WITH ECM PLENUM FAN.
6. PROVIDE UNIT WITH TEMPERATURE SENSOR, HUMIDISTAT AND CO2 SENSOR MOUNTED IN RETURN AIR STREAM.
7. PROVIDE UNIT WITH PLUGGED FILTER INDICATOR AND FAN STATUS INDICATOR THAT WILL COMMUNICATE WITH UNIT-MOUNTED CONTROLS.
8. PROVIDE UNIT WITH NON-FUSED ELECTRICAL DISCONNECT SWITCH WITH SINGLE-POINT ELECTRICAL CONNECTION AND REQUIRED MOTOR STARTERS.
9. PROVIDE UNIT WITH STAINLESS STEEL CONDENSATE DRIP PAN WITH INTEGRAL OVERFLOW SWITCH.
10. PROVIDE UNIT WITH MERV 8 PRE AND MERV 13 FINAL FILTERS.
11. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.
12. AHU TO BE MOUNTED ON CONCRETE EQUIPMENT PAD ON NEOPRENE WAFFLE PADS SIMILAR TO MASON INDUSTRIES TYPE W.
13. AHU TO SPLIT INTO MINIMUM OF 2 SECTIONS.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	DESCRIPTION	FACE SIZE, W X H (IN.)	MANUFACTURER	MODEL	NOTES
A	ARCHITECTURAL SQUARE PANEL SUPPLY REGISTER	24 X 24	PRICE	SPD	1,2
B	5' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY: 1, SLOT WIDTH: 1"	-	PRICE	SDS	2,3,5,8
C	4' 0" LINEAR SLOT SUPPLY DIFFUSER - SLOT QTY: 1, SLOT WIDTH: 1"	-	PRICE	SDS	2,3,5,8
D	NOT USED				1
E	SIDEWALL AIRFOIL SUPPLY GRILLE	SEE PLANS	PRICE	20/30	2,5,7,9
F	HIGH CAPACITY DRUM LOUVER	SEE PLANS	PRICE	HCD	2,5,9
G	ARCHITECTURAL PERFORATED FACE RETURN GRILLE	24 X 24	PRICE	PDR	2,5
H	EGGCRATE EXHAUST REGISTER	SEE PLANS	PRICE	80	2,5,6,9
X	EXISTING AIR TERMINAL DEVICE	-	-	-	10

NOTES:

1. PROVIDE DEVICE FOR FOUR WAY THROW UNLESS NOTED OTHERWISE, THEN PROVIDE DIRECTIONAL BLOW CLIPS AS NECESSARY.
2. UNIT SHALL BE OF ALUMINUM CONSTRUCTION.
3. PROVIDE PRICE SDS MOUNTING STYLE TYPE 3 FOR CONCEALED MOUNTING INSTALLATION FOR SIDEWALL APPLICATIONS.
4. DEFLECTION BLADES SHALL BE SPACED ON 3/4" CENTERS WITH FRONT BLADES RUNNING IN THE SHORT DIMENSION.
5. PROVIDE BORDER TYPE SUITABLE FOR INDIVIDUAL LOCATIONS.
6. PROVIDE ALUMINUM CORE CONSTRUCTED IN 1/2" X 1/2" X 1/2" MATRIX.
7. INSTALL WITH 0 DEGREE DEFLECTION.
8. PROVIDE AND INSTALL SDB PLENUM (OR APPROVED EQUAL) AT THE LOCATIONS SHOWN ON PLAN AND IN THE QUANTITIES AND SIZES SHOWN ON PLAN.
9. PROVIDE WITH GRILLE MOUNTED OPPOSED BLADE DAMPER FOR BALANCING. BASIS OF DESIGN IS THE PRICE MODEL VCSAL DAMPER.
10. INCLUDED FOR REFERENCE ONLY.

O/A GRAVITY VENT SCHEDULE

MARK	GV-AT-01	GV-02
SERVES	AHU-AT-01	FCU-1
AIRFLOW (CFM)	2450	50
MAXIMUM PRESS. DROP (IN. W.G.)	0.075	0.003
THROAT SIZE (INCHES)	28" x 20"	28" x 20"
FREE AREA (SQFT)	4	4.00
OVERALL SIZE	51" x 34"	8" x 8"
MANUFACTURER	GREENHECK	GREENHECK
MODEL	FGR-20X28	GRSI-8
NOTES	1 THRU 3	1 THRU 3

NOTES:

1. PROVIDE WITH INTEGRAL BIRDSCREEN
2. PROVIDE MINIMUM 18" ROOF CURB
3. UNIT TO BE FULL ALUMINUM CONSTRUCTION

COMM ROOM SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT DATA	
MARK	CAC-1
LOCATION	IT ROOM
MANUFACTURER	MITSUBISHI
MODEL	TPKA-0A0121LA10A
COOLING DATA	
TOTAL CAPACITY (BTU/HR)	12,000
SENSIBLE CAPACITY (BTU/HR)	10,560
AIRFLOW MAXIMUM (CFM)	385
RATED ENTERING AIR TEMP. (DB / WB °F)	80/67
FAN POWER (W)	56
INDOOR UNIT ELECTRICAL DATA	
VOLTAGE / PHASE / HZ	208 / 1 / 60
FLA / MCA	0.19 / 1.0
OUTDOOR UNIT DATA	
MARK	CCU-1
REFRIGERANT	R410A
VOLTAGE/PHASE/HZ	208/230 / 1 / 60
FLA / MCA / MOCP	0.5 / 11 / 28
MANUFACTURER	MITSUBISHI
MODEL	TRUY-A0121KA70NA
NOTES	1 - 4

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY MOUNTED HARD WIRED THERMOSTAT WIT TOUCHSCREEN AND HUMIDITY CONTROL.
2. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT.
3. PROVIDE WITH BLUE DIAMOND (ADVANCED) MINI CONDENSATE PUMP WITH RESERVOIR). UNIT MARK CD-1. PROVIDE RESERVOIR WITH LEVEL SENSOR FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS. MECHANICAL CONTRACTOR TO PROCURE PUMP AND PLUMBING CONTRACTOR TO INSTALL PUMP AND PIPING.
4. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED WITH FIRE-RETARDANT ARMAFLEX THAT COMPLIES WITH 2018 NORTH CAROLINA MECHANICAL AND ENERGY CODES.

HEAT PUMP FAN COIL SPLIT SYSTEM UNIT SCHEDULE

INDOOR UNIT DATA	
INDOOR UNIT MARK	FCU-1
INDOOR UNIT TYPE	DUCTED
INDOOR UNIT MANUFACTURER	MITSUBISHI
INDOOR UNIT MODEL	PEAD-A12AA9
SEER	21.8
EER	13.6
COOLING DATA	
TOTAL RATED CAPACITY (BTU/H)	12,000
SENSIBLE CAPACITY (BTU/H)	9,960
RATED ENTERING AIR TEMP. (DB/WB °F)	80/67
FAN POWER (W)	121
HEATING DATA	
MAX CAPACITY @ 47°F / 17°F (BTU/H)	18,000 / 9,000
RATED CAPACITY @ 47°F / 17°F (BTU/H)	14,000 / 9,000
AIRFLOW DATA	
AIRFLOW RATE (LOW LOW, LOW, MED, HIGH) (CFM)	353, 38, 424, 494
OUTSIDE AIRFLOW RATE (CFM)	50
OUTDOOR UNIT DATA	
OUTDOOR UNIT MARK	CU-1
REFRIGERANT	R410A
OUTDOOR UNIT VOLTAGE/PHASE/HZ	208 / 1 / 60
MCA / MOCP	11 / 28
OUTDOOR UNIT MANUFACTURER	MITSUBISHI
OUTDOOR UNIT MODEL	PUZ-A12NKA7
NOTES	1-9

NOTES:

1. PROVIDE PROGRAMMABLE FACTORY SUPPLIED WIRELESS THERMOSTAT WITH TOUCHSCREEN AND AUTOMATIC FAN SETTING CAPABILITY.
2. PROVIDE UNIT WITH INTEGRAL FLOW SWITCH TO SHUT UNIT DOWN IF CONDENSATE RISES ABOVE SET LIMITS.
3. PROVIDE FACTORY DISCONNECTS FOR CONDENSING UNIT AND INDOOR UNIT.
4. CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE EQUIPMENT PAD.
5. PROVIDE FB SERIES FILTER BOX SECTION (FBM2-3-A).
6. PROVIDE BUILT IN CONDENSATE LIFT MECHANISM.
7. TEST AND BALANCE SYSTEM ON HIGH FAN SETTING OF 494 CFM.
8. PROVIDE MANUFACTURERS RECOMMENDED PIPING BETWEEN INDOOR AND OUTDOOR UNIT. PIPING TO BE INSULATED' WITH FIRE RETARDANT ARMAFLEX THAT COMPLIES WITH 2024 NORTH CAROLINA MECHANICAL AND ENERGY CODES.
9. PROVIDE MOTORIZED OA INTAKE DAMPER INTERLOCKED WITH FCU-1. SEE PLANS FOR LOCATION.
10. OR EQUAL: DAIKIN, LG.

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F-0493 * C-28

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	04/18/2025

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PROJECT NUMBER:
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SHEET TITLE:
MECHANICAL SCHEDULES

SHEET ID:
M601

PROJECT STATUS:
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ELECTRICAL ABBREVIATIONS

A	AMPERES
A/C	AIR CONDITIONING
AC	ABOVE COUNTER
AC	AIR COMPRESSOR
ACCU	AIR COOLED CONDENSER UNIT
ACT	ACOUSTIC CEILING TILE
ACU	AIR CONDITIONING UNIT
ADA	AMERICANS WITH DISABILITIES ACT
ADAAG	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
AF	AMP FUSE
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CURRENT
AIR	AMPERE INTERUPTING RATING
AL	ALUMINUM
AMP	AMPERE
AMS	ACCESS MANAGEMENT SYSTEM
AP	ACCESS PANEL
APU	AUXILIARY POWER UNIT
AT/FP	ANTITERRORISM/FORCE PROTECTION
ATR	ALL THREADED ROD
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BCW	BARE COPPER WIRE
BDCT	BUILDING DESIGN AND CONSTRUCTION TEAM
BFG	BELOW FINISHED GRADE
BHS	BAGGAGE HANDLING SYSTEM
BID	BAGGAGE INFORMATION DISPLAY
BTS	BEAM TRANSPORT SYSTEM
C	CONDUIT
CAT6	CATEGORY 6 ETHERNET CABLE
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CC	CRANE CONTROL
CCP	CONCRETE CAMERA POLE
CCTV	CLOSED CIRCUIT TELEVISION
CE	COMMUNICATIONS ENCLOSURE
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFL	COMPACT FLUORESCENT
CH	CHILLER
CKT	CIRCUIT
CLP	CONCRETE LIGHT POLE
CMH	COMMUNICATIONS MANHOLE
CMU	CONCRETE MASONRY UNIT
CNTRL	CONTROLLER
CO	CONDUIT ONLY
COMM	COMMUNICATION
CONC	CONCRETE
CP	CONSOLIDATION POINT
CR	CARD READER
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CT	CURRENT TRANSFORMER
CTWP	COOLING TOWER WATER PUMP
CU	COPPER
CUB	CENTRAL UTILITIES BUILDING
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
DAS	DISTRIBUTED ANTENNA SYSTEM
DC	DIRECT CURRENT
DCU	DUCTLESS SPLIT AIR CONDITIONING OUTDOOR UNIT
DDC	DIRECT DIGITAL CONTROL PANEL
DH	DOOR HOLDER
DHZ	DAYLIGHT HARVESTING ZONE
DISC	DISCONNECT
DTCO	DOUBLE THROW CENTER OFF
DWG	DRAWING
E	EXISTING
E	EAST
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EL	ELEVATION
EL	EMERGENCY LIGHT
ELEC	ELECTRIC/ELECTRICAL
EM	EMERGENCY
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMH	ELECTRICAL MANHOLE
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
EOR	ENGINEER OF RECORD
EPO	EMERGENCY POWER-OFF
EQ	EQUAL
ER	EXISTING TO BE REMOVED
ERU	ENERGY RECOVERY UNIT
ESS	ENERGY SELECTION SYSTEM
ETSP	ELECTRONIC TRAP SEAL PRIMER
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING TO REMAIN
EXR	EXISTING TO BE RELOCATED
F/P	FAX / PRINTER
FA	FIRE ALARM
FAAA	FIRE ALARM AUDIO AMPLIFIER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAGA	FIRE ALARM GRAPHIC ANNUNCIATOR
FAIC	FIRE ALARM INTERFACE CABINET
FAPS	FIRE ALARM POWER SUPPLY
FATC	FIRE ALARM TERMINAL CABINET
FCU	FAN COIL UNIT
FID	FLIGHT INFORMATION DISPLAY
FLA	FULL LOAD AMPS
FLR	FLOOR
FO	FIBER OPTIC
FPB	FAN POWERED TERMINAL BOX
FPU	FAN POWERED TERMINAL UNIT
FS	FLOW SWITCH
FSPC	FLUSH/FAUCET SENSOR POWER CONVERTER
FTU	FAN POWERED VAV TERMINAL UNIT
G	GROUND
GC	GENERAL CONTRACTOR
GDF	GAS DUCT FURNACE
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GFP	GROUND FAULT PROTECTION
GID	GATE INFORMATION DISPLAY
GPU	GROUND POWER UNIT
GR	GROUND ROD
GRC	GALVANIZED RIGID CONDUIT
GUH	GAS UNIT HEATER
GWH	GAS WATER HEATER
HB	HIGH BAY
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
IC	INTERCOM
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IR	INFRARED
ITC	INTERCOM TERMINAL CABINET
J	JUNCTION
JB	JUNCTION BOX
KAIC	(THOUSAND) AMPERE INTERRUPTING CAPACITY
Kcmil	THOUSANDS OF CIRCULAR MILS
KO	KNOCK OUT
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LBS	LOAD BREAK SWITCH
LC	LIGHTING CONTACTOR
LED	LIGHT EMITTING DIODE
LPS	LIGHTNING PROTECTION SYSTEM
LSI	LONG TIME, SHORT TIME, INSTANTANEOUS
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT
LT	LIGHT
LTG	LIGHTING
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MNS	MASS NOTIFICATION SYSTEM
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MUFID	MULTI-USER FLIGHT INFORMATION DISPLAY
N	NEUTRAL
N	NORTH
N/A	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NE	NORTH ENTRANCE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
OAE	OR APPROVED EQUAL
OAHU	OUTSIDE AIR HANDLING UNIT
OH	OVERHEAD
OS	OCCUPANCY SENSOR
P	PHASE
PBB	PASSENGER BOARDING BRIDGE
PBX	PRIVATE BRANCH EXCHANGE
PCHWP	PRIMARY CHILLED WATER PUMP
PIV	POST INDICATOR VALVE
PNEU	PNEUMATIC
PNL	PANELBOARD
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER PANEL
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYLCHLORIDE
RAF	RETURN AIR FAN
RECP	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMC	RIGID METAL CONDUIT
RTU	ROOF TOP UNIT
S	SOUTH
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCCR	SHORT CIRCUIT CURRENT RATING
SCHWP	SECONDARY CHILLED WATER PUMP
SD	SUB-DISTRIBUTION CABINET
SE	SOUTH ENTRANCE
SEC	SECURITY
SEGB	SERVICE ENTRANCE GROUND BAR
SF	SUPPLY FAN
SHWP	SECONDARY HOT WATER PUMP
SIM	SIMILAR
SLC	SIGNAL LINE CIRCUIT
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATION
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SS	STAINLESS STEEL
SSF	SIDE STREAM FILTER
ST	SHUNT TRIP COIL
STC	SECURITY TERMINAL CABINET
STR	STARTER
STS	STAINLESS STEEL
STS	STATIC TRANSFER SWITCH
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	TRANSFORMER
TB	TELEPHONE BACKBOARD
TE	THERMAL ELEMENT
TEFC	TOTALLY ENCLOSED FAN COOLED
TEL	TELEPHONE
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
TR	TAMPER RESISTANT
TS	TAMPER SWITCH
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
UDS	UTILITY DISTRIBUTION SYSTEM
UG	UNDERGROUND
UGC	UNDERGROUND COMMUNICATIONS
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNSW	UNSWITCHED
UON	UNLESS OTHERWISE NOTED
UT	UTILITY
UTR	UP THROUGH ROOF
V	VOLTS
VAV	VARIABLE AIR VOLUME (HVAC)
VFD	VARIABLE FREQUENCY DRIVE
VFI	VACUUM FAULT INTERRUPTER
VT	VOLTAGE TRANSFORMER
W	WIRE
W	WALL MOUNTED
W	WATTS
W	WEST
WP	WEATHERPROOF
WR	WEATHER-RESISTANT
Y	WYE (CONNECTED)
Z	ZONE
Z	IMPEDANCE

ELECTRICAL SYMBOLS

LIGHTING SYMBOLS

GENERAL NOTE: UPPER CASE LETTER INDICATES LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE. LOWER CASE LETTER INDICATES SWITCH CIRCUIT.

- RECESSED LUMINAIRE
- RECESSED EMERGENCY OR NIGHTLIGHT LUMINAIRE
- RECESSED OR SURFACE STANDBY LUMINAIRE
- SURFACE LUMINAIRE
- SURFACE EMERGENCY OR NIGHTLIGHT LUMINAIRE
- SURFACE LUMINAIRE
- STANDBY RECESSED OR SURFACE LUMINAIRE
- EMERGENCY RECESSED OR SURFACE LUMINAIRE
- EMERGENCY WALL LUMINAIRE
- PENDANT LUMINAIRE
- EXTERIOR SURFACE OR RECESSED WALL MOUNTED LUMINAIRE
- EXTERIOR EMERGENCY SURFACE OR RECESSED WALL MOUNTED LUMINAIRE
- CEILING MOUNTED TRACK AND LUMINAIRES
- BOLLARD OR POLE MOUNTED LUMINAIRE WITHOUT ARM
- POLE MOUNTED AREA LUMINAIRE
- POLE MOUNTED DUAL AREA LUMINAIRE
- CEILING MOUNTED EXIT LUMINAIRE, PROVIDE ARROWS AS REQUIRED
- WALL MOUNTED PHOTOCELL
- SINGLE POLE SWITCH
- SINGLE POLE 3-WAY SWITCH
- SINGLE POLE 4-WAY SWITCH
- SINGLE POLE DIMMER SWITCH, 2000 W OR LMDM-101, UON
- SINGLE POLE SWITCH WITH PILOT LIGHT
- SINGLE POLE OCCUPANCY SENSOR SWITCH, WATTSTOPPER PW-301 OR LMPW-100, OAE
- SINGLE POLE KEY OPERATED SWITCH
- SINGLE POLE TIMER OPERATED SWITCH
- SINGLE POLE CEILING FAN SWITCH
- SINGLE POLE LOW VOLTAGE MASTER SWITCH
- SINGLE POLE VACANCY SENSOR SWITCH, WATTSTOPPER CS-50 OR LMDW-101, OAE
- DOUBLE POLE SWITCH
- LOW VOLTAGE, 3 POSITION MOMENTARY, CENTER OFF SWITCH
- CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR, WATTSTOPPER CI-300-1 OR LMPC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W2000A OR 2 LMUC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W1000A OR LMUC-100, OAE
- CEILING MOUNTED OCCUPANCY SENSOR, WATTSTOPPER W2000H OR 2 LMUC-100, OAE
- WALL MOUNTED OCCUPANCY SENSOR, WATTSTOPPER CB-100 OR LMDX-100, OAE
- PIR WALL MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR, WATTSTOPPER CB-100 OR LMPX-100, OAE
- OCCUPANCY SENSOR RELAY/POWER PACK
- JUNCTION BOX FOR BACKLIT MIRROR
- JUNCTION BOX FOR REMOTE LED DRIVER
- JUNCTION BOX FOR COLUMN WRAP REMOTE DRIVER

GROUNDING SYSTEMS

- LIGHTNING PROTECTION AIR TERMINAL
- GROUND ROD
- LIGHTNING PROTECTION COND. SPLICE
- GROUND BAR

MOUNTING HEIGHTS

ABOVE COUNTER DEVICES	6" TO BOTTOM WITHOUT BACKSPLASH 4" TO BOTTOM WITH BACKSPLASH
WALL LUMINAIRES	SEE LUMINAIRE SCHEDULE OR KEYNOTE
EXTERIOR SPEAKERS	10'-0" TO CENTER OF BOX, UON
TV OUTLETS & TV RECEPTACLE	72" TO BOTTOM OF BOX, UON
RECEPTACLES IN INDUSTRIAL AREAS	48" AFF TO CENTER LINE, UON
RECEPTACLES	18" AFF TO CENTER LINE, UON
SWITCHES	48" AFF TO CENTER OF BOX, UON
GROUND BAR	18" AFF TO BOTTOM OF BAR OR BOX, UON
EMERGENCY PHONE	54" AFF TO CENTER LINE, UON
CARD READER	48" AFF TO CENTER LINE, UON
EPO SWITCHES	54" AFF TO CENTER LINE, UON
CEILING MOUNTED DEVICES	EQUAL HEIGHT TO ROOM LUMINAIRES

POWER SYSTEMS

- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE ABOVE COUNTER
- DUPLEX RECEPTACLE AUTOMATICALLY CONTROLLED
- DUPLEX ISOLATED GROUND RECEPTACLE
- DUPLEX GFCI RECEPTACLE
- DUPLEX RECEPTACLE MOUNTED @ SPECIFIC HEIGHT
- DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
- DOUBLE DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE ABOVE COUNTER
- DOUBLE DUPLEX RECEPTACLE AUTOMATICALLY CONTROLLED
- SPECIAL RECEPTACLE MOUNTED @ SPECIFIC HEIGHT & NEMA TYPE
- DUPLEX RECEPTACLE IN FLOOR BOX
- DOUBLE DUPLEX RECEPTACLE IN FLOOR BOX
- DUPLEX RECEPTACLE CEILING MOUNTED
- SINGLE POLE MANUAL MOTOR SWITCH
- SINGLE POLE THERMAL ELEMENT SWITCH
- JUNCTION BOX CEILING MOUNTED
- JUNCTION BOX WALL MOUNTED
- JUNCTION BOX IN FLOOR
- DATA RECEPTACLE
- DATA RECEPTACLE IN FLOOR BOX
- DISCONNECT SWITCH FUSED
- DISCONNECT SWITCH NON-FUSED
- COMBINATION MOTOR STARTER FUSED
- PUSH BUTTON START/STOP
- PUSHBUTTON
- LIGHTING RELAY
- TA DISTRIBUTION TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- SURGE PROTECTIVE DEVICE
- ELECTRONIC WALL CLOCK
- RECEPTACLE ON DROP CORD
- RECEPTACLE ON CORD REEL

ELECTRICAL SYMBOL NOTES

- D3 / 1d — THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.
- E1 / 1 — EXIT LIGHTS: STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILING MOUNTING. SHADED AREA INDICATES ILLUMINATED FACE(S). ARROW INDICATES DIRECTIONAL ARROW ON ILLUMINATED FACE(S). THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER.
- 1d — DEVICES: THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.
- s / d — THE CONTROL DEVICE DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "d" TO CONTROL LIGHTING FIXTURES INDICATED BY "d".
- PANELBOARDS: PANELBOARD DOORS MAY BE SHOWN TO INDICATE OPENING SIDE OF RECESSED PANELBOARDS. SEE PANELBOARD IDENTIFICATION FOR DESIGNATION CODES.
- FLOOR CLEARANCE AREA
- TA — TRANSFORMERS: "TA" INDICATES THE TRANSFORMER IDENTIFIER, SEE ONE-LINE DIAGRAM FOR TRANSFORMER RATING.
- XX-1 — MOTOR CONNECTIONS: THE MOTOR IS INDICATED BY A NUMBER WITHIN OR CHARACTERS ADJACENT TO THE MOTOR SYMBOL. SEE THE MOTOR AND EQUIPMENT SCHEDULE FOR THE MOTOR DESCRIPTION AND ELECTRICAL REQUIREMENTS.

GRAPHICAL REPRESENTATION OF PHASING, TYPICAL FOR ALL SYMBOLS

XX-1 XX-1 XX-1

- EXISTING TO REMAIN
- NEW

GENERAL NOTES

1. ALL ELECTRICAL WORK MUST COMPLY WITH NATIONAL ELECTRICAL CODE, NFPA 70, THE NATIONAL FIRE CODES, THE AMERICANS WITH DISABILITIES ACT, AND NORTH CAROLINA BUILDING CODES.
2. THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK MUST MEET OR EXCEED THE ABOVE REQUIREMENTS. ANY ALLEGED DISCREPANCIES MUST BE BROUGHT TO THE ENGINEER'S ATTENTION.
3. OBTAIN COPIES OF ALL RELATED PLANS, SPECIFICATIONS, SHOP DRAWINGS AND ADDENDA TO COORDINATE THE RELATED WORK AND SCHEDULING.
4. THE ELECTRICAL SERVICE TO AND FOR MECHANICAL AND OTHER EQUIPMENT IS BASED ON EQUIPMENT DESIGN DATA. THE ACTUAL VALUES MAY DIFFER DEPENDING UPON THE EQUIPMENT TO BE FURNISHED. ANY MODIFICATION TO THE ELECTRICAL INSTALLATION, BASED UPON ACTUAL EQUIPMENT SELECTION, MUST RESULT IN NO ADDITIONAL COST TO THE OWNER.
5. THOROUGHLY REVIEW THE ARCHITECTURAL AND MECHANICAL PLANS TO ENSURE THAT ELECTRICAL SERVICE FOR ALL ITEMS AND/OR EQUIPMENT REQUIRING ELECTRICAL SERVICE IS INCLUDED. ANY ITEM AND/OR EQUIPMENT NOT FURNISHED AND INSTALLED WITH ELECTRICAL SERVICE, REQUIRING ELECTRICAL SERVICE, MUST BE BROUGHT TO THE ENGINEER'S ATTENTION.
6. MECHANICAL, FIRE PROTECTION AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED AND ARRANGED TO MINIMIZE THE INTERFERENCES OF EQUIPMENT AND STRUCTURE. THOROUGHLY FAMILIARIZE ONESELF WITH THE WORK TO BE PERFORMED BY OTHER TRADES AND THE PHYSICAL CHARACTERISTICS OF THE STRUCTURE IN ORDER TO SCHEDULE AND INSTALL EQUIPMENT AND TO MINIMIZE POSSIBLE INTERFERENCE. FAILURE TO PROPERLY COMMUNICATE AND SCHEDULE WORK WITH OTHER TRADES THAT RESULTS IN ADDITIONAL WORK AND MATERIAL MUST BE THE RESPONSIBILITY OF THE CONTRACTOR. THE MODIFICATIONS REQUIRED TO RESOLVE THE CONFLICT MUST BE DECIDED BY THE ENGINEER.
7. ALL PANELBOARDS MUST BE FURNISHED AND INSTALLED WITH A TYPEWRITTEN SCHEDULE SHOWING CIRCUIT NUMBERS AND A COMPLETE DESCRIPTION OF EACH CIRCUIT, INCLUDING OFFICIAL ROOM NUMBER. HANDWRITTEN SCHEDULES ARE NOT ACCEPTABLE.
8. ALL LIGHT SWITCHES AND DUPLEX RECEPTACLES MUST BE RATED FOR 20 AMPERES AT 120/277 VOLTS AC. WIRING DEVICES MUST BE SPECIFICATION GRADE.
9. ALL ELECTRICAL WIRING DEVICES INDICATED TO BE INSTALLED IN MASONRY WALLS OR FLOORS MUST BE FLUSH MOUNTED, INCLUDING BRANCH CIRCUIT PANELBOARDS, UON. THE CONDUITS TO ASSOCIATED ELECTRICAL EQUIPMENT MUST BE CONCEALED IN WALLS OR FLOOR.
10. ALL CONDUIT RUNS MUST BE CONCEALED, UON.
11. THE LUMINAIRE SCHEDULE IS FOR REFERENCE ONLY. MODEL NUMBERS LISTED MAY NOT INCLUDE ALL REQUIRED OPTIONS, HOWEVER, THESE OPTIONS MUST BE FURNISHED AND INSTALLED WITH THE LUMINAIRES. ALL SUBSTITUTIONS ARE SUBJECT TO PRIOR APPROVAL AS EQUAL BY THE ENGINEER OF RECORD.
12. ALL EXIT LIGHTS MUST BE FURNISHED AND INSTALLED WITH UNIVERSAL MOUNTING BRACKETS. VERIFY ALL DIRECTIONAL ARROWS WITH ARCHITECTURAL EGRESS PLANS PRIOR TO ORDERING LUMINAIRES.
13. FURNISH THE AIR CONDITIONING SUBCONTRACTOR AND THE CEILING SUBCONTRACTOR COPIES OF APPROVED LUMINAIRE SHOP DRAWINGS.
14. ALL RECESSED LUMINAIRES IN FIRE RATED CEILINGS MUST BE TENTED TO COMPLY WITH THE APPLICABLE CEILING RATING. VERIFY REQUIREMENTS.
15. ALL COMMUNICATIONS OUTLET BOXES MUST BE MIN. 4" WIDE BY 4" HIGH BY 2 1/2" DEEP WITH SINGLE GANG MUD RING.
16. FURNISH AND INSTALL 1" C FROM COMMUNICATIONS OUTLET TO THE ACCESSIBLE CEILING SPACE, UON. FURNISH AND INSTALL CABLING AS REQUIRED. CABLE ROUTING WILL BE VIA CONDUIT (INACCESSIBLE SPACES) OR J" HOOKS AND CABLE TRAY SYSTEM (ACCESSIBLE SPACES) TO COMMUNICATION ROOM OR ROOM OF TERMINATION. FURNISH AND INSTALL RACEWAY SYSTEM OVER THE INACCESSIBLE CEILING SPACE AS INDICATED ON PLANS. COMMUNICATIONS CONDUITS ARE TO BE LONG RADIUS TYPE AND MUST CONTAIN PULL STRINGS. FURNISH AND INSTALL PLATES FOR ALL OUTLETS. CAT6 CABLES MUST BE PLENUM RATED.
17. ALL SPECIAL PURPOSE OUTLETS MUST BE FURNISHED AND INSTALLED TO MATCH EQUIPMENT TO BE SUPPLIED.
18. THE PLANS INDICATE THE DESIRED ARRANGEMENT AND GENERAL LOCATIONS OF LUMINAIRES. THE ARCHITECTURAL CEILING PLANS INDICATE ADDITIONAL DATA AS TO THE FINAL FIXTURE PLACEMENT.
19. ALL CONDUITS MUST INCLUDE A SEPARATE GREEN EQUIPMENT GROUNDING CONDUCTOR.
20. ANY EXISTING UTILITIES LOCATED IN THE AREA OF CONSTRUCTION THAT REQUIRE RELOCATION OR TIE-IN MUST BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. PROVIDE 72 HOUR ADVANCE NOTICE.
21. ALL DISCONNECT SWITCHES MUST BE THE HEAVY DUTY TYPE. FUSED DISCONNECTS MUST HAVE LITTLEFUSE TIME DELAY, CLASS RK5 AND INDICATING CLASS RK5.
22. CHECK THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND/OR DIMENSIONS FOR INSTALLATION OF ALL ELECTRICAL ITEMS. ALL QUESTIONABLE LOCATIONS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
23. ALL EMPTY CONDUITS MUST CONTAIN JET LINE #232 POLYOLEFIN 200 LB. TEST PULL STRING.
24. ALL WORK SHOWN ON THE ELECTRICAL PLANS MUST BE PERFORMED BY THE CONTRACTOR, UON.
25. ALL EXIT FIXTURES MUST BE CONNECTED TO THE BUILDING LIFE SAFETY PANEL AND/OR HAVE INTEGRAL EMERGENCY BATTERY.
26. ALL SURGE PROTECTED OUTLETS MUST BE EQUAL TO HUBBELL #5352.
27. EQUIPMENT INSTALLED WITHIN CONCEALED SPACES MUST HAVE REASONABLE ACCESS PANELS FURNISHED AND INSTALLED NEARBY FOR INSPECTION, TESTING, AND SERVICE CONSIDERATIONS. LOCATION OF ACCESS PANELS PER APPROVAL OF ARCHITECT/ENGINEER.
28. SECURITY WIRING MUST BE IN CONDUIT AND MUST BE A SEPARATE, COMPLETE, AND FULLY FUNCTIONAL SYSTEM.
29. VERIFY CEILING TYPES AND INSTALLATION REQUIREMENTS PRIOR TO ORDERING LUMINAIRES.
30. WHERE CABLES OR CONDUITS ARE REQUIRED TO PASS THROUGH A FIRE RATED WALL, FLOOR, OR CEILING THEY MUST BE SEALED WITH FIRESTOP. THE APPROVED FIRESTOP METHOD MUST COMPLY WITH ARTICLES 300.21 OF NEC AND MUST BE UL LISTED UNDER "THROUGH-PENETRATION FIRESTOP SYSTEM (XHEZ)" IN UL FIRE RESISTANCE DIRECTORY. ALL UNSPRINKLERED FACILITIES MUST BE CONSIDERED TO HAVE INTERIOR CORRIDORS WITH FIRE RATED WALLS, UNO. ANY PENETRATION THROUGH THESE WALLS AND OTHER FIRE RATED WALLS MUST BE SEALED WITH FIRESTOP. FURNISH AND INSTALL MINIMUM 1" EMT THROUGH WALL PENETRATIONS.
31. SPARE CONDUITS, WIREWAYS, AND CABLE TRAYS MUST BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM OTHER PIPES, DUCTS, OR EXISTING RACKS, UON.
32. EXTERIOR BURIED CONDUIT RUNS MUST BE MINIMUM 24" BELOW FINISHED GRADE. FURNISH AND INSTALL CAUTION TAPE 12" BELOW GRADE. FURNISH AND INSTALL (1) SPARE WITH EACH UNDERGROUND RUN. DUCT BANKS MUST BE CONCRETE ENCASED WITH LOCATION PLAQUES PLACED EVERY 50' AND BEFORE AND AFTER EVERY TURN, UON. SUBMIT SHOP DRAWINGS BEFORE DIGGING.
33. FURNISH AND INSTALL GROUND STRAP ACROSS ALL CABLE TRAY JOINTS. GROUND CABLE TRAY TO SERVICE GROUND WITH #1/0 AWG BARE COPPER.
34. ALL CONDUIT BENDS FOR COMMUNICATIONS WIRING MUST BE SMOOTH LONG RADIUS TYPE. "LB" TYPE FITTINGS MUST NOT BE USED FOR COMMUNICATION RACEWAY.
35. DO NOT LOCATE ELECTRICAL OUTLETS AND DEVICES ON WALL PANEL JOINTS. REFER TO ARCHITECTURAL BUILDING ELEVATIONS FOR WALL PANEL LAYOUT AND PANEL JOINT LOCATIONS.
36. FURNISH AND INSTALL A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR OF SINGLE POLE BRANCH CIRCUITS THAT SERVE HIGH HARMONIC LOADS, SUCH AS, BALLAST OR SWITCH MODE POWER SUPPLIES (I.E. PERSONAL COMPUTERS AND SERVERS).
37. RACEWAYS INSTALLED IN OUTDOOR LOCATIONS MUST BE HOT DIPPED GALVANIZED, AT MINIMUM, FOR CORROSION RESISTANCE. FOR HIGHLY CORROSIVE ENVIRONMENTS, SUCH AS COASTAL AREAS, ALUMINUM, STAINLESS STEEL, OR PVC COATED RACEWAYS MUST BE REQUIRED.
38. POWER CHANGE EXPENSES RESULTING FROM EQUIPMENT SUBSTITUTIONS THAT DIFFER FROM ITEMS CALLED FOR IN DRAWINGS OR SPECIFICATIONS MUST BE BORNE BY THE CONTRACTOR OR THEIR SUB. THESE MUST INCLUDE CHANGES IN VOLTAGE OR FULL LOAD AMPS RESULTING IN LARGER FEEDERS AND OR CIRCUIT BREAKERS.
39. COORDINATE FINAL ELECTRICAL DEVICE AND LUMINAIRE LOCATIONS WITH FINAL SPRINKLER HEAD LOCATIONS TO COMPLY WITH NFPA REQUIREMENTS.
40. WATERPROOF RECEPTACLE COVER MUST BE WP EXTRA DUTY WHILE IN-USE TYPE.
41. ALL EXISTING ELECTRICAL DEVICES THAT ARE NOT SHOWN ARE EXISTING TO REMAIN, UON.
42. COORDINATE WITH DIVISION 23 FOR DISCONNECT REQUIREMENTS ON MECHANICAL EQUIPMENT. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR INFORMATION. FURNISH AND INSTALL DISCONNECTS FOR THOSE DEVICES THAT DO NOT COME WITH FACTORY INSTALLED DISCONNECTS.
43. BEFORE INITIATING ANY UNDERGROUND WORK, LOCATE ALL UTILITIES.
44. INTERIOR FIRE ALARM CONDUCTORS MUST BE INSTALLED IN RED EMT CONDUIT. EXTERIOR FIRE ALARM CONDUIT MUST BE RED RMC CONDUIT.
45. RAMP LEVEL CONDUIT INSTALLED IN UNCONDITIONED AIR SPACE MUST BE RMC WITH COMPRESSION FITTINGS. CONDUIT LEAVING TENANT SPACE MUST BE 1) LABELED BEFORE AND AFTER THE WALL PENETRATED BY THE CONDUIT. 2) LABELED EVERY 50' OR ON EVERY 90 DEGREE TURN. LABEL MUST BE 1 1/2" LABEL TAPE IDENTIFYING THE ORIGIN AND DESTINATION (ROOM NAME AND NUMBER), CIRCUIT NUMBER AND SYSTEM NAME.

NOTE: THIS IS A MASTER SYMBOL LIST NOT ALL SYMBOLS WILL APPLY TO THIS PROJECT.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	3/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD

PROJECT NUMBER:
2003-0070-006

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SEAL:

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SHEET TITLE:
ELECTRICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

SHEET ID:
E001

PROJECT STATUS:
100% BID SET

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GENERAL NOTES

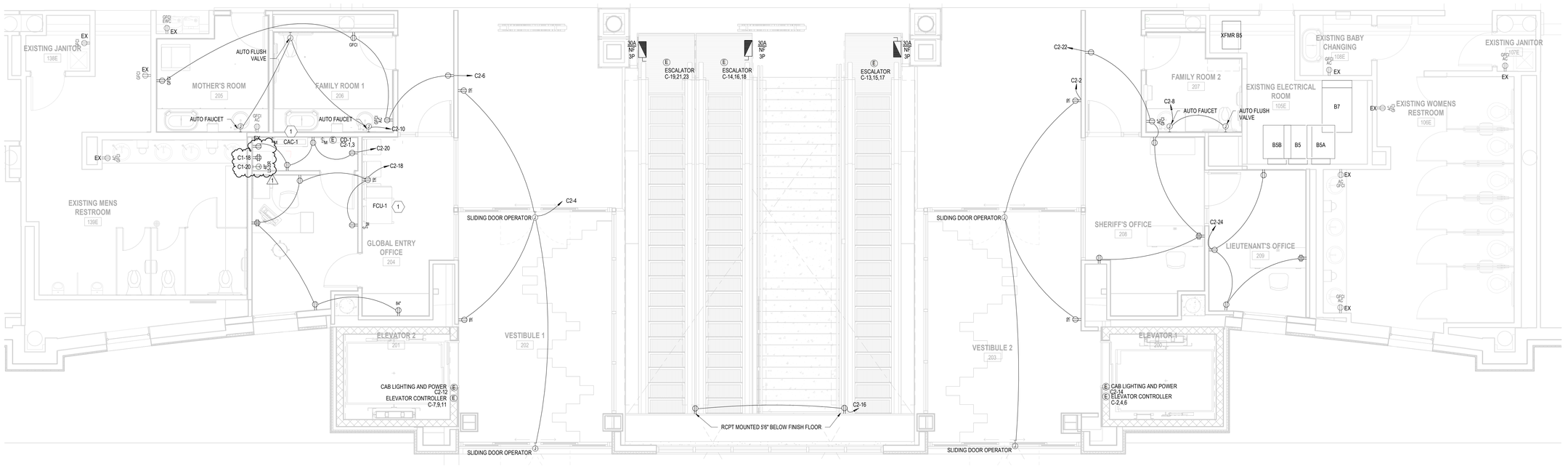
A. STAGE REMOVAL OF EXISTING ELECTRICAL DISTRIBUTION TO MINIMIZE DISRUPTION OF TERMINAL OPERATIONS. ALL OUTAGES WILL BE COORDINATED WITH AIRPORT AT LEAST 1 WEEK PRIOR TO OUTAGE.

B. ALL FEEDER SIZES ARE INDICATED ON EP602 OR ON PANEL SCHEDULES.

C. SEATING OUTLETS MUST BE TR TYPE OUTLETS PER NFPA 70.

KEYNOTES

1 INDOOR UNIT POWER FEED FROM OUTDOOR UNIT, FURNISH AND INSTALL TOGGLE SWITCH TO DISCONNECT ALL UNGROUNDED CONDUCTORS TO INDOOR UNIT.



PN N

A1 PARTIAL TICKETING LEVEL ELECTRICAL POWER PLAN - AREA B

SCALE: 1/4" = 1'-0"

4 0 4 8

SCALE: 1/4" = 1'-0"

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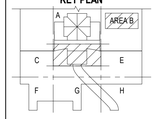
Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN



REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED:	3/14/2025
REVIEWED BY:	RS&H
DRAWN BY:	BWG
DESIGNED BY:	CRD
PROJECT NUMBER:	**2003-0070-006**

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SHEET TITLE:

PARTIAL TICKETING LEVEL ELECTRICAL POWER PLAN - AREA B

SHEET ID:

EP107

PROJECT STATUS:
100% BID SET

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208Y/120 VAC — PANELBOARD TSA3(E) — 100 A BUS W/ 100 A MLO
3 PHASE 4 WIRE — LOCATION ELECTRICAL A5 — 10 kA SCCR, BOTTOM FEED, SURFACE MOUNT

CKT NO	BREAKER TRIP / POLE		LOAD CLASS & LOCATION	ID	NOTES	L1	L2	L3	L1	L2	L3	NOTES	ID	LOAD CLASS & LOCATION	BREAKER TRIP / POLE		CKT NO
1	20 A	2	EXISTING LOAD			1.40			0.18					EXISTING LOAD	1	20 A	2
3							1.40			0.18				EXISTING LOAD	1	20 A	4
5	20 A	2	EXISTING LOAD					1.40			0.18			EXISTING LOAD	1	20 A	6
7						1.40			0.18					EXISTING LOAD	1	20 A	8
9	20 A	2	EXISTING LOAD				1.40			0.18				EXISTING LOAD	1	20 A	10
11								1.40			0.18			EXISTING LOAD	1	20 A	12
13	20 A	2	EXISTING LOAD			1.40			0.18					EXISTING LOAD	1	20 A	14
15							1.40			0.18				EXISTING LOAD	1	20 A	16
17	20 A	1	TSA TRAINING PROJECTOR					0.50			0.50			SECURITY PANEL	1	20 A	18
19	20 A	1	TSA XRAY SIMULATOR			0.50			1.92					IT RACK	1	20 A	20
21	20 A	1	TSA TRAINING RCPT				0.90			1.92				IT RACK	1	20 A	22
23	20 A	1	TSA WORKSTATION					0.72			1.92			IT RACK	1	20 A	24
25	20 A	1	TSA WORKSTATION			0.72			0.00					SPARE	1	20 A	26
27	20 A	1	SPARE				0.00			0.00				SPARE	1	20 A	28
29	20 A	1	SPARE					0.00			0.00			SPARE	1	20 A	30
31	20 A	1	SPARE			0.00			0.00					SPARE	1	20 A	32
33	20 A	1	SPARE				0.00			0.00				SPARE	1	20 A	34
35	20 A	1	SPARE					0.00			0.00			SPARE	1	20 A	36
37	20 A	1	SPARE			0.00			0.00					SPARE	1	20 A	38
39	20 A	1	SPARE				0.00			0.00				SPARE	1	20 A	40
41	20 A	1	SPARE					0.00			0.00			SPARE	1	20 A	42
						L1			L2						L3		
			TOTAL CONNECTED LOAD:			7880 VA			7560 VA						6800 VA		

NEW LOAD TOTALS
NONCONTINUOUS: 9600 VA
CONTINUOUS: 0 VA
NONCONTINUOUS + 125% CONTINUOUS: 9600 VA
NONCONTINUOUS + 125% CONTINUOUS: 26.6 A

GENERAL NOTES:
EXISTING LOAD ON PANEL TSA3 IS 31.4A PER AS BUILT DOCUMENTATION.

NOTES:

Branch Panel: C

Location: MECH. 124 — **Volts:** 480Y/277 VAC — **A.I.C. Rating:** 65
Supply From: DSBB — **Phases:** 3 — **Mains Type:** MCB
Mounting: SURFACE — **Wires:** 4 — **Mains Rating:** 400 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1					23.95 kVA	6.08 kVA									2
3	T-C1	150 A	3				19.57 kVA	6.08 kVA				3	30 A	ELEVATOR	4
5									23.67 kVA	6.08 kVA					6
7					6.08 kVA	0.94 kVA						1	20 A	CONNECTOR LIGHTING	8
9	ELEVATOR	30 A	3				6.08 kVA	0.02 kVA				1	20 A	ELEVATOR PIT LIGHTING	10
11									6.08 kVA	0.02 kVA		1	20 A	ELEVATOR PIT LIGHTING	12
13					3.88 kVA	3.88 kVA									14
15	ESCALATOR	30 A	3				3.88 kVA	3.88 kVA				3	30 A	ESCALATOR	16
17									3.88 kVA	3.88 kVA					18
19					3.88 kVA	1.33 kVA									20
21	ESCALATOR	30 A	3				3.88 kVA	1.33 kVA				3	15 A	AHU-AT-1	22
23									3.88 kVA	1.33 kVA					24
25	ESCALATOR PIT LIGHTING	20 A	1		0.05 kVA	0.62 kVA						1	20 A	STAIR EGRESS LIGHTING	26
27	TICKETING LEVEL ATRIUM LTG	20 A	1				1.06 kVA	0.08 kVA				1	20 A	FACADE LTG	28
29	RAMP LEVEL AND TUNNEL LTG	20 A	1						3.91 kVA	2.18 kVA		1	20 A	DRIVE CANOPY LTG	30
31	FACADE LTG	20 A	1		0.22 kVA	2.18 kVA						1	20 A	DRIVE CANOPY LTG	32
33	DRIVE CANOPY LTG	20 A	1				2.85 kVA	3.88 kVA				1	20 A	DRIVE CANOPY LTG	34
35	DRIVE CANOPY LTG	20 A	1						3.18 kVA	2.94 kVA		1	20 A	DRIVE CANOPY LTG	36
37	DRIVE CANOPY LTG	20 A	1		2.55 kVA	2.85 kVA						1	20 A	DRIVE CANOPY LTG	38
39	DRIVE CANOPY LTG	20 A	1				2.18 kVA								40
41															42
43															44
45															46
47										0.00 kVA		1	20 A	SPARE	48
49	SPARE	20 A	1		0.00 kVA	0.00 kVA									50
51	SPARE	20 A	1				0.00 kVA	0.00 kVA				3	20 A	SPD	52
53	SPARE	20 A	1						0.00 kVA	0.00 kVA					54
			Total Load:		58476 VA		54765 VA		61025 VA						
			Total Amps:		213.2 A		197.7 A		222.4 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	51365 VA	100.0%	51365 VA		
Other	666 VA	100.0%	666 VA	**Total Conn. Load:**	174266 VA
LITE	44893 VA	100.0%	44893 VA	**Total Est. Demand:**	172006 VA
HVAC	7984 VA	100.0%	7984 VA	**Total Conn.:**	209.6 A
MOTR	47644 VA	106.1%	50554 VA	**Total Est. Demand:**	206.9 A
RCPT	20340 VA	74.6%	15170 VA		
Lighting	1375 VA	100.0%	1375 VA		

Branch Panel: C1

Location: MECH. 124 — **Volts:** 208Y/120 VAC — **A.I.C. Rating:** 30
Supply From: T-C1 — **Phases:** 3 — **Mains Type:** MCB
Mounting: SURFACE — **Wires:** 4 — **Mains Rating:** 125 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1	SENSITILE ILLUMINATED WALL	25 A	1		2.04 kVA	0.92 kVA						2	20 A	ESCALATOR SUMP PUMP	2
3	SENSITILE ILLUMINATED WALL	25 A	1				2.04 kVA	0.92 kVA							4
5	SENSITILE ILLUMINATED WALL	25 A	1						2.04 kVA	0.92 kVA		2	20 A	ESCALATOR SUMP PUMP	6
7	SENSITILE ILLUMINATED WALL	25 A	1		2.04 kVA	0.92 kVA									8
9	SENSITILE ILLUMINATED WALL	25 A	1				2.04 kVA	1.92 kVA				1	20 A	ESCALATOR PIT RCPT	10
11	SENSITILE ILLUMINATED WALL	25 A	1						2.04 kVA	1.92 kVA		1	20 A	ESCALATOR PIT RCPT	12
13	SENSITILE ILLUMINATED WALL	25 A	1		2.04 kVA	1.08 kVA						1	20 A	RCPT CONNECTOR	14
15	CONNECTOR MONITOR	20 A	1				1.76 kVA	1.44 kVA				1	20 A	RCPT MECH AND STORAGE	16
17	CONNECTOR MONITOR	20 A	1						1.76 kVA	1.92 kVA		1	20 A	GLOBAL ENTRY RACK	18
19	CONNECTOR MONITOR	20 A	1		1.76 kVA	1.92 kVA						1	20 A	GLOBAL ENTRY RACK	20
21	CONNECTOR MONITOR	20 A	1				1.76 kVA								22
23	CONNECTOR MONITOR	20 A	1						1.76 kVA						24
25															26
27															28
29															30
31															32
33	SPARE	20 A	1				0.00 kVA	0.00 kVA				1	20 A	SPARE	34
35	SPARE	20 A	1						0.00 kVA	0.00 kVA		1	20 A	SPARE	36
37	SPARE	20 A	1		0.00 kVA	0.00 kVA									38
39	SPARE	20 A	1				0.00 kVA	0.00 kVA				3	20 A	SPD	40
41	SPARE	20 A	1						0.00 kVA	0.00 kVA					42
			Total Load:		12710 VA		11875 VA		12355 VA						
			Total Amps:		106.5 A		99 A		103.6 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	8800 VA	100.0%	8800 VA		
LITE	14280 VA	100.0%	14280 VA	**Total Conn. Load:**	36941 VA
MOTR	3661 VA	112.5%	4118 VA	**Total Est. Demand:**	37298 VA
RCPT	10200 VA	99.0%	10100 VA	**Total Conn.:**	102.5 A
				Total Est. Demand:	103.5 A

Branch Panel: C2

Location: MECH. 124 — **Volts:** 208Y/120 VAC — **A.I.C. Rating:** 30
Supply From: T-C1 — **Phases:** 3 — **Mains Type:** MCB
Mounting: SURFACE — **Wires:** 4 — **Mains Rating:** 125 A
Enclosure: NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	Notes	A		B		C		Notes	Poles	Trip	Circuit Description	CKT
1	CD-1	20 A	2		0.33 kVA	1.36 kVA						1	20 A	VESTIBULE RCPT & DOORS	2
3							0.33 kVA	1.36 kVA				1	20 A	VESTIBULE RCPT & DOORS	4
5									0.90 kVA	0.72 kVA		1	20 A	RCPT FAMILY AND MOTHERS RM	6
7	OAF-AT-01	15 A	3		0.90 kVA	0.29 kVA						1	20 A	AUTO PLUMB. FIXTURES & MIRROR	8
9							0.90 kVA	0.49 kVA				1	20 A	AUTO PLUMB. FIXTURES & MIRROR	10
11									0.90 kVA	1.80 kVA		1	20 A	ELEVATOR CAB LIGHTING	12
13	RAF-AT-01	20 A	3		0.90 kVA	1.80 kVA						1	20 A	ELEVATOR CAB LIGHTING	14
15							0.90 kVA	0.36 kVA				1	20 A	SIGNAGE RCPT	16
17	CCU-1	20 A	2						1.00 kVA	1.26 kVA		1	20 A	RCPT GLOBAL ENTRY	18
19					1.00 kVA	0.72 kVA						1	20 A	RCPT GLOABL ENTRY COMM	20
21	CU-1	20 A	2				1.00 kVA	1.08 kVA				1	20 A	RCPT SHERIFFS OFFICE	22
23									1.00 kVA	0.90 kVA		1	20 A	RCPT LIEUTENANT OFFICE	24
25	BMS CONTROL PANEL	20 A	1		0.18 kVA	0.92 kVA						2	20 A	ELEVATOR SUMP PUMP	26
27	ROOF MOUNTED RCPT	20 A	1				0.36 kVA	0.92 kVA							28
29	ELEVATOR PIT RCPT	20 A	1						1.92 kVA	0.92 kVA					30
31	ELEVATOR PIT RCPT	20 A	1		1.92 kVA	0.92 kVA									32
33	SPARE	20 A	1				0.00 kVA	0.00 kVA				1	20 A	SPARE	34
35	SPARE	20 A	1						0.00 kVA	0.00 kVA		1	20 A	SPARE	36
37	SPARE	20 A	1		0.00 kVA	0.00 kVA									38
39	SPARE	20 A	1				0.00 kVA	0.00 kVA				3	20 A	SPD	40
41	SPARE	20 A	1						0.00 kVA	0.00 kVA					42
			Total Load:		11237 VA		7695 VA		11313 VA						
			Total Amps:		98.2 A		64.1 A		98.8 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
EQUIPMENT	6100 VA	100.0%	6100 VA		
Other	666 VA	100.0%	666 VA	**Total Conn. Load:**	30245 VA
LITE	281 VA	100.0%	281 VA	**Total Est. Demand:**	30850 VA
HVAC	3994 VA	100.0%	3994 VA	**Total Conn.:**	84 A
MOTR	9065 VA	107.5%	9740 VA	**Total Est. Demand:**	85.6 A
RCPT	10140 VA	99.3%	10070 VA		

TRANSFORMER SCHEDULE

XFMR SIZE (KVA)	PRIMARY VOLTS	PHASE	BREAKER TRIP (AMPS)	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GAUGE	GROUND GAUGE	CONDUIT SIZE	GROUNDING ELECTRODE CONDUCTOR	SECONDARY VOLTS	PHASE	BREAKER TRIP (AMPS)	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GAUGE	GROUND GAUGE	CONDUIT SIZE
15	480	3	30	1	3	#10	#10	3/4"	#8	208	3	60	1	4	#4	#8	1 1/4"
30	480	3	60	1	3	#6	#10	1"	#8	208	3	100	1	4	#1	#6	2"
45	480	3	90	1	3	#3	#8	1 1/4"	#8	208	3	150	1	4	#1/0	#6	2"
75	480	3	150	1	3	#1/0	#6	2"	#6	208	3	225	1	4	#4/0	#2	2 1/2"
112.5	480	3	200	1	3	#3/0	#6	2"	#4	208	3	400	2	4	#3/0	#2	EACH SET IN 2 1/2"
150	480	3	300	1	3	300 KCMIL	#4	2 1/2"	#2	208	3	600	2	4	350 KCMIL	#2/0	EACH SET IN 3"
225	480	3	400	1	3	500 KCMIL	#3	3"	#1/0	208	3	800	2	4	600 KCMIL	#3/0	EACH SET IN 4"
300	480	3	600	2	3	300 KCMIL	#1	EACH SET IN 2 1/2"	#2	208	3	1200	4	4	350 KCMIL	#4/0	EACH SET IN 3"
500	480	3	1000	4	3	250 KCMIL	#2/0	EACH SET IN 2 1/2"	#2	208	3	2000	5	4	600 KCMIL	400 KCMIL	EACH SET IN 4"
750	480	3	1600	4	3	600 KCMIL	#4/0	EACH SET IN 3 1/2"	#1/0	208	3	3000	8	4	500 KCMIL	500 KCMIL	EACH SET IN 3 1/2"

GENERAL NOTES:
A. GROUNDING ELECTRODE CONDUCTOR SIZE IS PER NEC TABLE 250.66.
B. PRIMARY GROUND (EQUIPMENT GROUND) CONDUCTOR SIZE IS PER NEC TABLE 250.122.
C. SECONDARY GROUND (SUPPLY SIDE BONDING JUMPER) CONDUCTOR SIZE IS PER NEC 250.102(C)(1). SECONDARY GROUND CONDUCTOR SIZE ASSUMES A SINGLE CONDUCTOR FOR SINGLE OR PARALLEL SETS, MULTIPLE SECONDARY GROUND CONDUCTORS ARE ACCEPTABLE AND SHALL BE SIZED PER NEC TABLE 250.102.
D. CONTRACTOR SHALL INCREASE FEEDER SIZES WHEN THEY ARE LONGER THEN 165' FOR 208 V AND 185' FOR 480 V.
E. CONDUCTORS FEEDING K-RATED TRANSFORMERS REQUIRE 200% NEUTRAL CONDUCTORS WITH CONDUIT SIZED PER NEC.
F. ALL CONDUCTOR SIZES ARE BASED ON COPPER.

BRANCH CIRCUIT SCHEDULE

BREAKER TRIP (AMPS)	COPPER WIRE (75°C)	MAXIMUM DISTANCE (FEET) 1Ø 120 V	1Ø 277 V	3Ø 208 V	3Ø 480 V
15	12	75'	173'	150'	346'
20	12	56'	130'	113'	260'
	10	94'	216'	187'	443'
30	10	62'	144'	125'	289'
	8	96'	222'	192'	444'
35	8	82'	190'	165'	381'
	6	131'	303'	263'	605'
40	8	72'	166'	144'	333'
	6	115'	265'	230'	530'
45	6	102'	235'	204'	471'
	4	161'	372'	323'	745'
50	6	92'	212'	184'	424'
	4	145'	335'	291'	670'
60	6	76'	176'	152'	353'
	4	121'	280'	243'	559'
70	4	KEYNOTE 1		208'	479'
	3			257'	594'
80	4	KEYNOTE 1		182'	421'
	3			225'	520'
90	3	KEYNOTE 1		200'	462'
	2			250'	578'
100	3	KEYNOTE 1		180'	415'
	2			225'	520'

GENERAL NOTES:
1. SEE DRAWINGS FOR WIRE SIZING WHEN DISTANCE EXCEEDS VALUES SHOWN.
2. DISTANCE IS WIRE LENGTH TO FIRST OUTLET/DEVICE/EQUIPMENT FROM OVERCURRENT PROTECTION.
3. PROVIDE CONDUIT SIZE PER NEC.
4. BASIS OF VOLTAGE DROP CALCULATIONS IS 3% DROP, 80% CIRCUIT LOAD, THHN/THWN INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, AND 6 OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.

KEYNOTE:
1. SEE DRAWINGS FOR WIRE SIZING.

FEEDER SCHEDULE

BREAKER TRIP (AMPS)	TYPE	CONDUCTOR SETS	CONDUCTOR QUANTITY	CONDUCTOR GAUGE	MIN. GEC (SE) MIN. EGC (Δ/Y)	MINIMUM CONDUIT SIZE
30	Δ	1	3	#10	#10	3/4"
	Y		4			
40	Δ	1	3	#8	#10	3/4"
	Y		4			1"
50	Δ	1	3	#6	#10	1"
	Y		4			
60	Δ	1	3	#6	#10	1"
	Y		4			
70	Δ	1	3	#4	#8	1 1/4"
	Y		4			
90	Δ	1	3	#3	#8	1 1/4"
	Y		4			
100	SE	1	4	#2	#1/0	1 1/4"
	Δ		3		#8	
	Y		4			
110	Δ	1	3	#2	#6	1 1/4"
	Y		4			1 1/2"
125	SE	1	4	#1	#6	1 1/2"
	Δ		3		#6	
	Y		4			2"
150	SE	1	4	#1/0	#6	2"
	Δ		3		#6	
	Y		4			
175	Δ	1	3	#2/0	#6	2"
	Y		4			
200	SE	1	4	#3/0	#4	2"
	Δ		3		#6	
	Y		4			2 1/2"
225	SE	1	4	#4/0	#2	2 1/2"
	Δ		3		#4	
	Y		4			
250	Δ	1	3	250 KCMIL	#4	2 1/2"
	Y		4			3"
300	Δ	1	3	300 KCMIL	#4	3"
	Y		4			
350	Δ	1	3	350 KCMIL	#3	3"
	Y		4			
400	SE	1	4	500 KCMIL	#1/0	3 1/2"
	Δ		3		#3	
	Y		4			
500	Δ	2	3	#4/0	#2	EACH SET IN 2 1/2"
	Y		4			
600	SE	2	4	300 KCMIL	#1/0	EACH SET IN 3"
	Δ		3		#1	
	Y		4			
800	SE	2	4	500 KCMIL	#2/0	EACH SET IN 3 1/2"
	Δ		3		#1/0	
	Y		4			
1000	SE	4	4	250 KCMIL	#2/0	EACH SET IN 2 1/2"
	Δ		3			
	Y		4			
1200	SE	4	4	350 KCMIL	#3/0	EACH SET IN 3"
	Δ		3			
	Y		4			
1600	SE	4	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		#4/0	
	Y		4			
2000	SE	5	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		250 KCMIL	
	Y		4			
2500	SE	6	4	600 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		350 KCMIL	
	Y		4			
3000	SE	8	4	500 KCMIL	#3/0	EACH SET IN 4"
	Δ		3		400 KCMIL	
	Y		4			
G	REFER TO "GROUNDING RISER DETAIL" FOR CONDUCTOR SIZE.					
T	REFER TO "TRANSFORMER SCHEDULE" FOR CONDUCTOR SIZE.					
U	REFER TO "ELECTRICAL UTILITY MATRIX" FOR ADDITIONAL INFORMATION.					

GENERAL NOTES:
1. ALL FEEDER TYPES SCHEDULED MAY NOT APPLY TO THIS PROJECT.
2. MAXIMUM 2% VOLTAGE DROP FOR FEEDERS; 3% VOLTAGE DROP FOR BRANCH CIRCUITS.
3. ADJUST CONDUCTOR & GEC SIZE FOR LONG RUNS AND TEMPERATURE ABOVE DESIGN AMBIENT TEMPERATURE.
4. CONDUIT SIZING IS BASED ON CONDUCTORS WITH THHW INSULATION.

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 2	4/18/2025

DATE ISSUED: 3/14/2025
REVIEWED BY: RS&H
DRAWN BY: BWG
DESIGNED BY: CRD
PROJECT NUMBER: 2003-0070-006

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SEAL:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

SHEET TITLE:
ELECTRICAL POWER PANEL SCHEDULES

SHEET ID:
EP602

PROJECT STATUS:
100% BID SET

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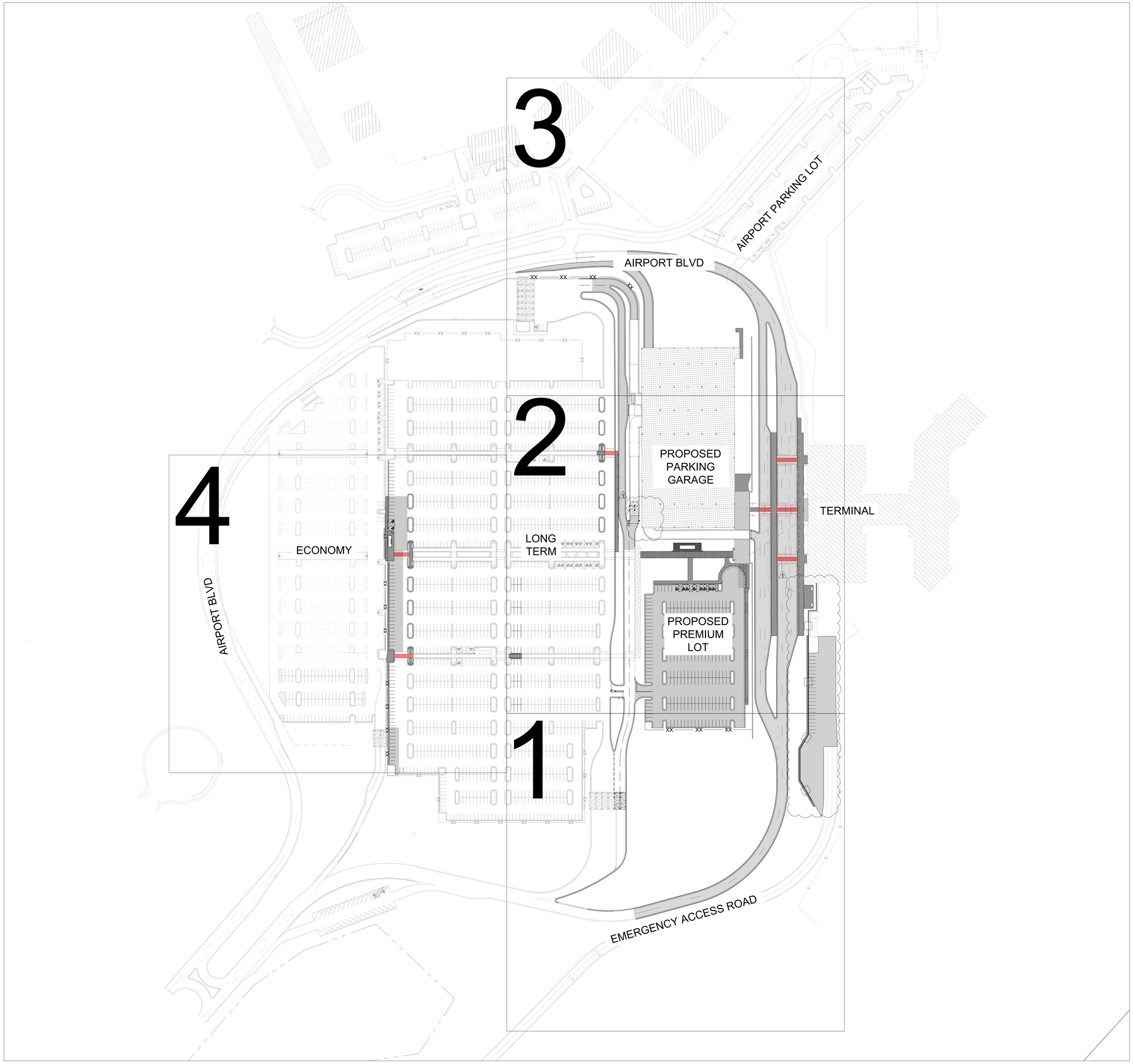
Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:11 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3 CS-300.dwg



LEGEND

- EXISTING FEATURES
- PROPOSED PH2 CONSTRUCTION FEATURES
- PROPOSED WOODEN POST & CABLE FENCE
- PROPOSED DECORATIVE FENCE TO MATCH EXISTING
- PROPOSED STRUCTURE/BUILDING
- PH2 PERMANENT BARRICADES
- PROPOSED PARKING LOT PAVEMENT (SHEET CP-303 SECTION B)
- PROPOSED ROADWAY PAVEMENT (SHEET CP-303 SECTION A, SEE NOTE 4)
- PROPOSED CONCRETE PAVEMENT (SHEET CP-303 SECTION C)
- PROPOSED CONCRETE SIDEWALKS (SHEET CP-303 SECTION E)
- PROPOSED RAISED CROSSWALKS (SHEET CP-563 DETAIL 1)

NOTES

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NORTH

100 0 100 200
SCALE (IN FEET)
1 INCH = 100 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	CCR
DESIGNED BY:	CCR
PROJECT NUMBER:	

2003-0070-006

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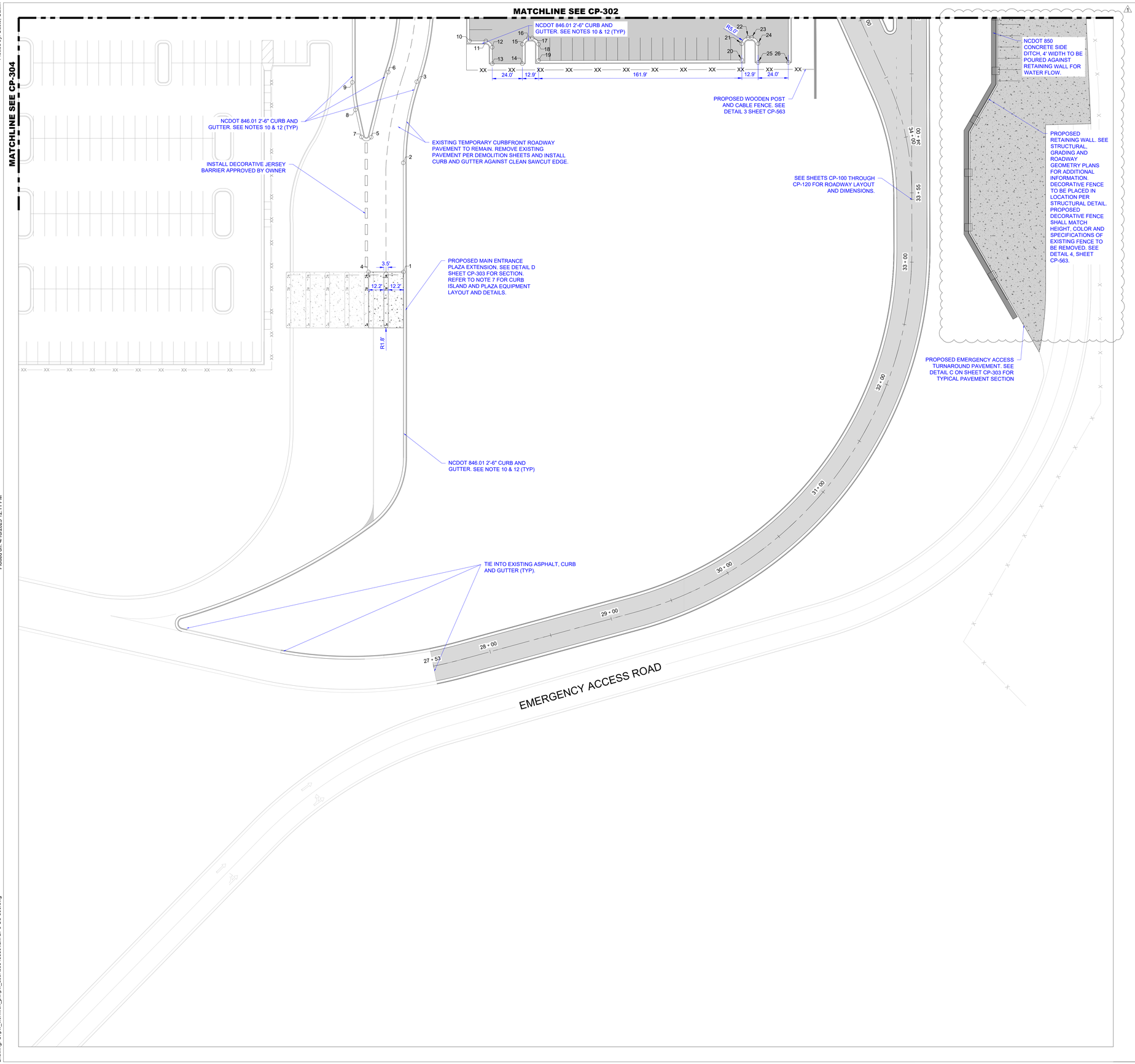
SEAL:

SHEET TITLE
GEOMETRY
ALIGNMENT
LAYOUT-AIRPORT
LONG TERM
PARKING LOT
OVERALL

SHEET ID
CS-300

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:11 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3 CS-300.dwg



LEGEND

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- PROPOSED CONCRETE SIDEWALKS (SHEET CP-303 SECTION E)
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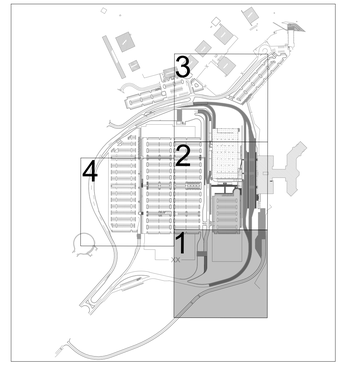
KEYMAP



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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	CCR
DESIGNED BY:	CCR
PROJECT NUMBER:	

2003-0070-006

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SEAL:

SHEET TITLE

GEOMETRY ALIGNMENT LAYOUT-AIRPORT LONG TERM PARKING LOT (SHEET 1 OF 5)

SHEET ID

CS-301

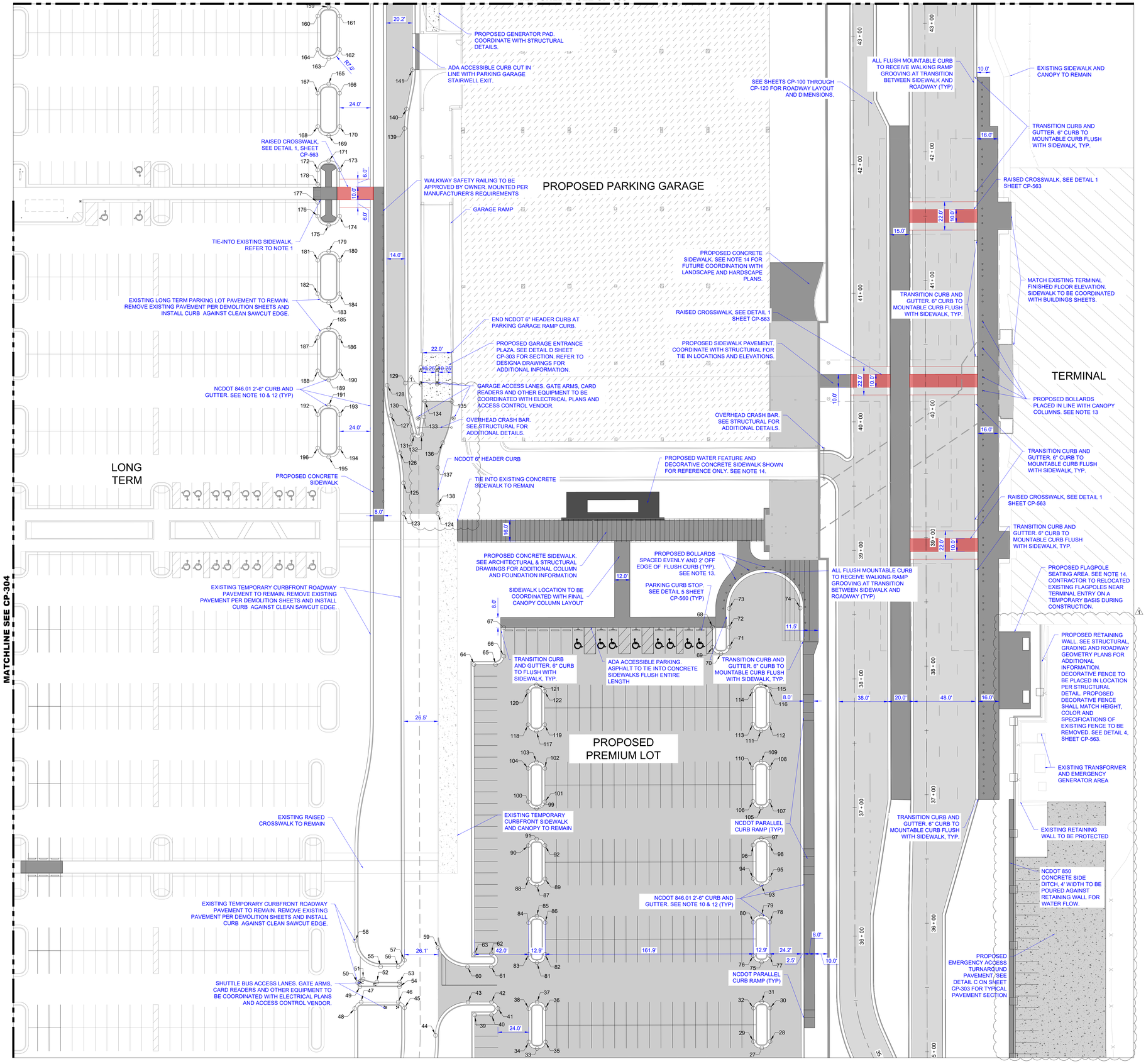
PROJECT STATUS:

100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:11 PM
Drawing: C:\pw_workrish_pw\pw_user\d0545380\ILM BP3 CS-300.dwg

MATCHLINE SEE CP-303

MATCHLINE SEE CP-304



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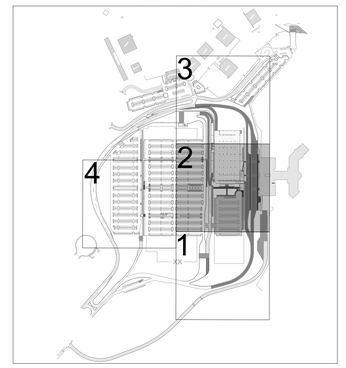
KEYMAP



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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	CCR
DESIGNED BY:	CCR
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
GEOMETRY ALIGNMENT LAYOUT-AIRPORT LONG TERM PARKING LOT (SHEET 2 OF 5)

SHEET ID
CS-302

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:11 PM
Drawing: C:\pw_workrsh_pw\pw_user\d0545385\ILM BP3 CS-300.dwg

POINT TABLE		
POINT	NORTHING	EASTING
9	189949.17	2328412.49
65	190108.26	2328751.34
1	189817.64	2328327.78
2	189876.09	2328392.14
3	189911.48	2328447.28
4	189838.25	2328309.12
5	189908.78	2328390.19
6	189933.48	2328437.68
7	189914.64	2328385.08
8	189932.70	2328397.90
10	189902.07	2328499.54
11	189892.45	2328508.29
12	189885.39	2328507.95
13	189876.53	2328498.20
14	189858.77	2328514.34
15	189869.19	2328525.81
16	189868.95	2328532.79
17	189866.70	2328534.84
18	189859.64	2328534.50
19	189850.89	2328524.88
20	189731.09	2328633.77
21	189739.84	2328643.39
22	189739.50	2328650.45
23	189737.34	2328652.41
24	189730.28	2328652.08
25	189720.21	2328640.96
26	189702.30	2328657.24
27	189754.56	2328669.19
28	189753.15	2328677.24
29	189762.71	2328668.55
30	189770.64	2328696.48
31	189778.78	2328695.83
32	189780.19	2328687.79
33	189883.92	2328551.62
34	189892.06	2328550.97
35	189882.51	2328559.66
36	189899.99	2328578.90
37	189908.14	2328578.26
38	189909.55	2328570.21
39	189937.39	2328538.40
40	189927.77	2328547.15
41	189927.43	2328554.21
42	189934.50	2328554.55
43	189947.97	2328542.30
44	189949.36	2328506.13
45	189981.55	2328505.86
46	189988.27	2328505.83
47	190009.62	2328486.43
48	190010.01	2328479.43
49	190018.43	2328494.73

POINT TABLE		
POINT	NORTHING	EASTING
50	190021.85	2328495.91
51	190020.50	2328500.79
52	190011.01	2328506.16
53	189997.95	2328517.97
54	189995.60	2328515.38
55	190016.83	2328517.07
56	190006.78	2328526.17
57	190006.44	2328533.25
58	190045.08	2328518.49
59	189993.70	2328558.06
60	189966.73	2328562.41
61	189953.01	2328574.88
62	189959.74	2328582.28
63	189969.34	2328573.55
64	190120.68	2328740.05
66	190107.82	2328760.52
67	190122.71	2328776.90
68	190002.51	2328886.15
69	189992.09	2328874.68
70	189983.95	2328875.33
71	189982.53	2328883.37
72	189992.96	2328894.84
73	190002.75	2328905.61
74	189961.95	2328942.93
75	189799.51	2328718.64
76	189807.65	2328718.00
77	189797.99	2328726.57
78	189815.58	2328745.92
79	189823.72	2328745.28
80	189825.14	2328737.24
81	189928.87	2328601.07
82	189928.38	2328610.10
83	189937.91	2328601.42
84	189954.50	2328619.66
85	189953.08	2328627.71
86	189944.94	2328628.35
87	189969.22	2328645.47
88	189977.36	2328644.82
89	189967.81	2328653.51
90	189994.85	2328664.06
91	189993.44	2328672.11
92	189985.29	2328672.75
93	189839.87	2328763.04
94	189848.01	2328762.40
95	189838.45	2328771.08
96	189865.49	2328781.64
97	189864.08	2328789.68
98	189855.94	2328790.32
99	190009.58	2328689.86
100	190017.72	2328689.22

POINT TABLE		
POINT	NORTHING	EASTING
101	190008.16	2328697.91
102	190025.65	2328717.15
103	190033.79	2328716.50
104	190035.21	2328708.46
105	189880.23	2328807.44
106	189888.37	2328806.79
107	189878.81	2328815.48
108	189896.30	2328834.72
109	189904.44	2328834.08
110	189906.25	2328825.62
111	189920.58	2328851.84
112	189919.16	2328859.88
113	189928.72	2328851.20
114	189946.21	2328870.44
115	189944.79	2328878.48
116	189936.65	2328879.12
117	190049.93	2328734.26
118	190058.08	2328733.62
119	190048.52	2328742.31
120	190075.56	2328752.86
121	190074.15	2328760.90
122	190066.01	2328761.55
123	190240.16	2328790.38
124	190220.31	2328808.34
125	190256.21	2328808.04
126	190274.01	2328823.50
127	190298.63	2328840.22
128	190316.58	2328855.84
129	190307.32	2328866.48
130	190289.37	2328850.86
131	190275.12	2328841.18
132	190270.96	2328845.35
133	190278.78	2328856.80
134	190286.43	2328866.29
135	190270.81	2328880.33
136	190254.48	2328851.74
137	190244.36	2328834.81
138	190225.07	2328813.51
139	190440.51	2329013.01
140	190449.61	2329025.26
141	190466.69	2329050.99
142	190512.77	2329101.68
143	190523.37	2329111.26
144	190536.76	2329121.13
145	190548.09	2329131.37
146	190653.42	2329247.25
147	190718.31	2329265.77
148	190722.19	2329274.90
149	190645.04	2329263.06
150	190625.72	2329241.81

POINT TABLE		
POINT	NORTHING	EASTING
151	190613.88	2329252.57
152	190635.04	2329275.84
153	190739.93	2329279.75
154	190769.18	2329252.87
155	190747.81	2329229.04
156	190763.67	2329214.70
157	190749.56	2329199.12
158	190653.97	2329207.54
159	190547.69	2329043.48
160	190549.30	2329032.59
161	190536.70	2329044.00
162	190519.25	2329024.71
163	190520.86	2329013.82
164	190531.86	2329013.31
165	190507.44	2328998.99
166	190496.44	2328999.50
167	190509.05	2328988.10
168	190491.61	2328968.82
169	190480.61	2328969.33
170	190479.00	2328980.22
171	190467.39	2328954.72
172	190469.00	2328943.83
173	190456.41	2328955.26
174	190432.22	2328928.51
175	190433.84	2328917.64
176	190444.84	2328917.13
177	190452.02	2328925.06
178	190461.41	2328935.44
179	190420.22	2328902.58
180	190409.22	2328903.10
181	190421.83	2328891.69
182	190404.39	2328872.41
183	190393.39	2328872.92
184	190391.78	2328883.82
185	190379.97	2328858.09
186	190368.97	2328858.60
187	190381.58	2328847.20
188	190364.13	2328827.92
189	190353.13	2328828.43
190	190351.53	2328839.32
191	190339.72	2328813.60
192	190341.32	2328802.71
193	190328.72	2328814.11
194	190311.27	2328794.83
195	190312.88	2328783.93
196	190323.88	2328783.42
197	190550.40	2329211.73
198	190535.60	2329225.18
199	190625.50	2329294.35
200	190610.70	2329307.80

POINT TABLE		
POINT	NORTHING	EASTING
201	190767.28	2329300.61
202	190731.24	2329342.81
203	190734.17	2329347.91
204	190858.07	2329205.19
205	190928.86	2329132.87
206	190288.86	2327966.67
207	190301.66	2327980.84
208	190308.74	2327981.18
209	190319.08	2327971.78
210	190494.33	2328165.19
211	190487.71	2328171.18
212	190487.23	2328181.08
213	190502.03	2328197.36
214	190511.91	2328197.83
215	190518.71	2328191.67
216	190669.95	2328358.25
217	190662.34	2328365.17
218	190663.06	2328375.63
219	190709.08	2328426.25
220	190718.26	2328426.69
221	190725.85	2328419.82
222	190783.46	2328483.47
223	190747.84	2328515.70
224	190746.30	2328526.67
225	190735.30	2328527.18
226	190717.85	2328507.90
227	190719.46	2328497.01
228	190730.46	2328496.50
229	190706.04	2328482.18
230	190695.04	2328482.69
231	190707.65	2328471.28
232	190690.21	2328452.00
233	190679.21	2328452.51
234	190677.60	2328463.41
235	190665.61	2328437.49
236	190647.38	2328430.01
237	190654.62	2328438.00
238	190667.22	2328426.60
239	190654.72	2328412.84
240	190662.91	2328405.41
241	190640.00	2328396.50
242	190648.15	2328389.12
243	190626.97	2328382.10
244	190615.97	2328382.61
245	190614.36	2328393.51
246	190621.73	2328402.03
247	190602.72	2328367.97
248	190604.33	2328357.08
249	190591.72	2328368.48
250	190574.28	2328349.20

POINT TABLE		
POINT	NORTHING	EASTING
251	190575.36	2328338.79
252	190586.89	2328337.80
253	190562.47	2328323.48
254	190551.47	2328323.99
255	190564.07	2328312.59
256	190546.63	2328293.30
257	190535.63	2328293.82
258	190534.03	2328304.71
259	190522.21	2328278.98
260	190511.22	2328279.50
261	190523.82	2328268.09
262	190506.38	2328248.81
263	190495.38	2328249.32
264	190493.77	2328260.22
265	190481.88	2328234.57
266	190470.90	2328235.10
267	190463.48	2328226.94
268	190483.49	2328223.67
269	190478.78	2328218.49
270	190487.13	2328211.36
271	190464.00	2328202.19
272	190459.32	2328196.99
273	190448.32	2328197.50
274	190446.69	2328208.37
275	190454.07	2328216.57

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

RS&H
1520 South Blvd., Suite 200
Charlotte, NC 28203
Phone: 704-752-0610, Fax: 704-949-2672
www.rsandh.com
North Carolina License Nos. 50073 * F-0493 * C-28

ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS

1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED: 03/14/2025
REVIEWED BY: AGS
DRAWN BY: CCR
DESIGNED BY: CCR
PROJECT NUMBER:
2003-0070-006

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SEAL:

SHEET TITLE

GEOMETRY ALIGNMENT LAYOUT-AIRPORT LONG TERM PARKING LOT (SHEET 5 OF 5)

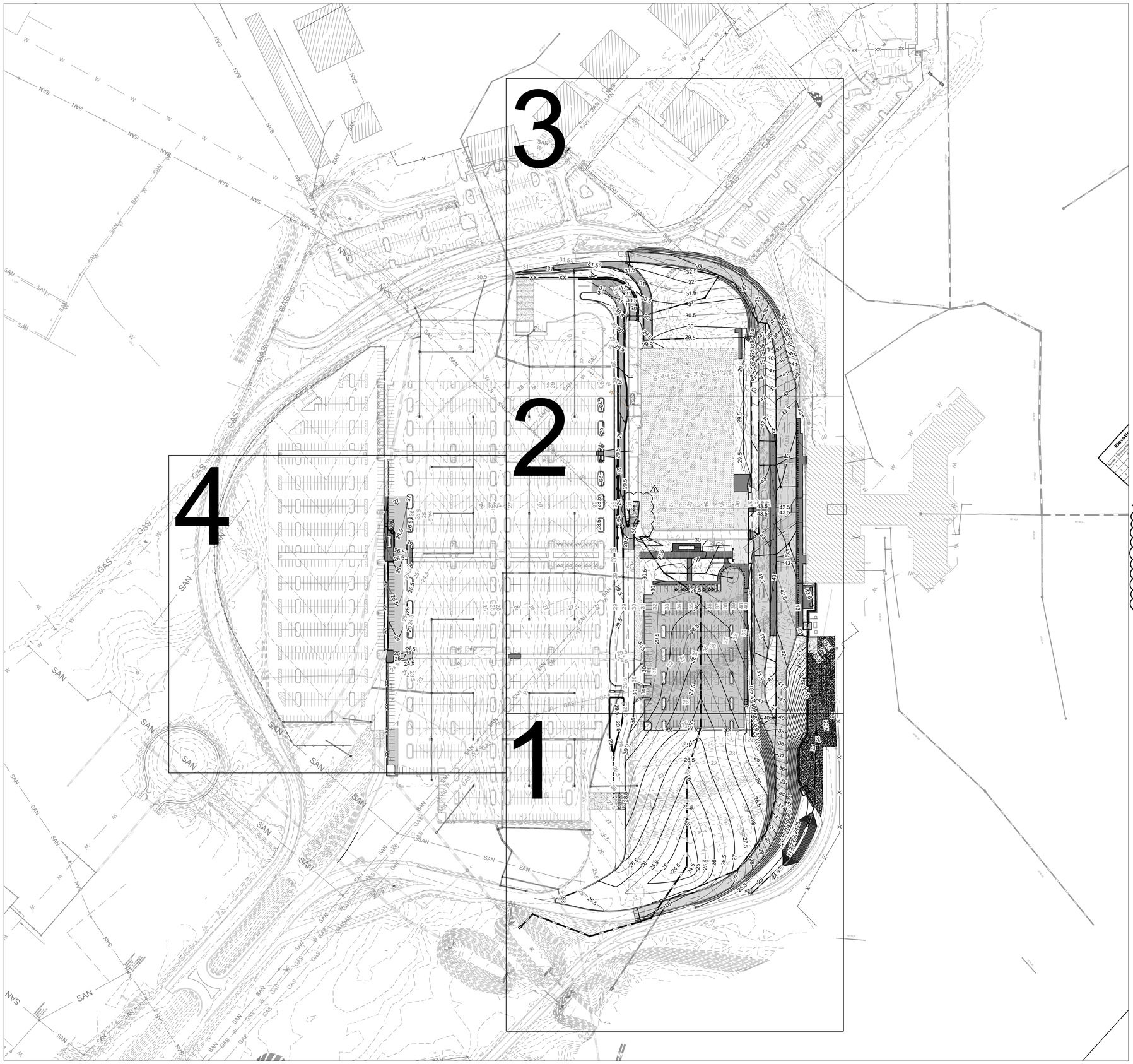
SHEET ID

CS-305

PROJECT STATUS:

100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:54 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d054536b\ILM BP3-CG-100-104.dwg



LEGEND

- 27.00 — PROPOSED MAJOR CONTOR (1 FT)
- 27.5 — PROPOSED MINOR CONTOUR (0.5 FT)
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- 27.0 — EXISTING MAJOR CONTOUR (1 FT)
- 26.5 — EXISTING MINOR CONTOUR (0.5 FT)
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING STORM PIPE
- LIMITS OF DISTURBANCE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022, SURVEY AND JANUARY 12, 2024 SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND PHASE 1B.

⚠

2. DATUM ELEVATION 43.7' EQUALS REFERENCE ELEVATION 100'-0" TICKET LEVEL AS SEEN IN VOLUME 2. EXISTING TERMINAL TIE IN ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

3. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0" LEVEL 1 AS SEEN IN VOLUME 1.

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

100 0 100 200
SCALE (IN FEET)
1 INCH = 100 FEET (WHEN PRINTED 42"x30")

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Phone: 704-752-0610, Fax: 704-949-2672
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
⚠	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	SCB
DESIGNED BY:	SCB
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
GRADING PLAN OVERALL

SHEET ID
CG-100

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:54 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545389\ILM BP3-CG-100-104.dwg

MATCHLINE SEE CG-102

GRADE AT TOW-31.82
GRADE AT BOW-29.70

GRADE AT TOW-32.92
GRADE AT BOW-25.37

GRADE AT TOW-31.31
GRADE AT BOW-25.69

GRADE AT TOW-28.92
GRADE AT BOW-25.46

GRADE AT TOW-27.24
GRADE AT BOW-25.31

4H:1V FILL SLOPES (TYP.)

2' SHOULDER (TYP.)

3H:1V SLOPES FOR DRAINAGE SWALE(TYP.)

18" RCP

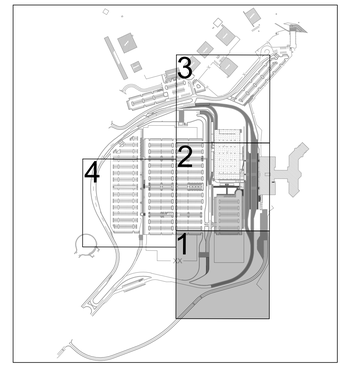
LEGEND

27.00	PROPOSED MAJOR CONTOR (1 FT)
27.5	PROPOSED MINOR CONTOUR (0.5 FT)
	PROPOSED STORM MANHOLE
	PROPOSED STORM INLET
	PROPOSED STORM PIPE
27.0	EXISTING MAJOR CONTOUR (1 FT)
26.5	EXISTING MINOR CONTOUR (0.5 FT)
	EXISTING STORM MANHOLE
	EXISTING STORM INLET
	EXISTING STORM PIPE
	LIMITS OF DISTURBANCE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022, SURVEY AND JANUARY 12, 2024 SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND PHASE 1B.
2. DATUM ELEVATION 43.7' EQUALS REFERENCE ELEVATION 100'-0" TICKET LEVEL AS SEEN IN VOLUME 2. EXISTING TERMINAL TIE IN ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
3. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0" LEVEL 1 AS SEEN IN VOLUME 1.

KEYMAP



WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	SCB
DESIGNED BY:	SCB
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
GRADING PLAN
(SHEET 1 OF 4)

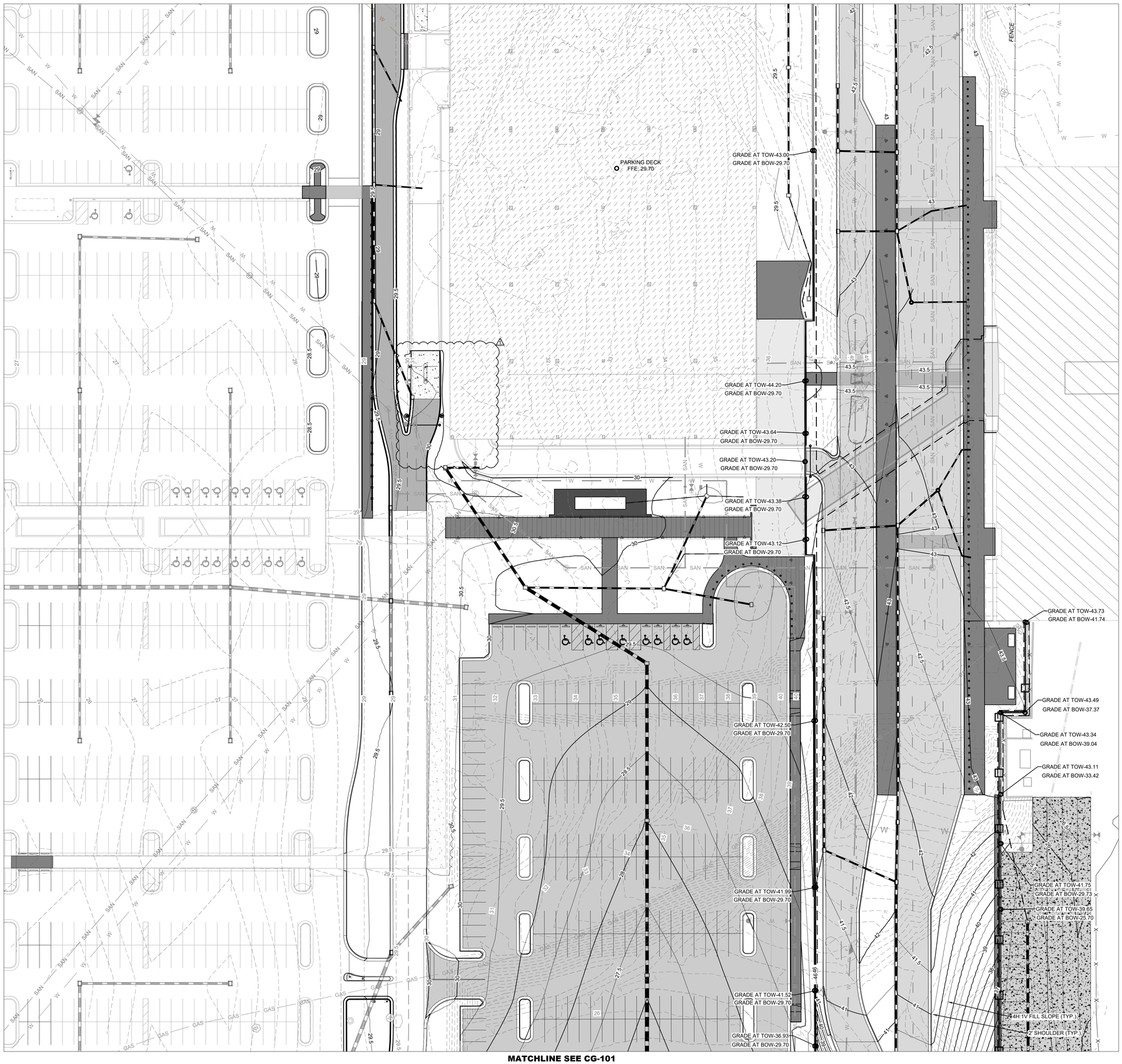
SHEET ID
CG-101

PROJECT STATUS:
100% DESIGN

Plotted by: Stamberg, Andrew
Plotted on: 4/18/2025 4:34 PM
Drawing: C:\pw_work\rsh_pw\stambergad\d0545380hILM BP3-CG-100-104.dwg

MATCHLINE SEE CG-104

MATCHLINE SEE CG-103



MATCHLINE SEE CG-101

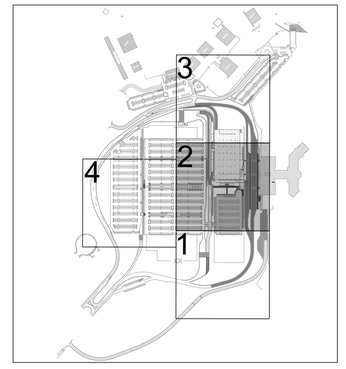
LEGEND

- 27.00 — PROPOSED MAJOR CONTOR (1 FT)
- 27.5 — PROPOSED MINOR CONTOUR (0.25 FT)
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- 27.0 — EXISTING MAJOR CONTOUR (1 FT)
- 26.5 — EXISTING MINOR CONTOUR (0.5 FT)
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING STORM PIPE
- LIMITS OF DISTURBANCE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022, SURVEY AND JANUARY 12, 2024 SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND PHASE 1B.
2. DATUM ELEVATION 43.7' EQUALS REFERENCE ELEVATION 100'-0" TICKET LEVEL AS SEEN IN VOLUME 2. EXISTING TERMINAL TIE IN ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
3. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0" LEVEL 1 AS SEEN IN VOLUME 1.

KEYMAP



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30 0 30 60
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	SCB
DESIGNED BY:	SCB
PROJECT NUMBER:	2003-0070-006

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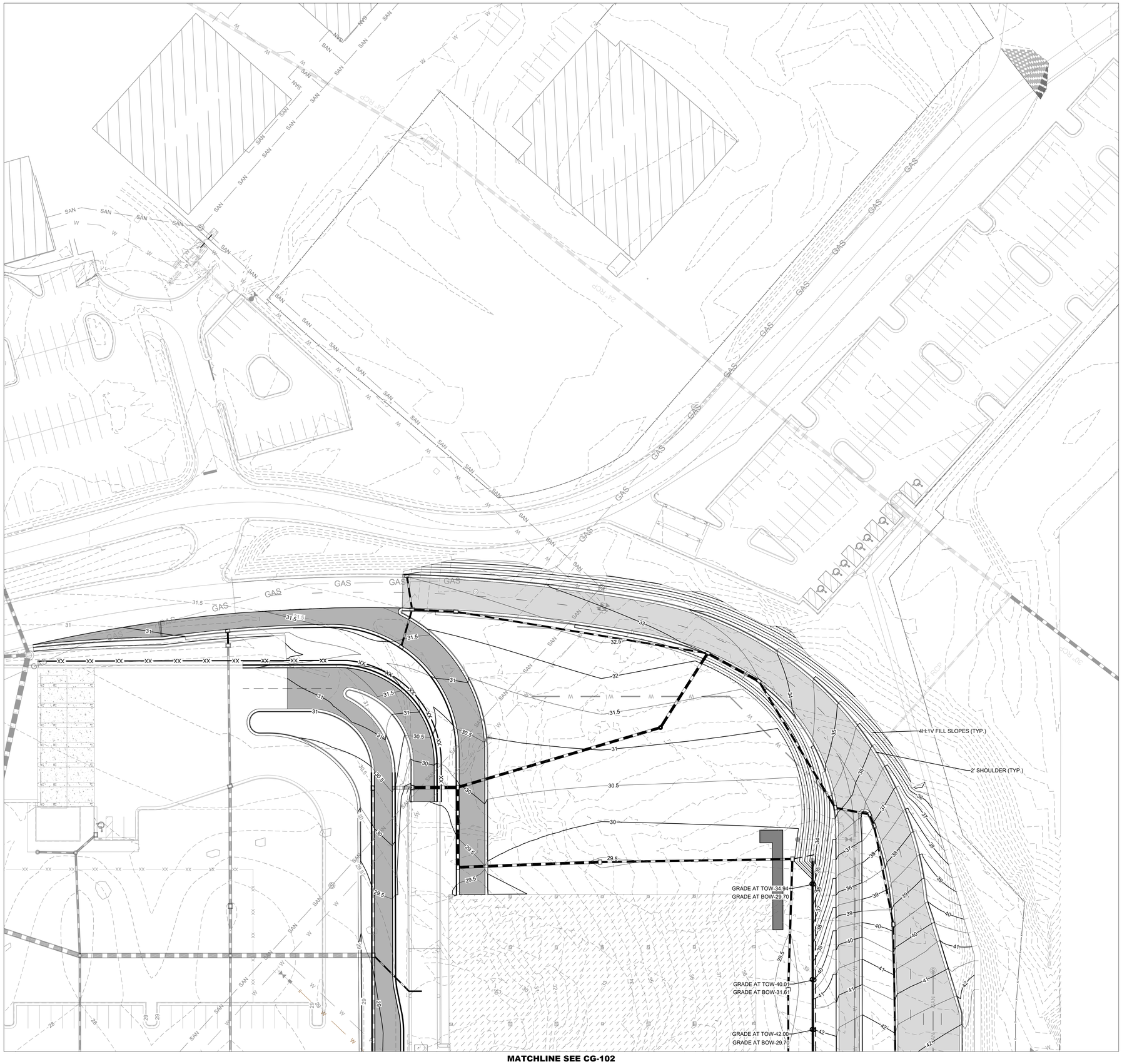
SEAL:

SHEET TITLE
GRADING PLAN
(SHEET 2 OF 4)

SHEET ID
CG-102

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:54 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3-CG-100-104.dwg



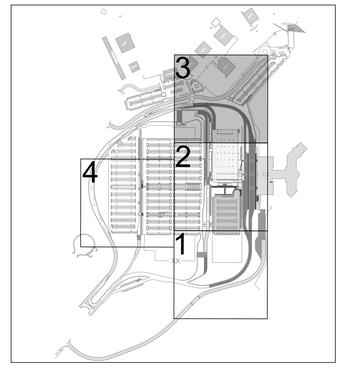
LEGEND

- 27.00 — PROPOSED MAJOR CONTOR (1 FT)
- 27.5 — PROPOSED MINOR CONTOUR (0.5 FT)
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- 27.0 — EXISTING MAJOR CONTOUR (1 FT)
- 26.5 — EXISTING MINOR CONTOUR (0.5 FT)
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING STORM PIPE
- LIMITS OF DISTURBANCE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022, SURVEY AND JANUARY 12, 2024 SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND PHASE 1B.
2. DATUM ELEVATION 43.7' EQUALS REFERENCE ELEVATION 100'-0" TICKET LEVEL AS SEEN IN VOLUME 2. EXISTING TERMINAL TIE IN ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
3. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0" LEVEL 1 AS SEEN IN VOLUME 1.

KEYMAP



WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	SCB
DESIGNED BY:	SCB
PROJECT NUMBER:	2003-0070-006

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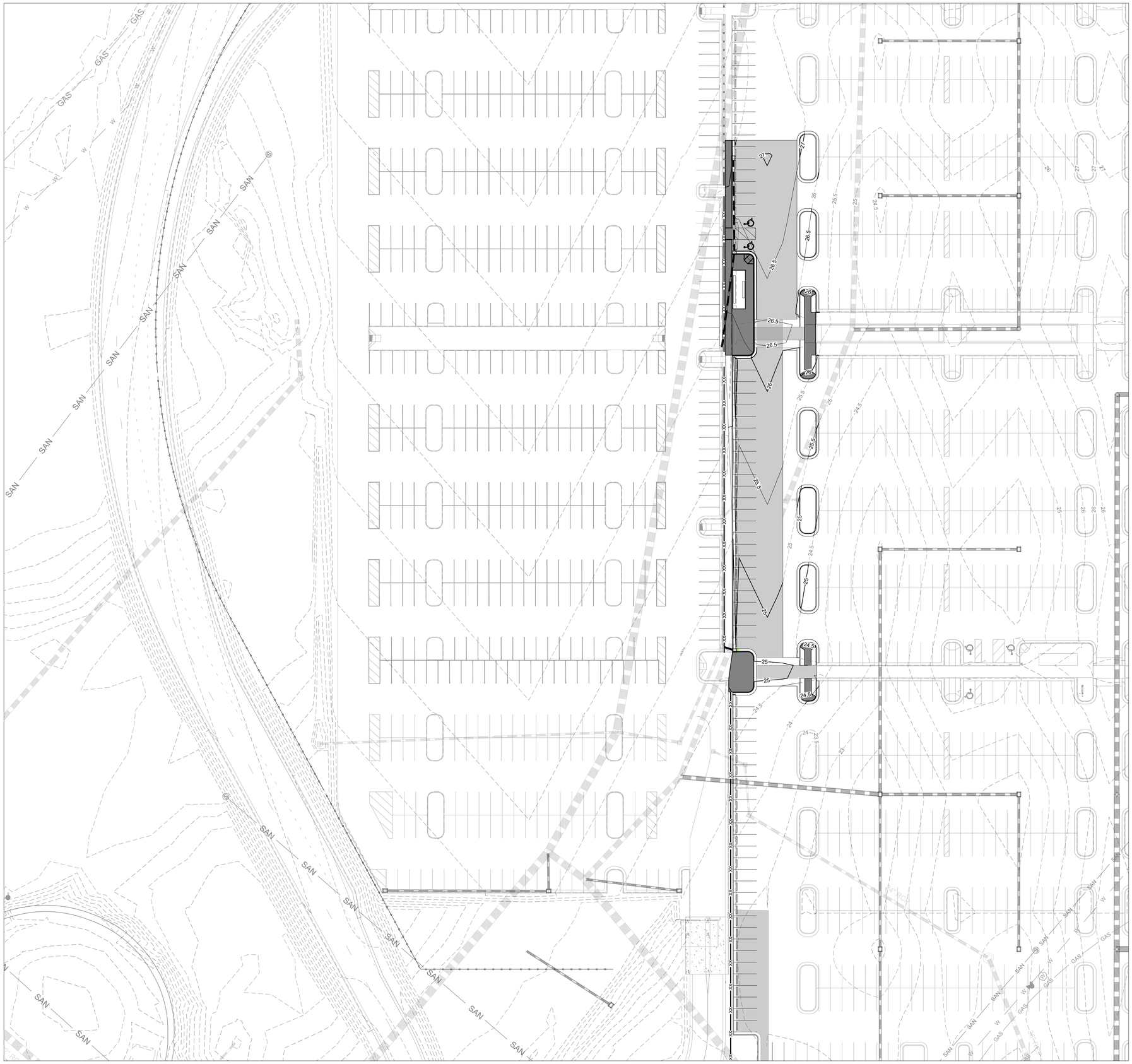
SEAL:

SHEET TITLE
GRADING PLAN
(SHEET 3 OF 4)

SHEET ID
CG-103

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:54 AM
Drawing: C:\pw_workish_pwpw_usarid0545388\ILM BP3-CG-100-104.dwg



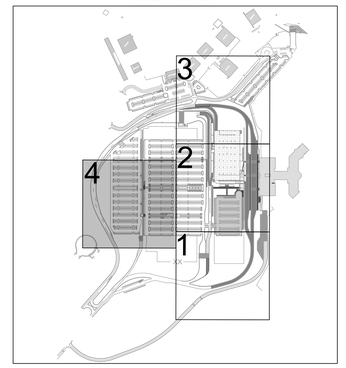
LEGEND

- 27.00 — PROPOSED MAJOR CONTOR (1 FT)
- 27.5 — PROPOSED MINOR CONTOUR (0.5 FT)
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM PIPE
- 27.0 — EXISTING MAJOR CONTOUR (1 FT)
- 26.5 — EXISTING MINOR CONTOUR (0.5 FT)
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING STORM PIPE
- LIMITS OF DISTURBANCE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022, SURVEY AND JANUARY 12, 2024 SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND PHASE 1B.
2. DATUM ELEVATION 43.7' EQUALS REFERENCE ELEVATION 100'-0" TICKET LEVEL AS SEEN IN VOLUME 2. EXISTING TERMINAL TIE IN ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
3. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0" LEVEL 1 AS SEEN IN VOLUME 1.

KEYMAP



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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	SCB
DESIGNED BY:	SCB
PROJECT NUMBER:	2003-0070-006

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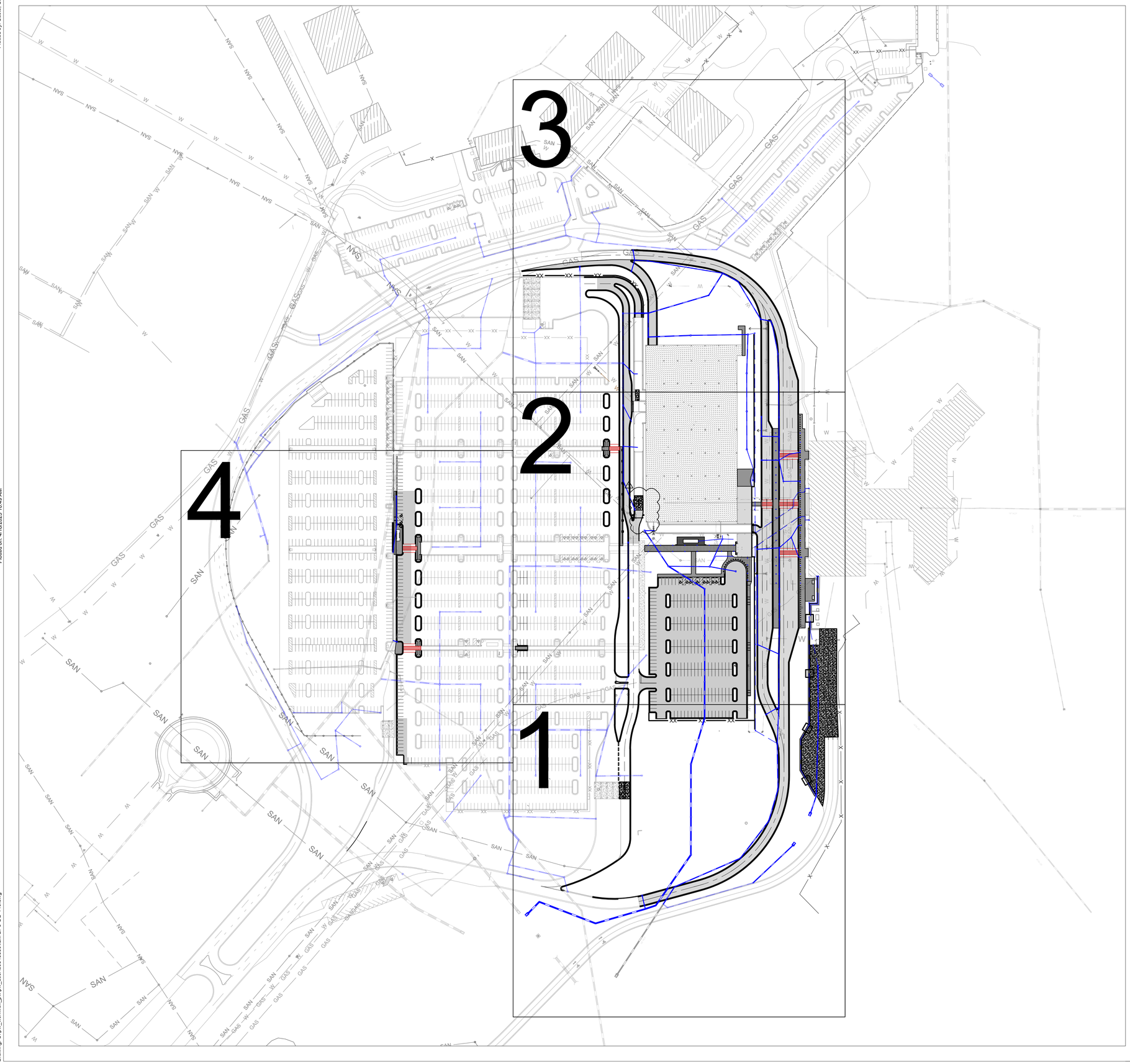
SEAL:

SHEET TITLE
GRADING PLAN
(SHEET 4 OF 4)

SHEET ID
CG-104

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:49 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3-CG-140.dwg



LEGEND

- PROPOSED BP3-PH2 DROP INLET/ CATCH BASIN (S-XX-XX)
- PROPOSED BP3-PH2 MANHOLE (S-XX-XX)
- PROPOSED BP3-PH2 STORM DRAINAGE LINE
- PROPOSED BP3-PH2 STORM UNDERDRAIN
- PROPOSED BP3-PH2 UNDERDRAIN CLEANOUT (CO-XX)
- APPROXIMATE CONNECTION POINT TO CANOPY DOWNSPOUT (DS-XX)
- PROPOSED BP3-PH2 CONCRETE ENDWALL (S-XX-XX)
- PROPOSED BP1-PH1A/BP2-PH1B DROP INLET/ CATCH BASIN
- PROPOSED BP1-PH1A/BP2-PH1B MANHOLE
- PROPOSED BP1-PH1A/BP2-PH1B STORM DRAINAGE LINE
- EXISTING DROP INLET/ CATCH BASIN
- EXISTING MANHOLE
- EXISTING STORM DRAINAGE LINE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. NOVEMBER LOT F IS BASED ON OCTOBER 2023 CADD FILE RECEIVED FROM ILM CONSULTANT.
2. REFER TO SHEETS CS-300 - CS-304 FOR GEOMETRY LAYOUT INFORMATION.
3. REFER TO CD-100 - CD-104 FOR UTILITY ABANDONMENT/REMOVAL REQUIREMENTS.
4. SHEETS CG-140 - CG-144 TO BE PRINTED IN COLOR.
5. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE PROJECT AT ALL TIMES. IF DURING SIGNIFICANT RAIN EVENTS AREAS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL UTILIZE PUMPS AND DEWATERING BAGS TO MAINTAIN SITE.
6. ALL UNDERDRAIN PIPE IS 6" PERFORATED PVC UNLESS OTHERWISE NOTED.
7. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING LOCATIONS OF CANOPY COLUMN DOWNSPOUTS PRIOR TO CONNECTION INSTALLATION. REFER TO VOLUME 1 AND VOLUME 2 FOR CANOPY FOUNDATION PLANS. CONTRACTOR TO INSTALL CONNECTIONS PER MANUFACTURER RECOMMENDATION.
8. ALL CANOPY DOWNSPOUT LATERAL PIPES SHALL BE MINIMUM 8" PVC. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE FROM DOWNSPOUT CONNECTION POINT TO DRAINAGE STRUCTURE.
9. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING LOCATIONS OF EXISTING ROOF DRAIN LOCATIONS AND INVERTS BEFORE CONNECTION TO OVERALL SYSTEM.

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

100 0 100 200
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JKK
DESIGNED BY:	DMS
PROJECT NUMBER:	2003-0070-006

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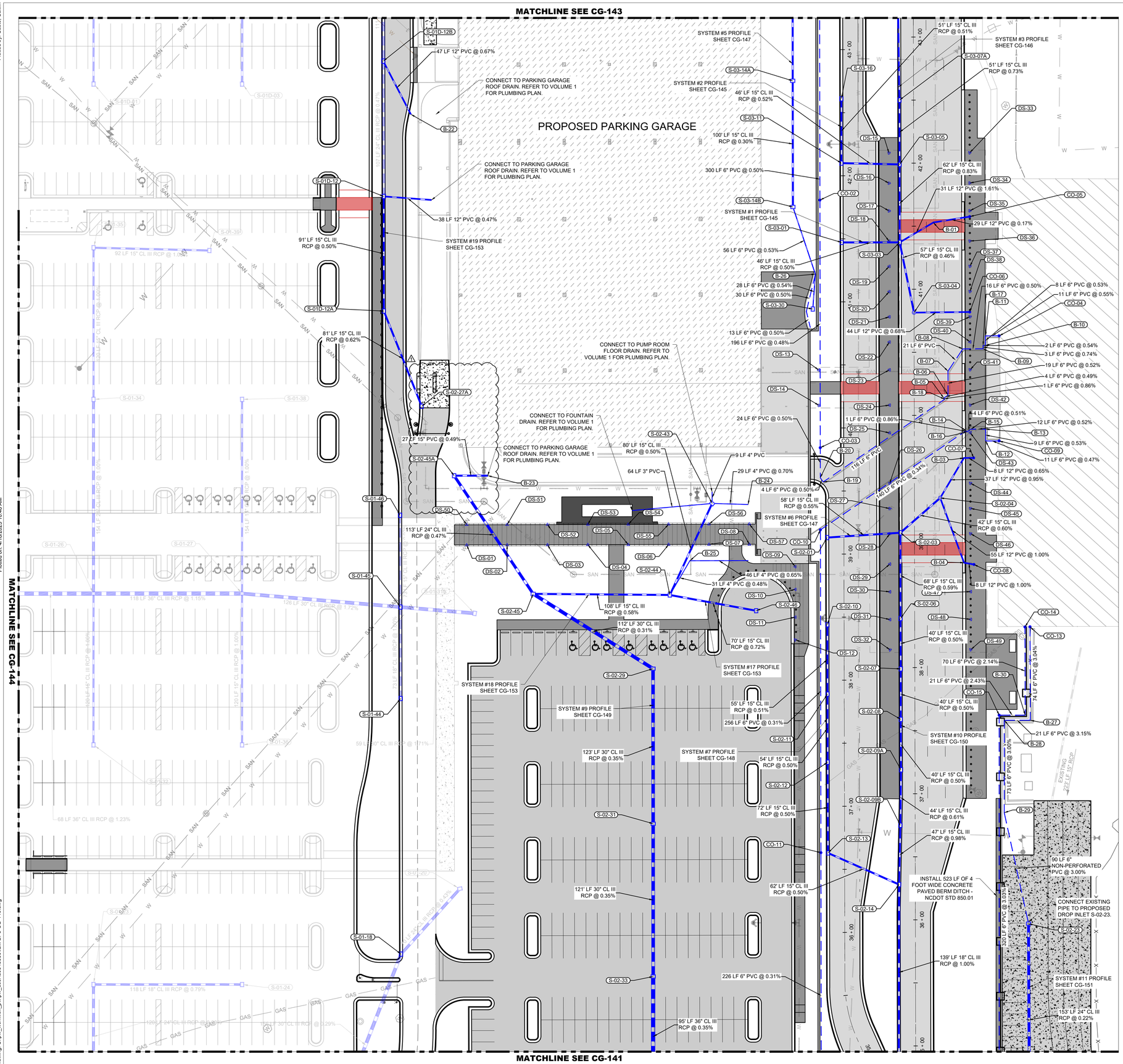
SEAL:

SHEET TITLE
PROPOSED DRAINAGE PLAN OVERVIEW

SHEET ID
CG-140

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:48 AM
Drawing: C:\pw_workrsh_pw\pw_user\d0545389\ILM BP3-CG-140.dwg



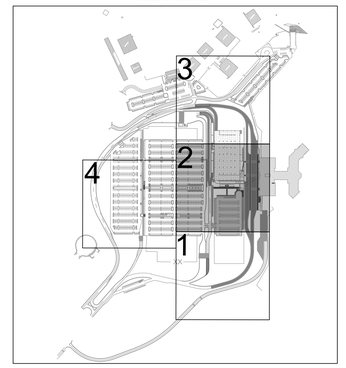
LEGEND

- PROPOSED BP3-PH2 DROP INLET/ CATCH BASIN (S-XX-XX)
- PROPOSED BP3-PH2 MANHOLE (S-XX-XX)
- PROPOSED BP3-PH2 STORM DRAINAGE LINE
- PROPOSED BP3-PH2 STORM UNDERDRAIN
- PROPOSED BP3-PH2 UNDERDRAIN CLEANOUT (CO-XX)
- APPROXIMATE CONNECTION POINT TO CANOPY DOWNSPOUT (DS-XX)
- PROPOSED BP3-PH2 CONCRETE ENDWALL (S-XX-XX)
- PROPOSED BP1-PH1A/BP2-PH1B DROP INLET/ CATCH BASIN
- PROPOSED BP1-PH1A/BP2-PH1B MANHOLE
- PROPOSED BP1-PH1A/BP2-PH1B STORM DRAINAGE LINE
- EXISTING DROP INLET/ CATCH BASIN
- EXISTING MANHOLE
- EXISTING STORM DRAINAGE LINE

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. NOVEMBER LOT F IS BASED ON OCTOBER 2023 CADD FILE RECEIVED FROM ILM CONSULTANT.
2. REFER TO SHEETS CS-300 - CS-304 FOR GEOMETRY LAYOUT INFORMATION.
3. REFER TO CD-100 - CD-104 FOR UTILITY ABANDONMENT/REMOVAL REQUIREMENTS.
4. SHEETS CG-140 - CG-144 TO BE PRINTED IN COLOR.
5. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE PROJECT AT ALL TIMES. IF DURING SIGNIFICANT RAIN EVENTS AREAS CANNOT BE MAINTAINED, THE CONTRACTOR SHALL UTILIZE PUMPS AND DEWATERING BAGS TO MAINTAIN SITE.
6. ALL UNDERDRAIN PIPE IS 6" PERFORATED PVC UNLESS OTHERWISE NOTED.
7. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING LOCATIONS OF CANOPY COLUMN DOWNSPOUTS PRIOR TO CONNECTION INSTALLATION. REFER TO VOLUME 1 AND VOLUME 2 FOR CANOPY FOUNDATION PLANS. CONTRACTOR TO INSTALL CONNECTIONS PER MANUFACTURER RECOMMENDATION.
8. ALL CANOPY DOWNSPOUT LATERAL PIPES SHALL BE MINIMUM 8" PVC. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE FROM DOWNSPOUT CONNECTION POINT TO DRAINAGE STRUCTURE.
9. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING LOCATIONS OF EXISTING ROOF DRAIN LOCATIONS AND INVERTS BEFORE CONNECTION TO OVERALL SYSTEM.

KEYMAP



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NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JKK
DESIGNED BY:	DMS
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
PROPOSED DRAINAGE PLAN (SHEET 2 OF 4)

SHEET ID
CG-142

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:42 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3-CG-166.dwg

LEGEND

- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE
- CE — GRAVEL CONSTRUCTION ENTRANCE
- TS — TEMPORARY SEEDING
- PS — PERMANENT SEEDING
- EXC. IP # — EXCAVATED DROP INLET PROTECTION
- IST B — ROCK INLET SEDIMENT TRAP - TYPE B
- IP — FILTER SOCK INLET PROTECTION
- DEMOLITION
- STORM PIPE DEMOLITION
- FENCE DEMOLITION
- X — STRUCTURE TO BE DEMOLISHED, REFER TO DEMO PLAN
- PROPOSED PAVEMENT

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND 1B.
2. SHEET MUST BE PRINTED IN COLOR.
3. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES WHERE NOTED ON EROSION CONTROL PLANS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROTECTING ALL KNOWN UTILITIES DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING EROSION CONTROL MEASURES AFTER RAIN EVENTS AND TAKE CORRECTIVE ACTIONS AS NEEDED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE RAINFALL LOG.
6. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AT THE END OF THIS PACKAGE UNLESS OTHERWISE DIRECTED BY THE RPR OR ENGINEER.
7. CONTRACTOR SHALL REGULARLY CHECK EROSION CONTROL MEASURES AS STATED IN THIS CONTRACT AND ENSURE POSITIVE DRAINAGE ACROSS THE JOB SITE.

TOTAL DISTURBANCE: 21.0 ACRES

NOTE: THE CONTRACTOR SHALL CONTACT NCDEQ (910-796-7215) AT LEAST 48 HOURS IN ADVANCE OF COMMENCING LAND DISTURBING ACTIVITIES TO CONDUCT THE PRECONSTRUCTION CONFERENCE.

STOCKPILE NOTES:
1. NO STOCKPILES ARE PROPOSED. IF A STOCKPILE BECOMES NECESSARY, IT MUST BE PLACED WITHIN THE LIMITS OF DISTURBANCE AND THE BASE IS TO BE SURROUNDED WITH SILT FENCE.
2. IF MATERIAL IS TO BE STOCKPILED WITHIN THE AOA, IT SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST, PROPELLERS OR WIND CONDITIONS IN EXCESS OF TEN KNOTS. STOCKPILE HEIGHT SHALL BE LESS THAN 10 FEET. ALL EXCESS MATERIAL THAT DOES NOT MATCH OR CONFORM TO EXISTING GRADES MUST BE HAULED TO THE CONTRACTORS STAGING AREA OR HAULED OFFSITE TO AN APPROVED FACILITY BY THE END OF EACH WORK SHIFT.

SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

100 0 100 200
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	WMM
DRAWN BY:	RJL
DESIGNED BY:	WMM
PROJECT NUMBER:	2003-0070-006

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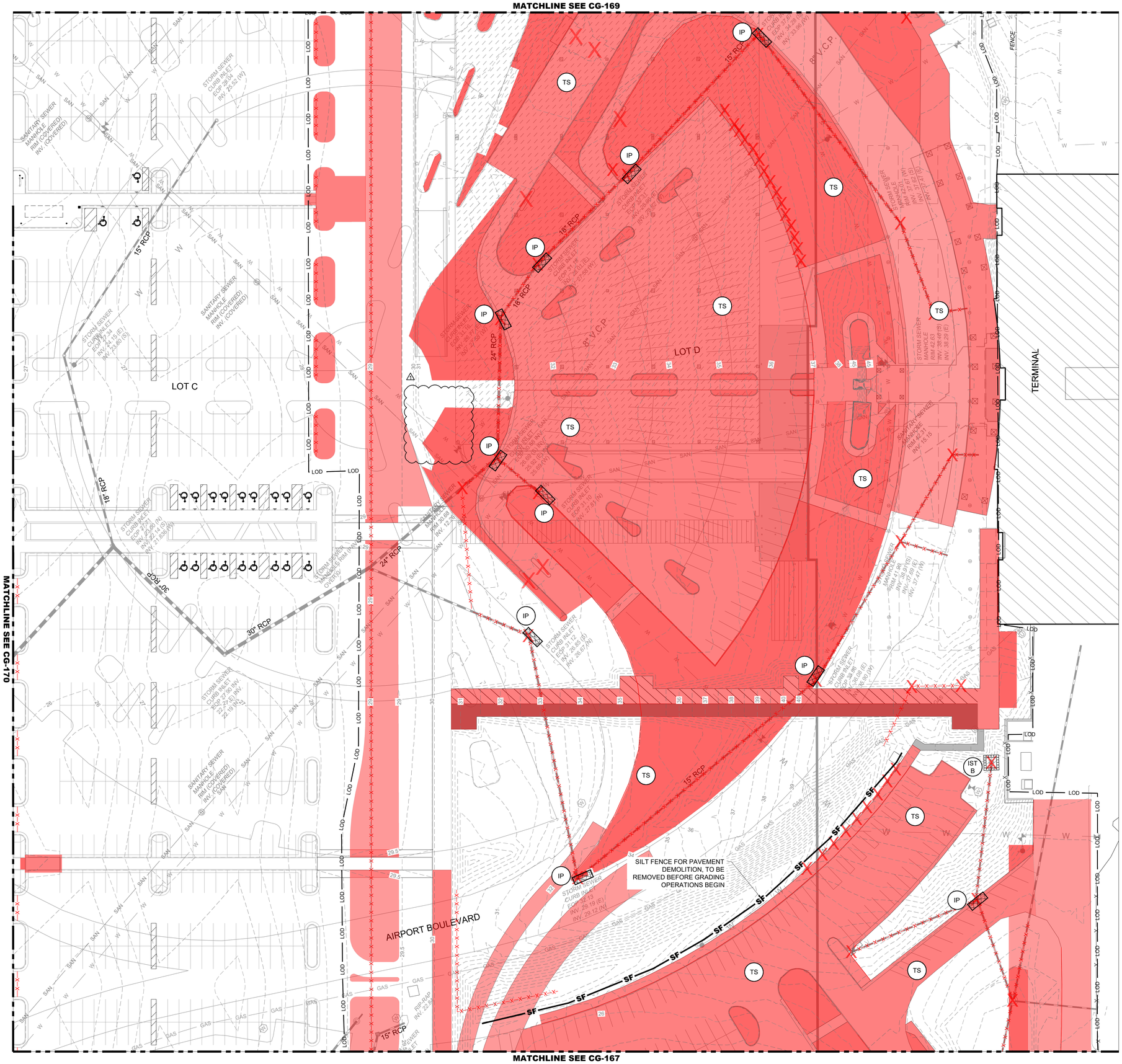
SEAL:

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN OVERALL

SHEET ID
CG-166

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:41 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3-CG-166.dwg



LEGEND

- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE
- CE — GRAVEL CONSTRUCTION ENTRANCE
- TS — TEMPORARY SEEDING
- PS — PERMANENT SEEDING
- EXC. IP # — EXCAVATED DROP INLET PROTECTION
- IST B — ROCK INLET SEDIMENT TRAP - TYPE B
- IP — FILTER SOCK INLET PROTECTION
- DEMOLITION
- STORM PIPE DEMOLITION
- FENCE DEMOLITION
- X — STRUCTURE TO BE DEMOLISHED, REFER TO DEMO PLAN
- PROPOSED PAVEMENT

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND 1B.
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3. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES WHERE NOTED ON EROSION CONTROL PLANS.
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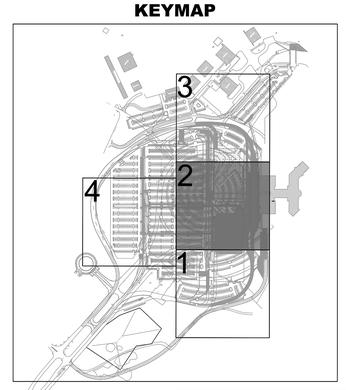
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING EROSION CONTROL MEASURES AFTER RAIN EVENTS AND TAKE CORRECTIVE ACTIONS AS NEEDED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE RAINFALL LOG.
6. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AT THE END OF THIS PACKAGE UNLESS OTHERWISE DIRECTED BY THE RPR OR ENGINEER.
7. CONTRACTOR SHALL REGULARLY CHECK EROSION CONTROL MEASURES AS STATED IN THIS CONTRACT AND ENSURE POSITIVE DRAINAGE ACROSS THE JOB SITE.

KEYMAP



SHEET MUST BE PRINTED IN COLOR

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	WMM
DRAWN BY:	RJL
DESIGNED BY:	WMM
PROJECT NUMBER:	2003-0070-006

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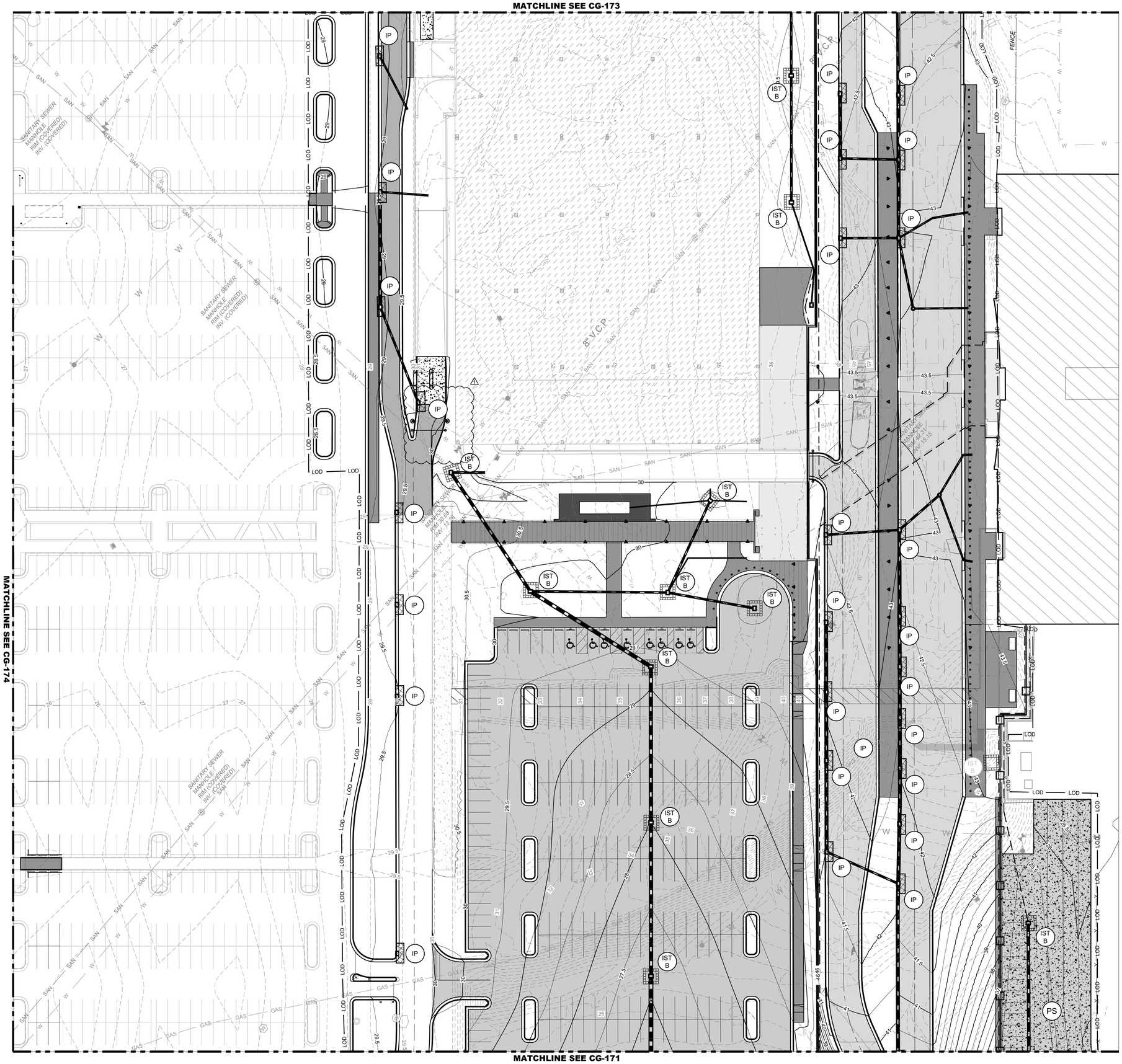
SEAL:

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN INITIAL PHASE (SHEET 2 OF 4)

SHEET ID
CG-168

PROJECT STATUS:
100% DESIGN

MATCHLINE SEE CG-173



MATCHLINE SEE CG-174

MATCHLINE SEE CG-171

LEGEND

- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- LOD — LIMITS OF DISTURBANCE
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- DEMOLITION
- STORM PIPE DEMOLITION
- FENCE DEMOLITION
- X — STRUCTURE TO BE DEMOLISHED, REFER TO DEMO PLAN
- PROPOSED PAVEMENT

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND 1B.
2. SHEET MUST BE PRINTED IN COLOR.
3. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES WHERE NOTED ON EROSION CONTROL PLANS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROTECTING ALL KNOWN UTILITIES DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING EROSION CONTROL MEASURES AFTER RAIN EVENTS AND TAKE CORRECTIVE ACTIONS AS NEEDED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE RAINFALL LOG.
6. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AT THE END OF THIS PACKAGE UNLESS OTHERWISE DIRECTED BY THE RPR OR ENGINEER.
7. CONTRACTOR SHALL REGULARLY CHECK EROSION CONTROL MEASURES AS STATED IN THIS CONTRACT AND ENSURE POSITIVE DRAINAGE ACROSS THE JOB SITE.

EXCAVATED DROP INLET PROTECTION NOTES:

1. EXCAVATION IS TO OCCUR PRIOR TO MASS LAND GRADING OPERATIONS.
2. CONTOURS SHOWN ARE APPROXIMATE. CONTRACTOR TO ENSURE BOTTOM OF EXCAVATION IS AT LEAST 1.5FT BELOW DRAINAGE STRUCTURE RIM ELEVATION TO ENSURE ADEQUATE SEDIMENT STORAGE.
3. CONTRACTOR TO ENSURE THE ENTIRE DRAINAGE STRUCTURE IS LOCATED WITHIN THE BOTTOM OF THE EXCAVATION.
4. CONTOUR ELEVATIONS, SIDE SLOPES, AND SURFACE AREAS OF EACH CAN BE FOUND ON DETAIL SHEET CG-185.
5. CONTRACTOR TO REMOVE SEDIMENT ACCUMULATION AND GRADE PER FINAL CONTOURS BEFORE PAVING OPERATIONS BEGIN.

SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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North Carolina License Nos. 50073 * F-0493 * C-28

ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	WMM
DRAWN BY:	RJL
DESIGNED BY:	WMM
PROJECT NUMBER:	2003-0070-006

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SEAL:

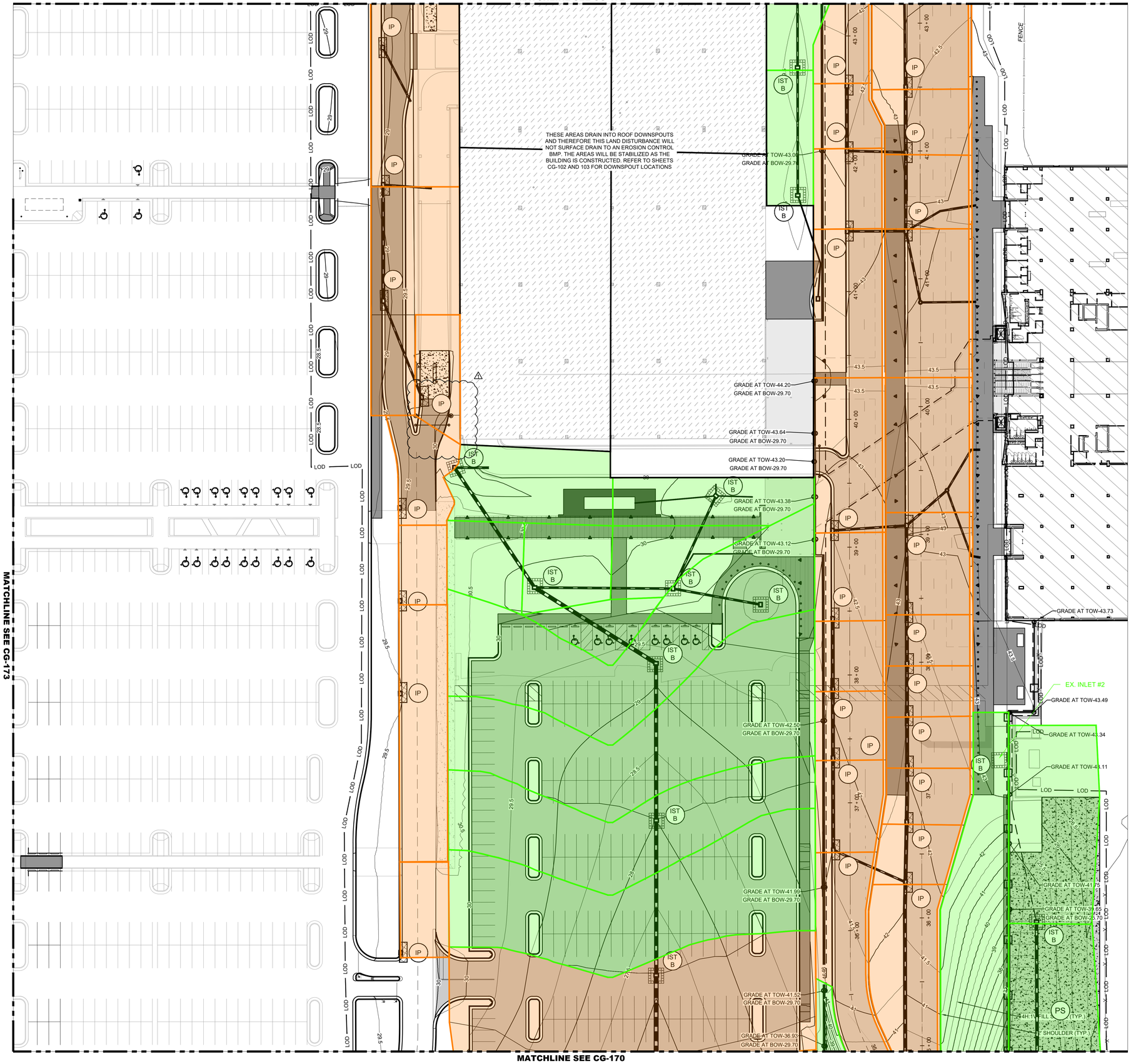
SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN FINAL PHASE (SHEET 2 OF 4)

SHEET ID
CG-172

PROJECT STATUS:
100% DESIGN

Plotted on: 4/18/2025 12:00 PM
Drawing: C:\pw_work\rsh_pw\pw_userid\05453801\ILM BP3-CG-171.dwg

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:04 PM
Drawing: C:\pw_work\rsh_pwpw_user\d0545388\ILM BP3-CG-175.dwg



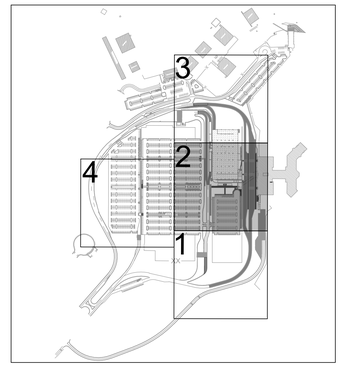
LEGEND

- EXISTING STORM PIPE
- PROPOSED STORM PIPE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE
- CE — GRAVEL CONSTRUCTION ENTRANCE
- TS — TEMPORARY SEEDING
- PS — PERMANENT SEEDING
- EXC. IP # — EXCAVATED DROP INLET PROTECTION
- IST B — ROCK INLET SEDIMENT TRAP - TYPE B
- IP — FILTER SOCK INLET PROTECTION
- PROPOSED PAVEMENT
- INLET PROTECTION DRAINAGE AREA
- EXCAVATED INLET PROTECTION DRAINAGE AREA
- INLET SEDIMENT TRAP DRAINAGE AREA
- SILT FENCE DRAINAGE AREA

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. PROPOSED DESIGN SURFACE FROM PHASE 1A AND 1B.
2. SHEET MUST BE PRINTED IN COLOR.
3. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES WHERE NOTED ON EROSION CONTROL PLANS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND PROTECTING ALL KNOWN UTILITIES DURING CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING EROSION CONTROL MEASURES AFTER RAIN EVENTS AND TAKE CORRECTIVE ACTIONS AS NEEDED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE RAINFALL LOG.
6. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AT THE END OF THIS PACKAGE UNLESS OTHERWISE DIRECTED BY THE RPR OR ENGINEER.
7. CONTRACTOR SHALL REGULARLY CHECK EROSION CONTROL MEASURES AS STATED IN THIS CONTRACT AND ENSURE POSITIVE DRAINAGE ACROSS THE JOB SITE.

KEYMAP



SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

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SCALE (IN FEET)
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	WMM
DRAWN BY:	RJL
DESIGNED BY:	WMM
PROJECT NUMBER:	2003-0070-006

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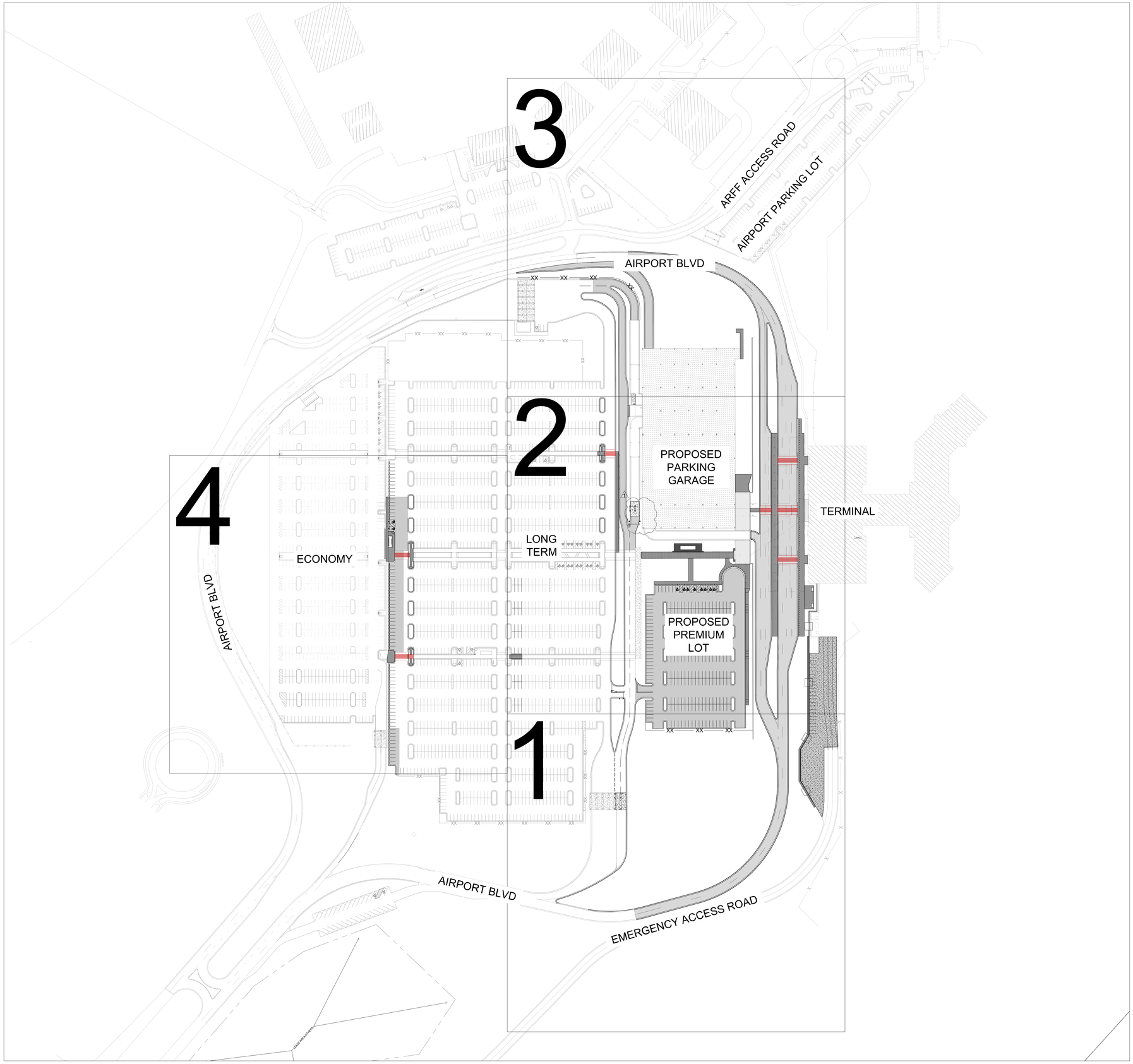
SEAL:

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN DRAINAGE AREA MAPS (SHEET 2 OF 5)

SHEET ID
CG-176

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:23 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM-BP3-CP-530.dwg



LEGEND

- EXISTING FEATURES
- PROPOSED PH2 CONSTRUCTION FEATURES
- PROPOSED WOODEN POST & CABLE FENCE
- PROPOSED STRUCTURE/BUILDING
- PH2 PERMANENT BARRICADES
- PROPOSED PARKING LOT PAVEMENT
- PROPOSED ROADWAY PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALKS
- PROPOSED RAISED CROSSWALKS

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12,2024, SURVEY.
   b. PH1A AND PH1B DEMO & PROPOSED WORK MAY BE EXISTING, IN PROGRESS OF BEING DEMOLISHED/CONSTRUCTED, OR DEMOLISHED/CONSTRUCTED AT TIME OF BIDDING.
2. REFER TO SHEETS CS-300 - CS-304 FOR GUIDANCE ON PARKING LOT GEOMETRY.
3. REFER TO SHEET CP-560 FOR PAVEMENT MARKING DETAILS.
4. ALL CURB AND GUTTER ARE TO BE 2'-6" WIDE.
5. ALL PARKING STALLS SHALL BE A MINIMUM OF 18' IN LENGTH AND 9' IN WIDTH.
6. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OWNER AND TENANT FOR APPROVAL ON ADA STALLS BEFORE MARKING. ALL ADA MARKINGS SHALL BE IN COMPLIANCE WITH ADA AND NCDOT STANDARDS.

SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JB
DESIGNED BY:	AGS
PROJECT NUMBER:	2003-0070-006

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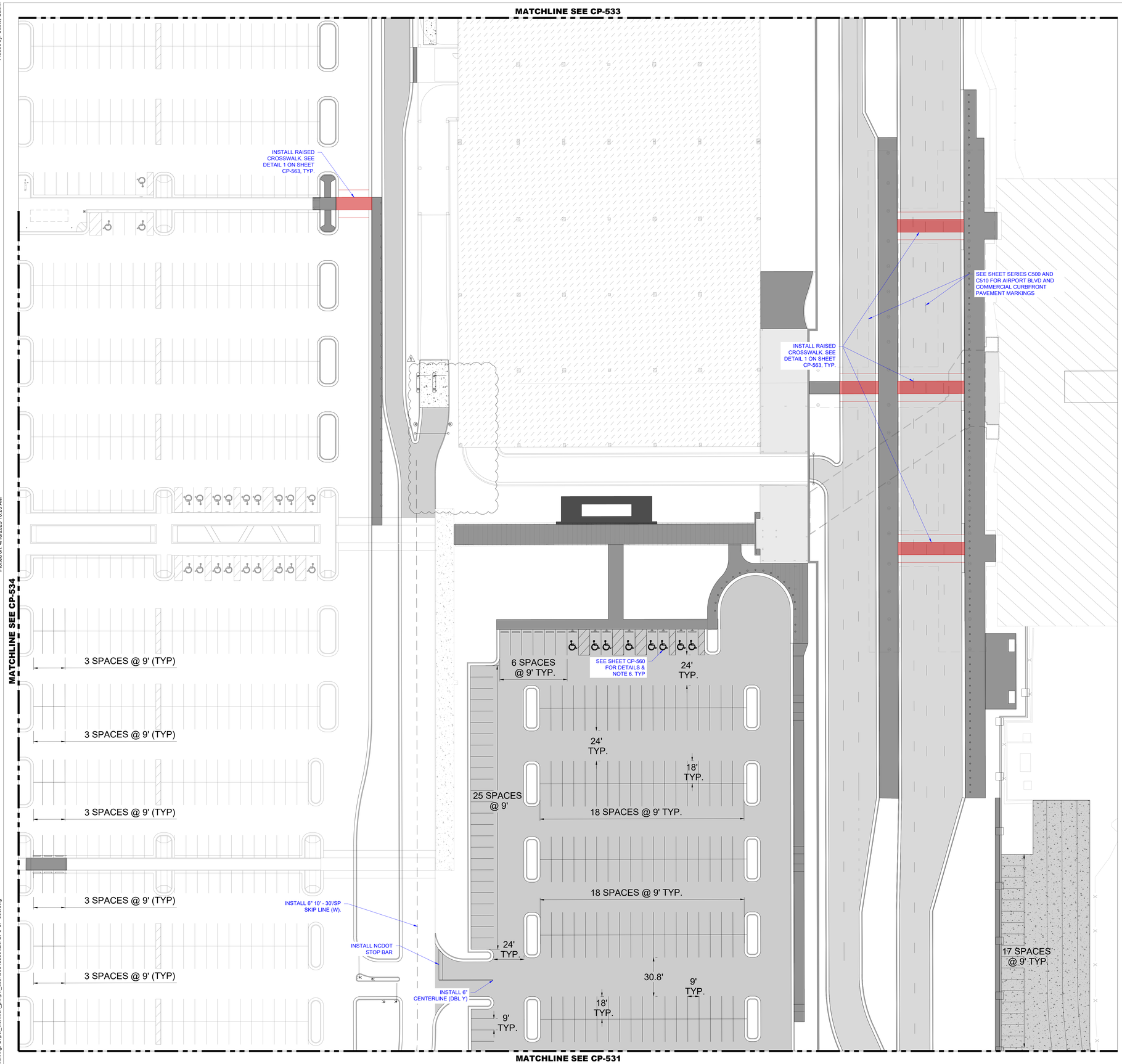
SEAL:

SHEET TITLE
PARKING LOT PAVEMENT MARKINGS PLAN-OVERALL

SHEET ID
CP-530

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 10:25 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545386\ILM-BP3-CP-530.dwg



LEGEND

- EXISTING FEATURES
- PROPOSED PH2 CONSTRUCTION FEATURES
- xx PROPOSED WOODEN POST & CABLE FENCE
- PROPOSED STRUCTURE/BUILDING
- PH2 PERMANENT BARRICADES
- PROPOSED PARKING LOT PAVEMENT
- PROPOSED ROADWAY PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE SIDEWALKS
- PROPOSED RAISED CROSSWALKS

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12,2024, SURVEY.
   b. PH1A AND PH1B DEMO & PROPOSED WORK MAY BE EXISTING, IN PROGRESS OF BEING DEMOLISHED/CONSTRUCTED, OR DEMOLISHED/CONSTRUCTED AT TIME OF BIDDING.
2. REFER TO SHEETS CS-300 - CS-304 FOR GUIDANCE ON PARKING LOT GEOMETRY.
3. REFER TO SHEET CP-560 FOR PAVEMENT MARKING DETAILS.
4. ALL CURB AND GUTTER ARE TO BE 2'-6" WIDE.
5. ALL PARKING STALLS SHALL BE A MINIMUM OF 18' IN LENGTH AND 9' IN WIDTH.
6. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OWNER AND TENANT FOR APPROVAL ON ADA STALLS BEFORE MARKING. ALL ADA MARKINGS SHALL BE IN COMPLIANCE WITH ADA AND NCDOT STANDARDS.

SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JB
DESIGNED BY:	AGS
PROJECT NUMBER:	2003-0070-006

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SEAL:

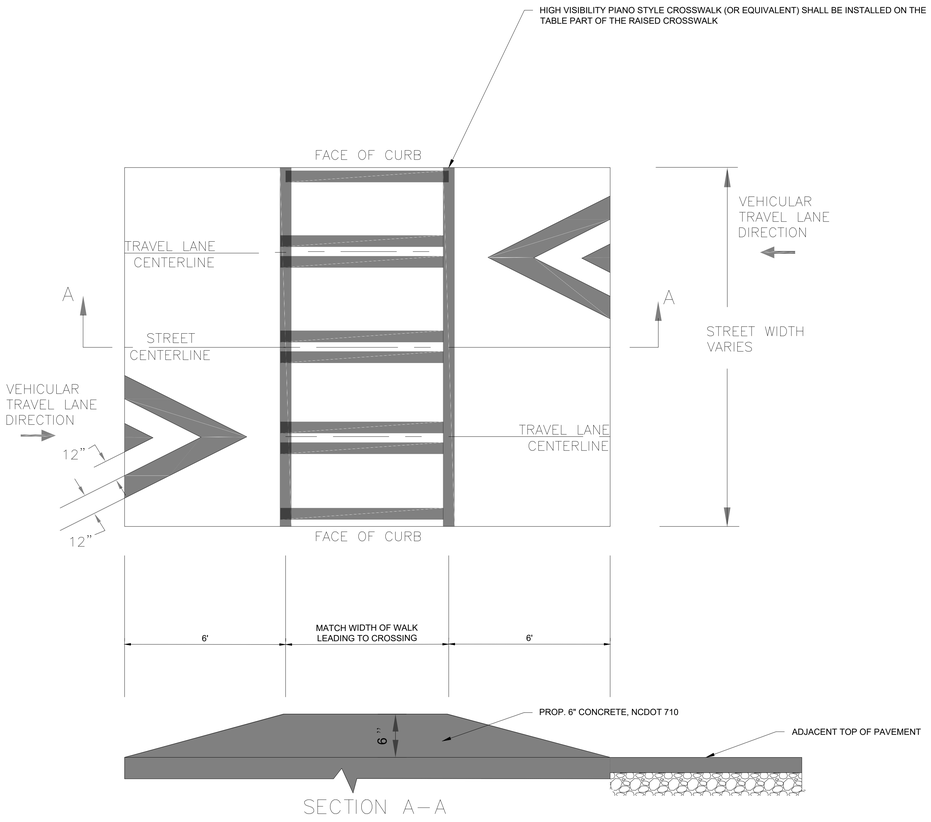
SHEET TITLE
PARKING LOT PAVEMENT MARKINGS PLAN (SHEET 2 OF 4)

SHEET ID
CP-532

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:16 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545386\ILM BP3-CP-563.dwg

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 2024 ROADWAY STANDARD DRAWING		
ROADWAY STANDARD DRAWING NUMBER	ROADWAY STANDARD DRAWING FOR:	SHEET NUMBER
846.01	2'-6" CURB AND GUTTER	1 of 3
848.06	CURB RAMP	1 of 13

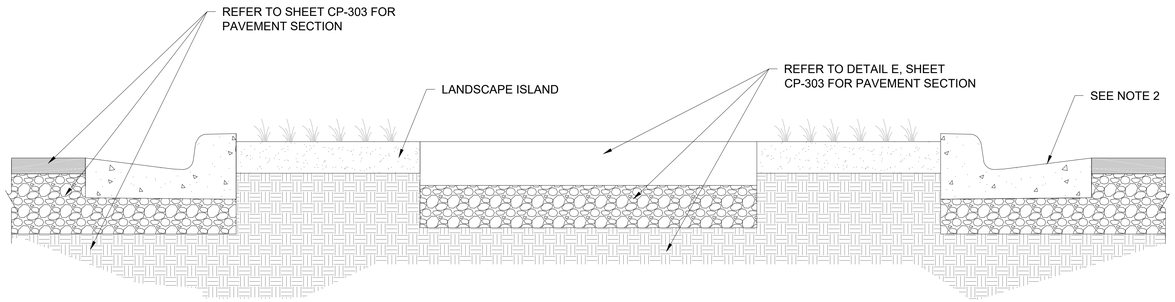


1 CP-563 RAISED CROSSWALK DETAIL

SCALE: NOT TO SCALE

NOTE:

1. PROVIDE APPROPRIATE STORM DRAINAGE MEASURES TO ENSURE WATER DOES NOT POND AT ANY POINT ALONG THE SURFACE CROSSWALK OR AT THE BASE OF THE RAISED CROSSWALK.
2. THE CROSSWALK SURFACE RUNNING SLOPE AND CROSS SLOPE SHALL NOT EXCEED THAT OF THE EXISTING ROADWAY.
3. STORM GRATES SHALL NOT BE INSTALLED INTO THE TAPERS OR TABLE PORTION OF THE RAISED CROSSWALK.
4. DIRECTIONAL ARROWS SHALL BE INSTALLED WITH THE FLOW OF TRAFFIC. REVIEW ROADWAY LAYOUT PLANS AND STRIPING FOR TRAVEL DIRECTION.
5. TRUNCATED DOMES TO BE INSTALLED WITHIN THE SIDEWALK (BOTH SIDES) PRIOR TO RAISED CROSSWALK PER ADA STANDARDS.

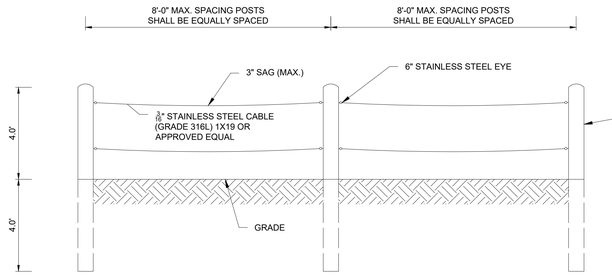


2 CP-563 PARKING LOT ISLAND DETAIL

SCALE: NOT TO SCALE

NOTE:

1. REFER TO SHEETS LANDSCAPING AND HARDSCAPING SHEET SERIES FOR LANDSCAPING DETAILS AND CONCRETE FINISHES.
2. CURB AND GUTTER SHALL BE COORDINATED WITH DRAINAGE AND GRADING PLANS. REVERSE FLOW GUTTER TO BE UTILIZED ON CURB ISLANDS AS NEEDED TO ALLOW FOR POSITIVE DRAINAGE.



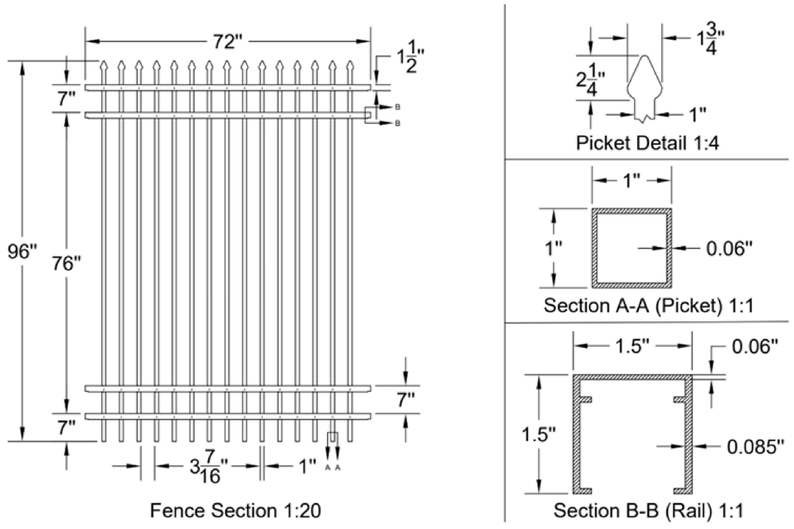
POST AND CABLE FENCE NOTES:

1. ALL CONSTRUCTION METHODS AND EQUIPMENT EMPLOYED IN THE FENCE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS OF THE MANUFACTURER OF THE FENCE MATERIALS BEING USED, AND SUCH THAT THE RESULTING STRUCTURE WILL PROVIDE THE EXPECTED SERVICE AND BE DURABLE AND COMPLETE IN EVERY DETAIL. THE INTENT OF THE CONTRACT IS TO PROVIDE FOR THE CONSTRUCTION AND COMPLETION OF EVERY DETAIL OF THE WORD DESCRIBED. DETAILS SHOWN IN THESE DRAWINGS INDICATE GENERAL INTENT, SPECIFIC MANUFACTURER DETAILS MAY VARY AND ARE SUBJECT TO ENGINEER'S APPROVAL.
2. NEW FENCE LOCATIONS MAY VARY DUE TO SITE CONDITIONS AND CONSTRAINTS IN ORDER TO AVOID CONFLICT THE EXISTING UTILITIES, UNDESIRABLE TERRAIN AND STRUCTURES. CONTRACTOR SHALL FLAG NEW FENCE ALIGNMENT LOCATIONS AND OBTAIN APPROVAL FOR ENGINEER PRIOR TO CONSTRUCTION.
3. ALL MATERIALS SHALL BE NEW.
4. ALL INSTALL FENCE POST SHALL BE 6" DIA ROUND DOMED WOODEN POST OR APPROVED EQUAL.

3 CP-563 TYPICAL 4' HIGH POST AND CABLE FENCE

SCALE: NOT TO SCALE

1



4 CP-563 DECORATIVE FENCE AT RETAINING WALL

SCALE: NOT TO SCALE

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JB
DESIGNED BY:	JB
PROJECT NUMBER:	2003-0070-006

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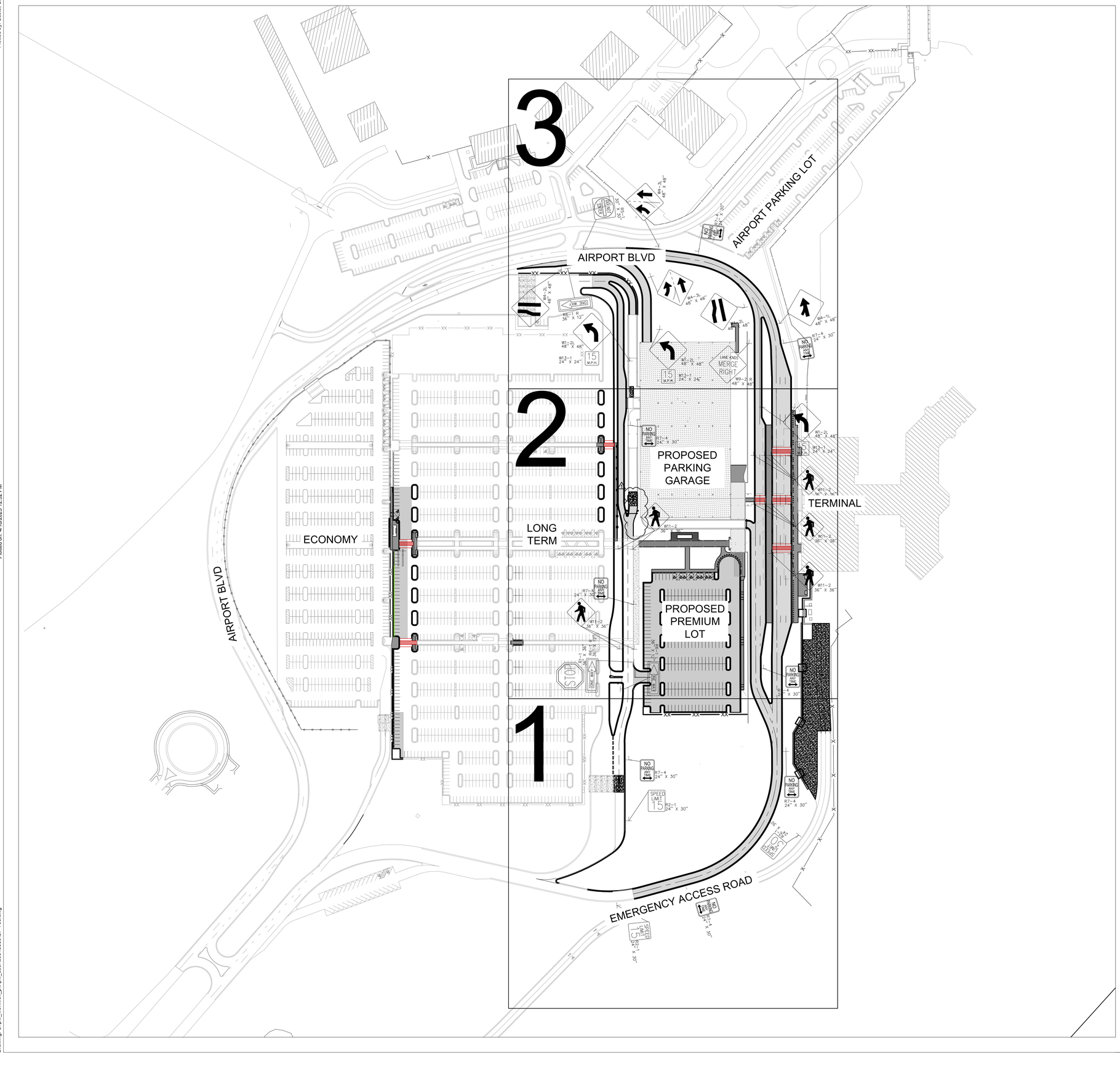
SEAL:

SHEET TITLE
CROSSWALK, FENCE AND ISLAND DETAILS

SHEET ID
CP-563

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:02 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545389\CP-700.dwg



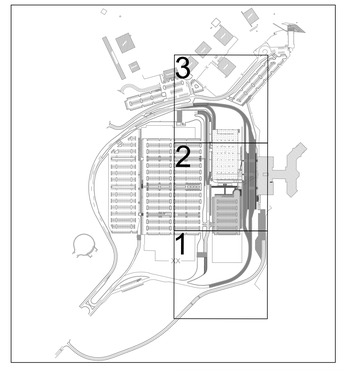
LEGEND

- U-CHANNEL POST
- PROPOSED SIGN
- EXISTING SIGN

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. LOT F IS BASED ON OCTOBER 2023 CADD FILE RECEIVED FROM ILM CONSULTANT.
   c. EXISTING INFORMATION INCLUDES PH1A CONSTRUCTION.
2. SOME EXISTING SIGN REPLACEMENTS MAY NOT BE SHOWN.
3. SEE WAYFINDING SIGNAGE PLANS FOR GUIDE SIGN DETAILS.
4. ALL PROPOSED SIGNS SHOWN ON THIS SHEET WILL BE INSTALLED ON U-CHANNEL POST(S).
5. NUMBER OF POSTS:
   a. SIGN ASSEMBLIES LESS THAN 12 SF REQUIRE SINGLE 3 LB U-CHANNEL.
   b. SIGN ASSEMBLIES GREATER THAN 12 SF BUT LESS THAN 24 SF REQUIRE DOUBLE 3 LB U-CHANNEL.
   c. SIGN ASSEMBLIES WITH DIMENSION OF 36" OR GREATER REQUIRE DOUBLE U-CHANNEL.
   d. DOUBLE U-CHANNEL POSTS CAN BE USED LESS LESS THAN 7' APART.
6. PROPOSED SIGNAGE OFFSETS FROM ROADWAY SHALL BE LOCATED BY FIELD ENGINEER AND MEET MUTCD AND NCDOT ROADWAY STANDARD DRAWING SPECIFICATIONS.
7. NCDOT 2024 STANDARD DRAWINGS:
   a. 901.70 SIGN STRINGING AND SUPPORT SPACING.
   b. 903.10 GROUND MOUNTED SIGN SUPPORTS.
   c. 904.10 ORIENTATION OF GROUND MOUNTED SIGNS.
   d. 904.50 MOUNTING OF TYPE 'D', 'E', AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS.

KEYMAP



SHEET MUST BE PRINTED IN COLOR

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NORTH

100 0 100 200

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
2	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	REW
DESIGNED BY:	REW
PROJECT NUMBER:	2003-0070-006

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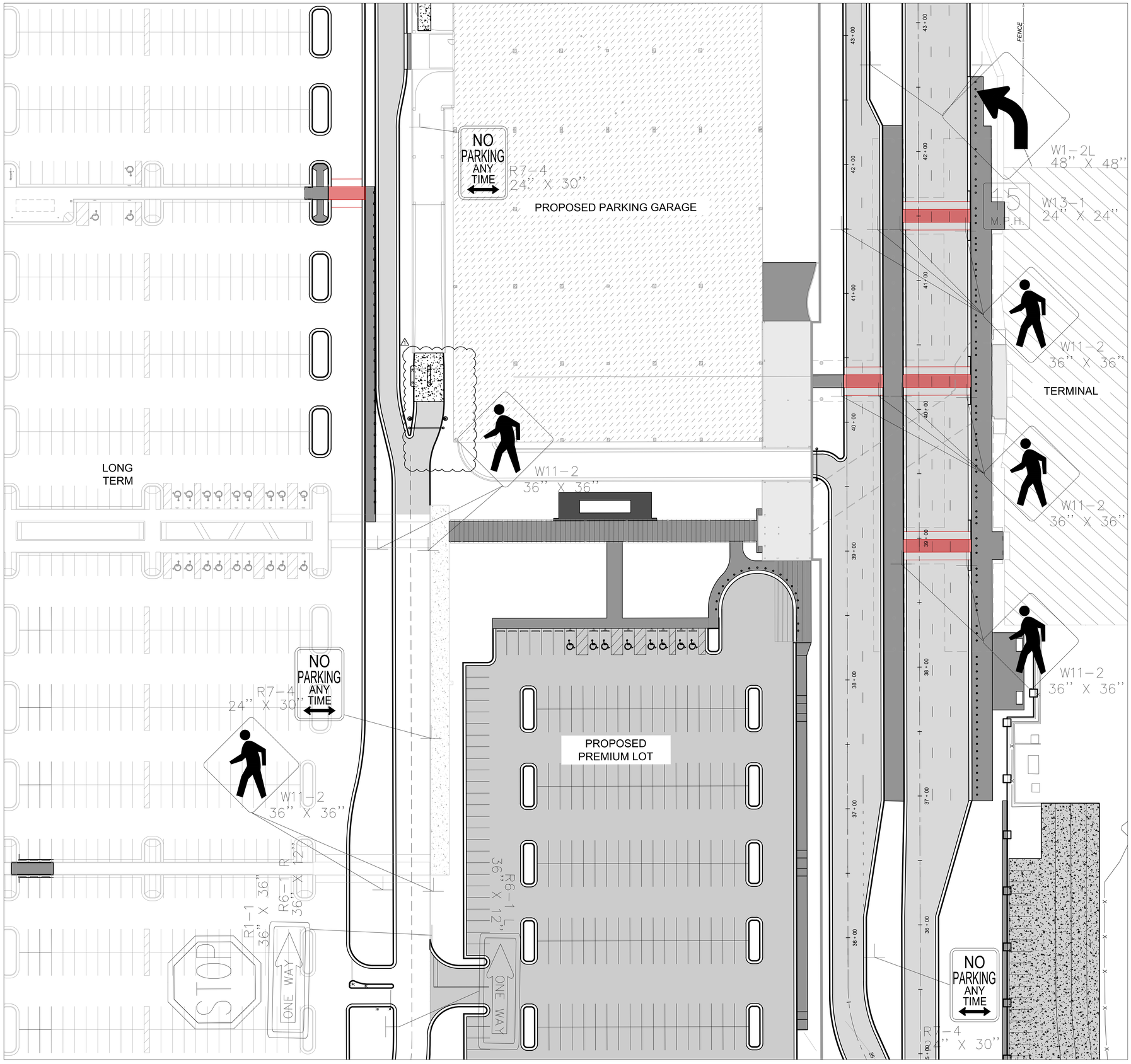
SEAL:

SHEET TITLE
PROPOSED ROADWAY SIGNING OVERALL PLAN

SHEET ID
CP-700

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 11:20 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\CP-700.dwg



LEGEND

- U-CHANNEL POST
- PROPOSED SIGN
- EXISTING SIGN

NOTES

1. EXISTING INFORMATION IS BASED ON:
   a. JULY 15, 2022 AND JANUARY 12, 2024, SURVEY.
   b. LOT F IS BASED ON OCTOBER 2023 CADD FILE RECEIVED FROM ILM CONSULTANT.
   c. EXISTING INFORMATION INCLUDES PH1A CONSTRUCTION.
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3. SEE WAYFINDING SIGNAGE PLANS FOR GUIDE SIGN DETAILS.
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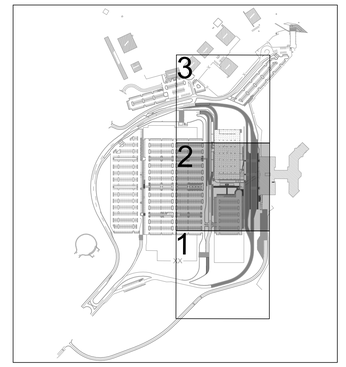
   a. SIGN ASSEMBLIES LESS THAN 12 SF REQUIRE SINGLE 3 LB U-CHANNEL.
   b. SIGN ASSEMBLIES GREATER THAN 12 SF BUT LESS THAN 24 SF REQUIRE DOUBLE 3 LB U-CHANNEL.
   c. SIGN ASSEMBLIES WITH DIMENSION OF 36" OR GREATER REQUIRE DOUBLE U-CHANNEL.
   d. DOUBLE U-CHANNEL POSTS CAN BE USED LESS LESS THAN 7' APART.
6. PROPOSED SIGNAGE OFFSETS FROM ROADWAY SHALL BE LOCATED BY FIELD ENGINEER AND MEET MUTCD AND NCDOT ROADWAY STANDARD DRAWING SPECIFICATIONS.
7. NCDOT 2024 STANDARD DRAWINGS:
   a. 901.70 SIGN STRINGING AND SUPPORT SPACING.
   b. 903.10 GROUND MOUNTED SIGN SUPPORTS.
   c. 904.10 ORIENTATION OF GROUND MOUNTED SIGNS.
   d. 904.50 MOUNTING OF TYPE 'D', 'E', AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS.

KEYMAP



SHEET MUST BE PRINTED IN COLOR

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NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	REW
DESIGNED BY:	REW
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
PROPOSED ROADWAY SIGNING (SHEET 2 OF 3)

SHEET ID
CP-702

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:05 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3 CU-000-006 - LAYER UPDATE.dwg

CU-103A

CU-103B

CU-102A

CU-102B

CU-104

CU-101

LEGEND

- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING GAS
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- EXISTING VALVE
- PROPOSED VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED DOUBLE CHECK VALVE ASSEBMLY
- PROPOSED WATER METER
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEANOUT
- EXISTING STORM INLET
- PROPOSED STORM
- EXISTING STORM
- UTILITY TO BE RELOCATED

NOTES

1. ALL UTILITY LOCATIONS TO BE VERIFIED BY CONTRACTOR.
2. EXISTING INFORMATION IS BASED ON:
   - 2.a. JULY 15, 2022 AND JANUARY 12, 2024 SURVEY
   - 2.b. LOT F IS BASED ON OCTOBER 2023 CAD FILE RECEIVED FROM ILM CONSULTANT.
3. WATER MAIN AND SANITARY SEWER UTILITIES SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) REQUIREMENTS. SEE SPECIAL PROVISIONS.
4. ALL STEEL CASING FOR UTILITY PROTECTIONS SHALL EXTEND A MINIMUM OF 3 FT BEYOND THE ACTIVE ROADWAY OR STRUCTURE UNLESS SPECIFIED OTHERWISE.
5. STEEL CASING LENGTHS ARE APPROXIMATE AND BASED ON BEST AVAILABLE UTILITY DATA.
6. STEEL CASINGS TO BE INSTALLED VIA OPEN CUT METHOD.
7. RESTRAINED FITTINGS SHALL BE INSTALLED ON ALL PIPE JOINTS WITHIN STEEL CASINGS.
8. SEE SHEET CU-105 FOR UTILITY PROFILES, PIPE LENGTHS, AND BEND LOCATIONS.
9. CONTRACTOR SHALL COORDINATE THE PLACEMENT OF PROPOSED UTILITIES WITH THE SEGMENTED RETAINING WALL TO ALLOW TIME FOR SETTLEMENT OF WALL BACKFILL AND PREVENT UNDESIRED DEFLECTION IN NEW UTILITIES.

SHEET MUST BE PRINTED IN COLOR

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NORTH

100 0 100 200

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ILM

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AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
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PROJECT ADDRESS
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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	TAT
DESIGNED BY:	TAT
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
OVERALL SITE UTILITY PLAN

SHEET ID
CU-100

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:05 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3 CU-000-006 - LAYER UPDATE.dwg

MATCHLINE SEE CU-103

6" HYDRANT LATERAL PREVIOUSLY CONSTRUCTED IN PHASE 1B

INSTALL PROPOSED HYDRANT TO PREVIOUSLY CONSTRUCTED 6" HYDRANT LATERAL

ISOLATION VALVE

ISOLATION VALVE

CUT AND CAP EXISTING WATERLINE

EXISTING WATER LINE TO BE ABANDONED

CONTRACTOR TO VERIFY NO EXISTING SERVICES ON WATER LINE

MJ PLUG ON EXISTING TEE

ISOLATION VALVE ADJUST VALVE BOX TO GRADE

TIE INTO EXISTING 12" LINE AT THE EXISTING VALVE

22.5° BEND

12" TEE

REMOVE AND REINSTALL EXISTING HYDRANT
REMOVE EXISTING VALVE

12"X6" TEE, 6" VALVE, AND 6" HYDRANT ASSEMBLY PER CFPUA DETAIL W-9

EXISTING WATER LATERAL TO BE REMOVED

SEE PLUMBING PLANS FOR CONNECTION TO TERMINAL

SEE PLUMBING PLANS (VOLUME 1) FOR CONNECTION TO GARAGE

HYDRANT TO BE RELOCATED

EXISTING WATER LINE AND VALVE TO BE ABANDONED

CROSS UNDER PROPOSED TUNNEL PER CFPUA DETAIL WS-10

INSTALL STEEL CASING PIPE PER CFPUA DETAIL WS-8

TIE INTO EXISTING 12" LINE WITH PROPOSED 45° BEND

RELOCATED HYDRANT LOCATION

12"X6" TEE, 6" VALVE, AND 6" HYDRANT ASSEMBLY PER CFPUA DETAIL W-9

ISOLATION VALVE ADJUST VALVE BOX TO GRADE

1" WATER SUPPLY FOR FOUNTAIN EQUIPMENT ROOM

90° BEND

45° BEND

2" SADDLE AND VALVE REDUCED TO 1" METER AND SERVICE LINE PER CFPUA STANDARD DETAIL W-12

90° BEND

2" GATE VALVE AND VALVE BOX PER CFPUA DETAIL W-3

1" DOUBLE CHECK VALVE ASSEMBLY AND ENCLOSURE PER CFPUA DETAIL EM-2 (TO BE APPROVED BY CFPUA COMMUNITY COMPLIANCE)

2" DOUBLE CHECK VALVE ASSEMBLY AND ENCLOSURE PER CFPUA DETAIL EM-2 (TO BE APPROVED BY CFPUA COMMUNITY COMPLIANCE)

45° BEND

12"X8" TEE TO PROPOSED 8" TERMINAL LATERAL

2" WATER METER AND METER BOX PER CFPUA DETAIL W-3

2" HDPE WATER SERVICE W/ TRACER WIRE PER CFPUA DETAIL WS-6

2" SADDLE AND VALVE ON PROPOSED 12" LINE PER CFPUA DETAIL W-3

90° BEND

EXISTING WATER LINE TO BE ABANDONED

12"X6" TEE, 6" VALVE, AND 6" HYDRANT ASSEMBLY PER CFPUA DETAIL W-9

RELOCATE EXISTING HYDRANT

CONTRACTOR TO COORDINATE METER RECONNECTION AND TEMPORARY METERING WITH PIEDMONT NATURAL GAS

CONTRACTOR TO COORDINATE GAS RELOCATION WITH PIEDMONT NATURAL GAS AT RETAINING WALL AND GRADE CUT

EXISTING WATER LINE TO BE REMOVED

IRRIGATION WELL TO BE ABANDONED

ADJUST TO THE FINISHED GRADE

EXISTING WATER LINE AND VALVE TO BE ABANDONED

ISOLATION VALVE

12" TEE TO CONNECT TO EXISTING 12" WATER LINE

RELOCATE EXISTING HYDRANT

12"X6" TEE, 6" VALVE, AND 6" HYDRANT ASSEMBLY PER CFPUA DETAIL W-9

MATCHLINE SEE CU-101

MATCHLINE SEE CU-104

LEGEND

- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING GAS
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- EXISTING VALVE
- PROPOSED VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED DOUBLE CHECK VALVE ASSEBMLY
- PROPOSED WATER METER
- EXISTING SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- PROPOSED SEWER CLEANOUT
- EXISTING STORM INLET
- PROPOSED STORM
- EXISTING STORM
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8. SEE SHEET CU-105 FOR UTILITY PROFILES, PIPE LENGTHS, AND BEND LOCATIONS.
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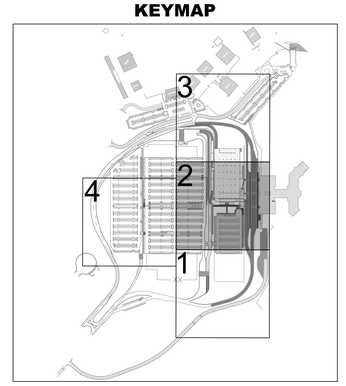
KEYMAP



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NORTH

30 0 30 60

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	TAT
DESIGNED BY:	TAT
PROJECT NUMBER:	

2003-0070-006

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SEAL:

SHEET TITLE

SITE UTILITY PLAN
AREA 2
(WATER)

SHEET ID

CU-102A

PROJECT STATUS:

100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:06 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\ILM BP3 CU-000-006 - LAYER UPDATE.dwg

MATCHLINE SEE CU-103

MATCHLINE SEE CU-104

MATCHLINE SEE CU-101

EXISTING SANITARY SEWER TO BE ABANDONED

6" LATERAL CONNECTION PER CFPUA DETAIL S-12

6" C-900 PVC LATERAL W/ TRACER WIRE PER CFPUA DETAIL S-12 AND WS-6

SEWER LATERAL CLEANOUT PER CFPUA DETAIL S-13

SEE PLUMBING PLANS (VOLUME 1) FOR GARAGE CONNECTION

EXISTING SANITARY SEWER TO BE ABANDONED

PROPOSED CUT-IN MANHOLE MH 101

EXISTING SANITARY SEWER TO BE ABANDONED

PROPOSED MANHOLE MH 102

PROPOSED MANHOLE TO REPLACE EXISTING MH 103

PROPOSED MANHOLE MH 104

4" GRAVITY DRAIN LINE FOR FOUNTAIN EQUIPMENT ROOM

SEWER LATERAL CLEANOUT PER CFPUA DETAIL S-13

4" C-900 PVC LATERAL W/ TRACER WIRE PER CFPUA DETAIL S-12 AND WS-6

4" LATERAL CONNECTION PER CFPUA DETAIL S-12

COORDINATE WITH STRUCTURAL TO AVOID PILES.

STEEL CASING TO EXTEND MIN. 3 FT BEYOND EDGE OF FOOTING.

6" LATERAL CONNECTION PER CFPUA DETAIL S-12

6" C-900 PVC LATERAL W/ TRACER WIRE PER CFPUA DETAIL S-12 AND WS-6

SEWER LATERAL CLEANOUT PER CFPUA DETAIL S-13

STEEL CASING TO EXTEND MIN. 3 FT BEYOND EDGE OF TUNNEL.

PROPOSED MANHOLE MH 105

SANITARY SEWER MANHOLE RIM (COVERED) INV. (COVERED)

SANITARY SEWER MANHOLE RIM 30.68 INV. 12.76

SANITARY SEWER MANHOLE RIM 42.31 INV. 15.91

FENCE

8" P.V.C.P.

LEGEND

- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING GAS
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED GAS
- EXISTING VALVE
- PROPOSED VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED DOUBLE CHECK VALVE ASSEBMLY
- PROPOSED WATER METER
- EXISTING SEWER MANHOLE
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- EXISTING STORM
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8. SEE SHEET CU-105 FOR UTILITY PROFILES, PIPE LENGTHS, AND BEND LOCATIONS.
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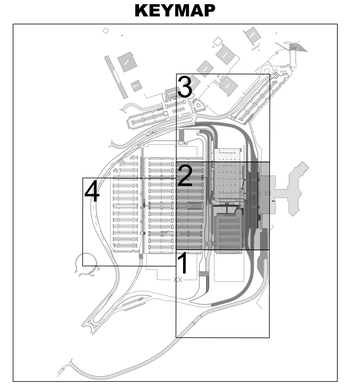
KEYMAP



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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	TAT
DESIGNED BY:	TAT
PROJECT NUMBER:	2003-0070-006

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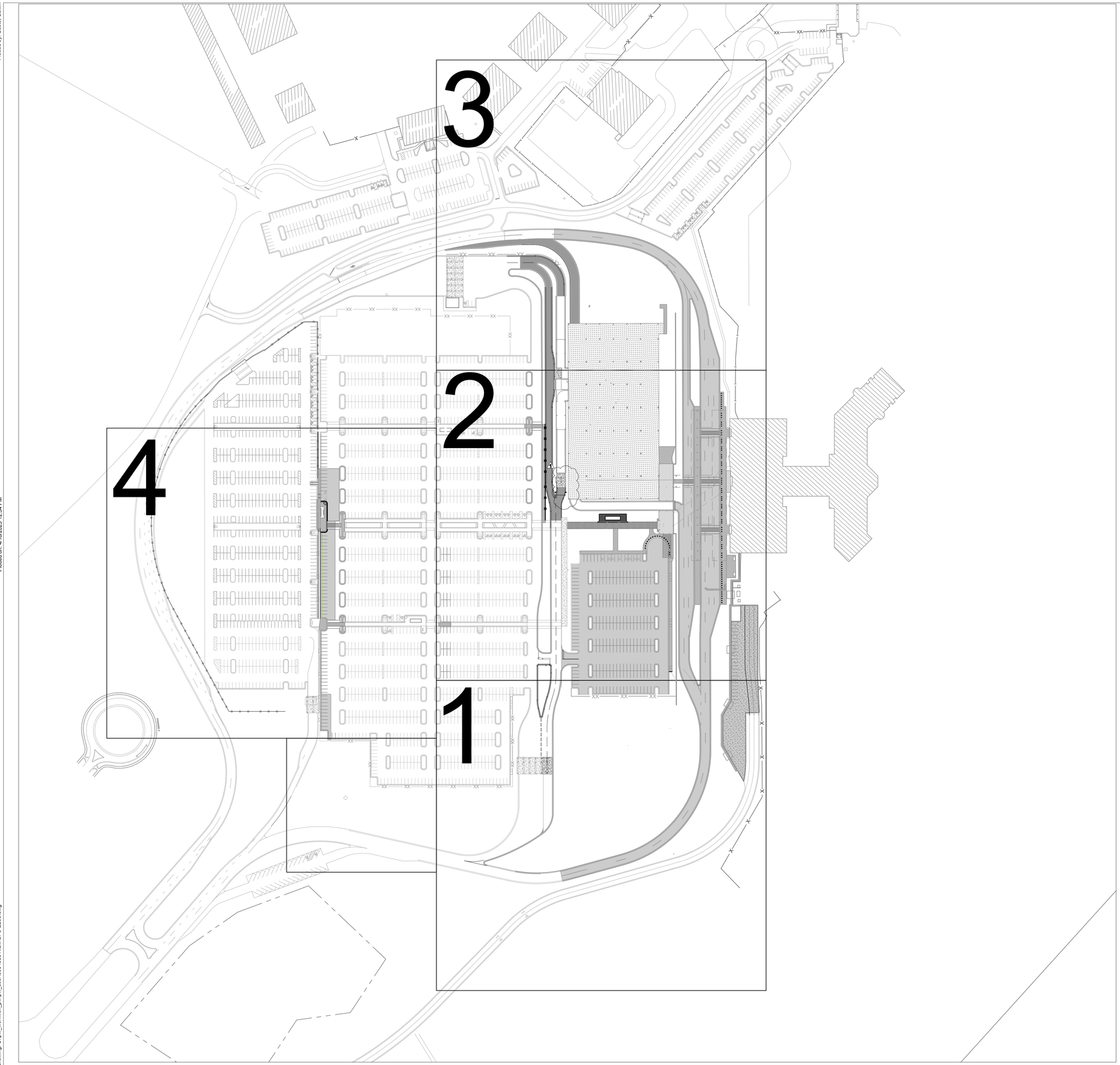
SEAL:

SHEET TITLE
SITE UTILITY PLAN
AREA 2
(SANITARY SEWER)

SHEET ID
CU-102B

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 12:54 PM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545381\ILM BPS-E200.dwg



LEGEND

- PROPOSED STREET LIGHT POLE WITH ONE ACORN LIGHT FIXTURE. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- PROPOSED STREET LIGHT POLE WITH ONE LIGHT FIXTURE. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- PROPOSED STREET LIGHT POLE WITH TWO LIGHT FIXTURES. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- P / C — PROPOSED HEAVY DUTY H-20 TRAFFIC RATED POWER HANDHOLE COMPLETE AND INSTALLED WITH ALL APPURTENANCES. P = POWER, C = COMM.
- (D) — PROPOSED DUKE ENERGY MANHOLE COMPLETE AND INSTALLED WITH ALL APPURTENANCES
- COLOR KINETICS BURST POWERCORE GEN3, RGBW DYNAMIC LIGHT FIXTURE MOUNTED TO TREE. SEE LANDSCAPING PLANS FOR TREE LOCATIONS
- DL — DYNAMIC LIGHTING POWER/COMM. ENCLOSURE
- Y" C — PROPOSED 1 WAY SCHEDULE 40 PVC CONDUIT, DIRECT EARTH BURIED. Y" = DIAMETER OF CONDUIT IN INCHES.C = CONDUIT
- X-Y" — PROPOSED ELECTRICAL DUCT BANK. SCHEDULE 40 PVC, CONCRETE ENCASED. X=NUMBER OF CONDUITS IN DUCT, Y=DIAMETER OF CONDUITS IN INCHES.

KEY NOTES

1. INTERCEPT EXISTING CIRCUIT AT EXISTING MANHOLE/LIGHT POLE AND EXTEND TO NEW LIGHT POLES.
2. INSTALL EXISTING LIGHT POLE ON NEW FOUNDATION.
3. INSTALL NEW 1-48 FOC FROM ILM TERMINAL BUILDING MANAGEMENT ROOM - LOWER LEVEL, TO NEW PARKING GARAGE COMM. ROOM INSIDE EXISTING DUCT BANK. SEE SHEET T100 FOR CONTINUATION OF 1-48 FOC.
4. INSTALL NEW 1-12 FOC FROM PARKING GARAGE COMM. ROOM TO ADMIN BUILDING IDF ROOM.
5. INSTALL 2" SPARE CONDUITS UNDER ROAD AS SHOWN. CAP CONDUITS 5' MIN. BEYOND ROADWAY PAVEMENT.

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ILM

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AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
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WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/2025

DATE ISSUED: 03/14/2025
REVIEWED BY: RJW
DRAWN BY: ALK
DESIGNED BY: JTW
PROJECT NUMBER:
2003-0070-006

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SEAL:

SHEET TITLE
ELECTRICAL LAYOUT OVERALL PLAN

SHEET ID
E-200

PROJECT STATUS:
100% DESIGN

Plotted by: Jimmy Wagner
Plotted on: 4/18/2025 10:37 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545381\ILM BP3-E200.dwg

MATCHLINE SEE E-203

MATCHLINE SEE E-204

MATCHLINE SEE E-201

NEW PARKING GARAGE. SEE PARKING GARAGE PLANS

EXISTING TERMINAL BUILDING

SECTION B-B
A. RPLN-13,15,17
B. SPARE
POWER

SECTION A-A
A. RPLN-13,15,17
B. MDPN-1,3,5
MDPN-13,17
POWER

SECTION E-E

1-48 FOC-A
1-48 FOC-B
1-12 FOC
(FROM PARKING GARAGE TO ADMIN BUILDING) 4
1-6 FOC (FROM ADMIN BUILDING TO PARKING GARAGE)

SEE SHEET T100 FOR CONTINUATION OF 2-4" DUCT BANK CARRYING 1-48 AND 1-12 FOC INTO THE PARKING GARAGE

1-48 FOC-A
1-48 FOC-B
1-48 FOC (PARKING GARAGE) 3
1-6 FOC (FROM ADMIN BUILDING TO VMS SIGN)

1-6 FOC (FROM ADMIN BUILDING TO VMS SIGN)

VMS SIGN LA-DIR.004 - SEE SIGNAGE PLAN FOR MORE INFORMATION AND LOCATION

VMS SIGN LA-DIR.001 - SEE SIGNAGE PLAN FOR MORE INFORMATION AND LOCATION

FUTURE EV CHARGING STATIONS

SEE DETAIL SHEET E-312 FOR LAYOUT OF FUTURE EV CHARGING STATION HANDHOLE LAYOUT

PROTECT EXISTING DUKE AND AT&T MANHOLES/ DUCTS IN PLACE

PROTECT EXISTING DUCTS IN PLACE

2-48 FOC-A
2-48 FOC-B TO BUILDING MANAGEMENT ROOM - LOWER LEVEL
1-48 FOC (PARKING GARAGE) 3

POWER/COMM. RACK FOR BUS ENTRY/EXIT GATES. SEE DETAIL SHEET E-307

FENCE

GEN

LEGEND

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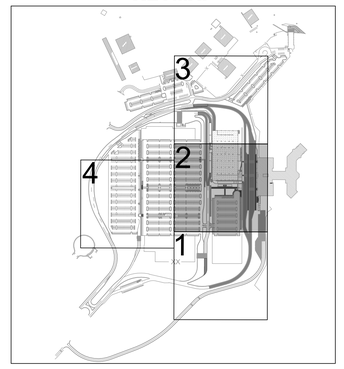
PROPOSED 1 WAY SCHEDULE 40 PVC CONDUIT, DIRECT EARTH BURIED. Y" = DIAMETER OF CONDUIT IN INCHES.C = CONDUIT

X-Y"
PROPOSED ELECTRICAL DUCT BANK. SCHEDULE 40 PVC, CONCRETE ENCASED. X=NUMBER OF CONDUITS IN DUCT, Y=DIAMETER OF CONDUITS IN INCHES.

KEY NOTES

1. INTERCEPT EXISTING CIRCUIT AT EXISTING MANHOLE/LIGHT POLE AND EXTEND TO NEW LIGHT POLES.
2. INSTALL EXISTING LIGHT POLE ON NEW FOUNDATION.
3. INSTALL NEW 1-48 FOC FROM ILM TERMINAL BUILDING MANAGEMENT ROOM - LOWER LEVEL, TO NEW PARKING GARAGE COMM. ROOM INSIDE EXISTING DUCT BANK. SEE SHEET T100 FOR CONTINUATION OF 1-48 FOC.
4. INSTALL NEW 1-12 FOC FROM PARKING GARAGE COMM. ROOM TO ADMIN BUILDING IDF ROOM.
5. INSTALL 2" SPARE CONDUITS UNDER ROAD AS SHOWN. CAP CONDUITS 5' MIN. BEYOND ROADWAY PAVEMENT.

KEYMAP



WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/21/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RJW
DRAWN BY:	ALK
DESIGNED BY:	JTW
PROJECT NUMBER:	2003-0070-006

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SEAL:

SHEET TITLE
ELECTRICAL LAYOUT PLAN (SHEET 2 OF 4)

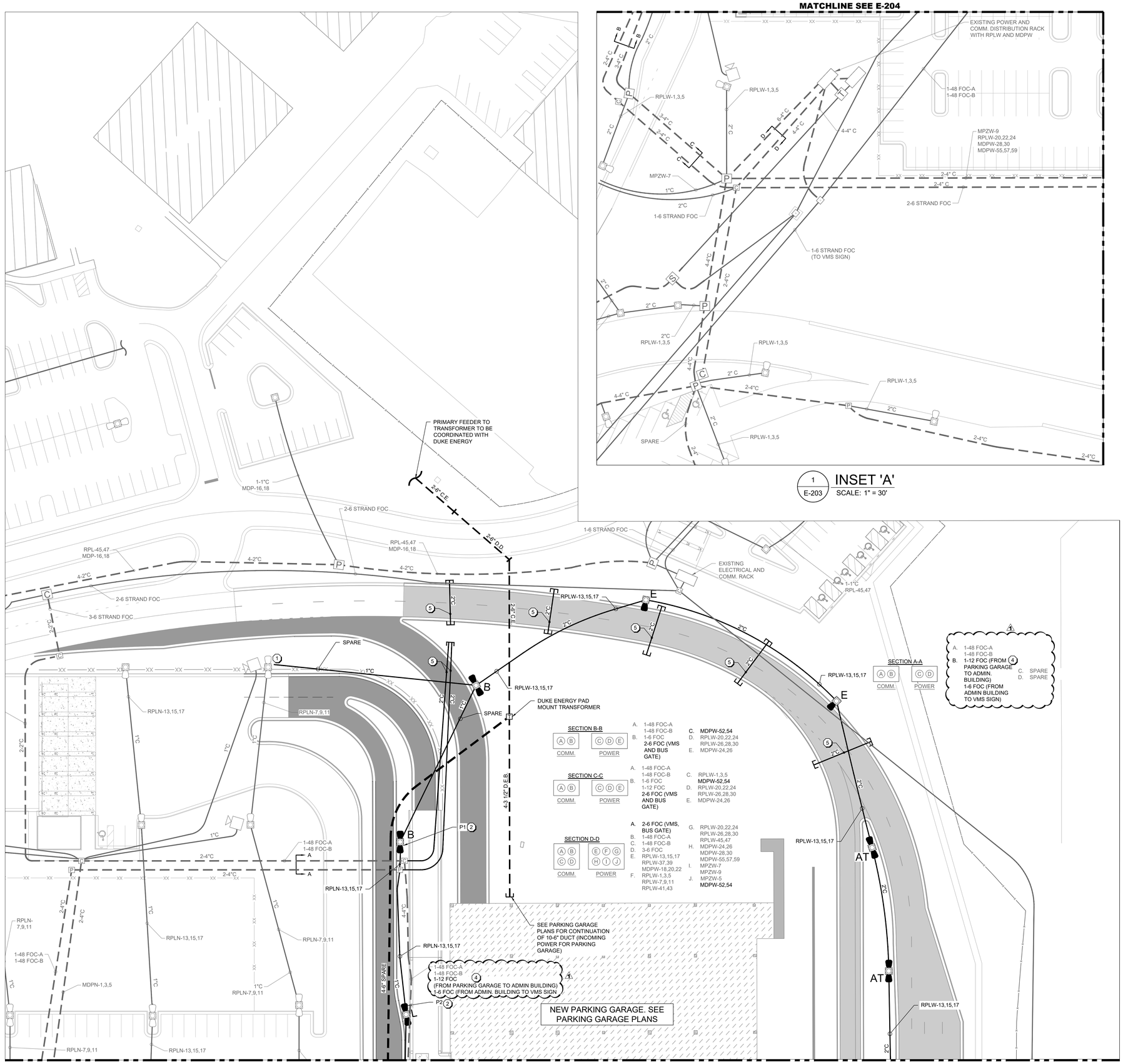
SHEET ID
E-202

PROJECT STATUS:
100% DESIGN

Plotted by: Jimmy Wagner
Plotted on: 4/18/2025 10:37 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545381\ILM BP3-E200.dwg

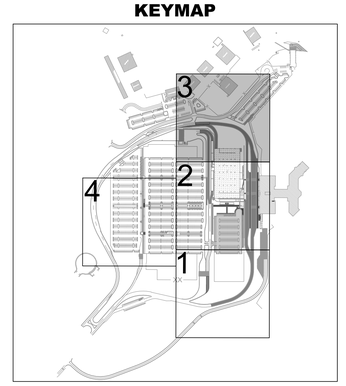
MATCHLINE SEE E-204

1 E-203 INSET 'A' SCALE: 1" = 30'



MATCHLINE SEE E-202

KEYMAP



WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

30 0 30 60
SCALE (IN FEET)
1 INCH = 30 FEET (WHEN PRINTED 42"x30")

LEGEND

- PROPOSED STREET LIGHT POLE WITH ONE ACORN LIGHT FIXTURE. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- PROPOSED STREET LIGHT POLE WITH ONE LIGHT FIXTURE. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- PROPOSED STREET LIGHT POLE WITH TWO LIGHT FIXTURES. # = TYPE OF FIXTURE. SEE FIXTURE SCHEDULE, SHEET E-304.
- PROPOSED HEAVY DUTY H-20 TRAFFIC RATED POWER HANDHOLE COMPLETE AND INSTALLED WITH ALL APPURTENANCES. P = POWER, C = COMM.
- PROPOSED DUKE ENERGY MANHOLE COMPLETE AND INSTALLED WITH ALL APPURTENANCES
- COLOR KINETICS BURST POWERCORE GEN3, RGBW DYNAMIC LIGHT FIXTURE MOUNTED TO TREE. SEE LANDSCAPING PLANS FOR TREE LOCATIONS
- DL DYNAMIC LIGHTING POWER/COMM. ENCLOSURE
- Y" C — PROPOSED 1 WAY SCHEDULE 40 PVC CONDUIT, DIRECT EARTH BURIED. Y" = DIAMETER OF CONDUIT IN INCHES.C = CONDUIT
- X-Y" — PROPOSED ELECTRICAL DUCT BANK. SCHEDULE 40 PVC, CONCRETE ENCASED. X=NUMBER OF CONDUITS IN DUCT, Y=DIAMETER OF CONDUITS IN INCHES.

KEY NOTES

1. INTERCEPT EXISTING CIRCUIT AT EXISTING MANHOLE/LIGHT POLE AND EXTEND TO NEW LIGHT POLES.
2. INSTALL EXISTING LIGHT POLE ON NEW FOUNDATION.
3. INSTALL NEW 1-48 FOC FROM ILM TERMINAL BUILDING MANAGEMENT ROOM - LOWER LEVEL, TO NEW PARKING GARAGE COMM. ROOM INSIDE EXISTING DUCT BANK. SEE SHEET T100 FOR CONTINUATION OF 1-48 FOC.
4. INSTALL NEW 1-12 FOC FROM PARKING GARAGE COMM. ROOM TO ADMIN BUILDING IDF ROOM.
5. INSTALL 2" SPARE CONDUITS UNDER ROAD AS SHOWN. CAP CONDUITS 5' MIN. BEYOND ROADWAY PAVEMENT.

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/21/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RJW
DRAWN BY:	ALK
DESIGNED BY:	JTW
PROJECT NUMBER:	2003-0070-006

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SEAL:

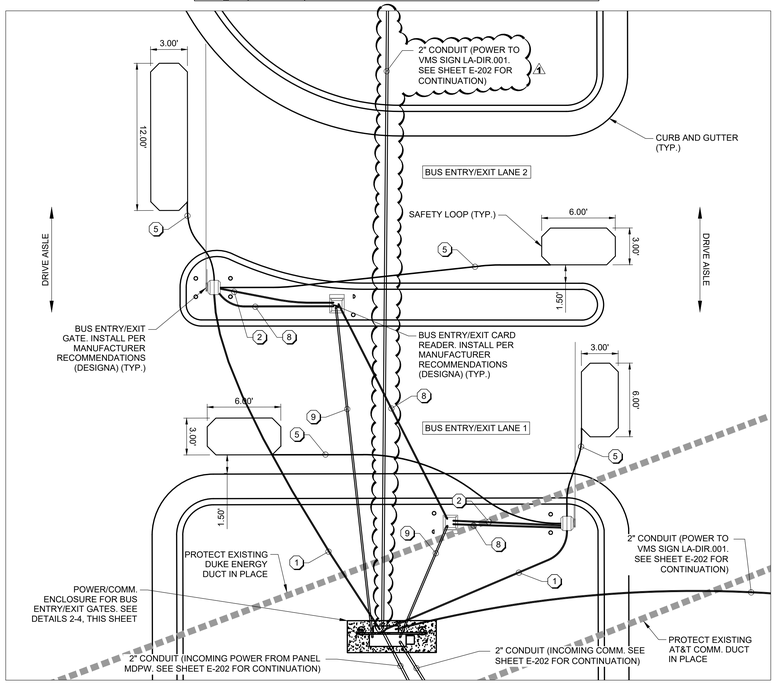
SHEET TITLE
ELECTRICAL LAYOUT PLAN (SHEET 3 OF 4)

SHEET ID
E-203

PROJECT STATUS:
100% DESIGN

Plotted by: Jimmy Wagner
Plotted on: 4/18/2025 10:38 AM
Drawing: C:\pw_workrish_pw\pw_user\d0545381\LM BP3-E300.dwg

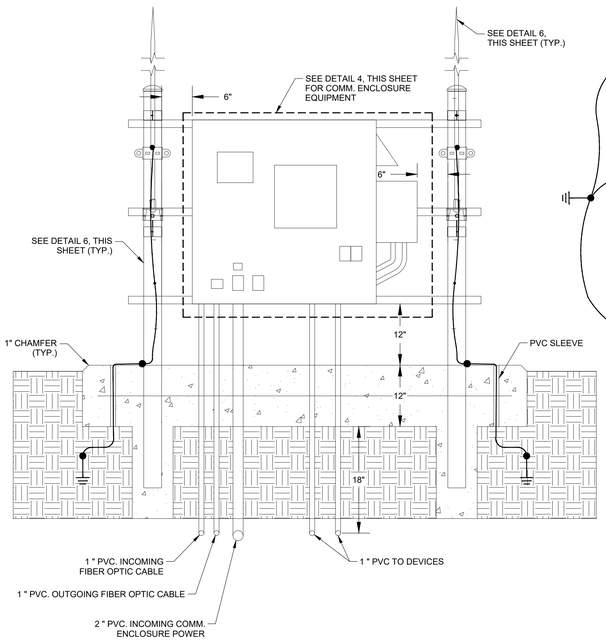
CONDUIT SCHEDULE		
MARK	SIZE	DESCRIPTION
C01 (1)	1"	POWER FEEDER, ONE 120V 20A CIRCUIT FROM POWER SOURCE
C02 (2)	1"	POWER CONDUIT FROM EQUIPMENT
C05 (5)	1/2"	LOOP LEAD-IN
C08 (8)	1"	DATA CONDUIT FROM EQUIPMENT (CAT 6A CABLE)
C09 (9)	1 1/2"	DATA FROM FACILITIES MANAGEMENT SYSTEM



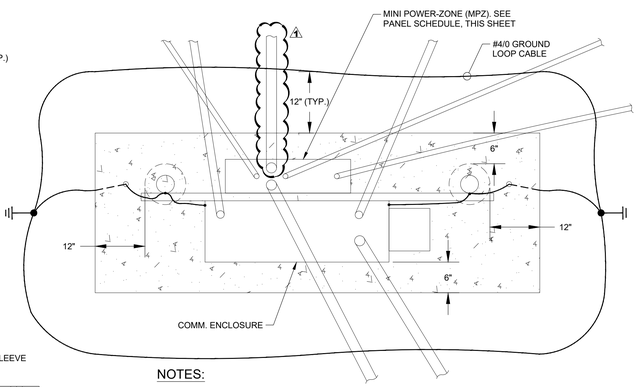
1 E-307 BUS STOP ENTRY/EXIT GATE SITE PLAN
SCALE: 1" = 5'

NOTES:

1. ALL DATA CABLE RUNS FROM THE DATA SOURCE TO THE ISLANDS MUST BE UNDER 300'
2. ALL CONDUITS ARE TO BE 1" UNLESS OTHERWISE NOTED
3. EACH LANE IS TO HAVE (1) 20 AMP CIRCUIT
4. ALL CONDUIT IS TO BE GROUPED AND TIGHTLY BUNDLED IN THE CENTER OF THE EQUIPMENT.
5. CONTRACTOR MUST AVOID ENTRY/EXIT PLAZA CANOPY FOOTERS WHEN INSTALLING CONDUIT.
6. INTERCEPT EXISTING CONDUIT STUB UPS TO INSTALL AND CONNECT NEW PARKING REVENUE EQUIPMENT TO DESIGNA SERVER.
7. INSTALL NEW CABLES IN EXISTING CONDUIT.
8. INTERCEPT AND EXTEND EXISTING CONDUITS INSTALLED IN PHASE 1B TO NEW PARKING REVENUE EQUIPMENT.



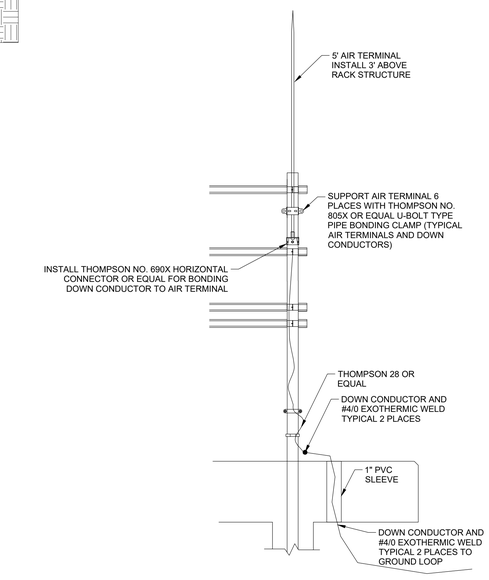
2 E-307 PARKING REVENUE SYSTEM - (DESIGNA) - ELEVATION VIEW
SCALE: NTS



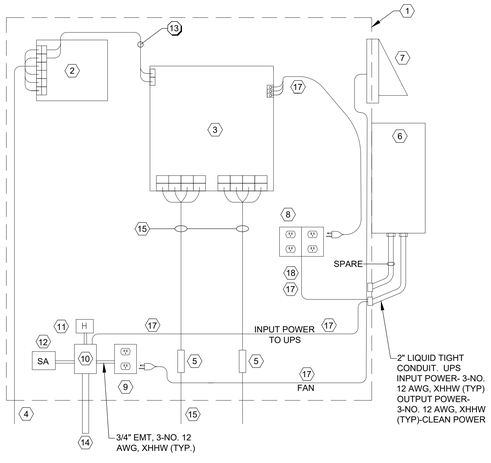
NOTES:

1. SEE DETAIL 1, THIS SHEET FOR SIZE AND DESTINATION OF CONDUITS EXITING THE MPZ AND COMM. ENCLOSURE.

3 E-307 PARKING REVENUE SYSTEM - (DESIGNA) - PLAN VIEW
SCALE: NTS



6 E-307 FRAME DETAILS AND LIGHTNING PROTECTION
SCALE: NTS



4 E-307 PARKING REVENUE SYSTEM - (DESIGNA)
SCALE: NTS

PARKING REVENUE SYSTEM / COMM. ENCLOSURE EQUIPMENT SCHEDULE:

1. RACK MOUNT COMM. ENCLOSURE, NEMA 4X, 36"x36"x12" (MIN.)
2. FIBER OPTIC CABLE (FOC) TERMINATION ENCLOSURE- CORNING LANDSCAPE SOLUTIONS.
3. DESIGNA FURNISHED AND INSTALL EQUIPMENT - NETWORK SWITCH
4. INCOMING / OUTGOING FIBER OPTIC CABLE (FOC), SINGLE MODE
5. SURGE ARRESTOR - ASCO SERIES 100 MODEL NO. 185
6. OUTDOOR UPS - ALPHA TECH. INC., MODEL NO. ALPHA MICRO1000 OR APPROVED EQUAL.
7. ELECTRIC FAN / VENT, 120-VOLT. NOT SUPPORTED UPS.
8. QUAD OUTLET, 120-VOLT
9. DUAL OUTLET, GFCI, 120-VOLT
10. SWITCH, 120V, 1-POLE FOR HEATER AND FAN ONLY.
11. HEATER HOFFMAN 200-WATT, 120V, NO. DAH12001A OR APPROVED EQUAL. NOT SUPPORTED BY UPS.
12. SURGE SUPPRESSION - VISION TECH. INC., SSP20, 120V, 20A, 60KA, (8/20US)
13. FIBER OPTIC PATCH CORD
14. INPUT POWER, 120V, 1-PHASE, SEE PANEL SCHEDULES
15. CAT 6A CABLES - QUANTITY AS NEEDED AND SHOWN ON THE PLANS
16. NOT USED
17. 2-#12 AWG, #12 AWG GND, XHHW
18. OUTPUT OF UPS, 120V, CLEAN POWER.

PANEL MPZB - BUS ENTRY/EXIT — LOCATION: BUS ENTRY/EXIT LANES
SERVICE VOLTAGE: 240/120V — PHASE: 1 — WIRE: 3
TOTAL KVA: 8.2 — BUS SIZE: 60A — MAIN SIZE: 60A
NEUTRAL: 60A — MOUNTING: RACK MOUNTED

Feeder	LOAD IN KVA A	LOAD IN KVA B	CIRCUIT DESCRIPTION	BKR A/P	CK NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA A	LOAD IN KVA B	Feeder
2#8 AWG XHHW, #8 GND	2.4		ENTRY/EXIT LANE - GATE #1	30/1	1	2	20/1	SPARE			
2#8 AWG XHHW, #8 GND		2.4	COMM ENCLOSURE - BUS ENTRY/EXIT LANE	30/1	3	4	20/1	SPARE			
2#8 AWG XHHW, #8 GND	2.4		ENTRY/EXIT LANE - GATE #2	30/1	5	6	20/1	SPARE			
2 #10 AWG XHHW, #10 GND		0.5	VMS SIGN LA-DIR.001	20/1	7	8	20/1	SPARE			
2#8 AWG XHHW, #8 GND	0.5		VMS SIGN LA-DIR.004	20/1	9	10	20/1	SPARE			
			SPARE	20/1	11	12	15/1	SPARE			
			SPARE	20/1	13	14	20/1	SPARE			
			SPARE	20/1	15	16	20/1	SPARE			
			SPARE	20/1	17	18	20/1	SPARE			
			SPARE	20/1	19	20	20/1	SPARE			
			SPARE	20/1	21	22	20/1	SPARE			
	5.3	2.9	TOTAL						0.0	0.0	

Total A 5.3
Total B 2.9
Total KVA 8.2

5 E-307 BUS ENTRY/EXIT MINI POWER-ZONE (MPZB) PANEL SCHEDULE
SCALE: NTS

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/21/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RJW
DRAWN BY:	ALK
DESIGNED BY:	JTW
PROJECT NUMBER:	2003-0070-006

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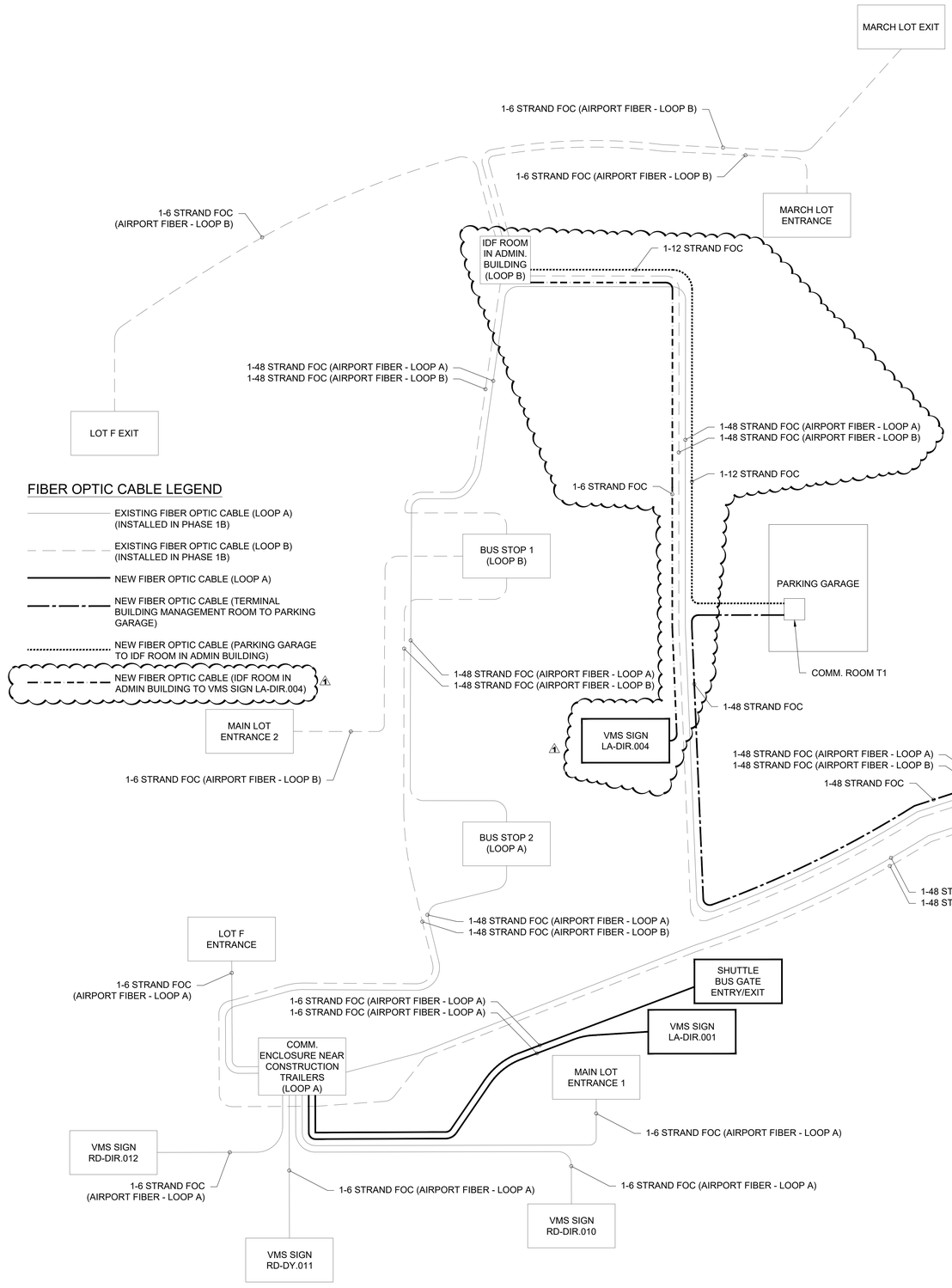
SEAL:

SHEET TITLE
ELECTRICAL DETAIL (SHEET 7 OF 12)

SHEET ID
E-307

PROJECT STATUS:
100% DESIGN

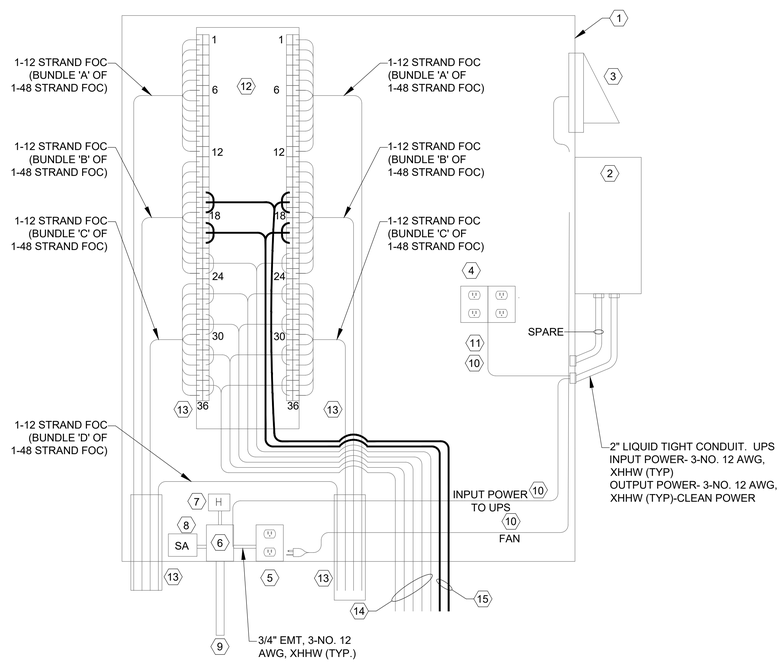
Plotted by: Jimmy Wagner
Plotted on: 4/18/2025 10:38 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545381\ILM BPS-E300.dwg



1 E-309 PARKING LOT FIBER OPTIC LOOP SINGLE LINE DIAGRAM
SCALE: NTS

PARKING REVENUE SYSTEM / COMM. ENCLOSURE EQUIPMENT SCHEDULE:

1. RACK MOUNT COMM. ENCLOSURE (INSTALLED IN PHASE 1B)
2. OUTDOOR UPS (INSTALLED IN PHASE 1B)
3. ELECTRIC FAN / VENT, 120-VOLT. NOT SUPPORTED UPS (INSTALLED IN PHASE 1B)
4. EXISTING QUAD OUTLET, 120-VOLT (INSTALLED IN PHASE 1B)
5. DUAL OUTLET, GFCI, 120-VOLT (INSTALLED IN PHASE 1B)
6. SWITCH, 120V, 1-POLE FOR HEATER AND FAN ONLY (INSTALLED IN PHASE 1B)
7. HEATER HOFFMAN 200-WATT, 120V, NO. DAH12001A OR APPROVED EQUAL. NOT SUPPORTED BY UPS (INSTALLED IN PHASE 1B)
8. SURGE SUPPRESSION - VISION TECH. INC., SSP20, 120V, 20A, 60KA, (8/20US) (INSTALLED IN PHASE 1B)
9. INPUT POWER, 120V, 1-PHASE, SEE PANEL SCHEDULES (INSTALLED IN PHASE 1B)
10. 2-#12 AWG, #12 AWG GND, XHHW (INSTALLED IN PHASE 1B)
11. OUTPUT OF UPS, 120V, CLEAN POWER (INSTALLED IN PHASE 1B)
12. FIBER OPTIC PATCH PANEL - AFL LIGHTLINK LL-580 OPTICAL SPLICING AND DISTRIBUTION ENCLOSURE OR APPROVED EQUAL 72-PORT LC, (TYP OF 3), 33.5"L x 13"Wx 5.625"D, NEMA 3R OR APPROVED EQUAL (INSTALLED IN PHASE 1B)
13. 1-48 STRAND FIBER OPTIC CABLE - LOOP A - SINGLE MODE (INSTALLED IN PHASE 1B)
14. 1-6 STRAND FIBER OPTIC CABLE PER DEVICE BEING SERVICED BY THE COMMUNICATION ENCLOSURE (I.E. PARKING ENTRANCE LANE) AS SHOWN ON PLANS - SINGLE MODE (INSTALLED IN PHASE 1B)
15. NEW 1-6 STRAND FIBER OPTIC CABLE TO SHUTTLE BUS GATE ENTRY/EXIT AND VMS SIGN LA-DIR.001 TO BE SERVICED BY THE COMMUNICATION ENCLOSURE.



4 E-309 MODIFICATIONS TO RACK MOUNTED COMM. BOX NEAR MONTEITH TRAILER
SCALE: NTS

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS BID PACKAGE 3 PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	04/21/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	RJW
DRAWN BY:	ALK
DESIGNED BY:	JTW
PROJECT NUMBER:	2003-0070-006

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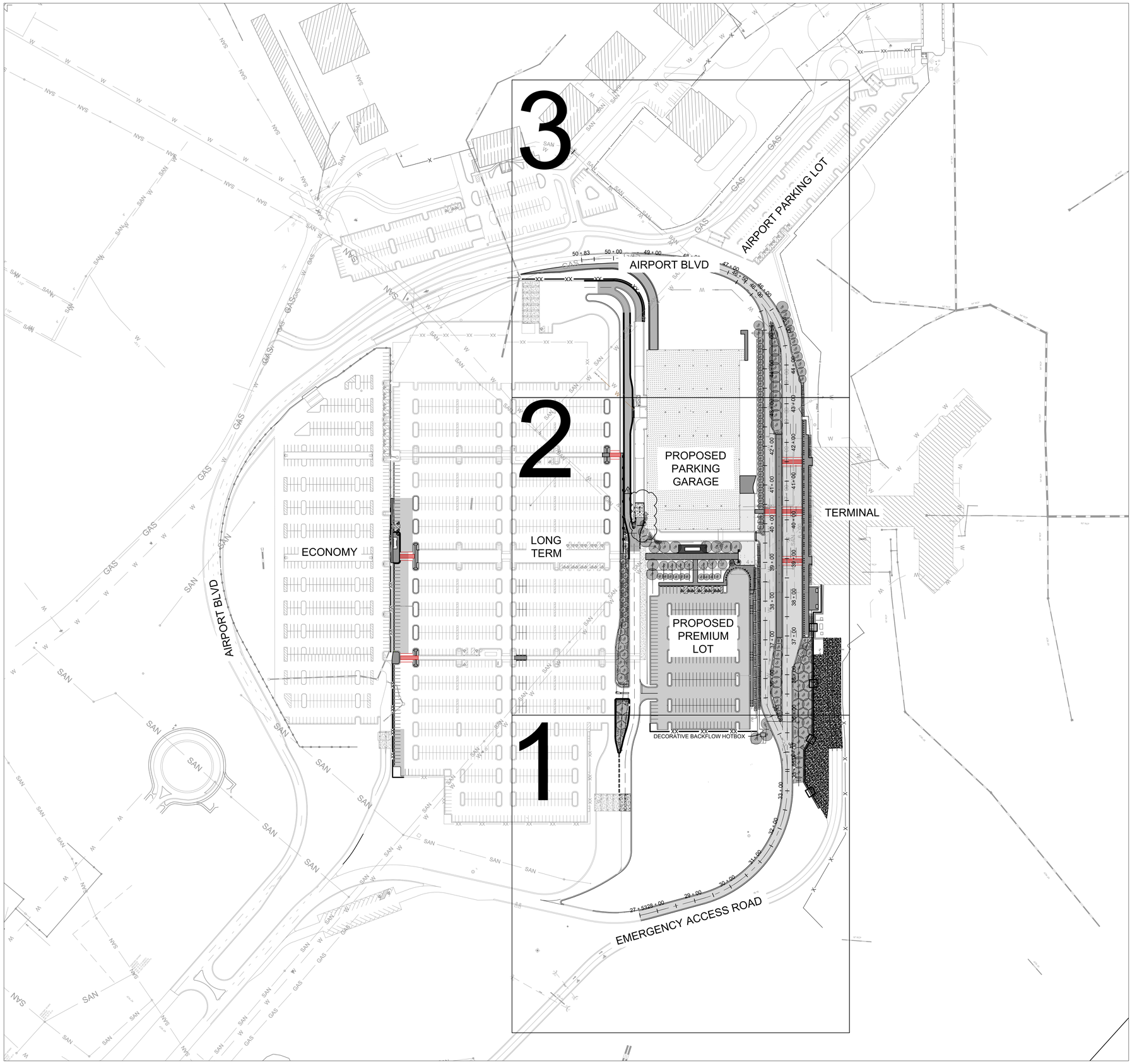
SEAL:

SHEET TITLE
ELECTRICAL DETAIL (SHEET 9 OF 12)

SHEET ID
E-309

PROJECT STATUS:
100% DESIGN

Plotted by: Casto, Caitlin
Plotted on: 4/18/2025 11:17 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545388\ILM BP3 CI-100-104.dwg



LEGEND

	PROPOSED 2" IRRIGATION PIPE
8F	8' RADIUS FULL CIRCLE PATTERN NOZZLE
8H	8' RADIUS HALF CIRCLE PATTERN NOZZLE
8Q	8' RADIUS QUARTER CIRCLE PATTERN NOZZLE
10F	10' RADIUS FULL CIRCLE PATTERN NOZZLE
10H	10' RADIUS HALF CIRCLE PATTERN NOZZLE
10Q	10' RADIUS QUARTER CIRCLE PATTERN NOZZLE
12F	12' RADIUS FULL CIRCLE PATTERN NOZZLE
12H	12' RADIUS HALF CIRCLE PATTERN NOZZLE
15F	15' RADIUS FULL CIRCLE PATTERN NOZZLE
15H	15' RADIUS HALF CIRCLE PATTERN NOZZLE
15Q	15' RADIUS QUARTER CIRCLE PATTERN NOZZLE
15CST	15' RADIUS CENTER STRIP PATTERN NOZZLE

NOTES

1. ALL SPRAY NOZZLES SHOULD BE MOUNTED ON 1 FOOT OR 2 FOOT RISERS BASED ON VEGETATION HEIGHT.
2. IRRIGATION PIPES ONLY SHOWN.
3. ALL SPRAY NOZZLES TO BE SHOWN AFTER COORDINATION FROM LANDSCAPE DESIGN.

SHEET MUST BE PRINTED IN COLOR

WARNING - THERE ARE EXISTING UNDERGROUND UTILITIES IN THE PROJECT WORK AREAS. THE ENGINEER HAS MADE EVERY EFFORT TO SHOW THEIR APPROXIMATE LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY CABLE LOCATED, FLAGGED, AND IDENTIFIED PRIOR TO CONSTRUCTION. ANY DAMAGE DONE TO FLAGGED OR OTHERWISE LOCATED CABLES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NORTH

100 0 100 200
SCALE (IN FEET)
1 INCH = 100 FEET (WHEN PRINTED 42"x30")

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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JBG
DESIGNED BY:	JBG
PROJECT NUMBER:	2003-0070-006

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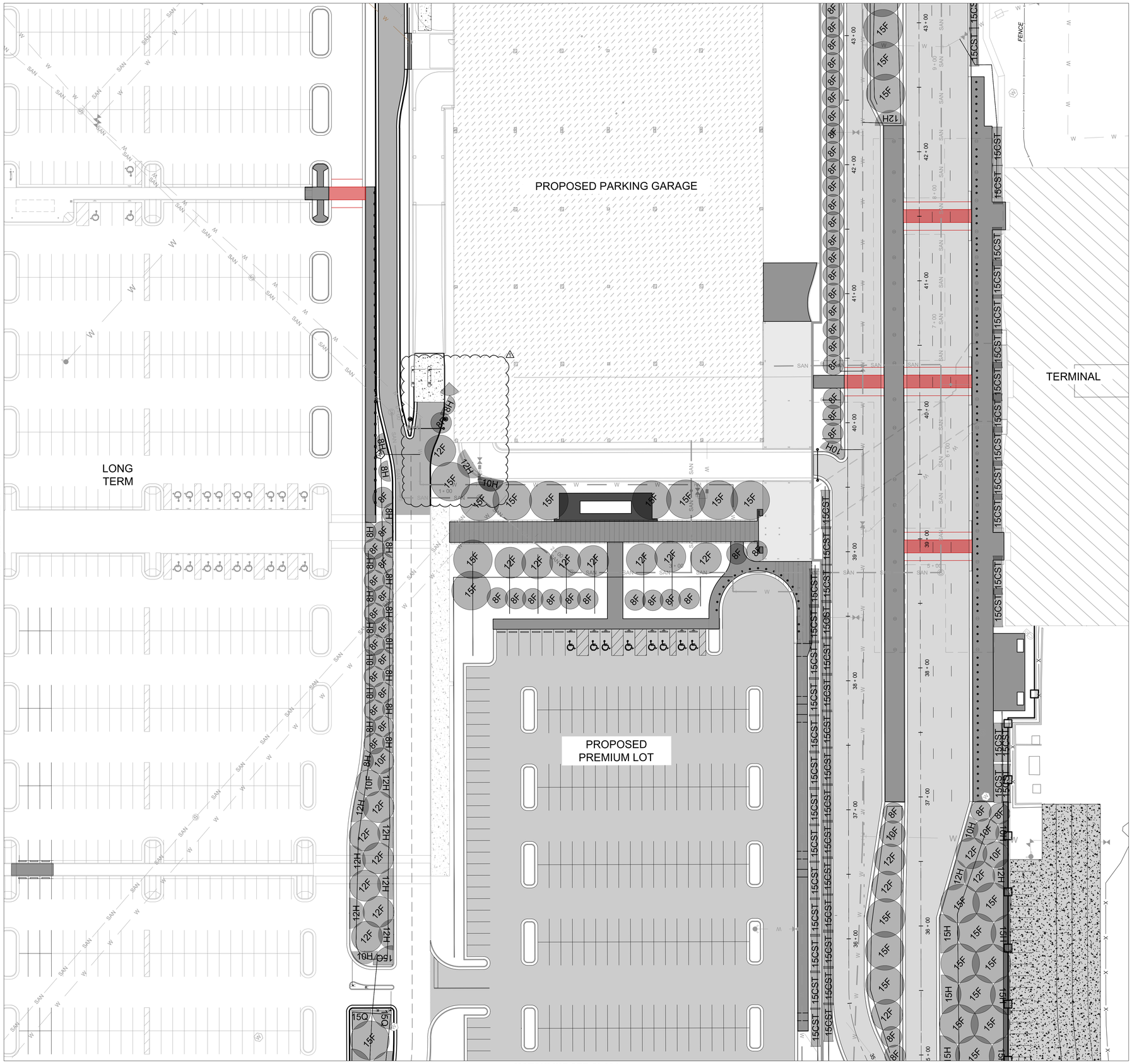
SEAL:

SHEET TITLE
IRRIGATION PLAN OVERALL

SHEET ID
CI-100

PROJECT STATUS:
100% DESIGN

MATCHLINE SEE CI-103



MATCHLINE SEE CI-101

MATCHLINE SEE CI-104

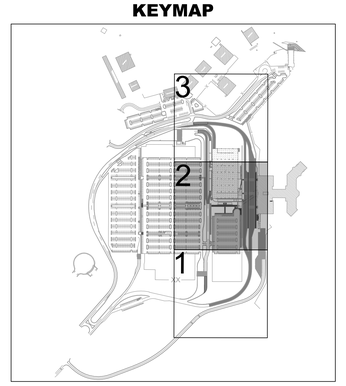
LEGEND

	PROPOSED 2" IRRIGATION PIPE
8F	8' RADIUS FULL CIRCLE PATTERN NOZZLE
8H	8' RADIUS HALF CIRCLE PATTERN NOZZLE
8Q	8' RADIUS QUARTER CIRCLE PATTERN NOZZLE
10F	10' RADIUS FULL CIRCLE PATTERN NOZZLE
10H	10' RADIUS HALF CIRCLE PATTERN NOZZLE
10Q	10' RADIUS QUARTER CIRCLE PATTERN NOZZLE
12F	12' RADIUS FULL CIRCLE PATTERN NOZZLE
12H	12' RADIUS HALF CIRCLE PATTERN NOZZLE
15F	15' RADIUS FULL CIRCLE PATTERN NOZZLE
15H	15' RADIUS HALF CIRCLE PATTERN NOZZLE
15Q	15' RADIUS QUARTER CIRCLE PATTERN NOZZLE
15CST	15' RADIUS CENTER STRIP PATTERN NOZZLE

NOTES

1. ALL SPRAY NOZZLES SHOULD BE MOUNTED ON 1 FOOT OR 2 FOOT RISERS BASED ON VEGETATION HEIGHT.
2. IRRIGATION PIPES ONLY SHOWN.
3. ALL SPRAY NOZZLES TO BE SHOWN AFTER COORDINATION FROM LANDSCAPE DESIGN.

KEYMAP



SHEET MUST BE PRINTED IN COLOR

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SCALE (IN FEET)
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ILM

PROJECT TITLE:
AIRPORT BOULEVARD AND PARKING IMPROVEMENTS
BID PACKAGE 3
PHASE 2

PROJECT ADDRESS
1740 AIRPORT BLVD
WILMINGTON, NC 28405

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	4/21/25

DATE ISSUED:	03/14/2025
REVIEWED BY:	AGS
DRAWN BY:	JBG
DESIGNED BY:	JBG
PROJECT NUMBER:	2003-0070-006

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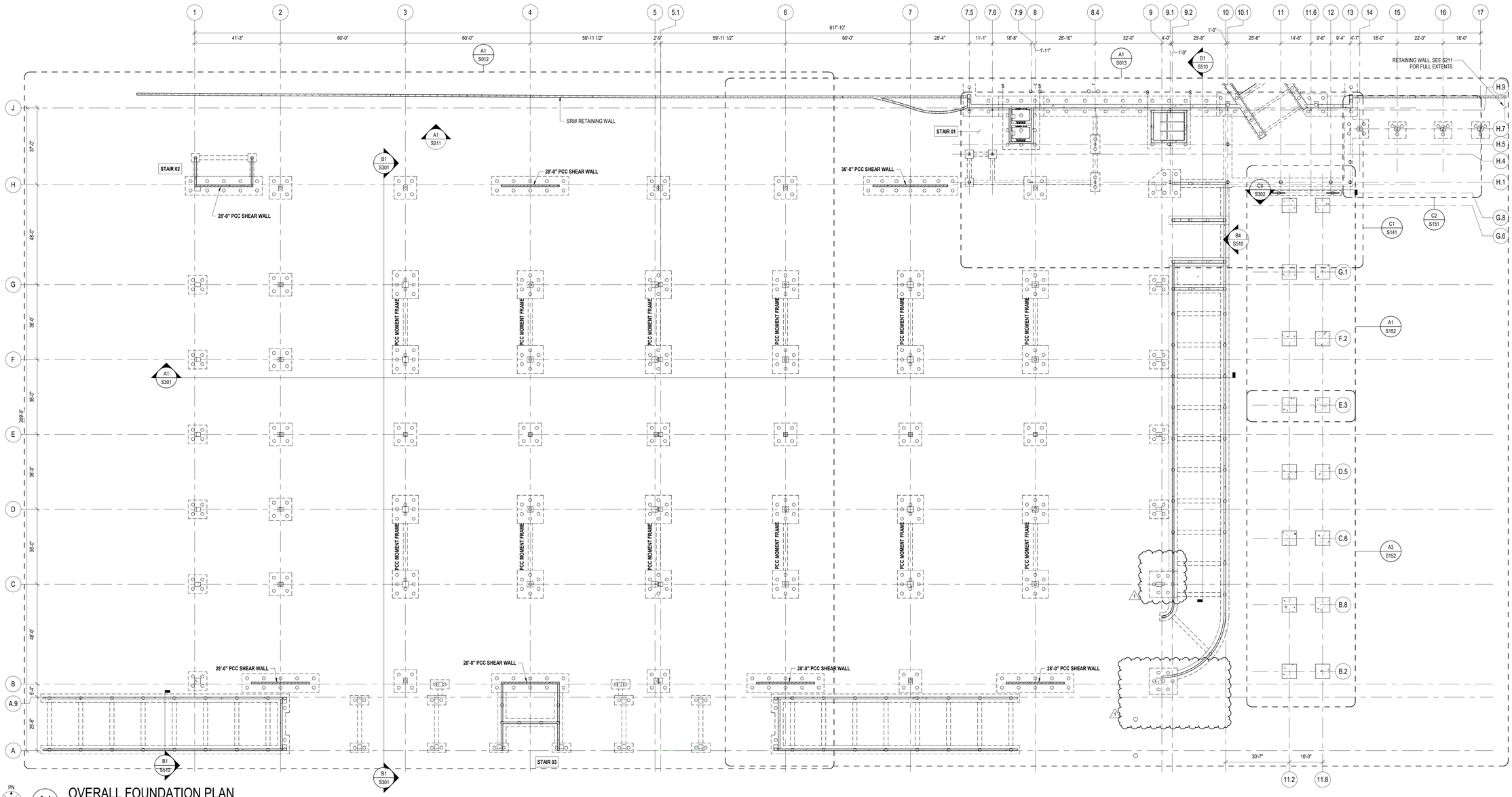
SEAL:

SHEET TITLE
IRRIGATION PLAN
(SHEET 2 OF 3)

SHEET ID
CI-102

PROJECT STATUS:
100% DESIGN

Plotted on: 4/18/2025 11:16 AM
Drawing: C:\pw_work\rsh_pw\pw_user\d0545380\LM BP3 CI-100-104.dwg



RS&H
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www.rsandh.com
North Carolina License Nos. 50073 *
F-0493 * C-28

Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

C
A B

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	MCM
DRAWN BY:	DFW
DESIGNED BY:	DFW
PROJECT NUMBER:	**2003-0070-006**

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SEAL:

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NOT FOR CONSTRUCTION

SHEET TITLE:
OVERALL FOUNDATION PLAN

SHEET ID:
S011

PROJECT STATUS:
100% BID SET

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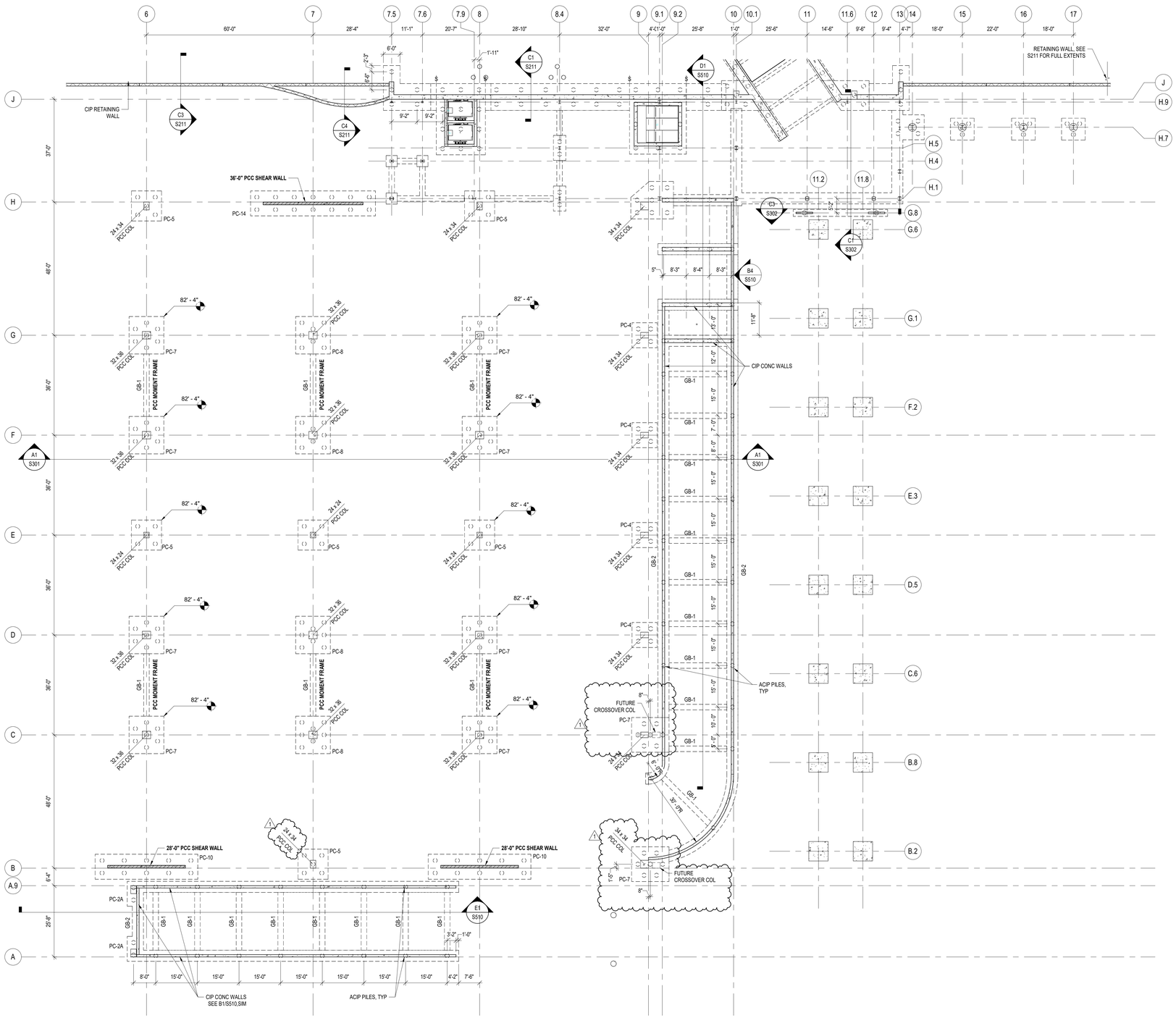
4/22/2025 3:53:34 PM Autodesk Docs://1003007004_ILM TO4 Rdwy Intl Improv Design/2003007006_ILM_TO6_Parking Garage and Shuttle Plaza_S_R24.rvt

FOUNDATION SHEET NOTES

1. DATUM ELEVATION 29.7' EQUALS REFERENCE ELEVATION 86'-0", UNLESS NOTED OTHERWISE.
2. T/ PILE CAP EQUALS ELEVATION 84'-0", UNLESS NOTED OTHERWISE.
3. **"PC-X"** INDICATES PILE CAP TYPE. SEE S601 FOR PILE CAP SCHEDULE & DETAILS.
4. **"GB-X"** INDICATES GRADE BEAM TYPE. SEE S602 FOR GRADE BEAM SCHEDULE & DETAILS.
5. PILE CAPS SHALL BE CENTERED ON PRECAST CONCRETE COLUMNS AND WALLS, UNLESS NOTED OTHERWISE.
6. GRADE BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH PILE CAPS.
7. **-69-** INDICATES SLAB STEP, SEE PLAN.
8. SEE C1/S501 FOR TYPICAL COLUMN - PILE CAP SECTION.
9. SEE C3/S501 FOR TYPICAL SHEAR WALL - PILE CAP SECTION.



A1 FOUNDATION PLAN - AREA B

SCALE: 1/16" = 1'-0"

SCALE: 1/16" = 1'-0"

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Hartranft Lighting Design

ILM

PROJECT TITLE:
ILM AIRPORT BOULEVARD AND PARKING IMPROVEMENTS - PHASE II

PROJECT ADDRESS:
1740 AIRPORT BLVD.
WILMINGTON, NC 28405

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
1	Addendum 1	4/10/2025

DATE ISSUED:	03/14/2025
REVIEWED BY:	MCM
DRAWN BY:	DFW
DESIGNED BY:	DFW

PROJECT NUMBER:
2003-0070-006

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SEAL:

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SHEET TITLE:
FOUNDATION PLAN - AREA B

SHEET ID:
S013

PROJECT STATUS:
100% BID SET

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100% Bid Set Submittal - Addendum 2
Date: 4-18-2025

Project: ILM Airport Boulevard – Parking Improvements Program
Phase 2 – Volume 1

RS&H Project No.: 2003-0070-006

Revised Contract Documents. See the itemized list below.

Contract Drawings

S011 – OVERALL FOUNDATION PLAN
REMOVE Wall and Foundation at Circulation Core Entrance

S013 – FOUNDATION PLAN – AREA B
REMOVE Wall and Foundation at Circulation Core Entrance

S101 – OVERALL SLAB ON GRADE PLAN
REMOVE Wall at Circulation Core Entrance

S103 – SLAB ON GRADE PLAN – AREA B
REMOVE Wall at Circulation Core Entrance

S121 – OVERALL LEVEL 2 FRAMING PLAN
REMOVE Wall, Steel Framing and Deck at Circulation Core Entrance

S123 – LEVEL 2 FRAMING PLAN – AREA B
REMOVE Wall, Steel Framing and Deck at Circulation Core Entrance

S141 – CIRCULATION CORE FOUNDATION AND SLAB ON GRADE PLANS
REMOVE Wall and Foundation at Circulation Core Entrance

S142 - CIRCULATION CORE 2ND, 3RD, AND ROOF FRAMING PLANS
REMOVE Wall, Steel Framing and Deck at Circulation Core Entrance

S152 – WALKWAY CANOPY FOUNDATION PLAN
REMOVE Wall and Foundation at Circulation Core Entrance

S156 – WALKWAY CANOPY FRAMING PLAN
REMOVE Wall, Steel Framing and Deck at Circulation Core Entrance

S302 – LOW ROOF AND LIGHT TOWER SETIONS AND DETAILS

REMOVE Foundation, Wall, Steel Framing and Deck at Circulation Core Entrance

S540 – TYPICAL MASONRY DETAILS

REVISE Detail D2 to remove T-joint and replace it with end condition.
REVISE Maximum opening size for Detail D5.
REVISE Precast lintel schedule to be dictated by opening size.
REMOVE Firestop reference in Detail A1 and replace it with "Compressible Material".
ADD Reinforcing requirement for the walls to Detail A4.

S901 – 3D ISOMETRICS

REMOVE Wall, Steel Framing and Deck at Circulation Core Entrance
REMOVE Stair 04 at SW Corner

A105 – PARTIAL SECOND FLOOR PLAN - AREA A

ADD Note for parking striping

A106 – PARTIAL SECOND FLOOR PLAN - AREA b

ADD Note for parking striping

A121 - OVERALL GROUND FLOOR REFLECTED CEILING PLAN

ADD Baffles and paint updated

A161 – OVERALL ROOF PLAN

ADD Missing dimensions

A163 – ENLARGED ROOF PLAN

ADD Note for metal roof

A313 – CIRCULATION CORE WALL SECTIONS

ADD Missing note and detail callout

A401 – CIRCULATION CORE FIRST FLOOR ENLARGED PLAN AND REFLECTED CEILING PLAN

ADD Missing note
REMOVE Cement plastering wall and adjacent roof; replaced with premanufactured metal cantilevered canopy

A403 – CIRCULATION CORE THIRD FLOOR ENLARGED PLAN AND REFLECTED CEILING PLAN

ADD Missing note

A404 - CIRCULATION CORE ELEVATIONS

REVISE Note
ADD Missing notes
REVISE Note for metal roof
MODIFY Extended view to show backside of light beacon

ADD Missing metal panel reveals
ADD Note for parking striping
REMOVE Cement plastering wall and adjacent roof; replaced with premanufactured metal cantilevered canopy

A405 – CIRCULATION CORE SECTIONS
REMOVE Cement plastering wall and adjacent roof; replaced with premanufactured metal cantilevered canopy

A415 – GARAGE CORE LIGHT BEACON ENLARGED PLAN AND SECTIONS
ADD Missing dimensions
ADD Missing notes
UPDATE Graphics to resemble metal panel reveal

A507 – BAFFLE DETAILS
ADD Sheet for baffle detailing

A612 – GLAZING ELEVATIONS
REMOVE Feature stair and respective light beacon and details have been removed from the project
ADD Mullions and respective dimensions

A621 – ROOM FINISH SCHEDULE
UPDATE legend and notes

E001
REVISE LUMINAIRE DESCRIPTIONS

EL111
MODIFY LUMINAIRE LOCATIONS AND TYPES.

EL601
REVISE LUMINAIRE SCHEDULE

EP111
ADD CIRCUIT FOR SECURITY POLE

EP121
ADD CIRCUITS FOR HEAT TRACE SYSTEM

ES111
ADD CIRCUITS FOR SECTION OF TEMPORARY CANOPY THAT IS TO REMAIN

EP601
UPDATE MAIN BREAKER SIZE FOR GENERATOR

EP602

UPDATE PANEL SCHEDULES WITH ADDITIONAL LOADS

EP603

UPDATE PANEL SCHEDULES WITH ADDITIONAL LOADS

Specifications

Table of Contents

REMOVED Specification 04 20 00 Unit Masonry from the Table of Contents.

ADDED Specification 07 41 13 Zip Rib 22GA to the Table of Contents.

04 22 00 – Concrete Unit Masonry

REPLACE specification in its entirety. Incorporated 04 20 00 and modified as required for the Volume 1 scope.

09 65 19 – Resilient Tile Flooring

REVISED specification.

07 41 13 – Zip Rib 22GA

ADDED specification.

END OF NARRATIVE

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Not used.

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Not used.

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Not used.

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Not used.

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Appendix B – Contract Provision Guidelines for Obligate Sponsors and Airport Improvement Program Projects
Appendix C – Construction Safety and Phase Plan
See Volume 3 for: Appendix D – NCDOT Specification List
See Volume 3 for: Appendix E – Bid Form

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SECTION 04 22 00 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Masonry-joint reinforcement.
5. Embedded flashing.
6. Miscellaneous masonry accessories.
7. Masonry-cell fill.

~~B. Products Installed but not Furnished under This Section:~~

~~1. Cast-stone trim in concrete unit masonry.~~

~~C. Related Requirements:~~

~~1. Section 05 12 00 "Structural Steel Framing" for installing anchor sections of adjustable masonry anchors for connecting to structural steel frame.~~
~~2. Section 07 62 00 "Sheet Metal Flashing and Trim" for exposed sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.~~
~~3. Section 08 95 16 "Wall Vents" for wall vents (brick vents).~~

1.2 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

~~1.3 PREINSTALLATION MEETINGS~~

~~A. Preinstallation Conference: Conduct conference at project site.~~

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.
3. ~~Fabricated Flashing: Detail corner units, end-dam units, and other special applications.~~

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Material Certificates: For each type and size of the following:

1. Masonry units.

a. Include data on material properties, material test reports substantiating compliance with requirements.
b. ~~For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.~~

2. Integral water repellant used in CMUs.
3. Cementitious materials. Include name of manufacturer, brand name, and type.
4. Mortar admixtures.
5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
6. Grout mixes. Include description of type and proportions of ingredients.
7. Reinforcing bars.
8. Joint reinforcement.
9. ~~Anchors, ties, and metal accessories.~~

C. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test in accordance with ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
2. Include test reports, in accordance with ASTM C1019, for grout mixes required to comply with compressive strength requirement.

D. ~~Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined in accordance with TMS 602/ACI 530.1/ASCE 6.~~

E. ~~Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.~~

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified in accordance with ASTM C1093 for testing indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 FIELD CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches (600 mm) down both sides of walls, and hold cover securely in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.

3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.

1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) in accordance with TMS 602/ACI 530.1/ASCE 6.

2.3 UNIT MASONRY, GENERAL

A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6 except as modified by requirements in the Contract Documents.

B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.

C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.

1. Where fire-resistance-rated construction is indicated, units are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

2.4 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
2. Provide square-edged units for outside corners unless otherwise indicated.

B. Integral Water Repellent: Provide units made with integral water repellent for exposed units.

1. Integral Water Repellent: Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested in accordance with ASTM E514/E514M as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive, with test period extended to 24 hours, show no visible water or leaks on the back of test specimen.

C. CMUs: ASTM C90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength as indicated on Drawings.
2. Density Classification: Normal weight.
3. Size (Width): Manufactured to dimensions 3/8 inch (10 mm) less-than-nominal dimensions.

~~D. Concrete Building Brick: ASTM C55.~~

~~1. Unit Compressive Strength: Reference specification 042613 Masonry Veneer.~~

2.5 CONCRETE AND MASONRY LINTELS

A. General: Provide one of the following:

B. Concrete Lintels Matching CMU in Color, Texture: ASTM C1623, matching density classification; and with reinforcing bars indicated. Provide lintels with net-area compressive strength not less than that of CMUs.

C. Precast or Formed-in-Place Concrete Lintels: Precast or formed-in-place concrete lintels complying with requirements in Section 033000 "Cast-In-Place Concrete," and with reinforcing bars indicated. Matching CMU in color without manufacturer stamp.

D. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs matching adjacent CMUs in color, texture, and density classification, with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.6 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

1. Alkali content is not more than 0.1 percent when tested in accordance with ASTM C114.

B. Hydrated Lime: ASTM C207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C91/C91M.

E. Mortar Cement: ASTM C1329/C1329M.

F. Aggregate for Mortar: ASTM C144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
2. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
3. White-Mortar Aggregates: Natural white sand or crushed white stone.
4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

G. Aggregate for Grout: ASTM C404.

H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

I. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.

J. Water: Potable.

2.7 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60 (Grade 420).

B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch (3.77-mm) steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

C. Masonry-Joint Reinforcement, General: Ladder type complying with ASTM A951/A951M.

1. Interior Walls: Hot-dip galvanized carbon steel.
2. Exterior Walls: Hot-dip galvanized carbon steel.
3. Wire Size for Side Rods: 0.187-inch (4.76-mm) diameter.
4. Wire Size for Cross Rods: 0.148-inch (3.77-mm) diameter.
5. Spacing of Cross Rods: Not more than 16 inches (407 mm) o.c.
6. Provide in lengths of not less than 10 feet (3 m), with prefabricated corner and tee units.

~~2.8 TIES AND ANCHORS~~

~~A. General: Ties and anchors extend at least 1-1/2 inches (38 mm) into masonry but with at least a 5/8-inch (16-mm) cover on outside face.~~

~~B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:~~

~~1. Mill-Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A641/A641M, Class 1 coating.~~
~~2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.~~
~~3. Stainless Steel Wire: ASTM A580/A580M, Type 316.~~
~~4. Galvanized-Steel Sheet: ASTM A653/A653M, Commercial Steel, G60 (Z180) zinc coating.~~

5. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
6. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 316.
7. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Tie Section: Triangular-shaped wire tie made from 0.187-inch- (4.76-mm-) diameter, hot-dip galvanized steel or stainless steel wire.

D. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Tie Section: Triangular-shaped wire tie made from 0.187-inch- (4.76-mm-) diameter, hot-dip galvanized steel or stainless steel wire.
2. Corrugated-Metal Ties: Metal strips not less than 7/8 inch (22 mm) wide with corrugations having a wavelength of 0.3 to 0.5 inch (7.6 to 12.7 mm) and an amplitude of 0.06 to 0.10 inch (1.5 to 2.5 mm) made from 0.060-inch- (1.52-mm-) thick steel sheet, galvanized after fabrication with dovetail tabs for inserting into dovetail slots in concrete.

a. 0.064-inch- (1.63-mm-) thick, galvanized sheet may be used at interior walls unless otherwise indicated.

E. Partition Top Anchors: 0.105-inch- (2.66-mm-) thick metal plate with a 3/8-inch- (9.5-mm-) diameter metal rod 6 inches (152 mm) long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication or stainless steel.

F. Rigid Anchors: Fabricate from steel bars 1-1/2 inches (38 mm) wide by 1/4 inch (6.35 mm) thick by 24 inches (610 mm) long, with ends turned up 2 inches (51 mm) or with cross pins unless otherwise indicated.

1. Corrosion Protection: Hot-dip galvanized to comply with ASTMA 153/A153M.

2.9 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:

1. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.016 inch (0.40 mm) thick.

2. Copper: ASTM B370, Temper H00, cold-rolled copper sheet, 16-oz./sq. ft. (4.9-kg/sq. m) weight or 0.0216 inch (0.55 mm) thick or ASTM B370, Temper H01, high-yield copper sheet, 12-oz./sq. ft. (3.7-kg/sq. m) weight or 0.0162 inch (0.41 mm) thick.
3. Fabricate continuous flashings in sections 96 inches (2400 mm) long minimum, but not exceeding 12 feet (3.7 m). Provide splice plates at joints of formed, smooth metal flashing.
4. Fabricate through-wall metal flashing embedded in masonry from stainless steel, with ribs at 3-inch (76-mm) intervals along length of flashing to provide an integral mortar bond.
5. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
6. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
7. Fabricate through-wall flashing with sealant stop unless otherwise indicated. Fabricate by bending metal back on itself 3/4 inch (19 mm) at exterior face of wall and down into joint 1/4 inch (6 mm) to form a stop for retaining sealant backer rod.
8. Fabricate metal [drip edges] [and] [sealant stops] for ribbed metal flashing from plain metal flashing of same metal as ribbed flashing and extending at least 3 inches (76 mm) into wall with hemmed inner edge to receive ribbed flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam sheds water.
9. Fabricate metal drip edges from stainless steel. Extend at least 3 inches (76 mm) into wall and 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
10. Fabricate metal sealant stops from stainless steel. Extend at least 3 inches (76 mm) into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch (19 mm) and down into joint 1/4 inch (6 mm) to form a stop for retaining sealant backer rod.
11. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.
12. Solder metal items at corners.

B. Application: Unless otherwise indicated, use the following:

1. Where flashing is indicated to receive counterflashing, use metal flashing.
2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing with a drip edge and a sealant stop, or elastomeric thermoplastic flashing with a drip edge.
4. Where flashing is fully concealed, use metal flashing.

~~C. Single-Wythe CMU Flashing System: System of CMU cell flashing pans and interlocking CMU web covers made from UV-resistant, high-density polyethylene. Cell flashing pans have integral weep spouts designed to be built into mortar bed joints and that extend into the cell to prevent clogging with mortar.~~

~~D. Revise "Elastomeric Sealant" Subparagraph below if sealant of specific type, grade, class, and use is required.~~

~~1. Elastomeric Sealant: ASTM C920, chemically curing urethane sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and remain watertight.~~

~~E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.~~

2.10 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane or PVC.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D2000, Designation M2AA-805 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use portland cement-lime or masonry cement mortar unless otherwise indicated.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion/Property Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.

D. Grout for Unit Masonry: Comply with ASTM C476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C476, paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 3000 psi.
3. Provide grout with a slump of 8 to 11 inches (200 to 280 mm) as measured in accordance with ASTM C143/C143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.
4. Verify that substrates are free of substances that would impair mortar bond.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Build chases and recesses to accommodate items specified in this and other Sections.

B. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.

C. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws;

provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

D. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm).

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).

2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4 inches (100 mm). Bond and interlock each course of each wythe at corners. Do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.

H. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.

B. Lay solid CMUs with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.

1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
2. Wet joint surfaces thoroughly before applying mortar.
3. Rake out mortar joints for pointing with sealant.

D. Rake out mortar joints at pre-faced CMUs to a uniform depth of 1/4 inch (6 mm) and point with epoxy mortar to comply with epoxy-mortar manufacturer's written instructions.

E. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

F. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

G. Cut joints flush where indicated to receive waterproofing unless otherwise indicated.

3.6 MASONRY-JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches (406 mm) o.c.
2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 12 inches (305 mm) beyond openings in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 ANCHORING MASONRY TO ~~STRUCTURAL STEEL AND~~ CONCRETE

A. Anchor masonry to ~~structural steel and~~ concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:

1. Provide an open space not less than 1/2 inch (13 mm) wide between masonry and ~~structural steel or~~ concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
~~2. Anchor masonry with anchors embedded in masonry joints and attached to structure.~~
~~3. Space anchors as indicated, but not more than 24 inches (610 mm) o.c. vertically and 36 inches (915 mm) o.c. horizontally.~~

~~3.8 CONTROL AND EXPANSION JOINTS~~

~~A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.~~

~~B. Form control joints in concrete masonry using one of the following methods:~~

~~1. Fit bond-breaker strips into hollow contour in ends of CMUs on one side of control joint. Fill resultant core with grout, and rake out joints in exposed faces for application of sealant.~~
~~2. Install preformed control-joint gaskets designed to fit standard sash block.~~
~~3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar, or rake out joint for application of sealant.~~
~~4. Install temporary foam-plastic filler in head joints, and remove filler when unit masonry is complete for application of sealant.~~

3.9 LINTELS

A. Provide lintels where shown and where openings of more than 12 inches (305 mm) for brick-size units and 24 inches (610 mm) for block-size units are shown without structural steel or other supporting lintels.

~~3.10 FLASHING~~

~~A. General: Install embedded flashing at ledges and other obstructions to downward flow of water in wall where indicated.~~

~~B. Install flashing as follows unless otherwise indicated:~~

~~1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.~~
~~2. At lintels, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.~~
~~3. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches (38 mm) or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 079200 "Joint Sealants" for application indicated.~~
~~4. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal drip edge.~~

~~C. Install single-wythe CMU flashing system in bed joints of CMU walls where indicated to comply with manufacturer's written instructions. Install CMU cell pans with upturned edges located below face shells and webs of CMUs above and with weep spouts aligned with face of wall. Install CMU web covers so that they cover upturned edges of CMU cell pans at CMU webs and extend from face shell to face shell.~~

~~D. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.~~

3.11 REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches (1520 mm).

3.12 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.

B. Inspections: Special inspections in accordance with Level indicated on Drawings in TMS 402/ACI 530/ASCE 5.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Frequency: One set of tests for each 5000 sq. ft. (464 sq. m) of wall area or portion thereof.

D. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, in accordance with ASTM C780.

E. Mortar Test (Property Specification): For each mix provided, in accordance with ASTM C780. Test mortar for mortar air content and compressive strength.

F. Grout Test (Compressive Strength): For each mix provided, in accordance with ASTM C1019.

3.13 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

3.14 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.

C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 22 00

SECTION 07 41 13 - STANDING SEAM ROOF PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY.

A. Work described in this section includes pre-formed metal roofing system complete with clips, perimeter and penetration flashing, closures, gutters, and downspouts.

B. Related work specified elsewhere:

1. Metal roof decks.
2. Wood roof decks.
3. Metal fabrications.
4. Rough carpentry.
5. Flashing and sheet metal. (Not roof panel related).
6. Air barrier and vapor retarder.
7. Thermal insulation.
8. Sealants.

1.3 DEFINITIONS

A. American Architectural Manufacturer Association (AAMA):

1. AAMA 501.1-17: Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure.
2. AAMA 621-02: Voluntary/Standard Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) & Zinc-Aluminum Coated Steel Substrates

B. American Iron and Steel Institute (AISI):

1. S100-16: 2016 Edition of the North American Specification for the Design of Cold-Formed Steel Structural Members.

C. American Society of Civil Engineers (ASCE):

1. ASCE 7-16: Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

D. American Society for Testing and Materials (ASTM):

1. A653-19a: Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. A755–18 Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products.
3. A792-10(2015): Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
4. B209-14: Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
5. D1056-14: Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.
6. D3575-14: Standard Test Methods for Flexible Cellular Materials made from Olefin Polymers.
7. E1514-98(2017) e1 Standard Specification for Structural Standing Seam Steel Roof Panels.
8. E1592-05(2017): Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
9. E1637-98(2017) e1 Standard Specifications for Structural Standing Seam Aluminum Roof Panel Systems.
10. E1646-95(2018): Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference.
11. E1680-16: Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
12. E2140-01(2017): Standard Test Method for Water Penetration of Metal Roof Panels Systems by Static Water Pressure Head.

E. Factory Mutual Approvals (FM):

1. FM 4471, August 1995: Approval Standard for Class I Panel Roofs.

F. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):

1. Architectural Sheet Metal Manual, 7th edition.

G. Underwriters Laboratory (UL):

1. UL 580, 5th Ed.: Standard for Tests for Uplift Resistance of Roof Assemblies.
2. UL 790, 8th Ed.: Standard for Tests for Fire Resistance of Roof Covering Materials.

H. National Association of Architectural Metal Manufacturers (NAAMM)

1. Metal Finishes Manual for Architectural and Metal Products

1.4 DESIGN AND PERFORMANCE CRITERIA.

A. Thermal Expansion and Contraction.

1. Completed metal roofing and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling or reducing performance ability.

2. The design temperature differential shall be not less than 220 °F (120 °C).

3. Clips shall be designed to allow for expansion and contraction of the roof relative to the structure throughout the temperature range specified above...

4. Resistance to wear through- An assembled specimen at least 3 panels wide spanning 3 or more supports with a 10-pound (4.5 kg) positive load on each clip shall be subjected to 100,000 cycles ½-inch (13 mm) in each direction for a total of 1-inch (25 mm) thermal movement. Upon completion, the panel shall show no signs of wear through from the top nor shall the contact surfaces between the clip and panel show any more than 25% loss in metal thickness. Laboratory test reports shall be independently certified (not by the manufacturer) by a registered professional engineer licensed to practice in any United States jurisdiction.

B. Uniform Wind Uplift Load Capacity.

1. Installed roof system shall withstand negative wind uplift pressures complying with the following criteria.

a. Design Code: ASCE 7, Method 2 for Components and Cladding.

b. Safety Factor: As determined in accordance with AISI S100 section D6.2.1, but in no instance shall the safety factor be taken to be less than 1.67 for any roof or wall zone. The provisions of Section D6.2.1a of Appendix A shall NOT be applicable for this project.

2. The ultimate capacity of the panel system shall be determined based on performance testing in accordance with ASTM E1592. The allowable load carrying capacity shall be calculated in accordance with AISI S100 section D6.2.1, except the provisions of Section D6.2.1a of Appendix A shall NOT be applicable for this project.

C. Uniform Positive Load Capacity.

1. Uniform positive load capacity shall be determined in accordance with AISI S100.

2. The installed roof system shall be capable of resisting each of the following positive uniform roof loads: Roof Live Load of 20 psf; Roof Snow Load as indicated in structural documents.

3. Installed roof system shall carry positive uniform design loads with a maximum system deflection of L/180 as measured at the rib (web) of the panel.

D. Wind Uplift Classification: The panel system shall be listed as a Class 90 windstorm rated system, as determined by UL 580.

E. Fire Resistance Classification: The panel system shall be listed as a Class A Roof Covering, as determined by UL 790.

F. Air infiltration: The panel system shall be tested in accordance with ASTM E1680, and meet or exceed the following performance requirements:

Pressure	Area Leakage Rate
1.57 PSF	0.0010 cfm/sq.ft.
6.24 PSF	0.0020 cfm/sq.ft.
20.0 PSF	0.0032 cfm/sq.ft.

G. Static air pressure water infiltration: The panel system shall be tested in accordance with ASTM E1646, and meet or exceed the following performance requirements:

Pressure	Result
6.2 Gal/Hr per S.F. and Static Air Pressure of 20.0 psf for 15 minutes	No Leakage

H. Static water pressure head water infiltration.

1. The panel system shall be tested in accordance with ASTM E2140, and pass with no leakage. The test specimen must include a panel end lap condition and successfully withstand being submerged under 6" of water for 6 hours.

I. Dynamic pressure water penetration.

1. The panel system shall be tested in accordance with AAMA 501.1, and pass with no water penetration, other than condensation, when exposed to 8" per hour of dynamic rain and 77 mph wind velocities for not less than five (5) minutes duration. This pertains to the roof panel flashing components.

J. Class I Panel Rating: The specified panel system shall be listed as a Class I Panel Roof, in accordance with FM 4471. The tested system shall be identical to the specified panel for this project regarding profile, gauge, width, and material. The anchor clip spacing for this project name shall be based on E1592 requirements, but the clip spacing for roof zone 1 shall not exceed that of the FM 4471 test reports.

1.5 SUBMITTALS.

A. Shop drawings: Show roof panel system with flashings and accessories in plan view; sections and details. Include metal thicknesses and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work. Shop drawings to be prepared by metal roof panel manufacturer and sealed by a professional engineer registered in the state of the project location.

B. Financial Certification: Provide the building owner with a signed and notarized (sealed) affidavit by an officer of the panel system manufacturer which confirms a current minimum corporate asset-to-liability ratio of not less than 3:1 for the panel manufacturer, or its parent corporation. Financial support information and affidavit must be dated within 30 days prior to the product submittal.

C. Design Test Reports.

1. Submit copies of design test reports for each of the performance testing standards listed in specification article 1.4. This shall be submitted with the contractors bid documents to establish submitted roof system meets all above requirements.

2. Test reports shall be performed by independent, accredited testing laboratories, and shall bear the seal of a registered professional engineer.

D. Warranty: Provide unexecuted specimen warranty documents for each warranty as required in specification article 1.10.

E. Samples.

1. Submit sample of panel section, at least 6-inch x 6-inch (150 mm x 150 mm) showing seam profile and a sample of color selected.

2. Submit sample of panel clip, gable clip, and preformed metal and foam closures.

1.6 QUALITY CRITERIA/INSTALLER QUALIFICATIONS.

A. Engage an experienced metal roofing contractor (erector) to install standing seam system who has a minimum of three (3) years' experience specializing in the installation of structural standing seam metal roof systems.

B. Contractor must be certified by manufacturer specified as a supplier of standing seam system and obtain written certification from manufacturer that installer is approved for installation of the specified system. Contractor will have attended the manufacturers training program for certification.

C. Successful contractor must obtain all components of roof system from a single manufacturer. Any secondary products that are required which cannot be supplied by the specified manufacturer must be recommended and approved in writing by primary manufacturer prior to bidding.

D. Fabricator/Installer shall submit work experience and evidence of adequate financial responsibility. Architect reserves the right to inspect fabrication facilities in determining qualifications.

E. Manufacturer shall provide 3 (three) inspections during the installation of the panel system. This shall be a direct employee of the manufacturer. Inspections shall be followed with a weekly documented report including pictures of work completed. Reports shall be submitted to the contracted installer of the roofing system.

1.7 DELIVERY, STORAGE, AND HANDLING.

A. Inspect materials upon delivery.

B. Handle materials to prevent damage.

C. Store materials off ground providing for drainage; under cover providing for air circulation; and protected from any debris.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.9 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

B. Coordinate metal roof panels with rain drainage work, flashing, trim, and construction of decks, purlins, rafters, parapets, walls and other adjoining work to provide a leak proof, secure, and noncorrosive installation.

1.10 WARRANTIES

A. Endorse and forward to owner the following warranties:

1. Manufacturer’s standard 20-year roof system weathertightness warranty, jointly signed by the installer and manufacturer. The warranty shall not place any limitations on wind speed, up to a maximum design wind speed as given in Article 1.4 of this specification.

2. Manufacturer's standard 20-year finish warranty covering checking, crazing, peeling, chalking, fading, and adhesion of the pre-painted sheet metal materials.

3. Installer's 3-year warranty covering roof panel system installation and water-tightness.

B. Warranties shall commence on date of substantial completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Painted, metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A755/A755M.

1. Recycled Content: Provide steel sheet with average recycled content such that postconsumer recycled content plus one-half of pre-consumer recycled content is at least 70 percent.
2. 22 gauge, Zinc-Coated (Galvanized) Steel Sheet, as per ASTM A653: G90 (Z275) coating designation; structural quality, minimum grade 40 ksi (275 MPa).
3. Texture: Smooth surface.
4. Exposed Coil-Coated Finish:
    a. 2-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Manufacturers' approved applicator to prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
    b. Coating system shall provide nominal 1.0 mil (0.025 mm) dry film thickness, consisting of primer and color coat.
    c. Color shall be selected from IMETCO's Standard Colors.
5. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

C. Panel Sealants:

1. Seam Sealant: Factory applied hot melt, high viscosity, pressure sensitive adhesive with high heat resistance.
2. Sealant Tape: Non-curing, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape 1-inch- (13-mm-) wide and 1/16-inch- (3-mm-) thick.
3. Exposed Sealant: ASTM C 920; elastomeric tri-polymer, polyurethane, or other advanced polymer sealant; of type, grade, class, and use classifications required to seal joints in metal roof panels and remain weathertight; and as recommended in writing by metal roof panel manufacturer.
4. Concealed Sealant: ASTM C 1311: Butyl-Based, Solvent-Release, One-Part Sealant.

2.2 FIELD-INSTALLED THERMAL INSULATION

A. Not required

2.3 SUBSTRATE BOARD

A. Not required

2.4 UNDERLAYMENT MATERIALS

A. Not required

2.5 MISCELLANEOUS METAL FRAMING

A. Miscellaneous Metal Framing, General: ASTM C645, cold-formed metallic-coated steel sheet, ASTM A653, G90 (Z275) hot-dip galvanized.

B. Fasteners for Miscellaneous Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten miscellaneous metal framing members to substrates.

2.6 MISCELLANEOUS MATERIALS

A. Concealed fasteners: Corrosion resistant steel screws, #10 minimum diameter x length appropriate for substrate, hex washer head or pancake head. Use self-drilling, self-tapping for metal substrate or A-point for wood substrate.

B. Exposed fasteners: 3xx series stainless steel screws (cadmium or zinc coatings are not acceptable) with neoprene sealing washer, or 1/8-inch- (3-mm-) diameter stainless steel rivets.

2.7 STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips at side laps. Include clips, cleats and accessories required for weathertight installation.

1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.

B. Vertical-Rib, Standing-Seam Metal Roof Panels with field seamed panel legs. Formed with vertical ribs at panel edges and two intermediate pencil beads spaced between ribs; designed for installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.

1. Basis-of-Design System: Panel shall be IMETCO (Merchant & Evans) ZIP RIB roof panel system as manufactured by Innovative Metals Company, Inc. (IMETCO), Norcross, Georgia (800-646-3826)
2. Alternate manufacturers are subject to full compliance with specification requirements, have a minimum of 15 years manufacturing panel profile specified and shall be submitted for approval as follows:
    a. KALZIP
    b. BEMO
    c. No other substitutions shall be permitted for this project.
3. Material and Finish: As indicated in specification article 2.1.
4. Characteristics:
    a. The same panel profile from a single manufacturer shall be used for ALL standing seam roof areas.
    b. Configuration: Standing seams incorporating mechanically interlocked, concealed anchor clips which allow thermal movement.
        1) Profile of panel shall have two stiffening beads equally spaced across the panel width.
        2) Exposed fasteners, screws and/or roof mastic are unacceptable and will be rejected. System configuration only allows for exposed fasteners at panel overlap (if required and approved by architect) and trim details (as per manufacturer's guidelines).
        3) Panels must be furnished in continuous lengths from eave to eave with no overlaps accepted. This applies to this application. Fixed point by panel clips will be done at the ridge area determined by panel manufacturer and noted on shop drawings.
        4) Curved panels shall be mechanically curved to the exact radius of each curved roof area. Panels may be mechanically curved in the factory or on site. Curving must be performed with the panel manufacturer's curving machine and operated by the manufacturer's full time trained and experienced technician. Flat panels conformed to the roof shape are not acceptable and will be rejected.
    c. Seam must be 2.5-inch (60 mm) minimum height for added strength for negative pressures design.

d. Panel seam shall contain a non-curing hot melt sealant concealed in the panel leg.

e. Panel seam shall be field crimped by means of an electric seaming tool to seal adjacent panels into a weathertight system, once installed. Installed panels seams shall be capable of being un-seamed by use of an electric "unzipping" tool. The un-seaming operation shall render each adjacent panel removable and reusable, without any permanent damage.

f. Site Formed Panels Mandatory: Panels are in excess of shippable length and shall be formed on-site. Site formed panels shall meet each of the following requirements:

   1) Panels shall be formed on heavy duty factory type roll-formers with no fewer than 18 forming stations to improve quality and minimize oil canning.

   2) Panels shall be of identical profile and characteristics as factory formed panels and specimens used as the basis of performance tests.

   3) Site roll-forming equipment shall be owned and maintained by the panel manufacturer and operated by the panel manufacturer's trained full-time experienced technician. The installer must provide additional personnel to handle raw materials and finished product as necessary.

   4) Panels are to be field fabricated by the Zip Rib panel former. The panels shall be rolled on tilted panel machine directly to the existing roof.

g. Concealed Standard Anchor Clips: Clips must be a two (2) piece sliding type with an 18-gauge (1.3 mm) galvanized steel base and 20-gauge (0.9 mm) galvanized steel top hook.

   1) Clip must maintain a clearance of a minimum of 3/8-inch (9.5 mm) between panel and substrate for proper ventilation to help prevent condensation on underside of panel and eliminate the contact of panel fastener head to panel.

h. Standing Seam Panel Width: 16"

i. Panel ends shall be folded up 90 degrees at ridge, headwall, and hip conditions, where applicable. No metal shall be cut or otherwise perforated at the folded end.

2.8 ACCESSORIES

A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.

2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips meeting ASTM D1056 and/or D3575; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

3. Gable anchor clips: 18 gauge (1.3 mm) galvanized steel**.**

B. Flashing and Trim: Formed from same material and gauge as roof panels, prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

C. Radius Rake/Gable Trim shall be welded to conform to the radius of the existing barrel roof. This shall be a min of 8-inch (200 mm) vertical face x 96-inch (2.4 m) lengths. Aluminum shall be a minimum of 0.050-inch (1.3 mm), fully welded. Trim shall be post-painted 70 percent PVDF to match the roof panel color. Segmented trims will not be accepted.

D. Gutters: Formed from same material as roof panels. Fabricate in minimum 120-inch (3 m) long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced per SMACNA’s recommendation based on gauge and stretch-out, fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets.

E. Downspouts: Formed from same material as roof panels. Fabricate in 120-inch- (3-m-) long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual". Finish downspouts to match gutters.

1. Downspout Brackets: Where detailed, surface mounted downspout protection guards shall be fabricated from ¼-inch- (6-mm-) thick formed aluminum, and shall be post-painted with a matching full-strength 70 percent PVDF finish and warranted by the panel manufacturer for same term as specified for material finishes.

F. Roof Curbs: Fabricated from same material as roof panels, minimum and welded top box and integral full-length cricket. Fabricate curb subframing of minimum 16-gauge-(1.5-mm-) thick, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads, of size and height indicated. Finish roof curbs to match metal roof panels.

2.9 SNOW GUARDS

1. Not required.

2.10 FABRICATION

A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Fabricate metal roof panel seam with factory-installed hot melt, high viscosity, pressure sensitive adhesive with high heat resistance, in a manner that will seal weathertight.

D. Form flashing components from full single width sheet in minimum 120-inch (3 m) sections. Provide mitered corners, joined using closed end pop rivets and butyl-based, solvent released one-part sealant.

E. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

2. Sealed Joints: Form nonexpanding but movable joints in metal to accommodate butyl-based sealant to comply with SMACNA standards.

3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.

4. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

2.11 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - PREPERATION & EXECUTION

3.1 EXAMINATION

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

B. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.

C. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking, and that installation is within flatness tolerances required by metal roof panel manufacturer.

D. Examine roughing-in for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.

E. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

B. Establish straight, side and crosswise benchmarks

C. Use proper size and length fastener for strength requirements. Approximately 5/16-inch (8 mm) is allowable for maximum fastener head size beneath the panel.

D. Rectangular roofs shall be checked for square and straightness. Gable ends may not be straight; set a true line for the gable clips and flashing with string line.

E. Measure the roof lengthwise to confirm panel lengths, overhangs, coverage of flashings at eaves and ridges and verify clearances for thermal movement.

3.3 STANDING SEAM METAL ROOF PANEL INSTALLATION

A. All details will be shown on in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.

B. Install attachment clips according to shop drawings, spaced per wind uplift calculations.

C. Installation of Roof Panels: Unless alternate means are approved by the panel manufacturer, roof panels shall be installed by starting from one end and working towards the opposite end per manufacturer's installation guide.

1. Use three fasteners secured through the panel pan to permanently anchor the panel to the roof deck located at the ridge or head conditions. This is done at each panel along the ridge or head conditions.

   a. Fasteners are positioned behind the panel head closures to create a fixed panel point.

   b. Use a 3/8" shim underneath the panel to maintain a flat and level panel pan to prevent panel pan from being pulled out of plane.

   c. A hand crimping tool is used to crimp the cap around the top of two adjacent panels.

   d. Panel shall then be permanently seamed with manufacturers mechanical seamer.

D. Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.

E. Limit exposed fasteners to extent indicated on contract drawings.

F. Seal laps and joints in accordance with roofing system manufacturer's product data.

G. Coordinate flashing and sheet metal work to provide weathertight conditions at roof terminations. Fabricate and install in accordance with standards of SMACNA Manual.

H. Provide for temperature expansion/contraction movement of panels at roof penetrations and roof mounted equipment in accordance with system manufacturer's product data and design calculations.

I. Installed system shall be true to line and plane and free of dents, and physical defects. In light gauge panels with wide flat surfaces, some oil canning may be present. Oil canning does not affect the finish or structural integrity of the panel and is therefore not cause for rejection.

J. At joints in linear sheet metal items, set sheet metal items in two ¼-inch- (6-mm-) beads of butyl sealant. Extend sealant over all metal surfaces. Mate components for positive seal. Allow no sealant to migrate onto exposed surfaces.

K. Remove damaged work and replace with new, undamaged components.

L. Touch up exposed fasteners using paint furnished by roofing panel manufacturer and matching exposed panel surface finish.

M. Clean exposed surfaces of roofing and accessories after completion of installation. Leave in clean condition at date of substantial completion. Touch up minor abrasions and scratches in finish.

3.4 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align metal roof panel units within installed tolerance of ¼-inch in 20-feet (6 mm in 6 m) on slope and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect metal roof panel installation, including accessories. Report results in writing. Inspections shall occur a minimum of 5%, 50%, 100% completion by employee of the panel manufacturer. Reports shall be submitted to the roofing contractor within 48 hours of the inspection.

B. Remove and replace applications of metal roof panels where inspections indicate that they do not comply with specified requirements.

3.6 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

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SECTION 09 65 19 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Vinyl composition floor tile (Static Dissipative)

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of resilient floor tile.

   1. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
   2. Show details of special patterns.

C. Samples: Full-size units of each color, texture, and pattern of floor tile required.

   1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

D. Samples for Initial Selection: For each type of floor tile indicated.

E. Samples for Verification: Full-size units of each color and pattern of floor tile required.

   1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

F. Welded-Seam Samples: For seamless-installation technique indicated and for each floor covering product, color, and pattern required; with seam running lengthwise and in center of 6- by-9-inch Sample applied to a rigid backing and prepared by Installer for this Project.

G. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.
2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra material.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.

a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.9 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. Sequencing and Scheduling

1. Install flooring and accessories after the other finishing operations, including painting, have been completed. Close spaces to traffic during the installation of the flooring.

Do not install flooring over concrete slabs until they are sufficiently dry to achieve a bond with the adhesive, in accordance with the manufacturer's recommended bond, moisture tests and pH test.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to traffic for 48 hours after floor tile installation.

E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics:

1. For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.

    - Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2. Class: As indicated by product designations.

3. NFPA 258 Standard Test Method for Measuring the Smoke Generated by Solid Materials

B. ASTM InternationaL:

1. ASTM E 648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

2. ASTM E 662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

3. ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

4. ASTM F 1066 Standard Specification for Vinyl Composition Tile

5. ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use Under Resilient Flooring

6. ASTM F 1861 Standard Specification for Resilient Wall Base

7. ASTM F 1869 Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

8. ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

C. Canadian Standards

1. CAN/ULC-S102.2 Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies

D. ANSI/ESD Standards

1. ANSI/ESD STM 7.1 :Floor Materials—Resistive Characterization of Materials

2. ANSI/ESD STM 97.1: Floor Materials and Footwear—Resistance in Combination with a Person

3. ANSI/ESD STM 97.2: Floor

2.2 VINYL TILE ~~LVP~~ VCT2~~1~~

A. Basis of Design Product: Luxury Viny Composition Floor Tile subject to compliance with the requirements, provide product indicted on Drawings by ~~Milliken~~ Armstrong or approved equal in size, pattern, pile, and color by one of the following:

~~1. J +J~~ Flexco

~~2. Mohawk Flooring~~ Static Smart

~~3.~~ Tarkett

B. Thickness: ~~0.78~~ 1/8 inch.

C. Size: ~~7 by 48~~ 12 x 12inches.

2.3 Wall Base Materials

A. For top set wall base: [Provide 1/8 in. (3.18 mm) thick, 4 in. (10.16 cm) high Armstrong Flooring Color-Integrated Wall Base with a matte finish, conforming to ASTM F 1861, Type TP - Rubber, Thermoplastic, Group 1 - Solid, Style B – Cove.] [Provide 1/4 in. (6.35 mm) thick, 4.5 in. (11.43 cm) high Armstrong Flooring Color-Integrated Wall Base with a matte finish, conforming to ASTM F 1861, Type TP - Rubber, Thermoplastic, Group 1 - Solid, Style A – Straight.]

2.4 INSTALLATION MATERIALS

Commented [NC1]: Not sure if Wall Base Section needed?

Commented [NC2R1]: Pick cove or straight

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives: Provide Armstrong S-202 Static Dissipative Tile Adhesive with 2 in. (5.08 cm) wide x 24 in. (60.96 cm) long copper ground-connection strips for under the tile and Armstrong S-725 Wall Base Adhesive at the wall base as recommended by the flooring manufacturer. ~~Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.~~

C. Seamless-Installation Accessories:

1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.

   Colors: As selected by Architect from manufacturer's full range to contrast with floor tile or to Match floor tile.

2. Chemical-Bonding Compound: Manufacturer's product for chemically bonding seams.

3. Provide Armstrong S-392 Static Dissipative Tile Polish for application as initial and on-going static dissipative maintenance finish.

4. For patching, smoothing, and leveling monolithic subfloors (concrete, terrazzo, quarry tile, ceramic tile, and certain metals), provide Armstrong [S-194 Cement-Based Patch, Underlayment and Embossing Leveler / S-195 Underlayment Additive] [S-463 Level Strong™ cement based self-leveling compound] [S-466 Patch Strong™ patching and smoothing compound].

5. [For priming porous substrates to aid in adhesive bond strength and reducing subfloor porosity, provide S-464 Prime Strong™ acrylic primer for porous substrates. For non-porous substrates, provide S-465 NP Prime Strong™ epoxy primer for non-porous substrates].

6. [For creating a moisture barrier, provide S-462 Seal Strong™ two part moisture mitigation system].

7. For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.

8. Provide transition/reducing strips tapered to meet abutting materials.

9. Provide threshold of thickness and width as shown on the drawings.

10. Provide resilient edge strips of width shown on the drawings, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered or bullnose edge, with color to match or contrast with the flooring, or as selected by the Architect from standard colors available.

11. Provide metal edge strips of width shown on the drawings and of required thickness to protect exposed edges of the flooring. Provide units of maximum available length to minimize the number of joints. Use butt-type metal edge strips for concealed anchorage, or overlap-type metal edge strips for exposed anchorage. Unless otherwise shown, provide strips made of extruded aluminum with a mill finish.

D. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

2. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.

3. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

E. Subfloor Cleaning: The surface shall be free of dust, solvents, varnish, paint, wax, oil, grease, sealers, release agents, curing compounds, residual adhesive, adhesive removers and other foreign materials that might affect the adhesion of resilient flooring to the concrete or cause a discoloration of the flooring from below. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents. Spray paints, permanent markers and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the concrete slab as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate they must be mechanically removed prior to the installation of the flooring material.. Refer to the

Armstrong Flooring Guaranteed Installation Systems and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.

F. Do not install floor tiles until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.

G. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile. Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures as needed.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles in pattern indicated.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles in pattern of colors and sizes indicated.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel

notching, open times, and working times.

H. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

I. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

J. Seamless Installation:

1. Heat-Welded Seams: Comply with ASTM F1516. Rout joints and heat weld with welding bead to fuse sections permanently into a seamless flooring installation. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.
2. Chemically Bonded Seams: Bond seams with chemical-bonding compound to fuse sections permanently into a seamless flooring installation. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

3.4 INSTALLATION OF ACCESSORIES

A. Apply top set wall base to walls, columns, casework, and other permanent fixtures in areas where top-set base is required. Install base in lengths as long as practical, with inside corners fabricated from base materials that are mitered or coped. Tightly bond base to vertical substrate with continuous contact at horizontal and vertical surfaces.

B. Fill voids with plastic filler along the top edge of the resilient wall base or integral cove cap on masonry surfaces or other similar irregular substrates.

C. Place resilient edge strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

D. Apply [butt-type] [overlap] metal edge strips where shown on the drawings, [before] [after] flooring installation. Secure units to the substrate, complying with the edge strip manufacturer's recommendations.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting static

dissipative ~~floor~~ tile.

B. Perform the following operations immediately after completing floor tile installation:

1. Remove adhesive and other blemishes from surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.

E. Cover floor tile until Substantial Completion.

END OF SECTION 09 65 19

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100% Bid Set Submittal - Addendum 2
Date: 4-21-2025

Project: ILM Airport Boulevard – Parking Improvements Program
Phase 2 – Volume 2 **Bid Alternate 2**

RS&H Project No.: 2003-0070-006

Revised Contract Documents. See the itemized list below.

Contract Drawings

A803-2 – PARTIAL RAMP LEVEL INTERIOR FINISH PLAN - AREA B & AREA C
REVISED Flooring type

MD401-2 – ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN
ADD Keynote 2 for conducting pre-test and balance for existing fan coil unit AC-1

M401-2 – ENLARGED RAMP LEVEL MECHANICAL PLAN
ADD Keynote 2 for rebalancing of existing fan coil unit AC-01

END OF NARRATIVE

100% Bid Set Submittal - Addendum 2
Date: 4-21-2025

Project: ILM Airport Boulevard – Parking Improvements Program
Phase 2 – Volume 2 **Bid Alternate 4**

RS&H Project No.: 2003-0070-006

Revised Contract Documents. See the itemized list below.

Contract Drawings

A401-4 – ENLARGED VESTIBULE PLANS AND ELEVATIONS

UPDATE Mullion size and adjusted finish of panels to coordinate with soffit update
UPDATE Location of mullion and added soffit overhead line and note
REVISED View name
REMOVED Duplicate information

A417-4 – ENLARGED SUSPENDED WAVE CEILING PLANS AND SECTIONS

REVISED Section to extend soffit for mechanical and updated size of mullion
REVISED Location of grid to align with soffit update
ADD Enlarged RCP for clarity

M001-4 – MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

ADD 'Examination of Existing Conditions', 'Demolition' and 'Connection to Existing Systems' notes.

MD106-4 – OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

REVISED Out of scope area hatching to better show mechanical demolition extents.

MD406-4 – ENLARGED TICKET LEVEL MECHANICAL DEMOLITION PLAN

REVISED Keyplan in title block.

M106-4 – OVERALL TICKET LEVEL MECHANICAL PLAN

REVISED HVAC scope of work for employee vestibule to show as existing since that area was brought forward to Phase 1B.
REVISED Out of scope area hatching to better show mechanical new work extents.

M406-4 – ENLARGED TICKET LEVEL MECHANICAL PLAN

ADD Keynotes 6 and 7 for changes to entry vestibule HVAC ductwork and diffusers.
ADD Thermostat locations for existing AHU-1 and AHU-2 zone duct.
REVISED Keynotes 1 and 2 revised to include Pre-tab requirements for the existing AHU's (AHU-1 and AHU-2).

REVISED Updated key plan in title block.
REVISED HVAC layout for Global entry office.
REVISED HVAC layout for main entry vestibule.
REVISED HVAC ductwork tags for existing ductwork.

M601-4 – MECHANICAL SCHEDULES

REVISED Air Distribution Device Schedule

END OF NARRATIVE

100% Bid Set Submittal - Addendum 2
Date: 4-21-2025

Project: ILM Airport Boulevard – Parking Improvements Program
Phase 2 – Volume 2 **Base Bid**

RS&H Project No.: 2003-0070-006

Revised Contract Documents. See the itemized list below.

Contract Drawings

A001 – PARTITION TYPES
REVISE Increased STC rating to improve sound transmission

A306 – WALL SECTIONS
REVISE Graphical display of glazing unit for clarity per RFI 032

A404 – ENLARGED FAMILY RESTROOM AND GLOBAL ENTRY OFFICE PLANS AND INTERIOR ELEVATIONS
ADD Missing note

A406 – ENLARGED VESTIBULE PLANS AND INTERIOR ELEVATIONS
REVISED Expansion joint and transition details for clarity per RFI 21 and RFI 22

A501 – PLAN DETAILS
REVISED Detail

A502 – PLAN DETAILS
REVISED Detail

A504 – EXTERIOR SECTION DETAILS
REVISED Graphics of glazing system

A601 – DOOR SCHEDULE
REVISED Door schedule

A602 – DOOR DETAILS
REVISED Detail to align door with adjacent wall

A801 – OVERALL RAMP LEVEL INTERIOR FINISH PLAN
ADD Missing note

M001 – MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

ADD 'Examination of Existing Conditions', 'Demolition' and 'Connection to Existing Systems' notes.

MD106 – OVERALL TICKET LEVEL MECHANICAL DEMOLITION PLAN

REVISED Out of scope area hatching to better show mechanical demolition extents.
REVISED Updated key plan in title block.

MD401 – ENLARGED RAMP LEVEL MECHANICAL DEMOLITION PLAN

ADD Keynote 2 for conducting pre-test and balance for existing fan coil unit AC-1

M106 – OVERALL TICKET LEVEL MECHANICAL PLAN

REVISED HVAC scope of work for employee vestibule to show as existing since that area was brought forward to Phase 1B

M401 – ENLARGED RAMP LEVEL MECHANICAL PLAN

ADD Ball valves for new HHW and CHW piping connections to mains within existing corridor for new service to AHU-AT-01.
ADD Keynote 2 for rebalancing of existing fan coil unit AC-01

M402 – ENLARGED RAMP LEVEL MECHANICAL PLAN

REVISED Keynotes

M406 – ENLARGED TICKET LEVEL MECHANICAL PLAN

ADD Thermostat locations for existing AHU-1 and AHU-2 zone duct.
REVISED Keynotes 5 and 6 revised to include Pre-tab requirements for the existing AHU's (AHU-1 and AHU-2).
REVISED Updated key plan in title block.
REVISED HVAC layout for Global entry office.

M601 – MECHANICAL SCHEDULES

REVISED Air Distribution Device Schedule

E001

REVISE LUMINAIRE DESCRIPTIONS

EP107

ADD TELECOMMUNICATION CIRCUITS FOR GLOBAL ENTRY OFFICE.

EL107-4

REVISE LIGHT LOCATIONS DUE TO ARCH. CHANGES

EP107-4

ADD TELECOMMUNICATION CIRCUITS FOR GLOBAL ENTRY OFFICE.

EP107

REVISE PANEL SCHEDULES WITH UPDATED LOADS

Specifications

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REVISED Specification 09 54 34 Suspended Metal Panel Ceilings With Softsound Group A added to Table of Contents.
REMOVED Specification 04 20 00 Unit Masonry removed to Table of Contents.
ADDED Specification 09 54 34 Suspended Metal Panel Ceilings With Softsound Group A
ADDED Specification 10 73 00 Protective Covers

21 41 00 – Selective Demolition

REVISED specification. Text 3.4,A,6 "Owner" capitalized. Added text 3.4,A,7.

09 54 34 – Suspended Metal Panel Ceilings With Softsound Group A

ADDED specification.

10 73 00 – Protective Covers

ADDED specification.

END OF NARRATIVE

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SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Salvage of existing items to be reused or recycled.

B. Related Requirements:

1. Section 01 73 00 "Execution" for cutting and patching procedures.
2. Section 01 35 16 "Alteration Project Procedures" for general protection and work procedures for alteration projects.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for dust control. Indicate proposed locations and construction of barriers.

D. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's Operations Manager that on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of elevator and stairs.
5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

E. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Comply with Section 01 32 33 "Photographic Documentation." Submit before Work begins.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.8 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

1. Before selective demolition, coordinate with Owner for removal of any items Owner removed items.

a. Any existing equipment or furniture left by tenant(s) deemed salvageable by Owner..

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

1. Hazardous material remediation is specified elsewhere in the Contract Documents.
2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.

F. Storage or sale of removed items or materials on-site is not permitted.

G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.9 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Coordinate with Owner for existing warranties and notify warrantor before proceeding.

B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.10 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video existing as-built record drawings..

1. Inventory and record the condition of items to be removed and salvaged.

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off utilities with utility companies. Notify Airport Operations one week in advance of intent to turn off power.

3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 50 00 "Temporary Facilities and Controls."
6. All publicly facing temporary protection shall be coordinated with Owner to determine the need for branding and/or graphics. Contractor will be responsible for complying with owners branding and/or graphic requirements.

7. Contractor responsible for evaluating noise levels during construction. Sound reduction STC rated temporary partitions must be incorporated to meet OSHA standard requirements.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

F. Terrazzo: Remove terrazzo according to NTMA Standards (National Terrazzo and Mosaic Association's) written recommendations for terrazzo type indicated.

G. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.

1. Remove existing roof membrane, flashings, copings, and roof accessories.
2. Remove existing roofing system down to substrate.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 01 74 19 "Construction Waste Management and Disposal."

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 01 74 19 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.9 SELECTIVE DEMOLITION SCHEDULE

A. Remove: Roofing areas where indicated on Plans.

B. Remove: Exterior wall and glazing where indicated on Plans.

C. Remove and Salvage: Authority owned signage, carefully remove, store and coordinate with owner's representative.

END OF SECTION 02 41 19

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SECTION 09 54 34 - SUSPENDED METAL PANEL CEILINGS WITH SOFTSOUND GROUP A

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and General Conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

A. Section Includes:
   1. Suspended Metal Panel Ceilings with SoftSound® Acoustic fins
   2. Cable hangers and fasteners
B. Related Sections:
   1. Division 23 (15) Sections - HVAC
   2. Division 26 (16) Sections - Electrical

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM A 1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
   2. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.

1.4 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide panels and method of attachment by a single manufacturer.
B. Coordination of Work: Coordinate ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store the metal ceiling panels in an interior location and keep in cartons prior to installation to avoid damage.
B. Exercise care in moving and opening cartons to prevent damage to the panel face.
C. Handle panels carefully to avoid damaging units in any way.

1.6 PROJECT CONDITIONS

A. Space Enclosure:
Building areas to receive panels shall be free of construction dust and debris. Products can be installed up to 100°F (38°C) with humidity not exceeding 90% RH. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the canopy. Following installation, conditions must be maintained below 70% RH. All wet work must be complete and dry prior to installation. Avoid direct exposure Soft Sound™ to sunlight or warranty will be void. Installation shall be carried out where the temperature is between 40 degrees F and 90 degrees F. These temperature conditions must be maintained throughout the life of the product or warranty will be void.

1.7 WARRANTY

A. Metal Ceiling Panels: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period. Failures include, but are not limited to:
   1. Panels: Manufacturing defects.
   2. Attachment devices: Rusting and manufacturing defects.
B. Warranty Period:
   1. Panels: One (1) year from date of substantial completion.
   2. Attachment devices: One (1) year from date of substantial completion.
C. Warranty Language:
Manufacturer's products are expressly warranted for a period of one (1) year from purchase to be free from defects in material and workmanship, when installed according to manufacturer's published installation procedures. During the warranty period manufacturer will repair or at its option replace the products that are proven to be defective. Manufacturer is NOT responsible for any intentional or accidental abuse, misuse, or neglect incurred on the original warranted product, and shall as determined by manufacturer, void the warranty.

PART 2 - PRODUCTS

2.2 PANEL UNITS

A. Structure:
   1. Surface Texture: Smooth [see Section 2.3]
   2. Composition: Cold Rolled Steel
   3. Color: Color from RAL System

4. Size: Varies
5. Shape: Varies with Custom alogorithmically generated frame layout by Arktura
6. Recycled Content: 20% [up to 70% recycled content upon request]

B. Fins:
1. Surface Texture: woven texture
2. Composition: PET
3. Color: Color Group A – ASTM E-84 Class A
4. Size: Varies
5. Shape: SWELL
6. Recycled Content: None

2.3 SURFACE FINISH

A. Application of surface finish to be applied in compliance with the following standard operating procedure:

1. Inspect raw material for obvious defects.
2. Pre-treat raw material with 3-6% iron phosphate rust inhibitor solution via pressure spray at 10-20 psi and 110-130 °F.
3. Pre-heat raw material for 3-6 minutes at 400°F to dry.
4. Electrostatically apply Triglycidyl Isocyanurate (TGIC) polyester powder (Dupont or equivalent) to entire surface of part at approximately 2.0-3.0 mils.
5. Cure part per manufacturer's specifications.

B. Surface finish, when complete, must meet the reference standards as listed below:

American Society for Testing and Materials (ASTM):
1. ASTM D3359 Standard Test Methods for Measuring Adhesion, Method B
2. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test
3. ASTM D2794 [modified] Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
4. ASTM D522 [modified] Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
5. ASTM D4060 [modified] Standard Test Method for Abrasion Resistance

C. Durability of surface finish must meet the reference standards as listed below:

American Society for Testing and Materials (ASTM):
1. ASTM B117 - 09 Standard Practice for Operating Salt Spray (Fog) Apparatus

2.4 ATTACHMENT SYSTEM

A. Installation Hardware:

The custom engineered system will be designed to receive a threaded rod via P1008 channel nut and P1063 flat plate, provided by contractor. Rod shall be attached to structural ceiling in accordance with structurally engineered design per project.

PART 3 - EXECUTION

3.1 PREPARATION

A. Field verify each ceiling area and establish layout of ceiling panel models and attachment locations. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation. Ceiling panel substructure shall be level and plumb. Ceiling panel substructure shall be structurally sound as determined by that subcontractor's engineer. Ceiling panel substructure shall be free of defects detrimental to work and erected in accordance with established building tolerances.
B. Coordinate ceiling panel layout with mechanical, electrical and sprinkler fixtures as required.
C. Coordinate delivery of such items to project site.

3.2 INSTALLATION [by Others]

A. Install panels in accordance with the manufacturer's instructions and in compliance with the authorities having jurisdiction.
B. Erect ceiling panels level and plumb, in proper alignment in relation to substructure framing and established lines.
C. Panel anchorage shall be structurally sound and per engineering recommendations.
D. Locate and place ceiling panels' level, plumb, and at indicated alignment with adjacent work.

3.3 ADJUSTING AND CLEANING

A. Replace damaged and broken panels.
B. Clean exposed surfaces of ceiling panel modules that are not protected by temporary covering to remove fingerprints and soil during construction period.
C. Protect ceiling panel module assemblies from damage during construction. Use temporary protective coverings where needed as approved by the ceiling panel manufacturer.

END OF SECTION 09 54 34

SECTION 10 73 00 – PROTECTIVE COVERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Design, fabrication, and installation of welded extruded protective cover and aluminum walkway cover systems.

B. Products Furnished but not Installed Under this Section: Column sleeves (styrofoam blockouts) or anchor bolts (if required)

1.2 REFERENCES

A. The Aluminum Association (AA):
   1. The Aluminum Design Manual 2000, Specifications & Guidelines for Aluminum Structures.

B. American Architectural Manufacturers Association (AAMA):
   1. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.

C. American Society of Civil Engineers (ASCE):
   1. ASCE 7, Minimum Design Loads for Buildings and Other Structures.

D. American Society for Testing and Materials (ASTM):
   1. ASTM B 209, Specification for Aluminum and Aluminum- Alloy Sheet and Plate.
   2. ASTM B 221, Specification for Aluminum and Aluminum- Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   3. ASTM C 150, Specification for Portland Cement.
   4. ASTM C 404, Specification for Aggregates for Masonry Grout.

E. American Welding Society (AWS):
   1. ANSI/AWS D1.2, Structural Welding Code - Aluminum.

1.3 SYSTEM DESCRIPTION

A. Design Requirements:
   1. Design Protective Covers in accordance with The Aluminum Design Manual 2000.
   2. Comply with the wind requirements of ASCE 7.
   3. Provide an all welded extruded aluminum system complete with internal drainage. Non-welded systems are not acceptable.
   4. Provide expansion joints to accommodate temperature changes of 120 degrees F. Provide expansion joints with no metal-to-metal contact.

B. Performance Requirements:
   1. Grout: Compressive strength of 2000 psi, minimum.

1.4 SUBMITTALS

A. Product Data: Manufacturer's product information, specifications, and installation instructions for walkway cover components and accessories.

B. Shop Drawings: Include plan dimensions, elevations, and details.

C. Samples:
   1. Selection: Manufacturer's standard range of colors for the finishes selected.
   2. Verification: 2-inch-square samples of each finish selected on the substrate specified.

D. Delegated Design Data: Design calculations bearing the seal of a Registered Professional Engineer, licensed in the state where the project is located. Design calculations shall state that the protective cover system design complies with the wind requirements of ASCE 7, the stability criteria of applicable building code, and all other governing criteria. Reference structural contract drawings for design criteria and other additional requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: At least ten years' experience in the design, fabrication, and erection of extruded aluminum protective cover systems.

B. Installer Qualifications: Have protective covers installed by manufacturer, third party installation is not acceptable.

PART 2 - PRODUCT

2.1 MANUFACTURERS

A. The basis of design are products fabricated by: Peachtree Protective Covers, Inc., 3255 South Sweetwater Rd., Lithia Springs, GA 30122, 770-439-2120, fax 770-439-2122. Locally represented by Logan T. Ashley.
   1. Comparable products by the following manufacturers also will be acceptable:
      a. Mitchell Metals
      b. Charlotte Tent and Awning
   2. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

B. The basis of design for the Admin Building Canopy is based on products fabricated by: Mapes Architectural Canopies, 7748 North 56th Street, Lincoln, NE 68514. Finishes, fabrication, and installation are standard by manufacturer.
   1. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

      a. Decking shall consist of an interlocking roll-formed 2 1/2 W style pan (minimum .032 aluminum.)
      b. Intermediate framing members shall be extruded aluminum, alloy 6063-T6, in profile and thickness as prescribed by manufacturer.
      c. Hanger rods and attachment hardware shall be powder coated.
      d. Fascia shall be standard 8" extruded J style (minimum .125 aluminum).
      e. All connections shall be mechanically assembled utilizing 3/16 fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are not acceptable.
      f. Decking shall be designed with interlocking roll-formed aluminum members.
      g. Concealed drainage. Water shall drain from covered surfaces into intermediate trough and be directed to either the front for front drainage or to the rear for ground level discharge via one or more designated downspouts.

C. The basis of design for the Interim Curbside Canopy is based on products fabricated by: Peachtree Protective Covers, Inc., 3255 South Sweetwater Rd., Lithia Springs, GA 30122, 770-439-2120, fax 770-439-2122. Locally represented by Logan T. Ashley.
   1. Comparable products by the following manufacturers also will be acceptable:
      a. Mitchell Metals
      b. Charlotte Tent and Awning
   2. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

D. The basis of design for the Interim Enclosed Pedestrian Walkway is based on products fabricated by: VersaTube Building Systems, 50 Eastley Street, Collierville, TN 38017, 800-810-2993. Locally represented by Chris Black of Grey Interiors, LLC, 704-288-7770.
   1. Substitutions: Comparable products of other manufacturers will be considered under standard substitution procedures.

2.2 MATERIALS

A. Aluminum Members: Extruded aluminum, ASTM B 221, 6063 alloy, T6 temper.

B. Fasteners: Aluminum, 18-8 stainless steel, or 300 series stainless steel.

C. Protective Coating for Aluminum Columns Embedded in Concrete: Clear acrylic.

D. Grout:
   1. Portland Cement: ASTM C 150, Type I.
   2. Sand: ASTM C 404.
   3. Water: Potable.

E. Gaskets: Dry seal santoprene pressure type.

F. Aluminum Flashing: ASTM B 209, Type 3003 H14, 0.040-inch, minimum.

2.3 MIXES

A. Grout: 1-part portland cement to 3 parts sand, add water to produce a pouring consistency.

2.4 FABRICATION

A. General:
   1. Shop Assembly: Assemble components in shop to greatest extent possible to minimize field assembly.
   2. Welding: In accordance with ANSI/AWS D1.2.
   3. Bent Construction: Factory assemble beams to columns to form one-piece rigid bents. Where used make welds smooth and uniform using an inert gas shielded arc. Perform suitable edge preparation to assure 100% penetration. Grind welds only where interfering with adjoining structure to allow for flush connection. Field welding is not permitted. Rigid mechanical joints can be used if supported by engineering calculations and/or testing.
   4. Deck Construction: Fabricate from extruded modules that interlock in a self-flashing manner. Positively fasten interlocking joints creating a monolithic structural unit capable of developing the full strength of the sections. The fastenings must have minimum shear strength of 350 pounds each. Assemble deck with sufficient camber to offset dead load deflection.

B. Columns: Provide radius-cornered tubular extrusions with cutout and internal diverter for drainage where indicated. Circular downspout opening in column not acceptable.

C. Beams: Provide open-top tubular extrusion, top edges thickened for strength and designed to receive deck members in self-flashing manner.

D. Deck: Extruded self-flashing sections interlocking into a composite unit. Provide welded plate closures at deck ends.

E. Fascia: Manufacturer's standard shape. Provide fascia splices where continuous runs of fascia are jointed. Locate splices to be in line with bents and fasten in place on hidden or non-vertical surfaces.

F. Arches: For barrel vault protective covers, provide sharp-cornered tubular extrusions.

G. Factory Finishing: Finish designations prefixed by AA comply with system established by the AAMA for designating aluminum finishes.
   1. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matted, Anodic Coating: Architectural Class I, clear coating 0.7 mils or thicker), complying with AAMA 611.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Verify that all concrete, masonry, and roofing work in the vicinity is complete and cleaned.

3.2 ERECTION

A. Erect protective cover true to line, level, and plumb. Protect aluminum columns embedded in concrete with clear acrylic. Fill downspout columns with grout to the discharge level to prevent standing water. Install weep holes at top of concrete in non-draining columns to remove condensation.
B. Provide hairline miters and fitted joints.

3.3 CLEANING

A. Clean all protective cover components promptly after installation.

3.4 PROTECTION
A. Protect materials during and after installation.

END OF SECTION 10 73 00

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100% Bid Set Submittal - Addendum 2
Date: 4-21-2025

Project: ILM Airport Boulevard – Parking Improvements Program
Phase 2 – Volume 3

RS&H Project No.: 2003-0070-006

Revised Contract Documents. See the itemized list below.

Contract Drawings

CS-300 – GEOMETRY ALIGNMENT LAYOUT – AIRPORT LONG TERM PARKING LOT OVERALL
REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CS-301 – GEOMETRY ALIGNMENT LAYOUT – AIRPORT LONG TERM PARKING LOT SHEET 1
REVISE Decorative fence at retaining wall added to legend and note updated

CS-302 – GEOMETRY ALIGNMENT LAYOUT – AIRPORT LONG TERM PARKING LOT SHEET 2
REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal
REVISE Decorative fence at retaining wall added to legend and note updated

CS-305 – GEOMETRY ALIGNMENT LAYOUT – AIRPORT LONG TERM PARKING LOT SHEET 5
REVISE Point tables associated with Parking Garage entrance geometry

CG-100 – GRADING PLAN OVERALL
REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry/grading revised based on stair removal
REVISE Datum Elevation Notes referencing Volumes 1 and 2

CG-101 – GRADING PLAN SHEET 1
REVISE Datum Elevation Notes referencing Volumes 1 and 2

CG-102 – GRADING PLAN SHEET 2
REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry/grading revised based on stair removal
REVISE Datum Elevation Notes referencing Volumes 1 and 2

CG-103 – GRADING PLAN SHEET 3
REVISE Datum Elevation Notes referencing Volumes 1 and 2

CG-104 – GRADING PLAN SHEET 4
REVISE Datum Elevation Notes referencing Volumes 1 and 2

CG-140 – PROPOSED DRAINAGE PLAN OVERALL

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CG-142 – PROPOSED DRAINAGE PLAN SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CG-166 – EROSION AND SEDIMENT CONTROL PLAN OVERALL

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CG-168 – EROSION AND SEDIMENT CONTROL PLAN INITIAL PHASE SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CG-172 – EROSION AND SEDIMENT CONTROL PLAN FINAL PHASE SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CG-176 – EROSION AND SEDIMENT CONTROL PLAN DRAINAGE AREA MAPS SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CP-530 – PARKING LOT PAVEMENT MARKINGS PLAN OVERALL

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CP-532 – PARKING LOT PAVEMENT MARKINGS PLAN SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CP-563 – CROSSWALK, FENCE AND ISLAND DETAILS

ADD Detail 4 referencing decorative fence at retaining wall

CP-700 – PROPOSED ROADWAY SIGNING OVERALL PLAN

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CP-702 – PROPOSED ROADWAY SIGNING SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CU-100 – OVERALL SITE UTILITY PLAN

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CU-102A – SITE UTILITY PLAN AREA 2 (WATER)

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CU-102B – SITE UTILITY PLAN AREA 2 (SANITARY SEWER)

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

E-200 – ELECTRICAL LAYOUT OVERALL PLAN

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

E-202 – ELECTRICAL LAYOUT PLAN SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal
REVISE Fiber optic cable and notes associated with future dynamic sign LA-DIR.004 and connections.

E-203 – ELECTRICAL LAYOUT PLAN SHEET 3

REVISE Fiber optic cable and notes associated with future dynamic sign LA-DIR.004 and connections.

E-307 – ELECTRICAL DETAIL SHEET 7

REVISE Fiber optic cable and notes associated with future dynamic sign LA-DIR.004 and connections. Revisions to Details 1, 3 and 5

E-309 – ELECTRICAL DETAIL SHEET 9

REVISE Fiber optic cable and notes associated with future dynamic sign LA-DIR.004 and connections. Revisions to Detail 1

CI-100 – IRRIGATION PLAN OVERALL

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

CI-102 – IRRIGATION PLAN SHEET 2

REMOVE North-east stair removed from project.
REVISE Parking Garage entrance geometry revised based on stair removal

BID FORM

REVISE quantities and pay items.

END OF NARRATIVE

PROJECT: Wilmington International Airport (ILM)
Curbside Improvements Project PHASE 2 - FORMAL

BID FORM (ADDENDUM 2)

You must submit your bid on this form. All other bids/proposals are unresponsive.

BIDS SUBMITTED TO: Monteith Construction Corp. – Construction Manager

BIDDER: _____

NC LICENSE #: _____**BID DATE:** _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he/she has examined the site of the work and the contract documents relative thereto and has read all special provisions furnished prior to the opening of bids; that bidder has satisfied themselves relative to the work to be performed.

The Bidder proposes and agrees if this proposal is accepted to contract with Monteith Construction, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the following bid package in complete accordance with the plans, specifications, and contract documents:

Bid Package (choose one):

- ☐ #01A – General Trade
- ☐ #02A – Structural Demolition
- ☐ #03A – Cast-In-Place Concrete
- ☐ #04A – Masonry
- ☐ #05A – Structural Steel
- ☐ #07C – Insulated Metal Panels
- ☐ #07E – Waterproofing
- ☐ #08B – Glass and Glazing
- ☐ #09A – Framing and Drywall
- ☐ #09B – Ceilings
- ☐ #09C – Terrazzo
- ☐ #09E – Paints
- ☐ #21A – Fire Suppression
- ☐ #22A – Plumbing
- ☐ #23A – Heating, Ventilating and Air Conditioning
- ☐ #26A – Electrical
- ☐ #31A – Sitework
- ☐ #31B – Piles

Addenda Acknowledgement:

Addenda received and used in computing bid. Failure to acknowledge receipt of all addenda may result in bid being considered non-responsive.

____No. 1 received on ___/___/____
____No. 2 received on ___/___/____
____No. 3 received on ___/___/____
____No. 4 received on __/___/____
____No. 5 received on ___/___/____
____No. 6 received on ___/___/____
____No. 7 received on ___/___/____
____No. 8 received on ___/___/____

Base Bid Price:

The Base Bid Price includes all Work required by and in strict accordance with the Bid Documents for this Project, for the Lump Sum of (words and figures):

_____ **Dollars** $_____

Payment & Performance Bonds: (separate from base bid)

If the total price of work is $500,000 or more, show the cost to add bond as a **separate item** from the Base Bid Price.

$_____

Allowances: (Include in Base Bid)

See bid package for descriptions

	Allowance Description	Bid Package	Amount
1.	Building enclosures and safety materials, cleaning supplies, and temporary signage.	01A – General Trades	$60,000
2.	Temporary shoring of columns on Line 10 & G, K	02A – Demolition	$100,000
3.	000 delegated design fee for the NCDOT Concrete Barrier Rail per drawing Volume 1 S211 detail C3.4.	03A – Cast-in-Place Concrete	$10,000
4.	Temporary Walls	09A – Framing & Drywall	$75,000
5.	Drywall Touch Up	09A- Framing & Drywall	$15,000
6.	Repairs to Existing Terrazzo	09C – Terrazzo	$100,000
7.	Paint Touch Up	09E – Paint	$15,000
8.	Electrical Hookup of section 09 05 10 Light Manipulating Materials	26A Electrical	$50,000
9.	Maintenance of temporary drainage during construction	31A - Sitework	$50,000
10.	Existing Utility Conflicts	31A - Sitework	$100,000
11.	Canopy downspout lateral pipes	31A - Sitework	$50,000

Unit Rates:

BP 31B: Auger Cast Piles:

Total length of installed 18”auger cast piles included in base bid.

_____LF x $_____/LF = $_____

(3) Test piles **_____LF x $_____/LF = $_____**

(3) Load tests **3 ea. x $_____/test = $_____**

Alternates:

See exhibit B - bid packages for description – if alternates apply to your bid package, you must indicate a value. If no change, write $0 – No change. If not applicable to your bid package, write N/A. Do not leave blank.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1 All work to rooms 115,116, 117,118

Add | Deduct:

_____**Dollars $**_____

(In Words) **($ Figures)**

Add Alternate No. 2 (History Corridor) – See Drawings Volume 2 Alternate No. 2 All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Add | Deduct:

_____**Dollars $**_____

(In Words) **($ Figures)**

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3 Revise layout of entry canopy.

Add | Deduct:

_____**Dollars $**_____

(In Words) **($ Figures)**

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4 Delete all work to Connector 112, Atrium 111, Elevator 1 and 2, Mechanical Room 124, Storage 123
Add | Deduct:

_____**Dollars** **$**_____

(In Words) **($ Figures)**

DBE GOAL

The following DBE goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises 12.1 %

- If the DBE goal is more than zero, the Contractor shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the contract as set forth above as the DBE goal.
- If the DBE goal is zero, the Contractor shall make an effort to recruit and use DBEs during the performance of the contract. Any DBE participation obtained shall be reported to LGA.

Listing of DBE Subcontractors

- At the time of bid, bidders shall submit all DBE participation that they anticipate to use during the life of the contract. Only those identified to meet the DBE goal will be considered committed, even though the listing shall include both committed DBE subcontractors and additional DBE subcontractors. Additional DBE subcontractor participation submitted at the time of bid will be used toward the overall race-neutral goal. Only those firms with current DBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The Contractor shall indicate the following required information:
    - **If the DBE goal is more than zero,** Bidders, at the time the bid proposal is submitted, shall submit a listing of DBE participation, including the names and addresses on Listing of DBE Subcontractors contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the DBE participation for the contract.
    - **If bidders have no DBE participation,** they shall indicate this on the Listing of DBE Subcontractors by entering the word “None” or the number “0.”
- This form shall be completed in its entirety. Blank forms will not be deemed to represent zero participation. Bids submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of bids. LGA will not consider these bids for award and the proposal will be rejected. The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE’s participation will not count towards achieving the DBE goal.

Proposal Signature Page

The bidder further proposes and agrees to commence work under this contract on a date to be specified by the Construction Manager at Risk, and shall pursue the scope of work included in his contract in accordance with the schedule prepared by the Construction Manager at Risk. Respectfully submitted this,

_____
(Write the Date of the Month in Words) (Write the Name of the Current Month)

EMAIL ADDRESS: _____

ADDRESS: _____

LICENSE #: _____

FEDERAL ID#: _____

By: _____
(Printed Name of Person Signing Bid)

_____
(Signature)

_____
(Title)
(Owner, Partner, President, or Vice President)

CORPORATION:

ATTEST: _____ (CORPORATE SEAL)

By: _____

TITLE: _____

(Corporate Secretary or Asst. Secretary)

PARTNERSHIP:

WITNESS**:** _____

(Witness Signs here if you are a Proprietorship or Partnership)

BID MANUAL

Wilmington International Airport (ILM)
Curbside Improvements Phase 2
REVISION 2

MONTEITH

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GENERAL INSTRUCTIONS & INFORMATION TO BIDDERS

Receipt of Formal Bids

Only prequalified trade partners are permitted to submit bids for FORMAL packages on this project. Bids must include all bid requirements as outlined. Failure to submit all information will be grounds for rejection of bid.

Formal Bid Packages include:
#01A – General Trade
#02A – Structural Demolition
#03A – Cast-In-Place Concrete
#04A – Masonry
#05A – Structural Steel
#07C – Insulated Metal Panels
#07E – Waterproofing
#08B – Glass and Glazing
#09A – Framing and Drywall
#09B – Ceilings
#09C – Terrazzo
#09E – Paints
#21A – Fire Suppression
#22A – Plumbing
#23A – Heating, Ventilating and Air Conditioning
#26A – Electrical
#31A – Sitework
#31B – Piles

Formal bids must be submitted in a sealed envelope marked with *Company Name* and *Bid Package* bidding. Formal bids will be received no later than **Tuesday, May 6, 2025 at 2:00 PM** at the following address:

Wilmington International Airport
Administration Conference Room, 2nd Floor
1740 Airport Blvd
Wilmington, NC 28405

Formal Bids will be opened and read aloud after bid closing in person at:

Wilmington International Airport
Administration Conference Room, 2nd Floor
1740 Airport Blvd
Wilmington, NC 28405

It is the bidder's responsibility to ensure that the bids arrive by the required bid date, time and location specified. Late bids will be rejected.

Pre-Bid Virtual Meeting

The voluntary pre-bid meeting will be held on **Tuesday, April 15, 2025 at 10:00 AM** via Zoom. This meeting is voluntary, but subcontractors are encouraged to attend.

https://monteith.zoom.us/j/88975255789
Meeting ID: 889 7525 5789
To join the Virtual pre-bid meeting, register with the link below, or click the link above:

Pre-Bid Questions/Clarifications

All questions and request for information shall be made in writing and submitted to Maria Rosales at mcardenas@monteithco.com. Responses to any questions/clarifications will be made in writing in the form of an addendum, if required. Any verbal response during the pre-bid period is not considered part of the contract documents unless included in addendum. The site will be available for bidders to review upon request. A site walk will be scheduled and announced at the Prebid meeting. The last day for questions/clarifications and substitution requests shall be submitted **by Monday, April 21, 2025.**

Submission of Formal Bids

Formal Proposals must be made in accordance with the following instructions and format provided in the Form of Proposal and must be fully completed. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

Bids must contain the following Information:

1. Bid Form (Provided)
2. Bid Bond (5% for all bids over $500,000)
3. List of DBE Participation

Preparation of Bids

Proposals shall be complete, as called for in the Bid Proposal Form, without alterations.
Bids containing conditions, omissions, alterations, items not called for, or irregularities of any kind, may be rejected for failure to comply with the requirements stated herein.

Include the full business address of the Bidder. Signatures shall be both in longhand and typed. Partnerships must sign the Proposal. In the case of a Proposal submitted by a Corporation, the Proposal shall be signed by an Officer duly authorized to sign on behalf of the Corporation.

Include with the Proposal Form the appropriate DBE Listing completed in its entirety. Bidder has made a good faith effort to solicit Disadvantaged Business Enterprises (DBEs) per NCDOT requirements, as subcontractors. The Disadvantaged Business Enterprise (DBE) goal for this project is 12.1%. The Bidders shall provide the Construction Manager with a notarized affidavit with its bid stating that it made the good faith effort required pursuant to 49 CFR Part 26 and the project percentage participation goal noted. The Bidder's failure to file the affidavit with its bid shall be grounds for rejection of the Bid.

Modification or Withdrawal of Bids

A request to withdraw a bid must be made in writing prior to the award of the contract, but not later than 72 hours after the opening of bids. Prior to the time and date designated for receipt of bids,

any bid submitted may be modified or withdrawn by notice to the party receiving bids at the place designated for receipt of bids.
Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be hand delivered, mailed, and postmarked on or before the date and time set for receipt of bids, and it shall be so worded as not to reveal the amount of the original bid.

Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with this Information for Bidders

Right to Reject Bids
The Construction Manager and Owner expressly reserve the right to reject any or all bids, to waive any informalities or irregularities in the bids received, and to accept that bid which in its judgment best serves the interest of the Owner.

Taxes
All applicable Federal, State and Local Taxes shall be included in the Bidder's proposal. The successful bidder shall provide the Construction Manager with documentation of North Carolina sales taxes paid for all purchases on the project in a form acceptable to the Construction Manager.

Time for Completion
Work shall be completed in accordance with baseline schedule provided. Bidders shall include in their price all overtime, escalation, manpower, on-site coordination, interfacing with other subcontractors, weather delays as referenced in general requirements to the contract, and all other factors necessary to adhere to this schedule. Include for off-time hours for all connections to existing utilities.

Bidders Referred to Laws
The attention of Bidders is called to the provisions of all Municipal, County and State laws, regulations, ordinances and resolutions, as well as laws, regulations, ordinance resolutions and permits relating to obstructing streets, maintaining signals, storing and handling of explosives, or affecting the Bidder, or his employees or his work hereunder in his relation to the Construction Manager or any other person. The Bidder shall obey all such laws, regulations, ordinances, permits or resolutions controlling or limiting Contractors while engaged in the prosecution of work under this Contract.

The provisions of this contract shall be interpreted in accordance with the laws of North Carolina and in accordance with the laws, ordinances, regulations, permits and resolutions of the City of Wilmington, County of New Hanover.

Preferred Brand Alternates
In accordance with General Statute GS 133-3, Specifications list one or more preferred brands as an alternate to the base bid in limited circumstances. Specifications containing a preferred brand alternate under this section must identify the performance standards that support the preference. Performance standards for the preference must be approved in advance by the Owner in an open meeting. Any alternate approved by the Owner shall be approved only where (i) the preferred alternate will provide cost savings, maintain, or improve the functioning of any process or system

affected by the preferred item or items, or both, and (ii) a justification identifying these criteria is made available in writing to the public. In accordance with GS133-3.

Substitutions

GS133-3 requires bidder proposed substitutions be submitted and approved prior to bid receipt. These would be bidder's "desired or voluntary" substitutions. Necessary or required substitutions can occur later when specified products are not available, late delivery, model changes, etc. then substitutions can be made after contract award per the usual procedure in the General Conditions.

Payment & Performance Bond

The base bid should not include the cost of the P & P Bond but be listed as a separate cost on the bid form.

EXHIBIT A-GENERAL REQUIREMENTS TO THE CONTRACT

The following general requirements to the Contract are in addition to and not in lieu of other provisions established elsewhere in the contract documents.

Article 1: Contract Documents

Contract Documents

The subcontract is comprised of the following contract documents: the AIA subcontractor agreement; exhibits to the contract; bid documents provided at time of bid including plans, specifications, addendum, and clarifications; amendments and change orders to the subcontract executed by the Construction Manager and subcontractor; the owner contract, in so far as the owner contracts relates, directly or indirectly, to the work performed by the subcontractor. The subcontractor assumes all obligations that the Construction Manager assumes toward the owner. Subcontractor to complete sub-verification prequalification application.

Obligation to Study the Contract Documents

The subcontractor shall closely examine all contract documents in respect to the scope of their work and all scopes that interface with, rely on, or are performed concurrently with the scope of this contract. The subcontractor shall be responsible for all notes and details pertaining to their scope of work, regardless of what section of the plans notes/details are found.

In review of Exhibit B- scope of the work, subcontractor has reviewed all bid packages for overlaps or inconsistencies between scopes of work and notify the Construction Manager prior to submission of bids and within the pre-bid RFI timeline requirements. If overlapping scopes are not brought to the attention of the Construction Manager prior to bid, the subcontractor will be responsible for inclusion of overlapping scope.

The subcontractor has closely studied the plans, specifications, and addendum and notified the Construction Manager in writing of any error, omission, or ambiguity in RFI from prior to submission of the bid. With submission of its bid and further through post bid scope review meetings and execution of the subcontract agreement, the subcontractor acknowledges that they have included a full scope of work consistent with the intent of the contract documents.

The subcontractor has reviewed all bid/contract documents and takes no exceptions. All items related to the subcontractor's work included in these documents shall be included in the subcontract amount. Subcontractors' contract pricing must remain valid through the duration of the project and through completion of scope of work identified in this contract agreement. Contract values may only be adjusted through the change process spelled out in this contract and/or design documents. Any contract markups shall be submitted within 3 days of being sent via DocuSign.

Liquidated Damages

Liquidated damages for the project are tied to the completion of all project milestone dates in the following amounts:

- If the milestone is missed by 1 to 30 days, $2,500 per day.

- If the milestone is missed by 31 to 60 days, $5,000 per day.
- If the milestone is missed by 61 days and over, $10,000 per day.

Refer to general conditions and subcontract agreement for the subcontractor's obligations to liquidated damages.

Execution of the Owner

The subcontractor understands that this subcontract is contingent upon execution of the contract agreement for guaranteed maximum price between the owner and Construction Manager, and that this subcontract shall be null and void without restriction or remedies to either party if the owner/Construction Manager agreement is not executed.

Article 2: Work by the Subcontractor

Execution of the Work

The subcontractor acknowledges that the scope of work is inclusive of all materials, supervision, labor, equipment, hoisting, tools, transportation, permits, insurance, submittals, warranties, and all other items required to provide a turnkey completion of the scope of work. Upon submission of the bid, the subcontractor acknowledges that bid documents may not be fully developed at time of contracting, and that the bidder has all required information, clarifications, and addendum to perform the work in conformance with the intent of the documents whether directly indicated or implied.

Existing Conditions and Site Investigation

Each bidder must acquaint himself thoroughly as to the character and nature of the work to be done. Each bidder furthermore must make a careful examination of the site of the work and inform himself fully as to the difficulties to be encountered in the performance of the work, the facilities for delivering, storing, and placing materials and equipment, and other conditions relating to construction and labor including, but not limited to, work by other contractors on the project site, local weather conditions and projections, temporary facilities, location of parking and laydown, etc.

No plea of ignorance of conditions that exist or may hereafter exist on the site of the work, or difficulties that may be encountered in the execution of the work, as a result of failure to make necessary investigations and examinations, will be accepted as an excuse for any failure or omission on the part of the successful bidder to fulfill in every detail all the requirements of the contract documents and to complete the work or the consideration set forth therein, or as a basis for any claim whatsoever.

Insofar as possible, the successful bidder, in carrying out his work, must employ such methods or means as will not cause interruption of or interference with the work of the Construction Manager or any separate contractor.

Temporary On-Site Facilities

The following on-site facilities will be provided by the Construction Manager for use by this subcontractor during the execution of their work unless noted otherwise:

1. Temporary sanitary facilities- the Construction Manager shall provide sufficient toilet facilities in a clean a sanitary condition for use by subcontractors.

2. Dumpsters and bins for recycling and construction waste- Construction Manager shall provide suitable dumpsters for all trades, unless specifically noted otherwise in exhibit b. Subcontractors are responsible for separation of waste into appropriate bins. Failure to separate waste may result in tipping or sorting fees being charged against the subcontract.
3. Fire extinguishers- the Construction Manager shall provide fire extinguishers except for cutting, welding, and hot work during construction. Each subcontractor shall equip their employees with fire extinguishers for all cutting, welding, and hot work operations.
4. The following onsite facilities will **not** be provided by the Construction Manager and is the responsibility of the subcontractor.
5. Temporary office facilities- subcontractor shall make provisions to supply temporary office facilities if deemed necessary for the completion of their scope. Location of office trailer to be established by Construction Manager. Temporary power, water, or sanitary service to the subcontractor's temporary office shall be the responsibility of the subcontractor. The Construction Manager reserves the right to require the office trailer to be relocated or removed as needed to facilitate the progress of the project.
6. Temporary storage containers- subcontractor shall include all necessary storage containers or other facilities needed to securely store materials on the project site. No storage of more than 1 week' worth of material is to be stored in the building if permitted by monteith superintendent. Subcontractor to provide all necessary security to prevent theft of materials stored onsite. In the event of theft, the subcontractor shall immediately replace missing quantities of materials at no cost to the owner or Construction Manager unless otherwise agreed upon.

Temporary On-Site Utilities

Temporary water to a single location shall be provided by Construction Manager. The subcontractor is responsible for all hoses or water tanks required for conveyance of water to the work area.

Temporary heating and ventilation: temporary heating and ventilation will be provided by the Construction Manager, and it is the responsibility of the subcontractor to provide where necessary to complete the work or to protect the work from damage.

Temporary Power and Lighting

Temporary power will be available at no cost to subcontractors.

Once available, temporary lighting in accordance with OSHA standards will be provided by the electrical contractor. This subcontractor shall provide appropriate task lighting as required for completion of the scope.

Once available, 110-volt, single phase power shall be provided throughout the building with GFCI protected receptacles for small tools only, unless specifically noted otherwise in exhibit b. Temporary power locations to be positioned such that all areas of the building can be accessed with a 100’ extension cord. Extension cords, lights, stands, hangers, etc. As required for conveyance of power beyond temporary outlets to the work area is by this subcontractor.

This subcontractor shall provide its own GCFI protected outlets, whips, or plugs for permanent outlets once temporary power is removed from building.

The subcontractor shall be responsible for stringing its own cords from available outlets to the work area and must be always kept clear of egress paths.

Engineering, Surveying, and Utility Locates

Each bidder must include in his proposal all costs for engineering, surveying, x-raying of floors, and field measurements, which will be required to complete his work.

Engineering services: where required per contract documents, this subcontractor is to hire a licensed engineer or an otherwise certified technician (where applicable) for the engineering of required components or systems. All engineering costs associated with preparation of shop drawings, submittals, field investigation, inspections, etc. By subcontractor retained engineer is the responsibility of the subcontractor.

Surveying and layout required for the scope of work described herein is by this subcontract. Construction Manager will provide one vertical and one horizontal control point and one (1) benchmark for use by a licensed surveyor retained by the subcontractor. If surveyed points for installation of this scope of work differ from the existing conditions of the site, notify the Construction Manager immediately.

Subcontractor is responsible for calling for, scheduling, and documenting all utility locates (both public and private) prior to excavation. Ensure all existing utilities are located sufficiently prior to excavation. Where utilities cross proposed excavation, pothole and expose all existing utilities prior to excavation.

Permits and Inspections

Each bidder shall include all costs for permits from all jurisdictions, departments, etc. As required for the completion of their scope, with the exception of a building permit which is provided by the owner. Subcontractor is responsible for all applicable permits, business licenses, taxes, fee, etc.

Plumbing, mechanical, electrical, fire alarm, and any subcontractor with a permit is responsible for all inspections related their scope of work and any corrections required.

Subcontractor to ensure proper, competent, and authorized personnel are on site to actively participate during fire marshal and other inspections.

Supervision and Labor

Subcontractor shall account for a sufficient number of skilled workers, technicians, general laborers, and other specialty tradesmen to perform the contracted scope of work within the prescribed schedule requirements. The subcontractor attests that it is in full compliance with I-9 employer verification requirements and will continue to remain in compliance throughout the course of the project.

Supervision by the Subcontractor

The subcontractor shall directly employ and provide a minimum of one competent person by OSHA standards as full-time supervision while completing the scope of the work. This supervisor shall have the authority to make manpower and cost decisions in administering

the subcontractor on behalf of the subcontractor. The supervisory personnel shall be onsite anytime the subcontractor or lower tier subcontractors are working onsite, and cannot be changed without the Construction Manager's consent and approval.

Prior to the commencement of work, subcontractors shall arrange for all site personnel, including lower tier subcontractors, to complete the Construction Manager's project specific safety orientation program.

Removal of Subcontractors Personnel

The Construction Manager reserves the right to require removal and replacement of the subcontractors supervisory or labor personnel in the event that the employee is incompetent, in violation of safety or decorum policies set forth by Monteith or the owner, or are otherwise deemed unfit to execute the work. Upon written notification from the Construction Manager, the subcontractor shall remove the individual or individuals and replaced at the subcontractor's cost.

Subcontractor understands that the project consists of multiple work areas, floors, and phases which will require multiple crews working simultaneously in separate areas. The subcontractor further acknowledges that separate crews, supervision, scaffolding, equipment, material deliveries, shop drawings, inspections, etc. May be required to maintain the project schedule and that all costs associated are included.

Overtime and Weekend Work

The subcontractor shall provide sufficient manpower to meet the project schedule while working from Monday through Friday for 8 hours per day during regular work hours (7 am – 5:30 pm, Monday to Friday). In the event of the need for recovery due to inadequate manpower, weather events, or other delays during a normal work week, the Construction Manager at its sole discretion, can require the subcontractor to work overtime or during the weekend to maintain the project schedule at no additional cost to the Construction Manager. The subcontractor shall make appropriate adjustments to manpower during the normal work week to avoid overtime and weekend work.

When work is required outside of normal hours in order to meet schedule and/or project requirements. The subcontractor is responsible for providing accurate off-hour notifications and request for coordination. All work required outside of normal working hours must be coordinated with Monteith Superintendent at least 48 hours in advance.

Housekeeping

Maintenance of a clean and orderly project site is critical to the efficiency of tradesmen, timely execution of the work, and a safe working environment. As such, the subcontractor shall clean up and remove all debris, waste, cartons, pallets, etc. From the project area to designated bins on a continuous basis.

Materials stored onsite shall be limited to a mutually agreed upon supply. All on-site storage must be coordinated with Monteith Superintendent. The cost of any off-site storage required to perform the work is included in this subcontract. All materials stored onsite must be neatly palletized and/or contained in rolling bins for containment and ease of handling in locations designated by the Construction Manager. Unless specifically

approved by the superintendent, the subcontractor shall plan deliveries such that a maximum of one week of materials are stored onsite during a given period.

Prior to release of final payment, at a time designated by the Construction Manager, the subcontractor shall perform a final clean to remove all residues, dirt, or other contaminants from all materials installed as part of the scope of the work. Final cleaning also includes any overspray or impacts to adjacent materials, removal of any remaining materials, and cleanup of laydown areas.

The Construction Manager reserves the right to supplement the subcontractor's failure to complete clean up as specified herein upon 24-hour written notice to subcontractors. If debris cannot be directly associated with a subcontractor, the Construction Manager will prorate the cost of cleaning from all subcontractors working in the affected areas where cleaning was performed.

Article 3- Changes in Work

Subcontract Adjustments and Change Orders

The contractor and owner may request that the subcontractor implement a change to the contracted documents. If a change is requested that affects the cost of work or time for completion of the work, a change order request may be submitted by the subcontractor for review by the Construction Manager, owner, and designers as outlined in below sections. The subcontractor shall not be entitled to a change order or contract adjustment if the subcontractor proceeds with the work without a fully executed change order unless specifically directed to proceed through a change directive from the contractor.

Requests for Proposals

The Construction Manager, designer, or owner are the only parties from which a request for proposal shall be considered by the subcontractor as a change. In the event that a request for proposal is sent, in writing, to the subcontractor, the subcontractor shall provide pricing or schedule impact for the change no later than 7 days of issuance, change documents or change initiating event. Notice of Cost or schedule impact must be received within 3 days of issuance, change documents or change initiating event.

In submission of change order proposals, the following requirements apply:

1. The subcontractor shall submit change order proposals in a form approved by the Construction Manager or on change proposal forms required by the owner.
2. The form of submission shall include all applicable markups as separate line items calculated in addition to the cost of the work.
3. Proposals must include detailed description of change in scope, material, labor, and associated markeups.

The subcontractor shall supply the Construction Manager with appropriate documentation to support the direct cost of the work performed. This may include subcontractor’s payroll records for each employee, quotes and estimates provided from suppliers and lower tier subcontractors, material take offs, or any other information required for Construction Manager and owner to understand and quantify the direct of the of the work.

Allowable mark up: the subcontractor shall indicate labor burden, overhead and profit, bond cost, insurance, taxes, etc. on the change order proposal. Per the contract between the contractor and the owner:
For Subcontractors: For additional Work ordered which shall be executed by subcontractors, Subcontractors shall charge not more than eight percent (%) mark-up for overhead and profit combined for Work performed by its own forces not involving Sub-subcontractors, and not more than four percent (4%) markup for overhead and profit combined for Work performed in conjunction with Sub-subcontractors of any tier or level.
For Sub-subcontractors: For additional Work ordered which shall be executed by Sub-subcontractors of any tier or level, Sub-subcontractors may charge not more than four percent (4%) mark-up for overhead and profit combined for Work performed by its own forces including any lower-tiered sub-subcontractors The Sub-subcontractor shall provide a credit to the Owner of four percent (4%) for overhead and profit combined for any changes which results in a net reduction in the Cost of the Work. In accordance with the Contract Documents, Sub-subcontractor costs included within changes authorized by the Owner shall be based on actual allowable costs and are subject to the audit provisions of the Contract Documents.

Assumption of Intent

The subcontractor acknowledges that the contract documents may be incomplete, contain inconsistencies, and otherwise require the bidder to assume the intent of the documents for a complete system or finished appearance. The subcontractor agrees it has had the opportunity to review the documents and clarify any inconsistencies or questions during the pre-bid RFI process, and that upon submission of the bid, it fully understood and included the required scope to meet the intent of the documents whether clearly indicated or assumed. As such, by entering into the subcontractor agreement, the subcontractor warrants that a complete scope of work will be provided to the satisfaction of the owner and Construction Manager without cause for claim of additional cost or change orders except where changes are specifically requested from the owner, architect, or Construction Manager.

Work Authorization Ticket

The Construction Manager may require that work be completed, for which the subcontractor feels the cost associated is outside of the subcontract agreement. In cases of potential schedule impacts or risk to safety, the superintendent can direct the subcontractor to perform the work with a work authorization ticket. The subcontractor, if directed to proceed through this method, shall provide a daily report of man hours that were directly associated with the work. The superintendent's signature attests that the documented number of manhours is accurate as it relates to the work in question. The project manager shall make final determination as to whether the work constitutes a change to the subcontract agreement.

Escalations

Each bidder should include material and labor price protection throughout the duration of the project. Subcontractors are responsible for carrying adequate monies to cover escalation over the entire project duration. If material escalations are scheduled or likely to impact material prices, the subcontractor should notify the Construction Manager as soon

as possible. The Construction Manager shall make a good faith effort to expedite review and release of materials or review comparable equal products to those experiencing escalations but makes no claim to responsibility for the cost of escalations of material or labor prices, which are to be carried in the base bid.

Article 4- Project Administration

Project Related Meetings

The subcontractor and their supervisory personnel shall attend all required onsite meetings including weekly trades meetings (while working onsite), preinstallation meetings, safety stand downs and toolbox talks, quality control meetings, scheduling, etc. as directed by the Construction Manager. Attendance in meetings is mandatory.

Lean Construction Practices

The Construction Manager will be implementing lean construction practices in the execution of the project. The subcontractor will be required to collaborate effectively in all pull meetings, 6-week work planning meetings, weekly planning meetings, and daily huddles.

Schedule

Construction Management Software

All subcontractors will be required to utilize Procore throughout the course of construction for document management on this project. Access will be provided by the Construction Manager to all subcontractors and employees of subcontractors or lower tier subcontractors. All submittals, RFIs, drawings, observations, punch lists, closeout documents, and warranties shall be submitted through the Procore platform. The Construction Manager shall make available relevant training as needed for subcontractors for proper use of Procore. At a minimum, one (1) field personnel, such as subcontractor site foreman/superintendent, much have the Procore application easily accessible on their phone or tablet.

Submittals, Shop Drawings, and Closeout Requirements

Time is of the essence for this project and as such, submittals and shop drawings shall be submitted as expeditiously as possible. Submittals, shop drawings, and color samples must be submitted no later than 10 days after contract sent by Monteith to subcontractor via DocuSign unless otherwise noted.

The subcontractor shall thoroughly review the project specifications in review of all submittals and provide each submittal, broken out as defined by the Construction Manager, with a monteith's submittal review cover sheet. Each submittal package should clearly identify the specification section relating to the submitted materials.

The subcontractor, a precedent to final payment or progress billings on close out schedule of values, shall submit all O&M manuals to the Construction Manager. O&M manuals must be submitted by the earlier option: within 60 days of approved submittals or 80%

completion of contracts scope of work. Closeout documents should be prepared as soon as submittals are returned as approved by designer.

Attic stock shall be delivered, where required by contract documents, at the completion of the project in clean, unopened, clearly labeled containers to a location designated by the Construction Manager. Transmittals shall be signed indicating all materials provided by the Construction Manager and subcontractor.

As-Builts and Redline Drawings

The subcontractor is responsible for keeping up to date a set of redline as-built drawings on the project site. As-builts are to be marked up on a digital master file each month. All as-built are to be provided per local, state, and federal requirements and as outlined in the project specifications. Completion of monthly as-built updates is a requirement for progress payment as specified by the owner contract. Final as-builts are required for completion of close out document requirements and to be submitted with three (3) days of scope completion and prior to final billing. Three (3) hard copies of the final as-builts shall be provided to the Construction Manager. If surveyed as-builts are required per the contract documents, surveys shall be provided to the Construction Manager in printed, pdf, and cad files.

Applications for Payment

Monthly payment applications shall be prepared and submitted by the subcontractor for current work in place and materials stored on site by the 20th of each month for a period from the 20th of the previous month to the 20th of the current month.

Prior to first billing on the project, a schedule of values shall be submitted and approved by the Construction Manager. The approved schedule of values shall not be modified without an executed change order. Schedule of values must include line items for safety, clean-up, and closeout with scheduled amounts in proportion to contract value.

Schedule of values are required to have the following:

- Submittals – to be paid upon 100% completion of all submittals for this scope of work.
- Safety- to be progressed as approved by Construction Manager based on actual completion
- Mockups- to be paid as a lump sum upon approval of mockups
- Clean up- to be progressed as approved by Construction Manager based on actual completion
- Closeouts- to be paid as a lump sum upon completion of all closeout documents
- Attic stock/as-builts- to be paid as a lump sum upon receipt and approval of attic stock and as-builts.
- Punchlist- value of no less than 2% of contract value for contracts under $2,000,000 and no less than 1% for contracts above $2,000,000 to be paid as a lump sum at completion of acceptable punch list activities.

All payment applications shall be submitted no later than the 20th of each month with all required documentation. All submissions shall be made through Monteith's Viewpoint subcontractor kiosk. The accounting representative for each subcontractor shall be given access to the subcontractor kiosk at no cost to the subcontractor. All payment applications shall include a detailed schedule of values including breakout by labor, material types locations, etc.

The Construction Manager reserves the right to require additional documentation as a condition of progress payments as required to ensure the subcontractor is fulfilling their financial obligations to suppliers and lower tier subcontractors including but not limited to: supplier listing statements, lower tier partial lien waivers, joint check agreements, supplier inquiries by Monteith, or other measures as deemed necessary, and at the sole discretion of the Construction Manager.

EXHIBIT B – BID PACKAGES

Bid Package – #01A – General Trade

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00	Procurement and Contracting Requirements
Division 01	General Requirements

Scope of Work Summary/Inclusions:

It is understood and agreed that this **General Trade** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Provide one English speaking supervisor/working foreman and four (4) laborers for a period of 80 weeks with 40 hours per individual per week. These individuals are to be direct employees of this subcontractor. Crew will be responsible for providing continuous clean-up of the project site, building, material laydown areas, office trailer, coordination of temporary facilities such as dumpsters pick-up, portable toilet utilization, safety, and coordination of material deliveries.

2. Include final cleaning services for the building at each phase completion of construction. This is to include cleaning all horizontal surfaces, floor cleaning, window cleaning, roof cleaning, full bathroom cleaning, removal of adhesive residues, minor paint residues, cleaning stainless surfaces, cleaning of all lighting fixtures, carpet cleaning, tile grout cleaning as required, etc. Final cleaning and pressure washing of all asphalt and concrete surfaces. Any equipment and or tools needed is the responsibility of subcontractor.

3. Maintain all laydown yards and construction trailer site. Includes cleaning area of debris and trash, weed eating, and grass cutting. Any required brooms, shovels, trash bags, and/or cans, weed eaters, lawn mowers, and fuel is the responsibility of the subcontractor.

4. Subcontractor shall include relocating porta johns to phased work areas as directed by the CM.

5. This subcontractor is to provide an hourly rate for all required personnel within 7 days of being notified as the apparent low bidder. Monteith reserves the right to require

additional or reduced manpower based on project requirements. The subcontract will be adjusted to reflect the actual cost of work based on actual work hours utilized in accordance with agreed upon unit rates. This subcontractor shall submit weekly time sheets for signature by Monteith employees and shall bill labor utilization monthly based on signed timesheets and agreed upon unit rates.

6. Monteith reserves the right to require replacement of employees if work product is deemed insufficient by Monteith Superintendent.

7. Maintain all construction waste and recycling dumpsters including metal recycling, wood recycling, cardboard recycling, concrete recycling, and General construction debris. This subcontractor is responsible for the enforcement of material sorting to appropriate containers and calling for haul off as required. Cost of dumpster rental, haul off, and tipping fees are by Monteith. Waste contamination charges will be applied as deductive change orders against this contract.

8. Subcontractor shall include maintenance of construction fencing and screening as directed by the CM, this is to include removing and replacing wind screen prior and after any high wind events, replacing any damaged or torn wind screening per direction of the CM.

9. This subcontractor shall provide continuous rental of one working street sweeper with a water tank for a period of no less than 80 weeks. The street sweeper will be used multiple times on a daily basis to maintain the occupied streets and roads around the airport. Includes fuel, water, cleaning solutions, and maintenance for the equipment.

10. This subcontractor shall provide continuous rental of one 3500lb Lull with a garbage hopper for a period of no less than 52 weeks. Includes fuel, and maintenance for the equipment.

11. Include final cleaning services upon completion of each phase of road and parking lot construction. Final cleaning and pressure washing of all asphalt and concrete surfaces. Any equipment and or tools needed is the responsibility of this subcontractor.

12. This subcontractor shall equip their staff with basic hand, power tools, and cell phones. General power tools include, but not be limited to, circular saws and blades, drills, drill bits, extension cords, hammer drills, extension cords, etc. Basic tools are not to be applied to misc. tools and supplies allowances.

13. Subcontractor shall provide and maintain all safety railings, kick boards, toe boards, floor opening coverings, etc. as required per OSHA guidelines and Monteith Construction Safety Manual.

14. Subcontractor shall provide, install, and remove the following floor protective coverings as directed by the Construction Manager:

i. 10 mil plastic sheeting and Masonite coverboard on all corridors, lobbies, and all terrazzo floor finishes. Tape all seams and repair or replace as required.

ii. Builder paper (ram board plus or x board) in all rooms. Tape all seams and repair or replace as required

15. Subcontractor shall be responsible for plastic coverings as required for temporary enclosures, protection of installed finishes, etc.

16. Subcontractor shall be responsible for removal of safety cables installed by steel contractor including removal of posts, screening, and rails.

17. Subcontractor shall be responsible for Temporary fence and gates per logistics plan.
Include for relocating per phasing and maintenance. Fence to be 6' tall chain-link fence with top rail, all posts to be driven into ground. Install and maintain fence screening.

18. Subcontractor shall be responsible for temporary construction barrier for pedestrian traffic

19. Phase 3 – PP-103. These barriers are to be water filled jersey barriers, include for installation, water fill , removal , relocation and rental.

20. Subcontractor shall be responsible for power washing existing foundation retaining wall.

21. Volume 2 drawing S105 between column lines G3 to J.7
Subcontractor shall be responsible for power washing all levels of parking deck upon parking deck completion.

22. Subcontractor to include wash station for trucks. Include temporary hydrant water meter and 100 lf of hose to wash station.

23. Include $60,000 allowance for building enclosures and safety materials, cleaning supplies, and temporary signage.

24. Include 100 extra water barriers at CMAR request.

25. Include for temporary fencing per logistics plan AS101

Scope Specific Safety Requirements:

1. Subcontractor is responsible for providing proper PPE (personal protective equipment) to all onsite worker including but not limited to hard hat, safety vests, eye protection, and safety boots.

2. Subcontractor is responsible for flagging and traffic control including but not limited to temporary road barriers, traffic partitions, cones, signals, signage, etc.

3. Subcontractor is responsible for all unloading & hoisting of their material, equipment, etc. required on this project.

4. Subcontractor to coordinate site parking with Monteith Superintendent at least 48 hours prior to mobilizing.

5. Subcontractor to coordinate site laydown with Monteith Superintendent at least 48 hours prior to mobilizing.

6. Subcontractor to provide dust containment during tie-in construction activities at existing building.

7. Subcontractor to provide dust suppression as required to not impact the airport or passengers.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the schedule and concurrent workflows as required to complete the project on, or ahead of, schedule.

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118,125

Add Alternate No. 2 – See Drawings Volume 2 Alternate No. 2
All work to rooms 110,125,109,119,120,121,122

Deduct Alternate No. 3 – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2, Mechanical Room 124, Storage 123

Bid Package – #02A –Demolition

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
Section 02 41 16	Structural Demolition
Section 02 41 19	Selective Demolition

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Structural Demolition** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Structural demolition includes the following areas:
    a. Removal of canopies as shown
    b. Removal of support columns/foundations as shown
    c. Removal of brick façade as shown
    d. Demolition of existing windows/doors as shown
    e. Demolition of existing ceilings as shown
    f. Demolition of existing walls as shown
    g. Demolition of existing building steel as shown
    h. Demolition of existing concrete roof as shown
    i. Demo of existing sidewalks, flag poles and foundations
2. Includes all labor, equipment, materials and other necessary items to complete this scope of work in accordance with the project documents.
3. Supply and maintain dust control measures during demo of the brick walls and concrete.
4. It is understood by this Subcontractor that multiple mobilizations will be required to perform this scope of work and that all costs to perform the work in accordance with the Project Schedule are included.
    i. Early demo of canopy/foundations at Terminal Departure.
5. Include an allowance of $100,000 for Temporary shoring of columns on Line 10 & G, K
6. Supply and install any additional shoring needed to perform a safe and orderly demo of the existing walls.
7. Mechanical, Electrical, Plumbing, and Fire Suppression by others.

8. This subcontractor shall return site conditions to the same condition it was turned over to this Subcontractor ; clean of any materials demolished from area.
9. Salvage items include but not limited to doors, door hardware, windows, cabinets, mirrors, chalkboards, tackboards, marker boards and plumbing fixtures.
10. This subcontractor must follow Monteith Constructions Waste Management Policy.
11. Note Volume 2 drawing AD102 detail D1 note D8 – cutting concrete wall will be by concrete trade. Do not include in Demolition.
12. Volume 2 drawing AD102 detail A1 – upon removal of doors provide 1" plywood to enclose opening secured to existing block.
13. Include all disposal costs in bid. New Hanover County does not charge tipping fees to ILM project.
14. Protect all finished areas during demolition.

Scope Specific Safety Requirements:

1. This Subcontractor is fully responsible and accountable for safely performing this Bid Package scope of work. The following items are typical safety requirements that shall be included in the scope of work, but are not intended to exclude any safety related item that may be required: personal protective equipment, traffic control, material handling and equipment safety, hazardous material safety, etc.
2. Subcontractors and their lower tier subcontractors will be required to comply with Temporary Facilities and Controls, all applicable OSHA standards, and other local, state, and federal regulations. The more stringent of these will apply.
3. This Subcontractor is fully responsible and accountable for safely performing this Bid Packages scope of work. The following items are typical safety requirements that shall be included in the scope of work but are not intended to exclude any safety related item that may be required: personal protective equipment, fall arrest systems, fall protection barricades, scaffolding and ladder safety, electrical safety, hoist way and machine room safety, material handling and equipment safety, etc. and other required safety provisions.
4. Supply and maintain dust control measures during demo of the brick walls.
5. All workers must be compliant at all time with MCC safety standard for use of PPE while on the job site.
6. In the event scaffolding is used, the erection, dismantling, access and use are to be in full compliance with OSHA standards. The scaffolding used is to be maintained to OSHA standards throughout its use on the project, including but not limited to OSHA tags, daily inspections, etc.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the schedule dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

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Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Include an allowance of $100,000 for Temporary shoring of columns on Line 10 & G, K

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other

Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #03A – Cast-In-Place Concrete

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
Section 03 11 16	Architectural Concrete Formliners
Section 03 30 00	Cast-In-Place Concrete
Section 07 26 00	Vapor Retarder
Section 07 92 00	Joint Sealants (As Pertains)

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Concrete** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Includes all labor, equipment, materials, freight, taxes, and supervision required to perform the cast-in-place concrete scope.
2. Includes all concrete materials, any needed admixtures, concrete reinforcement, expansion joint materials, vapor barriers, curing compounds or any other materials required for a complete concrete installation.
3. Includes any formwork as required.
4. Includes all excavation, compaction, and backfill required. It is the responsibility of this contract to haul off any spoils to location onsite per the direction of the CM.
5. Includes all stone subbase for slabs on grade.
6. Includes all layout of concrete scope.
7. Includes all construction and control joints including supply and installation of the joint sealants.
8. Includes concrete wash out containers that can be moved around onsite and hauled off for waste removal as necessary.

9. Prior to construction, if the reinforcing is indicated as embedded in the concrete. Straighten and/or properly align this reinforcing as required for masonry installation and proper fit inside the masonry systems.

10. Include necessary mobilizations and material and equipment (pump, transport, light towers, etc.) locations as required to facilitate construction progress and/or as directed by Construction Manager.

11. Provide dewatering in order to properly maintain and complete the work of this Bid Package.

12. This Subcontractor is responsible for the quality of all work associated with this Bid Package and is responsible for any and all costs associated with any non-conformance with specified requirements.

13. It is understood by this Subcontractor that multiple mobilizations will be required to perform this scope of work and that all costs to perform the work in accordance with the Project Schedule are included.

14. This subcontractor includes Volume 2 drawing S303 detail 4 – all post installed rebar dowels.

15. This subcontractor includes Volume 2 S401 & S303 – install anchor bolts and grouting bases between column line H to J. Include x raying concrete for existing concrete reinforcement placement.

16. This subcontractor includes volume 2 drawing S311 Detail 7 – Concrete beam.

17. This subcontractor includes volume 2 drawing AD102 Note D8. This contractor includes cutting concrete wall opening.

18. The Auger Cast Pile subcontractor will pour the piles to top of pile cap elevation. This subcontractor to chip auger cast concrete piles to required elevation and expose reinforcing for connection.

19. This subcontractor includes concrete and finishing to all metal pan stairs.

20. This subcontractor shall include concrete curb per Volume 1 drawing S510 Detail A2.

21. Note site contractor to include for excavation and backfill to tunnel.

22. Concrete subcontractor to include backfill to parking deck ramps(3) to underside of slab. Include import material and comply with compaction requirements and complete within schedule timeframe.

23. Site contractor to provide grade elevation 85.17’ at parking deck and elevation 83.5’ at tunnel.

24. This subcontractor includes setting all anchor bolts and grouting all base plates.

25. This contractor includes compressible joint material between precast tunnel and concrete Volume 2 detail S/304.

26. Precast deck washes and topping by precast manufacturer.

27. Concrete contractor to place all surplus soil to designated location on site. Surplus material to be removed offsite by grading contractor.

28. Concrete contractor to include $ 10,000 delegated design fee for the NCDOT Concrete Barrier Rail per drawing Volume 1 S211 detail C3,4.

29. Include in pricing 15 tons of rebar for the barrier. Include all concrete supply and forming per detail.

30. This contractor is to include non-shrink grout at precast wall in keyway per detail 8/S.303

31. Includes installation only of all pipe bollards and supply and install pipe bollard concrete at the precast parking deck in detail C1/S.502. Pipe bollard supplied by BP 05A – Structural Steel.

Scope Specific Safety Requirements:

32. This Subcontractor is fully responsible and accountable for safely performing this Bid Package scope of work. The following items are typical safety requirements that shall be included in the scope of work, but are not intended to exclude any safety related item that may be required: personal protective equipment, traffic control, material handling and equipment safety, hazardous material safety, etc.

33. Subcontractors and their lower tier subcontractors will be required to comply with Temporary Facilities and Controls, all applicable OSHA standards, and other local, state, and federal regulations. The more stringent of these will apply.

34. This Subcontractor is fully responsible and accountable for safely performing this Bid Packages scope of work. The following items are typical safety requirements that shall be included in the scope of work, but is not intended to exclude any safety related item that may be required: personal protective equipment, fall arrest systems, fall protection barricades, scaffolding and ladder safety, electrical safety, hoist way and machine room safety, material handling and equipment safety, etc. and other required safety provisions.

35. All scaffolding, erection, dismantling, access and use of scaffolding are to be in full compliance with local and state regulations

36. Provide all traffic control (barricades, fences, flagmen, temporary signage, etc.) as required by the City of Wilmington, FAA, NCDOT, etc. to complete all work under this Bid Package.

37. This Subcontractor is responsible to comply with Monteith Construction Safety Manual. Items include, but are not limited to the follow: New employee training, Weekly toolbox talks, Task specific training, Drug and alcohol screening and Injury management.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 4 weeks to submit
    - Drawings Approval: 6 weeks for approval

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Concrete contractor to include $ 10,000 delegated design fee for the NCDOT Concrete Barrier Rail per drawing Volume 1 S211 detail C3,4.

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #04A – Masonry

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
04 20 00	Unit Masonry
04 22 00	Concrete Masonry Units
07 21 00	Thermal Insulation
07 27 26	Fluid Applied Membrane Air Barriers
07 92 00	Joint Sealants (As Pertains)
08 11 13	Hollow Metal Doors and Frames (As Pertains)

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Masonry** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Subcontractor has inspected the site, reviewed the logistics plan, and is familiar with access, sequence, staging, hoisting requirements, and all available documents prior to submitting the bid.
2. All required survey and layout is included.
    a. Construction manager to provide only benchmarks and control lines
    b. Subcontractor is responsible for Establishing building corners, wall layout, and footing rebar verification in coordination with concrete subcontractor.
    c. Subcontractor is responsible for verifying walls are installed plumb and straight. Prior to installation of walls, verify that substrate is plumbs and straight. Notify CM of any discrepancies in installed substrate or steel structure prior to commencing work.
3. Provide all masonry work for a complete installation including, but not limited to the following: concrete masonry units (CMU), face brick, precast concrete, mortar (include colored mortar if required), mortar admixtures, grout, concrete fill, reinforcing steel bars (within masonry CMU cells), rebar positioners, rebar caps, anchors (including seismic, veneer, dovetail, rigid, etc. anchors where required), ties, horizontal joint reinforcing, weeps, vents, control joints, compressible filler strips, expansion joints, through wall flashing, cavity drainage material, mortar net, pointing, cleaning, mock-ups, etc. as may

be required to provide a complete and functional masonry package, whether detailed and/or implied on the Contract Documents

4. Provide and install all cavity insulation behind brick veneer
5. Provide and install all architectural precast concrete including:
    a. Precast benches, precast site walls, precast planters, precast landscape boarders, precast stair treads and riser, etc.
6. Includes all neoprene joint fillers and self expanding neoprene cavity seals between brick and adjacent materials.
7. Provide full time supervision for project whose sole responsibility is quality control, safety, material ordering, and maintaining a clean and efficient work area.
8. Include additional grouted and reinforced cells in CMU as required for steel installations.
9. Subcontractor to coordinate all grout placements and reinforcement inspections with Monteith Superintendent. All grout placements to be scheduled a minimum of 24 hrs. in advanced. If grout placement is not scheduled with Monteith and inspector is not present at time of grouting, grout placement will not be permitted, and any costs associated will be the responsibility of this subcontractor.
10. Vertical and horizontal steel reinforcing is to be installed per the contract drawings in all masonry walls
11. Provide UL listed head of wall details at all fire rated masonry partitions. Label all fire rated masonry partitions.
12. All top of wall sealants, mineral wool, fillers, draft stops, etc for all CMU walls is the responsibility of this subcontractor.
13. Prior to placement of concrete footings with vertical dowel reinforcement embedded in concrete, coordinate with cast in place subcontractor to verify reinforcement is within masonry cells.
14. Includes installation of miscellaneous steel materials (provided by others) including the following:
    a. Loose steel lintels,
    b. Any embedded bearing plates, anchor bolts, plates, in masonry walls.
15. All bolted, welded, or misc. steel not embedded in masonry is supplied and installed by the steel contractor. Coordinate location of bolted steel materials with the steel contractor to ensure adequate anchorage and reinforcement is provided.
16. Includes all infill and grouting of structural steel (bearing blockouts, beam tails, etc) set by structural steel and misc metals contractor within masonry walls.
17. Block-outs, embeds, sleeves for penetrations, openings, attachments, etc. will be furnished by other trades for installation in masonry work by this Subcontractor. Including all permanent and or non-permanent materials required for openings. Masonry subcontractor to coordinate and layout all embeds, anchor bolts, and miscellaneous masonry embedded steel. Elevation and size of penetrations to be written on walls or floors by trade requiring penetration. If penetration/block out is provided and properly coordinated by trade and not installed per coordination all cutting, coring, or rebuilding of wall is the responsibility of masonry subcontractor.
18. Includes installation and grouting of all hollow metal frames as part of this subcontract. Frames are to be installed plumb and level while maintaining integrity of frame opening for installation of doors. Brace, shim, or block frames as required to

maintain opening integrity. Remove all hollow metal frame spreader bars after completion of grouting. Provide insulation to hollow metal frames as indicated.
19. Clean all footings, slabs, brick ledges, and dewater excavations as necessary for installation of masonry work.
20. Provide adequate protection at all floor areas during masonry and grouting operations.
21. Includes all cold weather masonry provisions as required including hot water, temporary heating, enclosures, masonry blankets, sand and water heaters, etc.
22. All work shall be properly covered with plastic sheet goods at the completion of each day or until permanent covering/air barrier has been installed.
23. Provide adequate scaffolding, manpower, equipment, etc. as needed to meet schedule requirements.
24. Grade, level or smooth substrates as required for scaffold installations.
25. Include for patching doors openings Volume 2 drawing A102 detail A1. Include removal of plywood covering each opening.
26. This subcontractor to include for any patching to men's and women's locker room renovation. Volume 2 drawing A102.
27. This subcontractor to include supply, install and engineering of precast sill , flashing per Volume 2 drawing A504 detail A3.
28. Per Drawing S 540 – Volume 1 Add. 2 – Detail A1 – Include compressible material between precast and masonry wall
29. Drawing S 540 – Volume 1 Add. 2 – detail A 4 – Include drilling and epoxy dowels at bottom of wall per detail.

Scope Specific Safety Requirements:

This subcontractor shall provide and install the following safety related materials:

1. Provide rebar caps on all vertical reinforcement
2. Provide ladders to all scaffold platforms and platforms fully decked at all levels

Project Specific Scope of Work Inclusions:

The following is provided as a courtesy and is not intended to fully represent the scope of work required per plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

1. Provide termination bars and sealant at all flexible thruwall flashing and self adhered membrane transition membrane flashing lapped over termination bar.
2. Install all 2 piece thruwall flashings with snaplock receivers (thruwall flashing provided by others) Coordinate flashing height with roofing or panel installers.
3. Provide vertical reinforcement drilled and epoxied into turndown slab lugs at all interior non load bearing partition walls.
4. Install masonry vents at top of all masonry veneer walls
5. Provide and install all neoprene joint fillers and self-expanding neoprene cavity seals between brick adjacent materials as indicated.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 4 weeks

    Procurement & Delivery: 8 Weeks post executed Subcontract

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #05A – Structural Steel

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirement
Division 01 (All)	General Requirements
Section 05 12 00	Structural Steel Framing
Section 05 10 00	Structural Cast Steel Components
Section 05 12 10	Structural Cast Steel Components
Section 05 12 13	Architecturally Exposed Structural Steel Framing
Section 05 31 00	Steel Decking
Section 05 50 00	Metal Fabrications
Section 05 51 13	Metal Pan Stairs
Section 05 52 13	Pipe and Tube Railings
Section 05 73 00	Decorative Metal Railings

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Structural Steel** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

Subcontractor has inspected the site, reviewed the logistics plan, and is familiar with access, sequence, staging, hoisting requirements, and all available documents prior to submitting the bid.

1. All required survey and layout is included.
2. Construction manager to provide only benchmarks and control lines
3. Subcontractor is responsible for maintaining and certifying building plumb prior to placement of elevated concrete slabs, roofing, grouting of base plates, etc.
4. Erection tolerances shall be based on tolerance requirements for installed finishes.
5. Subcontractor shall employ a licensed surveyor to inspect anchor bolt locations prior to installation of columns. Notify Monteith of any discrepancies that will affect the erection of structural steel. Provide anchor bolt survey to Monteith.

6. Licensed survey plan for all interior stairs furnished and installed in this work package. Include survey points at front and back and side to side of each tread (4 survey points per tread). Survey of pan stairs.

7. Field measurements or verification are required and may require separate mobilizations.

8. This Subcontractor is responsible for providing all equipment needed to erect and install all structural steel and miscellaneous metals work. This equipment includes but is not limited to the following: cranes, forklifts, boom trucks, hoists, welders, scaffolding, shoring, etc.

9. This subcontractor shall provide portable diesel or gas generators and portable welding equipment for the duration of this scope of work. Temporary power facilities will not be provided for use by this subcontractor at any time during erection.

10. This subcontractor shall closely review logistics plan for crane locations and pick distances. Crane pads will be provided by site contractor at locations noted on logistics plans only.

11. Subcontractor responsible for cleaning of all steel at completion of erection.

12. This subcontractor shall make arrangements for crane operation, rigging, and setting of beam during topping out ceremony as requested by Monteith.

13. All steel outside of the wall cavity to be Hot dipped galvanized finish. This includes steel within exterior wall cavities.

14. This Subcontractor shall provide a complete metal stair and railings package that includes but is not limited to the following items: steel pan stairs, landings, handrails, and wall railings for all stairs as required by drawings. Include all core drilling, drilling, epoxy, and other anchoring requirements. The metal stairs, landings, and integral handrails are to be installed as the structural steel work is erected.

15. All exposed brace frames below ceiling and monumental stairs exposed members to be AESS Category 2.

16. Provide all required shop primers, paint, coatings, field touch-up materials and labor.

17. All Structural steel to receive fireproofing shall be left unprimed.

18. This package includes all shops and field welding as required.

19. All bolted or fastened steel materials shall be installed by this contractor unless specifically noted otherwise. Include all fastening materials.

20. Structural steel framing, decking, and misc. metals shall be shipped, unloaded, inventoried, and properly stored on dunnage to keep steel clean by this subcontractor.

21. Provide and install pre-drilled holes in steel, as necessary, for attachment of work by others including holes for wood blocking bolts, nail holes in embeds for anchorage to formwork, etc. Holes to be indicated on shop drawings.

22. This subcontractor is responsible for dewatering of footings as required for the setting of structural steel.

23. Cut deck to fit around openings and projections, including plumbing, HVAC, fire protection, and electrical work and provide closures to prevent concrete overspill. Include reinforcing / structural framing of openings where required. Carefully examine the Architectural, Structural, and Mechanical drawings to determine the size, type and quantity of openings required. It shall be this Subcontractor's responsibility to provide all such holes and/or openings in proper locations.

24. Steel tolerances shall comply with the tolerances of the materials that are being installed and connected to structural steel.

25. Provide safe access by boom lift or other means for the testing agency and EOR to the work of this section. Any work found to be deficient during inspections is to be corrected and reinspected at no cost to the Construction Manager or Owner.

26. Delegated Design Requirements:

27. Delegated Design is required for structural steel connections and metal stairs. Complete calculations and shop drawings are to be signed and sealed by a Professional Engineer licensed in the State of North Carolina. Reference plans and specifications for additional requirements in addition to below:

28. Include engineering of all braced frames, collector beams, moment frames and connections, lintel and wind girts, and shear connections.

29. Shop Drawings to be provided with design loadings and reactions applied to supporting structure. Include a summary of the controlling load cases for each location.

30. Subcontractor to provide anchor/embed shop drawings within 14 days of post-bid verification meeting. All other shop drawings shall be submitted as sequenced in the schedule and as required to meet the erection schedule.

31. Deviations, changes, or discrepancies from the contract documents are to be clouded or clearly marked requesting approval or clarification from the EOR and Monteith. Provide and maintain an RFI (REQUEST FOR INFOMRMATION) log of all required clarifications.

32. Shop drawings shall clearly indicate all assumed design loads and appropriate locations for EOR approval.

33. The subcontractor shall provide a 3D steel design model that is compatible with Navisworks for use in MEP coordination.

Scope Specific Safety Requirements:

1. This subcontractor shall provide and install the following safety related materials: Perimeter safety cabling system at all elevated floor levels and roof. Including around perimeter steel edges, stair openings, roof hatch openings, and all openings larger than 2'x2'. Install safety cabling and posts such that it does not interfere with the installation of subsequent scope packages. Maintenance of safety cabling is the responsibility of this

subcontractor for the duration of erection activities. Removal of Safety cabling and posts by others.

2. Furnish, install, and remove all necessary temporary safety brackets, safety cables, and fall protection devices for erection of steel in compliance with OSHA Regulations and Monteith Guidelines.

3. Furnish project specific safety plan to the construction manager including: Hoisting and rigging plans, fall protection plan, job specific erection and bracing plans, safety policies, etc. shall be provided to the Construction Manager prior to starting work.

Project Specific Scope of Work Inclusions:

1. The following is provided as a courtesy and is not intended to fully represent the scope of work required per plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

2. The following items shall be Furnished and Installed by this subcontractor: Complete structural steel package including, but not limited to, columns, beams, tubes, bent plate, slab edge angles, shear studs, gusset plates, brace frames, all connection details and welding, welded deformed bars, DBA's expansion anchors, shims, leveling nuts, steel decking.

3. Installation of shear studs shall be completed in phases as directed by the Construction Manager and will require multiple mobilizations.

4. Includes all Support frames for openings in structural steel. Opening counts to be coordinated with MEP and architectural sheets. All openings greater than 6" in any direction are to be provided with steel frame supports. Provide pour stop angles at interior edge of openings for all slab on metal deck opening receiving steel frame supports. Opening supports include roof drains.

5. Includes all floor and roof decking- provide closure plates, angles, caps, fillers, pour stops etc. prior to concrete placement.

6. Includes all bolted steel support or shelf angles for support of interior or exterior finishes. Includes all fasteners, expansion anchors, epoxy anchors, and installation. Coordinate elevation with CMAR and contractor whose scope is reliant on steel support.

7. All top of wall bracing

8. All base plate shim materials and leveling nuts

9. Galvanized finish at all steel materials outside of the primary building envelope (air barrier or roof membrane)

10. Includes Elevator hoist beam and rail supports at each elevator. Included all hoist beams as required.

11. Includes all miscellaneous metals to be furnished and installed including:

12. All architectural steel materials noted on A sheets whether or not indicated on structural sheets including wall framing supports, steel casework supports, jamb protection at overhead doors, overhead hung toilet partition supports, etc.

13. All interior metal pan stairs and railings.

14. All interior and exterior Stainless steel and primed handrails and guard rails. Includes installation of all railings including those which are fastened or bolted to walls.

15. All roof anchor davits and permanent fall protection anchors with cabling- Include for certification of fall protection anchors and davits by a certified inspector.

16. Door, window, louver, and miscellaneous opening supports

17. All roof access ladders and stairs.

18. Elevator sump pit frame and grating, elevator pit ladders.

19. Elevator sill angles.

20. Shelf angles and vertical C channel supports.

21. Glazing system head supports

22. Brick shelf angle supports

23. Top of CMU wall bracing

24. Galvanized 2 ½"x 2" angle to support gutter

25. Tube Steel jamb and head support, galvanized jamb closure, and galvanized lintel at overhead door.

26. Prefinished 2" x 4" curved aluminum tube extrusion – Volume 2 drawing A603 detail C1.

27. Provide all loose lintels installed by masonry contractor.

28. Supply and install all misc. steel shown on Architectural drawings.

29. Include Crane Rail per Volume 2 - drawing A550 detail C2.

30. Includes supply of all pipe bollards at the precast parking deck in detail C1/S.502.

31. Drawing S 540 – Volume 1 Add. 2 – include supply and install angle plates at top of masonry walls.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled

durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

a. *Submittals and* Shop Drawings:
b. Anchor bolt and Embed plans: 30 Days
c. Structural steel and decking Shop Drawings Approval: 8-week duration to submit, 2 week for review

Procurement & Delivery:

a. Anchor bolt Delivery: 6 weeks
b. Structural Steel Fabrication and Delivery: 16 weeks total design and delivery

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #07C – Insulated Metal Panels

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
07 42 00	Perforated Metal Wall Panels
07 42 13.19	Insulated Metal Wall Panels
07 42 13.23	Metal Composite Material Wall Panels
07 62 00	Sheet Metal Flashing and Trim
07 92 00	Joint Sealants
05 58 13	Metal Column Covers
05 70 00	Decorative Metal

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Insulated Metal Panels** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. This Subcontractor shall provide all metal composite wall panels, aluminum siding, aluminum soffits, and all trim, attachment systems, cavity insulation, sealants, closures, framing, etc. for a complete system from the face of air barriers (provided by others) to face of finished assemblies.

2. Includes all insulation behind metal panels and rainscreens.

3. All metal wall panels and rainscreens shall be field measured prior to fabrication of materials or fabricated based on hold dimensions provided by CMAR.

4. Includes selection of metal panel materials from manufacturers full range of colors and finishes including metallic finishes.

5. Includes all miscellaneous sub framing including Z girts, hat channels, or other furring/framing members required for completion of metal panels, aluminum siding, and rainscreen scope of work.

6. Includes rainscreen attachment systems meeting structural requirements as well as thermal and building envelope requirements

7. Rainscreen attachment systems shall not utilize continuous framing profiles penetrating insulation. Utilize clips vertically to substrate, vertical angle rails to clips, and horizontal hat channel rails attached to vertical rails as required.

8. Provide thermal insulation of rainscreen attachment system and fasteners as indicated in specifications.

9. Inspect all substrates prior to installation of materials and shim or align panels as required to achieve plumb and planar final installation.

10. Include shop drawings stamped by a licensed structural engineer in the state of North Carolina detailing all panel sizes, fastening, engineering and structural calculations, Sealant locations, flashings, transitions, terminations, closures, attachment systems, etc.

11. Provide flat strapping or additional rails as required for attachment of panels at panel ends.

12. Provide all closures, flashing, angles, transitions, etc. as required to neatly trim and provide moisture protection to all adjacent finishes. Include all trims indicated as "matching Metal Panel color"

13. Remove all protective films after completion of installations.

14. Provide phased delivery and installation of materials as required by CMAR.

15. Provide all metal panel to metal panel joint sealants required. Metal panels to adjacent non similar materials will be by waterproofing contractor.

16. Provide wet seals to all horizontal metal panels installations or where indicated.

17. Include all drop column covers with laser cut silver metallic finish and include stainless steel base. Metal framing will be done by drywall scope.

18. Include mockups of all assemblies, corners, transitions, terminations, soffits, supports, attachments, and accessories. Delivery and installation of mockup materials to be expedited.

Scope Specific Safety Requirements:

1. This subcontractor shall provide and install the following safety related materials:

2. Leading edge protection and warning flags from the start of roof to final acceptance of roof. Leading edge to be established from each entry stair to full perimeter of roof area.

3. The parapet is not suitable height for fall prevention and all Monteith and OSHA regulations related to fall protection will be enforced while working on the roof.

4. Provide project specific Safety manual to construction manager prior to commencing work. Include the following:

5. Hoisting plans for materials

6. Project specific fall protection plan.

7. Identification of OSHA approved competent person onsite daily.

8. MSDS documentation

Project Specific Scope of Work Inclusions:

1. The following is provided as a courtesy and is not intended to fully represent the scope of work required by plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

2. Provide any flashings installed behind metal panels including thruwall flashings, head of wall flashing, two piece counter flashings, etc.

3. Provide all aluminum J trims or aluminum angle trims at insulation terminations where indicated adjacent to metal panels or as “color to match soffit (or metal Panel)”

4. Provide flexible flashings above thruwall flashing installed behind metal panels or rainscreen attachment systems. Includes flexible flashing, termination bar with caulking on top edge, and peel and stick transition membrane over termination bar.

5. Provide “J style” metal closure trims around all penetrations in ribbed metal panels. Closure trims to be sealed to air barriers and extend to outside of widest rib.

6. Include prefinished metal coping top of wall at metal panels.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 8 weeks to submit
    - Drawings Approval: 2 week for review

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2

All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #07E – Waterproofing

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
07 14 00	Fluid-Applied Membrane Waterproofing
07 14 16	Cold Fluid Applied Waterproofing
07 17 00	Bentonite Waterproofing
07 18 00	Traffic Coatings
07 27 26	Fluid-Applied Membrane Air Barriers
07 92 00	Joint Sealants
07 95 13.16	Exterior Expansion Joint Cover Assemblies
07 95 13.19	Parking Deck Expansion Joint Cover Assemblies
07 21 00	Thermal Insulation (As Pertains)

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Waterproofing** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Furnish and install all Fluid-Applied Membrane Waterproofing per specification section 07 11 00 including waterproofing materials, primers, reinforcing strips, sealants, flashings, rigid insulation, and all miscellaneous accessories for a complete, watertight assembly.
2. This contractor includes all elevator and escalator pit waterproofing.
3. This subcontractor includes waterproofing of tunnel. Include for waterproofing of construction joints at exterior and interior of tunnel.
4. This project will require multiple mobilizations.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or

labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 6 weeks to submit
    - Drawings Approval: 2 week for review

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #08B – Glass and Glazing

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contract Requirements
Division 01 (All)	General Requirements
07 62 00	Sheet Metal Flashing and Trim
07 92 00	Joint Sealants
08 41 13	Interior Aluminum Framed Entrances and Storefronts
08 44 13	Glazed Aluminum Curtain Walls
08 45 00	Translucent Wall and Roof Assemblies
08 46 00	Automatic Entrance Doors
08 51 13	Aluminum Windows
08 71 00	Door Hardware (Alum. Door Hardware)
08 80 00	Glazing
08 84 00	Plastic Glazing
08 91 19	Fixed Louvers
05 73 13	Glazed Decorative Metal Railings

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Glass and Glazing** package includes all inclusions as described in the following subparagraphs regardless of whether they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Furnish and Install all Glazed Aluminum Curtain Walls per specification section 08 44 13. Including all sims and caulking.

2. Include supply and installation of all glazing per specification section 08 80 00

    a. Includes all glazing meeting structural performance, windborne-debris-impact resistance, safety glazing, and thermal/optical performance properties as specified.

    b. Include all float glass, reflective and Low-E coated vision glass, ceramic coated vision glass, spandrel glass, fire rated and laminated glass.

    c. Include all dry gaskets and wet sealants as required.

d. Include initial cleaning after installation, removal of all stickers, films, etc.

e. Includes all borrowed lites for all wood doors, hollow metal doors, transoms, and sidelites

3. Include supply and installation of all translucent wall and Roof Assemblies per specification section 08 45 00 including all framing, translucent panels, gasketing, sealants, fasteners, etc.

a. Includes all girts, purlins, and framing members required to span from structural steel provided per structural drawings.

b. Include all steel angles, clips, fasteners, welding, etc as required for connection to structural members.

c. All panel assemblies shall meet design loads per specifications.

d. Monolithic polycarbonate glazing panel system shall provide a complete canopy glazing assembly that is weather tight. Includes connections, sealants, flashing, etc as required for weathertight connection to adjacent assemblies.

e.

4. Includes supply and installation of all fixed louvers per specification section 08 91 19

a. Include all fixed wind-driven-rain-resistant louvers as required

b. Coordinate free area requirements with architectural and mechanical plans.

c. Include all aluminum finishes per plans and specifications as selected by architect and owner. Including full range of colors and gloss

d. Include all louver screens

e. Include blank off panels as required for mechanical free area requirements and duct sizes.

f. Include all sealants and gasketing

5. Includes Sheet metal flashings and trims per specification section 07 62 00 as related to the storefront and curtain wall scope of work. Includes all flashing and trims that extend below any system installed as part of this bid package or to which any system curtainwall/storefront system is caulked.

a. Includes extended metal sill flashings per A1/A508 Volume I.

6. Includes all Automatic Entrance doors per specification section 08 46 00 including all glazing, frames, automatic openers, controllers, low voltage wiring, installation, sensors, integration with security systems, etc. as required for a complete system.

a. Includes all warranty and maintenance/service requirements per specifications

b. Includes color and aluminum finish to match adjacent curtainwall/storefront finishes as selected by architect and owner.

c. Includes all signage affixed to doors as required by BHMA A156.10

d. Include all door operators, motion sensors, presence sensors, combination motion/presence sensors, photoelectric beams, key switches, electrical interlocks, and opening-width control.

7. Includes all door hardware for storefront doors per specification section 08 71 00 including all locking hardware, cylinders, thresholds, hinges, electrified hardware, etc.

a. Coordinate all hardware with ILM requirements and keyways

b. Provide temporary construction cores in all cylinders provided as part of this scope.

c. Permanent cores to be provide by others.

8. Includes removal of all factory stickers and residue

9. Includes shop drawings and calculations completed and signed by a North Carolina professional engineer.

10. Includes three (3) caulk joints per curtainwall or exterior storefront frame- one interior, one primary exterior seal, and one cosmetic seal from mullion cap to adjacent materials. Caulking adheres to Joint sealants specifications and is to be of a color selected by Architect from manufacturers full range of options including custom color match. Provide two caulk joints per interior storefront frame.

11. Install mineral wood insulation between interior caulk joint and primary exterior joint under frame on all sides.

Scope Specific Safety Requirements:

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 12 weeks to submit
    - Drawings Approval: 2 week for review:
2. *Procurement & Delivery:*

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether

additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #09A – Framing and Drywall

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
05 40 00	Cold-Formed Metal Framing
06 10 00	Rough Carpentry
06 16 00	Sheathing
07 28 00	Joint Sealants (as pertains)
08 91 19	Fixed Louvers
09 22 16	Non-Structural Metal Framing
09 29 00	Gypsum Board

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Framing and Drywall** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. This Subcontractor shall provide a complete drywall package in accordance with the Contract Documents that includes, but is not limited to the following items: structural metal studs, non-load bearing metal studs, cold formed metal framing, bridging, metal strapping (16ga or thicker), all interior in-wall wood blocking, wood blocking at perimeter walls, all other required wood blocking in metal stud walls, bracing, track, channels, furring, corner beads, gauge metals, trims, fasteners, horizontal and vertical shaft assemblies, acoustical assemblies, fire resistant assemblies, acoustical sealants, gypsum board (abuse-resistant, fire-resistant, moisture-resistant, regular, etc.), cement board, backer board, control joints, reveals, trim pieces, metal backing, in-wall insulation (thermal and sound), taping, bedding, finishing of drywall, etc. as may be required to provide a complete and functional drywall package, whether detailed and/or implied on the Contract Documents.

2. Includes engineering of all cold-formed metal framing, & structural light gauge metal framing on this project (exterior walls, framing, support framing, etc.). Submit shop drawings and calculations signed and sealed by a registered Professional Engineer in North Carolina for approval by the Structural Engineer and Architect. Include fully dimensioned plans and elevations with cross sections and details depicting all part member locations,

orientations, and layout. Indicate member sizes and gauge designations, number, type, and spacing. Indicate supplemental strapping, bracing, bridging accessories, and details required for proper installation. Include details of connections which indicate screw types, quantities, locations, and weld size and locations, and any other fastener requirements.

3. Stud details shown Contract Documents indicate general installation and connection methods. Complete detailing of components for all loads and forces are shown on the shop drawings. This Subcontractor is responsible for obtaining all information on all loads and connections to the structural stud system. Any additional re-work required to incorporate all loads and connections into the design will be the responsibility of this Subcontractor.

4. Provide all layout required interior and exterior wall framing. Inspect structural steel framing plumb prior to beginning installation of walls and notify CM of any discrepancies. Layout to include all framed openings, penetration openings, door numbers, door swing, etc. Where floors are scheduled to be finished with clear sealers- no floor layout outside of walls is permitted.

5. Provide required suspension systems for drywall ceilings, bulkheads, soffits, light coves, and for all other work provided under this Bid Package.

6. Top out of all walls above ceiling shall be installed with XP or Moisture resistant drywall where 20' inside of building perimeter or where not exposed to potential wind driven rain or water intrusion from shafts prior to window installations and eXP board at all top out potentially exposed to wind driven rain or around shafts.

7. This Subcontractor shall provide moisture resistant board at the exterior of all electrical, data, and mechanical rooms to allow for installation of drywall and equipment prior to the complete dry-in of the building. Moisture resistant board should also be installed in all other areas requiring early installation before dry-in of the building.

8. Coordinate framing around work installed by other trades and existing conditions as required. Provide holes, cutouts, framing and related requirements for miscellaneous specialties, light fixtures, electrical and mechanical work, etc. as required. It is the responsibility of this Bid Package to request any required framing block-outs prior to framing walls and ceilings (access panels, lights, etc.). Any re-framing required due to lack of coordination will be the responsibility of this Bid Package.

9. Provide task lighting as required for the work of this Bid Package.

10. Provide rated top-of-wall assemblies and deflection track at all GWB partitions. Provide the top track or clips in a sufficient depth to allow for Fireproofing of structural beams and deflection in the deck, as required at partitions and / or soffits.

11. Provide fire-stopping and/or smoke stopping at top and bottom of all rated walls as required by the Contract Documents

12. Penetrations in walls will be fire-stopped and smoke stopped by the Subcontractor making the penetration. All penetrations through nonrated partitions shall be sealed by this subcontractor.

13. Includes receiving, inventorying, and installing (where set in metal framing) all Hollow metal door frames provided by others. Removal of spreader bars is by this subcontractor after installation of drywall.

14. Include full-time supervision while crews (including lower tier subcontractors) are working on site whose sole responsibility is quality control, safety, material ordering, and ensuring work areas are clean and efficient.

15. Includes all interior wood blocking and metal strapping for all casework, wall mounted accessories, wall finishes, trims, shades, projectors, AV equipment, toilet accessories, toilet compartments, etc.

16. Includes all trims including but not limited to control joint v grooves, L trims, J trim, F trims, tear away beads, corner beads, heavy duty corner trims, reveals, etc installed in drywall or where required for termination to adjacent finishes.

17. Includes all Level 5 drywall finish as indicated in drawings.

18. Includes all aluminum or drywall column boxouts and covers.

19. Includes supplemental framing as required for box out of penetrations for other trades. Coordinate with CM and other trades for box out requirements. Penetration layouts to be provided to this subcontractor during wall framing.

20. Provide and install any knee wall supplemental bracing as required.

21. Provide labeling and identification markings for priority, fire, smoke, smoke-tight and / or sound partition walls as specified or required by code.

22. Includes all plywood backboards for telecommunications and backer for millwork installations.

23. Include Temporary window coverings for all curtainwall and storefront openings until storefront installation is completed.

24. Include point up of drywall surfaces at the following intervals: after final finishing and sanding, after prime and first coat of paint, after CM punch list generation, and after owner/architect punch list. Point up shall include any defects, voids, knicks, screw pops, inconsistent joints, minor damages by other trades (smaller than 2” wide). Any cutting, removal, or extensive damage by others shall not be considered point up and shall be compensable through allowance.

Scope Specific Safety Requirements:

1. This subcontractor shall provide and install the following safety related materials:

   a. Include mid/top rails and toe boards (as required) across all curtain wall openings prior to window installations after framing is installed.

   b. Include the removal of all perimeters leading edge cabling, posts (including griding of posts), and toe boards during installation of exterior wall framing. Modify cables/toe boards or provide temporary measures as required to ensure cabling or wall framing provides continuous leading-edge protection around the building at all times.

2. The parapet is not suitable height for fall prevention and all Monteith and OSHA regulations related to fall protection will be enforced while working on the roof.

3. Provide project specific Safety manual to construction manager prior to commencing work. Include the following:

   a. Hoisting plans for materials

   b. Project specific fall protection plan.

   c. Identification of OSHA approved competent person onsite daily.

   d. MSDS documentation

Project Specific Scope of Work Inclusions:

The following is provided as a courtesy and is not intended to fully represent the scope of work required by plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

1. Furnish and install all interior and exterior sheathing
2. Includes all tile backer board furnish and installation. Joints and fasteners to be bedded and sealed ready to receive waterproofing.
3. Includes all studs, gypsum board, insulation, sealants, etc. as indicated on Interior wall assemblies.
4. Includes ALL interior and exterior wood blocking including but not limited to:
   a. Roof, window, door, edge of slab, blocking
   b. All interior blocking for toilet accessories, toilet partitions, millwork, decorative wall, wall finishes, AV equipment, ITS room backboards, locker bases, etc.
5. This contractor includes GRG columns show on drawing B4/A505.
6. This contractor provides weatherproof infill at windows removed drawing AD107.
7. This contractor includes all metal framing to column covers.
8. This contractor to include for 10 – 2’ x 2’ ceiling access panels.
9. Include an allowance of $75,000 for temporary walls.
10. Include an allowance of $15,000 for drywall touch up

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
   - Shop Drawings: 8 weeks
   - Drawings Approval: 2 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Include an allowance of $75,000 for temporary walls.
2. Include an allowance of $15,000 for drywall touch up

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions,

additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #09B – Ceilings

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
09 50 00	Suspended Metal Panel Ceilings
09 51 23	Acoustical Tile Ceilings
09 54 34	Suspended Metal Panel Ceilings With Softsound Group A

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Ceilings** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Includes all interior metal ceilings systems, ACT ceilings, Axiom trims, hangers, supports, access panels in ceilings within this scope, decorative sound absorption panels, suspension systems etc.
2. All ceilings to be centered in rooms or openings. Utilize 2x4 tiles cut to size to avoid small sections of ceilings adjacent to walls.
3. Provide additional ceiling grid members as required to trim around linear fixtures.
4. Provide axiom trims or equal metal fascia trims at all areas indicated.
5. Includes all ceilings with the exception of gypsum board ceilings.
6. Enough ceiling materials of each type are to be provided during installation of ceiling suspension systems for ceiling device installations by others.
7. Cut ceiling tiles for installation around sprinkler heads.
8. Provide non-sag, humidity resistant tiles (humiguard or equal)
9. Provide additional supplemental framing members as required for installation of suspension hangers below obstructions.
10. Provide all grid restraining clips stabilizing bars, seismic struts, etc. as required based on seismic category.
11. Provide accessories and trim required per contract documents including splice plates, T-Bar connector clips, perimeter hold down clips, factory fabricated corners, perimeter pocket trims, Wall molding, etc.
12. Provide all interior flush gasketed ceiling expansion joints where ACT is installed on one or both sides of expansion joint.

13. Include for replacement of damage or discolored ceiling tiles during punch list not to exceed 2% of each tile type provided. This is in addition to attic stock materials required per specifications.
14. Includes all acoustical sealants to ceiling installations as indicated in specifications.
15. Include support structure for ACP 1 Ceiling as shown on A121. See drawing A621 and specification 09 54 34.

Scope Specific Safety Requirements:

1. Provide scaffolding, approved equipment, or other means necessary to access all work areas including stairs, open ceilings at commons, etc.

Project Specific Scope of Work Inclusions:

The following is provided as a courtesy and is not intended to fully represent the scope of work required by plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

1. Include Supplemental framing as required.
2. Install grid wire clips to decking where possible to avoid damage to spray applied fireproofing.
3. Provide manufacturer recommended suspension bridging, yokes, or additional supplemental support framing as required where penetrations interfere with suspension systems.
4. Provide lateral sway bracing for all cloud ceiling applications in a manner not visible from floor level.
5. Provide perimeter trims with factory corners, terminations, clips, supports etc.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 6 weks
    - Drawings Approval: 2 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of

any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #09C – Terrazzo

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
09 66 23	Resinous Matric Terrazzo Flooring

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Terrazzo** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. This contractor includes full coverage of moisture mitigation at all terrazzo area. Also include moisture testing as required.
2. This contractor includes all precast terrazzo base.
3. Include temporary protection of walls and door frames as needed.
4. Multiple mobilizations to facilitate the project schedule.
5. All concrete is to be reviewed and approved prior to mobilization to site to commence work. Any non-conforming substrates are to be brought to MCC immediately upon identification.
6. Include an allowance of $100,000 for repairs to existing terrazzo.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
   - Shop Drawings: 8 weeks to submit
   - Drawings Approval: 2 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Include an allowance of $100,000 for repairs to existing terrazzo.

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are

reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #09E – Paints

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
09 91 13	Exterior Painting
09 91 23	Interior Painting
09 94 00	Decorative Metal Finish
09 96 00	High Performance Coating

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Painting** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. This Subcontractor shall provide a complete painting system package that includes, but is not limited to the following items: paint gypsum wallboard walls, ceilings, soffits, and bulkheads; *paint exposed interior CMU*; paint exposed interior concrete walls; paint hollow metal doors, door frames, and window frames; paint exposed surfaces of steel pan stairs and railings (handrails; guardrails); Brackets and underside of stairs paint unfinished MEP/FP items required to be field painted in MEP/FP specifications; paint exposed exterior CMU, structural steel; paint exterior railings; paint exterior angle lintels; paint exterior steel pipe bollards; provide concrete floor sealer; etc. as may be required to provide a complete and functional painting system, whether detailed and/or implied on the Contract Documents, this Subcontractor is responsible for providing that item. Provide all temporary protections and masking required to protect other surfaces.
2. Provide all interior and exterior paintings required by the Contract Documents, including specialty coatings, epoxy, concrete sealers and special finishes if required.
3. Provide concrete sealers on slabs, including any required cleaning, surface preparation.
4. Provide stain and finish any millwork / casework, wood trim, and/or wood doors that are not furnished pre-finished.
5. Include caulking between painted to nonpainted surfaces and between painted-to-painted surfaces.
6. All exterior paintings include hollow metal doors and frames, lintels, exposed steel, pipe bollards, rails, downspout boots, ladders, grilles, floor lines and all other related items.

7. Include caulking of interior dissimilar material transitions of all painted surfaces. This includes, but not limited to, door frames, painted trim.
8. Provide fit and finish caulking at acoustical ceiling wall mold where gaps between the wall and wall mold result due to imperfections in the wall surface.
9. Include painting of exposed steel decking, mechanical, electrical, plumbing, and sprinkler work as indicated and/or required. This Subcontractor shall include any prep work or priming of steel or MEP/FP materials that have galvanized coatings to which paint will not adhere. All surfaces must carry painting warranties as specified.
10. Provide painting of exposed mechanical, electrical, plumbing and sprinkler work as required. Refer to Specification Divisions 15, 26, etc. for requirements.
11. Coordinate painting of exposed, high ceiling work. Protection from overspray and all associated clean-up is the responsibility of this Bid Package.
12. Clean any overspray or paint on items not scheduled to be painted at once after painting.
13. Refer to Contract Documents for general location, color, and finish materials for items scheduled to receive paint. Notify Monteith Construction of any item where a paint color is not specified so that a proper paint color can be selected by the architect and in enough time to meet the project schedule's requirements.
14. Include all surface preparation and cleaning as necessary for painting, including surface abrasion, sanding, and scraping. Review substrates at areas to be painted at least (2) weeks prior to the scheduled start of work for each area. Immediately notify the Construction Manager in writing of any unacceptable substrates, allowing adequate time for corrective work to be performed prior to the scheduled start of your work in that area. Start of work indicates acceptance of substrate conditions and full responsibility for completed work. Re-priming of areas requiring substrate repairs after acceptance of substrate condition will be by the Painting Subcontractor regardless of timing. Repainting of areas not achieving acceptable finish results shall be redone at the Painting Subcontractor’s expense.
15. Provide mock-ups as required for work under this Bid Package. The Painting Subcontractor shall coordinate with the Masonry Subcontractor to provide a mock-up of a masonry wall with block filler applied for review of acceptable finish standards by the Architect before starting block fill work. Once block filler is installed on masonry walls, the Masonry Subcontractor must point up walls. The Painting Subcontractor must block fill any pointed areas prior to final surface paint applications.
16. This Subcontractor shall include all miscellaneous touch up of walls occurring between prime coat and finish coat and must obtain the consensus of Monteith Construction prior to beginning final coat. The final paint coat shall be installed after the flooring and ceilings are in place. The Painting Subcontractor shall include minor touch-up of drywall partitions and ceilings (i.e. small nicks shall be repaired by the Painting Subcontractor).
17. Provide all labor and materials required to fill in minor dents in hollow metal doors and frames including sanding smooth to be ready for final finish paint. Notify the Construction Manager if any frames are damaged beyond minor Bondo work.
18. Prepare ferrous metal surfaces prior to starting painting operations. Solvent cleans all galvanized and aluminum surfaces scheduled to receive paint. Finishes on wood and metal surfaces to be sanded between coats to assure smoothness and adhesion of subsequent coats.

19. The Painting Subcontractor shall verify that the moisture content of all surfaces receiving paint are within the paint manufacturer's acceptable limits.
20. This Subcontractor shall adhere strictly to the number of coats of all fillers, primers, and paints as indicated in the specifications. Larger thicknesses in fewer coats will not be accepted.
21. This subcontractor to scarify, clean, and prime existing block that has been painted to properly receive new paint. In place mock-up to confirm adhesion will be done prior to start of work.
22. Provide wall stenciling at all rated wall assemblies. Others will fire, smoke caulking and sealants.
23. Field application inside the weatherproofing system verify 90 percent of paints and coatings comply with the requirements of *California Department of Public Health's* [Standard Method for the testing and evaluation of VOC content]
24. Interior/Exterior Primers latex block filler with Water based, high solids, emulsion coating formulated to bridge and fill porous surfaces of exterior concrete masonry units in preparation for coatings
25. The subcontractor will sequence work and allow for point up and installation of finishes, millwork, doors, etc. as needed. The subcontractor will allow time for other contractors to do all necessary point up/and installation of all finishes right after primer is applied and right after 1st coat of finish is applied. Subcontractor responsible for protecting all surfaces from paint as required. All protection should be removed after completion.
27. Subcontractor responsible for protecting fire sprinklers, smoke detectors, light fixtures, restroom accessories, flooring, ceiling, etc. as needed. Removal all protection after completion of final coats of paint.
28. Paint application should be done when surface temperature to be painted and ambient air temperatures are between 50- and 95-degrees F and when humidity is lower than 85%
29. For preparation and installation please refer to specifications.
30. All paint must adhere to the allowable VOC content outlined in the specifications
31. Sustainable Design requirement: for each products subcontractor to provide Product data and Test Report showing VOC content, Environmental and Health Product Declaration, sourcing of raw material (post and pre-consumer percentages) and manufacturer inventory. Refer to specification
32. Include an allowance of $15,000 for paint touch up
33. Include painting of exposed ceiling on ground level in precast parking structure per drawing A.121

Schedule Requirements:

Time is of the Essence:

Due to the nature of the Community College Facility and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or vendors that can supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient workforce to achieve agreed-on dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 6 weeks to submit
    - Drawings Approval: 2 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Include an allowance of $15,000 for paint touch up

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #21A – Fire Suppression

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
21 10 00	Fire-Suppression Standpipes
02 41 19	Selective Demolition

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Fire Suppression** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Provide all labor, material, equipment and services for proper completion and operation of the fire protection systems. This will include fully designed systems sealed by a registered professional engineer or the NICET Level III designer for system drawings and hydraulic calculations as required by the State of North Carolina General Statutes.
2. Although work is not specifically shown or specified, subcontract is to provide a complete design with all devices, materials obviously necessary for a complete installation. This includes but is not limited to fire pumps, jockey pumps, remote alarm panel annunciator, drivers, controllers, accessories, pressure-maintenance pump and controllers, electric motor drives, horizontal fire pumps, multistage pressure-maintenance pumps, pump controllers/alarm panels and flow-measuring systems.
3. Participate in BIM coordination and provide models necessary for a fully coordinated system.

Project Specific Scope of Work Inclusions:

The following is provided as a courtesy and is not intended to fully represent the scope of work required per plans and specifications. Drawing references are intended to be references to similar details relevant to the scope and may not be limited to the details referenced.

1. Division 21 Contractor shall furnish all motor starters and disconnect switches as required by NEC for motors, unless specifically noted otherwise in the specifications or on the drawings.
2. System design should be in accordance with North Carolina State Building Codes and NFPA.

3. System design and construction to adhere to NFPA 13, 14, 20, 24 and 70 and the NCDOI requirements.
4. System to be in accordance with ANSI, ASTM, UL and FM Global insurance requirements.
5. All exposed piping within finished areas shall be painted to match the adjacent surfaces.
6. Sleeves and firestopping at penetrations are included in this scope as required. If UL details or engineering judgements are not found in the documents, the subcontractor will obtain them.
7. Flow data shown on the drawings is calculated by hydraulic model provided by others. Site piping is not currently installed. The subcontractor is to have a flow test performed of the design hydrant once site work is complete. See Civil Drawings for hydrant location and pipe routing to the building.
8. Integrate system with the building fire and smoke alarm system.
9. Provide fire department connections as indicated on the Drawings.
10. Masking off and protection of sprinkler heads is the responsibility of this bid package.
11. All sprinkler heads in lay-in or gypsum ceilings shall have concealed type unless noted otherwise. All sprinkler heads in spaces without a ceiling shall be upright pendant with cages as required.
12. Route Sprinklers in insulated section canopy/green roof and provide dry type sprinkler heads.
13. Provide concrete housekeeping pads for all pumps and other equipment, as necessary.
14. Provide additional heads as required under >48" obstructions.
15. Provide high and low sprinkler head where drop ceilings obstruct sprinkler, but above ceiling space is open to below.
16. Provide a minimum of 3 phased hydrostatic testing with isolation of individual floors prior to completion of the whole building system.
17. Provide primary test drain with overflow drain cover as detailed.
18. Provide additional drain down locations as required due to coordination of piping elevations with structure and other trades.
19. Include all standpipes to parking deck.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 12 weeks
    - Drawings Approval: 3 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other

Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #22A Plumbing

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
Division 22 (In its entirety)	Plumbing
02 41 19	Selective Demolition

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Plumbing** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Provide all labor, material, surveying/layout, equipment and services for proper completion and operation of a fully functional gas system, domestic water system, sanitary waste and vent system, and storm water collection system.
2. Although work is not specifically shown or specified, subcontractor is to provide all equipment, accessories, fixtures (water closets, urinals, lavatories, sinks, mop receptors, electric water coolers, safety equipment and emergency shower/eye-face water tempering system, materials, and labor obviously necessary for a complete installation. This includes but is not limited to cleanouts, floor drains/floor sinks, hub drains, bin drains, roof drains, downspout nozzles, hose bibbs, wall hydrants, post hydrants, backflow prevention devices, double check valves assembly, flow meters, water hammer arrestors, pressure gauges, thermometers, gas pressure regulators, domestic water pressure regulating valves, domestic water heaters, boilers, circulating pumps, expansion tanks, storage tanks, ice maker outlet boxes, trap primers, dishwasher boxes, pipe/equipment/valve identification, and painting of piping as specified.
3. Participate in BIM coordination and provide models necessary for a fully coordinated system.
4. The gas system will begin at PNG gas riser/meter assembly.

5. Provide concrete housekeeping pads for all pumps and other equipment, as necessary.
6. Provide sleeves and firestopping for all penetrations through rated walls, floors, or ceilings. This includes UL details or engineering judgements to match each condition not found in the documents.

7. Provide caulking and sealants from plumbing fixtures to all adjacent finishes.
8. Include for all cutting and patching of existing surfaces.
9. Include all plumbing demolition.
10. Provide fire-stopping, putty pads for all work installed under this Bid Package.
11. Provide heat trace for above grade domestic water per addendum 2. Power shall be by electrician.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
   - Shop Drawings: 8 weeks
   - Drawings Approval: 3 weeks for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #23A Heating, Ventilating and Air Conditioning

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
Division 23 (In its entirety)	Heating, Ventilating, and Air Conditioning
02 41 19	Selective Demolition

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Heating, Ventilation, and Air Conditioning** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Provide mechanical systems complete and operable per applicable codes and as indicated on drawings, specifications, and the below exhibit B requirements.
2. Participate in BIM coordination and provide models necessary for a fully coordinated system.
3. Provide all curb rails, pitch pockets, etc. as required for rooftop equipment.
4. Provide labeling for all equipment, disconnects, piping, ductwork, valves, etc. for all equipment supplied as part of this package. Adhere to all labeling and color-coding requirements per the contract documents.
5. Include coordination with Building Envelope and Function commissioning requirements including:
    a. All forms and checklists are to be entered in the web-based commissioning platform. Construction Manager to provide platform access throughout the project's duration to a single designated employee of the subcontractor.
    b. Completion of pre-functional checklists
    c. Attendance at all commissioning coordination meetings
    d. Startup technician and controls representative presents for all functional testing
    e. All tools, test equipment, and instruments required to execute startup, checkout, calibration, and functional performance testing of all equipment.
    f. Manufacturer start-up and commissioning/testing as required
    g. Pre-functional performance testing and documentation
    h. TAB Verification

6. Includes firestopping of all penetrations through rated partitions, escutcheons, or neatly trimmed/sealed penetrations through nonrated partitions in exposed ceilings, acoustical sealants through all partitions.

7.All exterior wall penetrations are to be neatly cut or drilled to allow for waterproofing of annular space by waterproofing contractor. Any penetrations made after completion of air barriers, transition membranes, and sealing of penetrations by the waterproofing contractor will be sealed by this contractor.

8.All supports, hangers, sleeves, struts, etc. must be installed before fireproofing application. If hangers or support installation is required after fireproofing, all patching costs associated are this contractor's responsibility.

9.Provide a complete ductwork and air distribution system including but not necessarily limited to the following:

a. Metal ductwork, fittings, flanges, hangers, supports, sealants, taps, saddles, etc.
b. All gr Sufficient balancing dampers as shown or as required for Test and Balance of system.
c. Flexible joints and isolations at connections specified.
d. all duct insulation
e. spiral duct
f. Fire and smoke damper access doors
g. grills and diffusers as shown or required for complete system

1. This Subcontractor shall provide complete test and balance of mechanical systems that includes but is not limited to the following items: providing all labor, material, equipment, and hoisting necessary and/or incidental as required to complete the scope of work identified in the Construction Documents.

a. Perform testing, adjusting, and balancing for all HVAC and domestic water systems.
b. Perform a complete design review of the Construction Documents, shop drawings, and submittal information for discrepancies.
c. Perform testing and adjusting for pressurization from space to space with complete documentation.
d. Coordinate testing requirements and reports with the Mechanical, Electrical Subcontractor, and Commissioning Agent.
e. Use test instruments that have been calibrated within a time as recommended by the certifying agency or the manufacturer, whichever is more recent. Instruments shall be checked for accuracy before testing, adjusting, and balancing activity starts. The Subcontractor shall handle the testing of the test instruments used to perform this work and shall give a complete list of instruments it proposes for approval. The list shall include the manufacturer's name, model, and serial number of each instrument and copies of calibration certificates prior to beginning work. No work shall begin until the list has been approved by Monteith Construction. Re-measurement of air distribution devices shall be carried out utilizing the same instruments used in the original balance report.

f. Measure up to ten percent (10%) of air distribution devices (or more if required by Commissioning) in the presence of the Owner, Commissioning Agent, Architect, Engineers, and Monteith Construction to prove the final balance report is correct.

g. Submit the final balancing report for approval. Promptly address all listed deficient items including re-balancing, as necessary. Resubmit a revised final report if required. This process shall be repeated at the Subcontractor's expense until the report is accepted by the Architect and Engineers without corrections needed.

h. Include the cost to replace sheaves and belts required for correct balance.

i. Participate in and provide guidance during the development of coordination drawings. Find and locate where additional dampers, valves, etc. are needed for proper execution of this scope of work.

j. Provide all platform ladders, scaffolding, and other means to access required areas.

2. Includes installation of all ducts mounted smoke detectors.

3. Review electrical drawings closely to verify power shown to be provided for equipment furnished by this bid package is adequate. If equipment furnished requires different power than that shown on the electrical drawings, the cost to revise power is the responsibility of this bid package.

4. Includes all condensate and refrigerant piping for equipment in this bid package.

5. Includes all fire and smoke dampers as required.

6. Blocking / backing is provided by the Drywall Subcontractor. Submit blocking / backing requirements and location drawings to the Drywall Subcontractor. Blocking / backing that is not submitted will be the responsibility of this Bid Package.

7. Provide bases, curbs, and concrete pads associated with this scope of work.

8. Provide bracing, framing, support, and anchorage of work in this package as required for structural attachment, wind-loading requirements, and all governing codes and requirements. Steel and miscellaneous metals shown and sized on the structural drawings will be provided by the Structural Steel and Miscellaneous Metals Subcontractor. Any additional or supplemental requirements are the responsibility of this Bid Package. Provide hanger wires where required to support diffusers, devices, etc.

9. All ductwork materials to be stored off the ground and open ends of ductwork protected from contamination or dust

10. Building HVAC system will be used during construction, and this subcontractor will provide any required filter media at return air grills, plenum openings, or unit filters to protect units from contamination. The CMAR will advise MC of any upcoming heavy dust generating activities so units can be temporarily brought offline until cleanup is complete. This subcontractor shall assume that final building fire alarm system will not be active for all or part of the duration of temporary conditioning with permanent units and shall make provisions as necessary to allow for use of the units 24/7 during this time.

11. Provide temporary filter media throughout construction and maintain on a regular basis or as directed by CM. maintain logs of replacement of filters with dates, time, and photos.

12. Provide a clean set of MERV filters at all units prior to TAB and commissioning activities.
13. Include all cutting and patching of surfaces.
14. Include all demolition work as required by drawings.
15. Provide caulking, sealants, fire-stopping, putty pads for all work installed under this Bid Package.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 12 weeks
    - Drawings Approval: 3 week for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon

unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2, Mechanical Room 124, Storage 123

Bid Package – #26A – Electrical

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
Division 26 (In its entirety)	Electrical
Division 27 (In its entirety)	Communications
Division 28 (In its entirety)	Electronic Safety and Security
Section 02 41 19	Selective Demolition

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Electrical** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. This Subcontractor shall provide all electrical, audio visual, and security systems including parking lots, roadways, walkways, entrance and exit plazas, temporary canopies, temporary walkways, and the Admin Building.

2. This Subcontractor shall provide all electrical fixtures, poles, bases, handholes, equipment, devices, rough in materials, conduit, boxes, trims, fixtures, switchboards, disconnecting means, etc. as required for a full and complete electrical score of work.

3. Include all conduit, boxes, and cabling for Telecom, AV, and security scopes.

4. Include all concrete encased conduit and duct bank as part of this bid package.

5. Provide all pole bases, housekeeping and equipment pads as needed for installation of equipment in this bid package. Reference electrical and structural drawings for pole base and electrical equipment pad requirements.

6. Subcontractor responsible for connecting to existing feeders, transformers, switches and boards as required.

7. Installation and connection of owner provided equipment.

8. Provide all site lighting including lighting poles, roadway acorn lights fixtures, parking lot nautical lights and bollards. This work includes poles, pole bases, drilling and installation of poles, concrete bases, backfill of poles and removal of spoils, installation of lighting, conduit, wiring, terminations, lighting controls, etc.

9. The work of this Bid Package shall include patching and repairs required for existing roadways, paving, walks, and landscaping that are disturbed outside of the construction fencing limits solely for the installation of site electrical work. At a minimum, provide orange construction fencing around all site utility work.

10. Subcontractor responsible for furnishing materials and making electrical connections to all equipment provided and installed in other scope packages as required.

11. Power rough-in, wiring and final connection of all owner-furnished equipment and equipment furnished by others. Coordinate new electrical services with the local utilities, local authorities, Engineer, Owner, and Construction Manager.

12. Provide as-builts at the completion of work.

13. Coordinate any shutdowns and change overs with Construction Manager.

14. Includes all electrical and low voltage demolition. Capping all existing electrical utilities included.

15. Provide all required make safes and disconnects for electrical demolition.

16. Provide concrete base, anchor bolts and hardware for all site electrical lighting.

17. Provide excavation, trenching, trench shoring, backfill, compaction and spoils removal necessary for the work within this package.

18. Provide dewatering necessary for the work within this package.

19. Provide support as required for electrical panels and equipment, including backboards, independent supports, etc.

20. In-wall blocking / backing is provided by the Drywall Subcontractor. Submit blocking / backing requirements and location drawings to the Drywall Subcontractor. Blocking / backing that is not submitted will be the responsibility of this Bid Package.

21. Provide caulking, sealants, fire-stopping, putty pads for all work installed under this Bid Package.

22. Provide color coding and labeling of conduit, boxes, systems, and equipment as required for work within this Bid Package.

23. Provide access doors and handholes as necessary or specified for work within this package.

24. Provide sleeves, block-outs, coring and supports necessary for the work within this package.

25. Furnish sleeves for all masonry or concrete wall penetrations in new construction. The Masonry or concrete Subcontractor is to install. The Electrical Subcontractor is to clearly indicate the exact location for the sleeves and verify location. This contractor is responsible for all cutting and patching if required.

26. Furnish embeds, sleeves, block-outs, back boxes, etc. to be cast in concrete floors and walls to the Cast-In-Place Subcontractor.

27. All raceways and sleeves shall be coordinated with adjacent walls to ensure that all penetrations enter and exit walls at 90 degree angles.

28. Provide testing and system certifications as required.

29. Provide extended warranties as required for use of electrical items during construction.

30. Provide temporary power, wiring, lighting and distribution in accordance with current OSHA requirements. Includes installation, maintenance, and removal. Include temporary power and removal of temporary Power to CM trailer.

31. Attendance at weekly subcontractor meetings by all low voltage, second-tier subcontractors under this Bid Package is required at least two weeks prior to and during their work onsite.

32. This trade contractor is responsible for coordination drawings. See General requirements.

33. Block-outs, embeds, sleeves for penetrations, openings, attachments, etc. will be furnished by this trade for installation in masonry work by Masonry Subcontractor. Include all permanent and/or non-permanent materials required for openings. Elevation and size of penetrations to be written on walls or floors by trade requiring penetration. If penetration/block out is provided and properly coordinated by this trade and not installed per coordination all cutting, coring, or rebuilding of wall is the responsibility of masonry subcontractor. If information given to Masonry contractor is not correct, all costs for cutting, coring, or rebuilding of wall is the responsibility of Electrical subcontractor.

Project Specific Scope of Work Inclusions:

1. Provide all required make safes and disconnects for electrical demolition.

2. Includes a complete electrical, telecom, fire alarm, and security scope for the parking lots, roadways, temporary canopies and walkways, entrance and exit plazas, Bus Shelters, and the new Administration Building per the plans and specifications.

3. Provide all concrete duct bank, conduit, raceways from new or existing transformers to final points of connection.

4. Includes dynamic signage conduit and raceways.

5. Includes field locating of existing feeders and electrical utilities for tie in of new work.

6. Includes all layout for electrical scope of work.

7. Provide and install all pole bases, poles, handholes and covers, grounding rods, pull boxes, junction boxes, conductors, fuses, breakers for existing panels or switches, fixtures and all other items required for a complete and functional system.

8. Provide all lighting controls as indicated.

9. Includes all panels, gear, equipment pads, power and communication racks.

10. Provide grounding and bonding in accordance with bid documents and NEC

11. Provide power and data to any equipment provided by others

12. Provide all site lighting and power as indicated.

13. Provide lineside power to all disconnects, VFDs, equipment, and fixtures.

14. Includes all Electrical Demolition including all light poles, fixtures, light pole foundations, all conduit, and all wiring. Includes de-energizing all entrance/exit plazas for salvage by others.

15. Includes electrical courtyard and communications courtyard concrete slabs, slab stone base, and equipment racks.

16. Includes all cameras and WAP devices.

17. Include all demolition as show on drawings. Maintain any existing systems that are to remain active during construction.

18. Includes power pedestal and communication pedestal including equipment racks and supports and concrete slab.

19. Includes security poles.

20. Includes a complete paging system per the plans and specifications including all speakers.

21. Includes all power required for mechanical equipment.

22. 120- and 240-volt temporary power for project. Provide 240 volts for terrazzo grinding machines.

23. Include all concrete pads for equipment as required.

24. Includes lighting control programmer makes site visit for programing and owner training.

25. embedded conduit and boxes in the parking deck need to be installed by the electrical contractor at the Metromont precast facility.

26. Include Bid Form unit prices per Volume 3 Appendix E – Bid Form

27. Include $50,000 allowance for electrical hookup of section 09 05 10 Light Manipulating Materials

28. Provide power to heat trace controllers for above grade domestic water per addendum 2.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
   - Shop Drawings: 12 weeks
   - Drawings Approval: 3 weeks for review:

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Include $50,000 allowance for electrical hookup of section 09 05 10 Light Manipulating Materials

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2, Mechanical Room 124, Storage 123

Bid Package – #31A – Sitework (Earthwork & Utility)

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 01	Special Provisions
Item C-100	Contract Quality Control Program
31 20 00	Earth Moving
31 23 19	Dewatering
31 50 00	Excavation Support and Protection
31 23 34.01	Excavating , Trenching, Dewatering and Backfilling For Utility Work
33 01 12	Identification for Utilities Piping
33 01 30.86	Manhole Rim Adjustments
33 05 05.31	Hydrostatic Testing
33 05 13	Precast Concrete Manholes and Utility Structures
33 14 13	Water Distribution Piping, Valves, Hydrants
33 14 14	Public Water Service Connections
33 14 20	Disinfection of Water Distribution Mains
33 31 11	Sanitary Sewer Gravity Mains
03 30 00	Cast In Place Concrete
31 20 00	Earth Moving
32 17 23	Pavement Markings
32 32 23	Segmental Retaining Walls
Cape Fear Public Utility Authority Specification	
Appendix A	Geotechnical Report

Appendix B	Contract Provision Guidelines for Obligate Sponsors and Airport Improvement Projects
Appendix C	Construction Safety and Phase Plan
Appendix D	NCDOT Specification List
Appendix E	Bid Form

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Sitework** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Includes requirements per specifications listed above as it pertains to the sitework scope of work.

2. Site Contractor shall provide erosion control measures per the approved site plans and maintain erosion control measures while on site in accordance with requirements under the SWPPP. If SWPP issues are not resolved within the time allowed, MCC will perform this work and will be reimbursed by subcontractor via change order.

3. Nighttime and weekend operation will be required to maintain the project schedule. Subcontractor to provide all temporary lighting required to perform scope activities during nighttime operation.

4. Subcontractor has visited the site to observe existing conditions and has accounted for any obvious conditions that differ from the bid documents.

5. It is the Subcontractor's responsibility to verify the information in all geotechnical reports, as the information contained in the reports cannot be verified for accuracy. Any unsuitable soils discovered, quantities discovered will be determined and agreed upon by this subcontractor, the geo tech, and the CM in the field prior to excavation.

6. Include all surveying, construction engineering, coordination and layout from existing benchmarks and coordinates as required to facilitate the work. Site staking and field engineering is to be included in this scope. Provide surveyor certification for grade and elevation of structure sub grade.

7. Location of existing and new utilities is to be the responsibility of this Subcontractor

8. Prepare, submit, and implement a temporary dewatering program for ground and storm water for the duration of project.

9. Provide and maintain any and all traffic control per NCDOT requirements until final acceptance.

10. It is the responsibility this subcontractor to clean and wash off all equipment and truck tires prior to driving on occupied streets. The CM reserves the right to charge this subcontractor for street cleaning as required.

11. Provide backfill and temporary plates over excavations as required to facilitate vehicle and pedestrian traffic

12. Include necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager. This Subcontractor understands that the work will be installed in phases / sequences per the project schedule and as required by the CM.

13. Subcontractor is responsible for cleaning of all adjacent work upon completion of the installation. Cleaning shall include the removal of mud, gravel, tire marks, dirt, etc associated with the storage, handling, or installation of the materials provided under this agreement.

SPECIFIC INCLUSIONS:
EARTHWORK, STORM DRAINAGE, & EROSION CONTROL

1. Subcontractor responsible for providing water truck for dust prevention and the cleaning of all streets during the entire project schedule.

2. See structural plans for earthwork notes for any additional requirements as it pertains to the site demo and grading scope of work.

3. If the existing topographic elevations are different from what is shown on the bid documents, all discrepancies must be reported before work starts. Once the Subcontractor starts work, he accepts the existing topographic conditions, and he will not be paid for any discrepancies claimed at a later date.

4. Supply and install all erosion control measures including all inlet protection required and as shown on the Grading, Sedimentation and Erosion Control Plan and the Sedimentation and Erosion Control sheet. Temporary erosion control measures shall be placed as soon as possible. Silt fence and sediment traps shall be installed prior to beginning earth disturbing activities.

5. Reasonable mechanical manipulation and mixing excavated material to obtain proper moisture content or gradation without the use of chemicals is included in the Contract Amount. Mechanical manipulation for aeration drying/mixing will consist of a tractor pulled disk, other similar farm implement or conventional earth moving equipment. Subcontractor shall provide and maintain adequate site drainage for its work during earthwork operations at all times. Disking, plowing, blending and mixing of earth to try and meet geotechnical compaction requirements is included.

6. Include temporary seeding / ground cover. Temporary seeding shall be placed on disturbed areas that are expected to be undisturbed for over 14 days or as directed by the Engineer.

7. Provide and maintain tree protection measures (were applicable), as specified and removal at project completion.

8. Temporary erosion and sediment control measures shall be inspected by the Subcontractor's *personnel* once every seven days and after *each* rain event. Inspections shall be documented, and records shall be maintained by the Subcontractor, to be made available for review upon request. Records shall include, at a minimum, the date, the inspector's name, the maintenance, and corrections needed based on this inspection, and the status of previously identified deficiencies. The temporary protection measures shall be returned to good working conditions within 48 hours after inspection or as directed. Sediment shall be removed as approved and disposed of offsite. *Inspection records shall be kept until the entire contract is complete and has been permanently stabilized*.

9. Create temporary diversion ditches, berms, check dams, stone filters, rock dams, rip rap, etc. to achieve site dewatering as required.

10. Install and maintain all temporary sediment basins per the contract documents. Include excavation, grading, diversion ditches, stone for erosion control, washed stone and synthetic geo filter fabrics.

11. Site demolition as per contract documents including all asphalt, tree and bush, gravel, concrete curb and gutter, sidewalks, and vegetation demolition per the drawings. Existing construction that is not scheduled for demolition shall be protected from construction activities.

12. Site demolition includes demo of the existing foundations for the entrance/exit canopies shown to be removed on the plans. The structural steel will be removed by others. The steel columns will be cut at 1' above finished grade by others and the steel columns below the 1' cut line will be the responsibility of this contractor to remove along with the concrete foundation.

13. Supply and install stone and fabric for required construction entrances at each area of Phase 2

14. Upon completion of planter areas this Subcontractor shall spread topsoil to a minimal depth of 4" in all disturbed areas to receive seeding, sod, or plantings.

15. Backfill of curb / gutter, backfill of asphalt and concrete paving sidewalks and trails, including the backfill of islands, etc.

16. Grading of all paved areas including proof rolls to insure proper compaction. Grading to grades for curb and gutter sub grade including proof roll. Grading tolerances shall be +/-0.10 foot. (Provide surveyor certification)

17. Subcontractors performing excavation and/or digging activities are responsible to contact existing utility locate services prior to excavation start. Subcontractor is responsible for repair of all work to the pre-disturbed condition applicable to the project site, public and private areas that may be impacted by work.

18. Fine grading to grades as indicated and/or as specified within +/- .10' unless noted otherwise.

19. Proper installation & compaction of all sub-base materials in accordance with the specifications.

20. This contractor shall examine sub-grade of areas prior to acceptance for compliance with tolerances. This contractor shall proof roll areas.

21. Restore existing conditions disturbed from this scope of work.

22. Grade all areas to drain. Maintain / slope all grades so that slopes drain to basins.

23. Hauling of excavated material and offsite borrow is the responsibility of this Subcontractor and must be done in accordance with all local / federal laws and regulations.

24. Subcontractor is responsible for maintaining earth spoils area including installation of all erosion control devices and access road as required. See drawing PP-100 for location of surplus area.

25. Perform all traffic control per NCDOT requirements. Including all temporary traffic signage and barricades.

26. Prepare and submit for CM a plan to show entrances and coordination of all traffic, traffic control shall be the responsibility of this subcontractor.

27. Furnish all labor, material, equipment and supervision necessary for a complete installation of storm water system. Installation to be in accordance with the plans and specifications. Including all tie ins to existing storm water system.

28. Subcontractor shall perform all surveying and layout work required for the proper installation of the Storm Water system.

29. Subcontractor is to provide and install all sleeves required for this scope of work.

30. This Subcontractor understands that the work will be installed in phases / sequences per the project schedule and as required by the CM.

31. Provide backfill and temporary plates over excavations as required to facilitate vehicle and pedestrian traffic and to maintain site access

32. Furnish temporary power as required.

33. This subcontract to design and install shoring per location show on drawing PP-101. Upon completion of work remove all shoring. Furnish a sealed engineered shoring scheme as part of submittal documents. Provide guardrails at top of shoring.

34. This subcontractor provides and maintains temporary roads per drawing PP-101.

35. This subcontractor provides access road down for tunnel construction, see drawing PP-101.

36. This subcontractor provides excavation and backfill to tunnel construction. Excavation to tunnel elevation of 83’-5”. Include stone, fabric and drainage tile to tunnel.

37. This subcontractor excavates the parking deck grade to elevation 85.17’.

38. This subcontractor includes removal of spoils from auger cast piles and foundations to designated area.

39. This subcontractor to excavate for modular retaining walls. Stockpile material at excavation.

40. Include wooden post and cable fence per detail 3 sheet CP-563.

41. See specifications Volume 3 for special provisions SP-9 for allowance undercut.

42. Provide unit rates per bid form Volume 3 Appendix E with bid.

43. This subcontractor to include all segmental retaining walls per section 32 32 23. Include concrete cap at top of existing retaining walls per detail 2/S.403. Include all sealants at joints.

44. Include metal fence at segmental retaining walls per CS.301, CS.302, and S.403.

45. Include irrigation sleeving per drawing IR-100.

46. Include $50,000 allowance for Canopy downspout lateral pipes

SPECIFIC INCLUSIONS: SITE UTILITIES

1. Furnish all labor, material, equipment and supervision necessary for a complete installation of the Water and Sanitary Sewer in accordance with the Site Water and Sewer plans and specifications.

2. This Subcontractor is to include but is not limited to all on site water line, fire line, sanitary sewer, cleanouts, fire hydrants, tapping sleeves, valves, tracer wire, water meters and vaults, backflow preventers, manholes, PIVs and tamper switches, FDCs, double detector check valves, thrust blocking, etc.

3. Includes the supply and install of all split steel casings per the plans and the CFPUA specifications and details.

4. Include temporary protection of all stub ups, clean outs, boxes, and valves installed within this scope of work

5. Include all concrete finish rings once finish grade has been completed.

6. Heater at double check detector and backflow preventer assemblies (wiring by Electrical Contractor– cord and plug by this package)

7. All final connections to related work in place by this contractor and other trades.

8. Final CFPU engineering Inspection coordination for punch list completion and final coordinated and certified as-builts (locating all improvements) per CFPUA requirements within seven days of completion.

9. Subcontractor is to provide and install all sleeves required for this scope of work.

10. This Subcontractor understands that the work will be installed in phases / sequences per the project schedule and as required by the CM.

11. Subcontractor is responsible for cleaning of all adjacent work upon completion of the installation. Cleaning shall include the removal of mud, gravel, tire marks, dirt, etc

associated with the storage, handling, or installation of the materials provided under this agreement.

12. Adjustment of all utilities to finish grades in pavement and graded as required.

13. Include removal and disposal offsite of excess excavated material associated with utility installation as directed by CM. Dispose of spoils offsite at an approved site in accordance with local and state laws and ordinances.

14. Include utility installation, capping and plugging of utilities as required by CFPUA to protect existing services and to install work.

15. Include surface demolition required to install the utility work requirements, paving, trees, etc., and dispose of all such material as required by law.

16. Return backfilled areas to final or excavated grade.

17. Include protection and maintain protection of excavated materials for reuse as backfill. The contractor will be responsible for removing from site and replace backfill material improperly protected. Grade, maintain, and protect all stockpile or spoil storage areas.

18. Subcontractor shall perform all cutting and patching associated with the installation of Work

19. Furnish temporary power as required.

20. Subcontractor shall perform all layout work.

21. Subcontractor shall provide all traffic control as required to install work. Provide closures per encroachments NCDOT/City of Wilmington/New Hanover County requirements.

22. Provide sheeting, shoring, and bracing as required. Furnish a sealed engineered shoring scheme as part of submittal documents for the utility excavation as required

23. Provide backfill and temporary plates over excavations as required to facilitate vehicle and pedestrian traffic and to maintain Site access

24. Prior to starting work locate all underground existing utilities. Conduct preconstruction meeting with utility departments. Coordinate all utility connections to insure no service interruptions.

25. *Subcontractor must always maintain sanitary system. Include for pump around system if required.*

26.

SPECIFIC INCLUSIONS:
ASPHALT PAVING, STONE BASE, SIDEWALKS, CURB AND GUTTER

1. Include necessary mobilizations and material/equipment staging relocations as required to facilitate construction progress and/or as directed by Construction Manager.

2. All temporary and permanent asphalt paving including, curb & gutter, concrete islands, concrete paving, exit and entrance plaza concrete paving and islands, sidewalks, raised crosswalks and speed tables, curb ramps, stone base, striping, wheel stops, asphalt trails, etc. including all prep work and stone base, reinforcement under this scope of work as outlined in respectively, for Work in accordance with all Project Documents and all work to be performed. Stone subbases required for concrete slabs will be the responsibility of the concrete contractor.

3. Includes supply and installation of all pipe bollards and pipe bollard concrete. Excludes the pipe bollards inside the precast parking deck.

4. Includes gravel at electrical courtyard.

5. All temporary and permanent striping, directional striping, numbering, etc. included within this scope.

6. No cracked curbs will be accepted. Curb punch list must be completed prior to final lift of pavement being placed.

7. Install all pedestrian sidewalks as indicated in the construction documents.

8. Furnish and install all required ADA, signage, dome mats, and way finding for pedestrian sidewalks, including bumpers and handicapped signage in parking garage.

9. Furnish and install all caulking, sealants, and expansion joint material as specified and required.

10. Verify all final elevations of sewer lids, grates, manholes, inlets, etc. are installed at proper elevations prior to placement of asphalt, concrete paving, pavers, or sidewalks.

11. Implement necessary protective measures to protect completed pavement from unnecessary traffic. Coordinate with Construction Manager.

12. All asphalt paving includes light duty, medium duty, heavy duty, asphalt walkways etc.

13. Contractor will be responsible for all “birdbath” repairs prior to final lift of asphalt being placed. Flood test will be required.

14. Asphalt price fluctuations will not be adjusted, pricing is fixed for this phase.

15. Proper installation & compaction of all subgrade materials in accordance with the specifications & the Owner’s independent testing agency.

16. Stone base & binder shall be placed during the early stages of construction. The final lift of asphalt (to include tack coat), striping, signage, bumpers, etc. shall be installed near the completion of each phase. This Contractor shall include the costs of cleaning the binder to accept the top course at time of installation. Also include cleaning of curb/gutter prior to placement of top course.

17. All pre-cast wheel stops and anchors as indicated in the plans and specifications including parking deck.

18. Provide and install all site, parking and directional signage as indicated on plans including parking and in specifications. Coordinate sign locations with landscape installations prior to installation of such work. See drawings for required new permanent street signage.

19. This Contract includes the examination of the sub-grade of all associated areas included in this scope of work prior to installations in this scope of work for compliance with tolerances, & shall proof roll all sub-grades prior to placement of paving. Installation of pavements confirms acceptance of installed sub-grades by the Paving Subcontractor. Paving Subcontractor shall repair valve boxes, etc. damaged during installation operations.

20. Include all standard provisions in NCDOT Encroachment Agreement.

21. Includes paving and striping for temporary connection roads.

22. Includes temporary curb at temporary curb front, the sidewalk at the temporary open canopy at drop off curb, and the sidewalk at the open canopy at the terminal building.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 8 weeks
    - Drawings Approval: 2 week for review

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed

dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. Maintenance of temporary drainage during construction: $50,000 (used in Phase 2)
2. Existing Utility Conflicts: $100,000 (used in Phase 2)
3. Include $50,000 allowance for Canopy downspout lateral pipes

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

Bid Package – #31B – Cast Augar Piles

Description of Work

In general, this Bid Package is comprehensive to specific CSI Division Work and related Work as referenced, indicated on, or implied by the Project Drawings, Specifications and Project Manual. Subcontractor acknowledges that the following Scope of Work detail is provided as a complementary document and must be used in conjunction with **all** Project Documents. Scope of Work listed is not intended to describe a complete and final work scope. It is provided as a summary overview only.

The scope of the work is identified in the following Specification(s) and further described below:

Specification	Description
Division 00 (All)	Procurement and Contracting Requirements
Division 01 (All)	General Requirements
31 63 16	Auger Cast Piles

Scope of Work Summary/Inclusions:

It is understood and agreed that this **Auger Cast Piles** package includes all inclusions as described in the following subparagraphs regardless of whether or not they are included in the above specifications or any other specification section or shown on the plans:

Trade Specific Requirements:

1. Provide all auger cast pile work including but not limited to drilling, concrete, grout, reinforcing steel, pumps, etc., for a complete installation. The final contract amount will be determined based on the actual liner footage of auger cast pile installed.
2. Reinforcement cages will be furnished with the vertical bars continued in lieu of the dowels and they will be furnished straight (to allow for placement through overburden) for field bending later by others.

3. This subcontractor to provide layout of pile locations and elevations by a licensed surveyor. Provide weekly as-built reports for pile lengths, locations, and elevations. Final surveyed as-builts to be provided upon completion.
4. Subcontractor shall provide OSHA approved rebar caps where reinforcing protrudes rough grade elevation.
5. Temporary power, water, and task lighting will be the responsibility of this subcontractor.

6. All dewatering and pumping needed for this scope to continue operation after a weather event shall be the responsibility of this Subcontractor. All dewatering is to be conducted per the erosion control contract documents.

7. Subcontractor to advise GC of pile lengths exceeding design depth. Final placed lengths to be determined by Owner's 3rd Party testing agency. Final Subcontractor amount to be adjusted based upon as-built quantity and depth of placed piles.

8. This Subcontractor installed pile tops to the elevations indicated on drawings. Piles to be within 12" of design elevation. Mass grading elevation to be established at elevation 85.17 for parking deck and 83.5' for tunnel. Coordinate with mass grading plan, GC, and third party inspections at pile locations where drilling grade exceeds 4'. Provide reinforcing steel with sufficient embedment as indicated in the contract documents.

9. Contractor will furnish Subcontractor with the continuous availability of pile locations ready for Subcontractor's work. Subcontractor includes mobilizing two pile rigs and crews one time to the jobsite and working a minimum 40 hour per week schedule.

10. Subcontractor shall include removal of auger cast pile dirt/spoils from drilling area and shall remove to an on site area designated by the CMAR. Spoil removal from site by grading subcontractor.

Schedule Requirements:

TIME IS OF THE ESSENCE

Due to the nature of the project and the extreme cost of delayed delivery of the project, every effort shall be made by the Subcontractor to meet or improve upon the scheduled durations and dates provided below. The subcontractor shall contract with material suppliers, manufacturers, or venders that have adequate capacity to supply materials or labor as required per schedule. Additionally, the subcontractor has included, in their base bid, sufficient manpower to achieve the below dates and concurrent workflows as required to complete the project on, or ahead of, schedule.

The below schedule requirements are contractually binding for durations of activities indicated. The dates associated with each activity are subject to change based on coordination with other trades, however durations shall remain constant.

1. *Submittals and Shop Drawings:*
    - Shop Drawings: 6 weeks
    - Drawings Approval: 2 weeks for review

Allowances and Unit Prices:

Lump sum and quantity allowances, when included, are to be utilized only when authorized, in writing, by the Construction Manager. Allowances are in addition to the requirements stated in this bid package or contract documents and are not to be used for costs associated with the required scope of work. All allowances are to be carried in the base bid.

Lump Sum Allowances:

Lump Sum Allowances are those listed herein with fixed dollar amounts and are representative of the direct cost of the work performed. As such, overhead and profit is included in the base contract. In the event that a lump sum allowance is not utilized in full, applicable markups will deducted from the remaining contract amount. Should the fixed dollar amount allowance be exceeded in the execution of the work as directed by Monteith, the subcontract will be increased by the direct cost of work plus overhead and profit as outlined in the General Conditions of the Contract. Utilization of a lump sum allowance is based on established unit rates, or on a time and material basis where Unit Prices are not specified.

Quantity Allowances:

Quantity allowances, when included, are to be carried at the quantity specified and a unit rate provided for each distinct unit requested in addition to the quantities required per contract documents. Reconciliation of quantity allowances will be based on agreed upon unit rates. All unutilized allowances will be deducted from the subcontract amount at the completion of this Scope of Work. The Unit Price may also be used to increase the contract sum as required or authorized by Monteith. Unit prices shall include all costs, benefits, overhead and fees. Total cost of quantity allowances are to be stated on bid forms.

A summary of allowances are as follows:

Lump Sum Allowances:

1. N/A

Quantity Allowances:

1. N/A

Alternates:

Alternates listed in the bid documents shall be carefully reviewed for impacts to the scope of this bid package. Alternate Prices shall include all costs associated with the changes, omissions, additions, or other adjustments to the work of the Bid Package as described in the alternate, or are reasonably inferable there from. Claims for extras resulting from changes caused by the acceptance or rejection of any alternate will not be allowed. Alternate Prices shall also include all cost of overhead, profit, and bond premiums associated with the work of the Alternate whether additive or deductive. The Drawings, Specifications, Project Manual, Addendum(s), and other Contract Documents shall be considered appropriately modified by either the acceptance or rejection of the various Alternatives. The Construction Manager and Owner expressly reserve the right to accept or reject any, or all, Alternate Prices and in any sequence. Acceptance or rejection of

any alternate does not relieve the Bidder of timely completion of the Work within the time periods indicated.

Add Alternate No. 1 (Locker Room) – See Drawings Volume 2 Alternate No. 1
All work to rooms 115,116, 117,118

Add Alternate No. 2 (History Corridor)– See Drawings Volume 2 Alternate No. 2
All work to rooms 109, 110,119,120,121,122, Corridor Outside of Locker Rooms

Deduct Alternate No. 3 (Drop Off Canopy Reduction) – See Drawings Volume 2 Alternate No. 3
Revise layout of entry canopy.

Deduct Alternate No. 4 (Delete Tunnel) – See Drawings Volume 2 Alternate No. 4
Delete all work to Connector 112, Atrium 111, Elevator 1 and 2,
Mechanical Room 124, Storage 123

BASE BID – Bid Form
Total length of installed 18”auger cast piles included in base bid.

_____lft x $_____/ft = $_____

3 Test piles

_____lft x $_____/ft = $_____

3 Load tests

_____3 ea. x $_____/test = $_____

Total Base Bid = $ _____

END OF BID MANUAL

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

Firm Name and Address	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address				
Name Address				
Name Address				
Name Address				
Name Address				
Name Address				
Name Address				

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

LISTING OF DBE SUBCONTRACTORS

Sheet _____ of _____

Firm Name and Address	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
Name Address				
Name Address				
Name Address				
Name Address				
Name Address				

***** The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the DBE subcontractor, and these prices will be used to determine the percentage of the DBE participation in the contract.

** Dollar Volume of DBE Subcontractor $ _____

Percentage of Total Contract Bid Price _____ %

** - Must have entry even if figure to be entered is zero.

** - *If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.*
If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.

This form must be completed in order for the Bid to be considered responsive and be publicly read.
Bidders with no DBE participation must so indicate this on the form by entering the word or number *zero*.

Submittal #084413-2.1
084413 - Glazed Aluminum Curtain Walls

Monteith Construction
208 Princess St
Wilmington, North Carolina 28401
Phone: (910) 791-8101
Fax: (910) 791-8260

Project: 1951 - ILM Terminal Improvements - Contract 3
1740 Airport Blvd
Wilmington, North Carolina 28405

Glazed Aluminum Curtain Walls - Shop Drawings

SPEC SECTION:	084413 - Glazed Aluminum Curtain Walls	**CREATED BY:**	
STATUS:	Open	**DATE CREATED:**	05/04/2020
ISSUE DATE:	05/04/2020	**REVISION:**	1
RESPONSIBLE CONTRACTOR:	[redacted]		
	//		//
FINAL DUE DATE:	06/29/2020		
TYPE:	Shop Drawing		
APPROVERS:	Adam Flynn **(Monteith Construction Corp)**, Lyle Hagwood **(Monteith Construction Corp)**, Mike Travaglia **(Monteith Construction Corp)**, Ron Branch **(The Wilson Group)**, Travis Pence **(The Wilson Group)**		

BALL IN COURT:
Ron Branch **(The Wilson Group)**, Travis Pence **(The Wilson Group)**

DISTRIBUTION:
Gus Aretakis **(LS3P Wilmington)** , Christopher Thompson **(Monteith Construction Corp)** , Kevin Dempsey **(The Wilson Group)**

DESCRIPTION:
B. Shop Drawings: For glazed aluminum curtain walls. Include plans, elevations, sections, full-size details,\nand attachments to other work.\n1. Include details of provisions for assembly expansion and contraction and for draining moisture\noccurring within the assembly to the exterior.\n2. Show sill flashing.\n3. Include full-size isometric details of each vertical-to-horizontal intersection of glazed aluminum\ncurtain walls, showing the following:\na. Joinery, including concealed welds.\nb. Anchorage.\nc. Expansion provisions.\nd. Glazing.\ne. Flashing and drainage.\n4. Include laboratory mockup Shop Drawings, prepared by a qualified preconstruction testing\nagency, showing details of laboratory mockup.\na. Resubmit Shop Drawings with changes made to glazed aluminum curtain walls to\nsuccessfully complete preconstruction testing.

ATTACHMENTS:

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
1	[redacted]	Submitter		5/11/2020	6/15/2020	Submitted	ILM3 - SHOPS - 20200606.pdf	Good morning, see attached revised shop drawings for Glass & Glazing.
2	Adam Flynn	Approver	6/15/2020	6/15/2020		Pending		
3	Lyle Hagwood	Approver	6/15/2020	6/15/2020	6/15/2020	Approved As Noted	ILM3 - SHOPS - 20200606.pdf	Notes and re-attached shop drawing attached for additional clarification from shop drawing review with project/design team.
4	Mike Travaglia	Approver	6/15/2020	6/15/2020		Pending		
5	Ron Branch	Approver	6/15/2020	6/29/2020		Pending		
6	Travis Pence	Approver	6/15/2020	6/29/2020		Pending		

Submittal #084413-2.1
084413 - Glazed Aluminum Curtain Walls

BY	DATE	COPIES TO

ILM TERMINAL IMPROVEMENTS CONTRACT #3

TERNATIONAL AIRPORT
BOULEVARD, SUITE 12
GTON, NC 28405

CURTAIN WALL, ALUMINUM STOREFRONT, AND DOOR SHOP DRAWINGS

ACCURATE DRAFTING INC
DRAWN FROM:
ARCH. DWGS DATED: 06/28/2019
REFERENCE ALSO TO: AD-01 07/12/2019
AD-03 7/30/2019, BD-01 01/28/2020
DRAWN BY:
GEORGE CAMPBELL

ARCHITECT

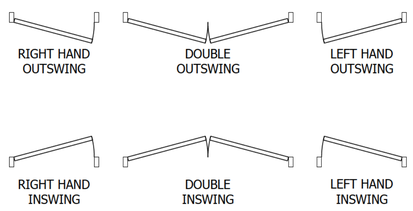
P
8299

GENERAL CONTRACTOR

MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

GENERAL NOTES

DOOR SWINGS



GLAZING SCHEDULE

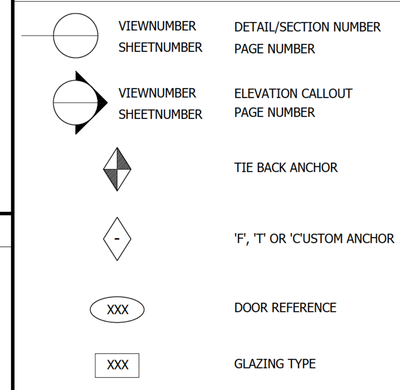
SYMBOL	GLASS TYPE
GL-01	1-5/16" IG VISION INSULATED UNIT 1/4"PPG SOLARBAN R100 ON SOLARGRAY NEUTRAL REFLECTIVE LOW-E #2 1/2" 90% ARGON 19/32" LAMINATE - (1/4" CLEAR - 0.090" CLEAR PVB - 1/4" CLEAR)
GL-T	3/8" CLEAR TEMPERED
GL-FT	FIRE RATED GLAZING - TBD
MP-1	1" INSULATED ALUMINUM PANEL (COLOR TO MATCH FRAME)

PRODUCT SCHEDULE

ALUMINUM SUNSHADE:
SUPPLIER: KAWNEER
SERIES: VERSOLEIL SINGLE BLADE - 12"
FINISH: #22 BONE WHITE
INLIGHTEN LIGHT SHELF
SUPPLIER: KAWNEER
SERIES: INLIGHTEN 18" PROJECTION
FINISH: #22 BONE WHITE

DRAWINGS PREPARED BY.....
ACCURATE DRAFTING, INC.
8126 Foxdale Drive, Norfolk, Virginia 23518
Phone #: (757) 407-2885 OR (757) 407-2432
Website: www.accuratedrafting.com Email: adisales@accuratedrafting.com

DRAWING SYMBOLS



ABBREVIATIONS

RO = ROUGH OPENING
DO = DOOR OPENING
DLO = DAYLIGHT OPENING
℄ = CENTER LINE
GC = GENERAL CONTRACTOR
VIF = VERIFY IN FIELD
MO = MASONRY OPENING
FS = FRAME SIZE
WS = WINDOW SIZE
OC = ON CENTER

PRODUCT SCHEDULE

CURTAIN WALL:
SUPPLIER: KAWNEER
SERIES: 1600 SYSTEM #1
SMALL AND LARGE MISSLE SERIES
FINISH: #22 BONE WHITE
EXTERIOR STOREFRONT:
SUPPLIER: KAWNEER
SERIES: IR-501T
FINISH: #22 BONE WHITE
INTERIOR STOREFRONT:
SUPPLIER: KAWNEER
SERIES: 450 SERIES
FINISH: #22 BONE WHITE
ALUMINUM DOORS:
SUPPLIER: KAWNEER
SERIES: 500 WIDE STILE
DOOR BOTTOM: 10"
FINISH: #22 BONE WHITE
DOOR HARDWARE: SEE SHEET 002
SEALANT SCHEDULE:
COLOR: MATCH FRAME

DRAWING SCHEDULE

SHEET NUMBER	DESCRIPTION
001	COVER SHEET & GENERAL INFORMATION
002	HARDWARE, OPENING SCHEDULE
003	MISC GLAZING SCHEDULE
100	OVERALL FIRST FLOOR PLAN
101	FLOOR PLAN
102	FLOOR PLAN
103	FLOOR PLAN
104	FLOOR PLAN
105	FLOOR PLAN
106	FLOOR PLAN
107	FLOOR PLAN
108	FLOOR PLAN
109	FLOOR PLAN
300	FRAME ELEVATIONS
301	FRAME ELEVATIONS
302	FRAME ELEVATIONS
303	FRAME ELEVATIONS
304	FRAME ELEVATIONS
305	FRAME ELEVATIONS
306	FRAME ELEVATIONS
307	FRAME ELEVATIONS
308	FRAME ELEVATIONS
400	FRAME DETAILS
400A	FRAME DETAILS
401	FRAME DETAILS
402	FRAME DETAILS
403	FRAME DETAILS
404	FRAME DETAILS
405	FRAME DETAILS

ACCURATE DRAFTING, INC. DRAWING GUIDELINES

ALL FASTENERS SHOWN ON THIS SHOP DRAWING ARE FOR REFERENCE ONLY. ACTUAL FASTENER TYPES AND SIZES SHOULD BE BASED ON ACTUAL CONDITIONS AND/OR CONSTRUCTION MATERIALS FOUND ON SITE.

ALL PART NUMBERS SHOWN ON THIS SHOP DRAWING SHOULD BE VERIFIED PRIOR TO ORDERING MATERIALS.

ALL DIMENSIONS SHOWN ON THIS SHOP DRAWING SHOULD BE CHECKED/VERIFIED PRIOR TO THE ORDERING OF ANY MATERIALS AND PRIOR TO THE FABRICATION AND INSTALLATION OF ANY MATERIALS.

ALL STEEL CLIP ASSY'S AND INTERNAL STEEL REINFORCING SHOWN ON THIS SHOP DRAWING ARE FOR REFERENCE ONLY. ACTUAL STEEL SIZES AND THICKNESSES SHOULD BE DETERMINED BY OTHERS BASED ON THE ARCHITECT'S WINDLOAD/DEADLOAD REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.

FABRICATION AND INSTALLATION OF THE FRAMING AND GLASS SHOWN ON THIS SHOP DRAWING SHOULD BE PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE RESPECTIVE MANUFACTURER'S INSTRUCTIONS AND GUIDELINES.

THESE DRAWINGS WERE PREPARED WITHOUT THE BENEFIT OF A FULL SET OF ARCHITECTURAL DRAWINGS. SOME PERIMETER CONDITIONS MAY BE SHOWN AS UNKNOWN. THESE CONDITIONS SHOULD BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION FOR THEIR EFFECT ON THE WORK BEING PERFORMED.

THESE DRAWINGS WERE PREPARED WITHOUT THE BENEFIT OF STRUCTURAL DRAWINGS. THIS MAY AFFECT THE LOCATION AND SIZING OF STEEL CLIP CONNECTIONS AND SPLICE JOINTS. THE STRUCTURAL LAYOUT IN THESE AREAS SHOULD BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF THE WORK.

SHOP DRAWING DISCLAIMER: THIS DISCLAIMER APPLIES TO ACCURATE DRAFTING'S CUSTOMER AS WELL AS ANY PARTY USING THESE DRAWINGS TO OBTAIN INFORMATION NEEDED TO ORDER, COORDINATE, FABRICATE AND INSTALL MATERIALS FOR THIS PROJECT. THIS APPLIES ALSO TO TRADES OTHER THAN GLASS AND GLAZING. ××THIS SHOP DRAWING IS AN INTERPRETATION OF THE ARCHITECT'S DRAWINGS BY ACCURATE DRAFTING COMPANY. THIS DRAWING WAS GENERATED FOR ACCURATE DRAFTING'S CUSTOMER. THE INTERPRETATION OF THE ARCHITECT'S DRAWINGS IS AFFECTED BY THE INFORMATION GIVEN TO ACCURATE BY IT'S CUSTOMER AS WELL AS INDUSTRY STANDARDS AND MANUFACTURER TECHNICAL INFORMATION. IN CASES WHERE ACCURATE IS NOT PROVIDED WITH THE NECESSARY INFORMATION IT WILL BE ACCURATE'S DECISION WHETHER TO ASSUME, EXTRAPOLATE OR OMIT THIS INFORMATION IN ORDER TO COMPLETE THE SHOP DRAWINGS. IT IS THE RESPONSIBILITY OF ACCURATE'S CUSTOMER (OR THE END USER IF APPLICABLE) TO REVIEW THE SHOP DRAWINGS. REVIEW OF THE SHOP DRAWINGS INCLUDES, BUT IS NOT LIMITED, TO THE FOLLOWING ITEMS: DIMENSIONS, QUANTITIES, HANDING OF DOORS/FRAMES, COLORS, THICKNESSES, SAFETY GLASS, GLASS TYPES, COATING TYPES, COATING LOCATIONS, DOOR STILE TYPES, FRAMING TYPES, HARDWARE, ALIGNMENT OF HORIZONTAL AND/OR VERTICAL FRAMING MEMBERS WITH ARCHITECTURAL ACCENTS/TRIM. ACCURATE DRAFTING NOR IT'S DRAFTSMAN SHALL BE LIABLE OR RESPONSIBLE FINANCIALLY FOR ANY ERRORS AND/OR OMISSIONS FROM THESE SHOP DRAWINGS. ARCHITECTURAL AND/OR CONTRACTOR APPROVAL DOES NOT RELEIVE ACCURATE'S CUSTOMER FROM REVIEWING THESE DRAWINGS AS NOTED ABOVE.××

NOTE: IN CASES WHERE NO ARCHITECTURAL DRAWINGS WERE PROVIDED TO ACCURATE THE SAME DISCLAIMER ITEMS NOTED ABOVE STILL APPLY TO WHATEVER INFORMATION WAS PROVIDED TO ACCURATE TO PERFORM THE SHOP DRAWINGS.

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH.(757).407.2885
FAX.(757).587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
		REVISED PER ARCHITECT COMMENTS

DATE	SUBMITTAL
2020.06.06	3RD SUBMITTAL
2020.05.18	2ND SUBMITTAL
2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

DRAWN BY
GEORGE C.
SCALE
NOT TO SCALE
TITLE
COVER SHEET
DWG NO.
001

FOLDER/JOB: C:\Users\Lcm\AppData\Local\Temp\AcPublish_14012\ILM3 - PLANS2.dwg
PLOTTED: June 08, 2020 - 12:15pm

DOOR HARDWARE SCHEDULE

Door No. A2231X, A2238X - each to have the following:

Qty	PRODUCT	Finish	Manufacturer
2	HINGE CONTINUOUS 224HD X 83"	US28	IVES
2	ELECTROMAGNETIC LOCK - SURFACE M490P-ATS/LED	628	SCHLAGEES
2	PUSH/PULL SET 9190HD-33-0 X NO	US32D	IVES
2	CLOSER 4040XP X EDA X TBSRT	AL	LCN
2	WALL STOP WS406/407-CVX	US32D	IVES
2	POWER SUPPLY PS902 X 900-FA X 900-BBK X 900-KL		VON DUPRIN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

	DESCRIPTION	BY	DATE
2	REVISED PER ARCHITECT COMMENTS	GC	05/05/20
1	REVISED PER ARCHITECT COMMENTS		

	REVISION	DATE
3	3RD SUBMITTAL	2020.06.06
2	2ND SUBMITTAL	2020.05.18
1	1ST SUBMITTAL	2020.03.24

ARCHITECT
THE WILSON GROUP

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SCHEDULE
DWG NO.
002

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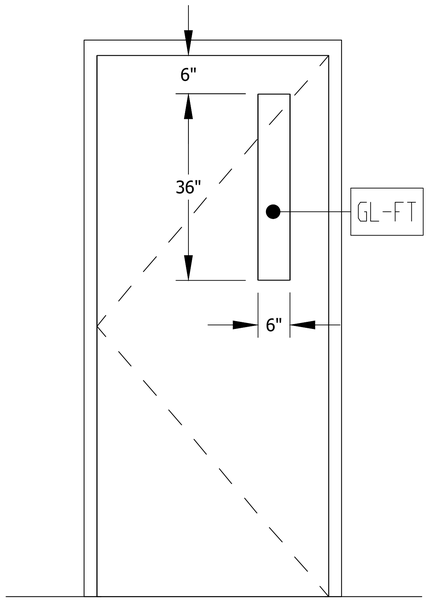
MISC GLAZING SCHEDULE

DOOR No.	LOCATION	TYPE	MATERIAL	DOOR APPROX GLASS SIZE	QTY THUS	QTY TOTAL	FIRE RATING
RAMP LEVEL - SCHEDULE 1							
A1106Y	STAIR 6	L	INSUL. METAL	6" X 36"	1	1	1 HR
A1107Y	STAIR 7	L	INSUL. METAL	6" X 36"	1	1	1 HR

GLASS SIZES ARE APPROXIMATE.
VERIFY SIZES PRIOR TO ORDER



L — GLASS ONLY

INSULATED METAL DOORS AND FRAME BY OTHERS

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8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
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		REVISED PER ARCHITECT COMMENTS
GC	05/05/20	

DATE	REVISION
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THE WILSON GROUP

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TITLE
MISC. GLAZING
DWG NO.
003

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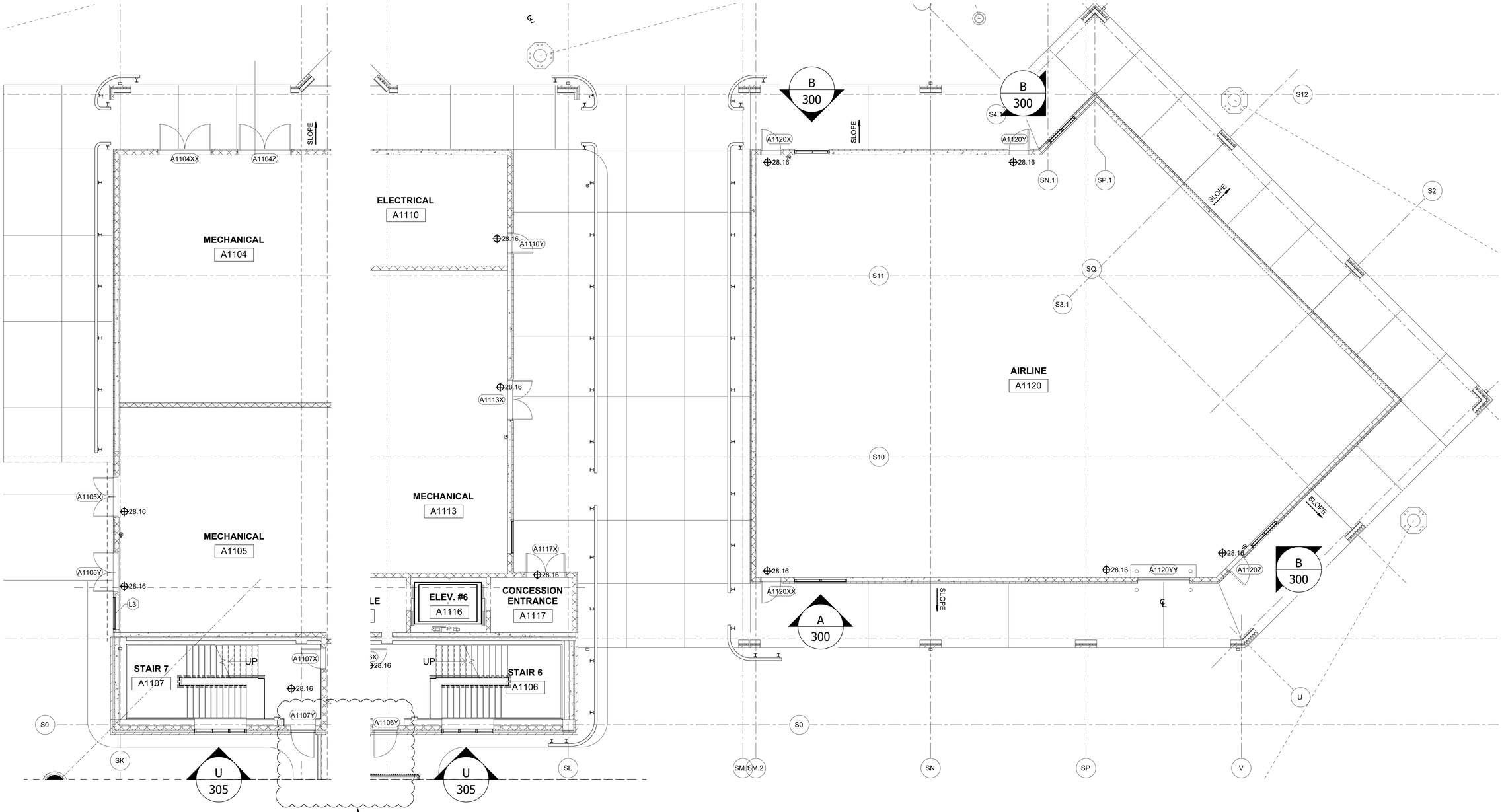
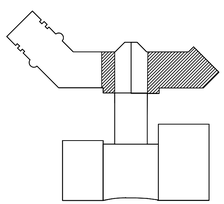


1 PARTIAL FLOOR PLAN (RAMP LEVEL)

ARCH. REF: 1/A1-112 Scale: NTS



1 KEY PLAN

ADI

8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23513
PH. (757) 857.1898
FAX. (757) 857.1897

BY	DATE	DESCRIPTION	REVISION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS	2020.06.06 3RD SUBMITTAL
GC	05/05/20	REVISED PER ARCHITECT COMMENTS	2020.05.18 2ND SUBMITTAL
GC	05/05/20		2020.03.24 1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
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1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

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WILMINGTON, NC 28401
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DRAWN BY
GEORGE C.
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TITLE
FIRST FLOOR PLAN
DWG NO.
100

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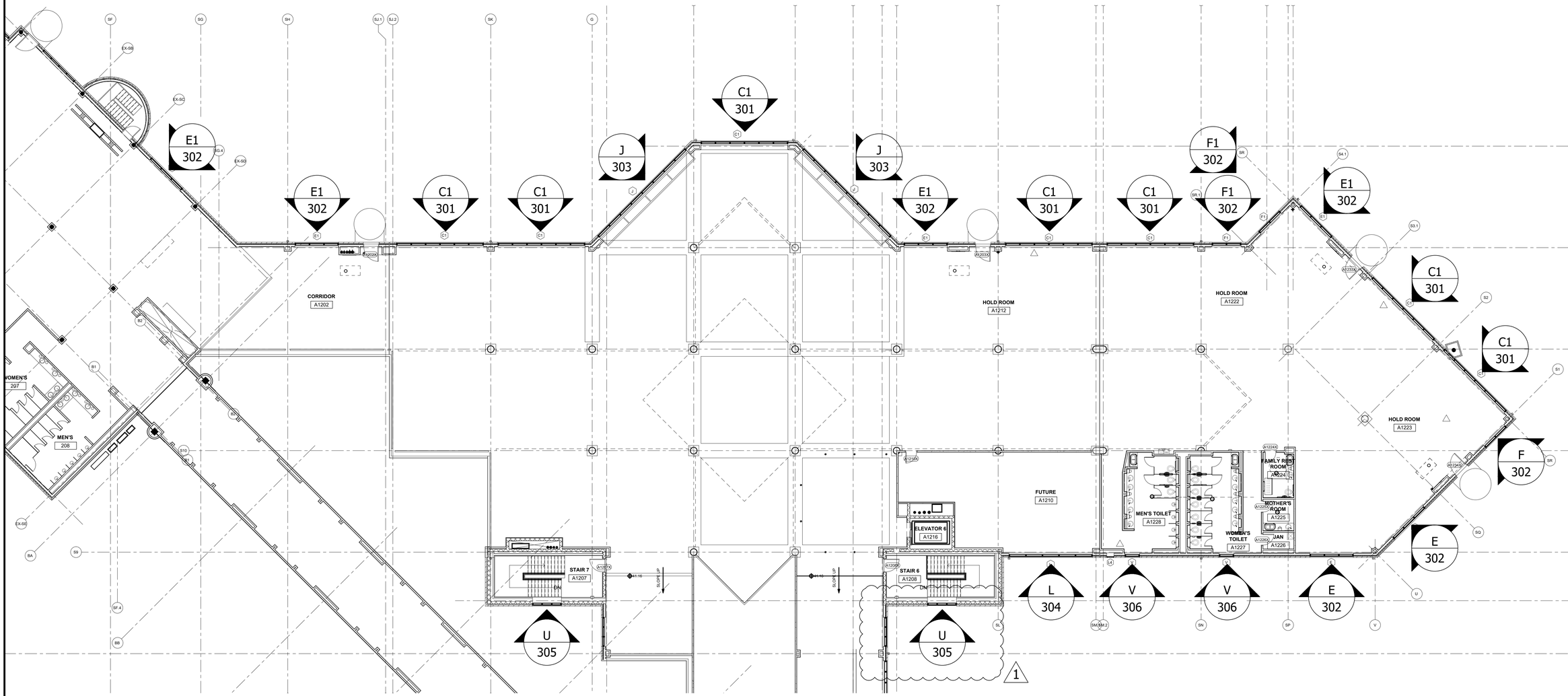
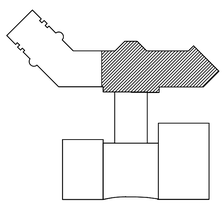


1 PARTIAL FLOOR PLAN (BOARDING LEVEL)

ARCH. REF: 1/A1-121,A1-122 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	
		REVISED PER ARCHITECT COMMENTS
		REVISED PER ARCHITECT COMMENTS

DATE	REVISION
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2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
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WILMINGTON, NC 28405

CONSTRUCTION MANAGER
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208 PRINCESS STREET
WILMINGTON, NC 28401
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DRAWN BY
GEORGE C.
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TITLE
FLOOR PLAN
DWG NO.
101

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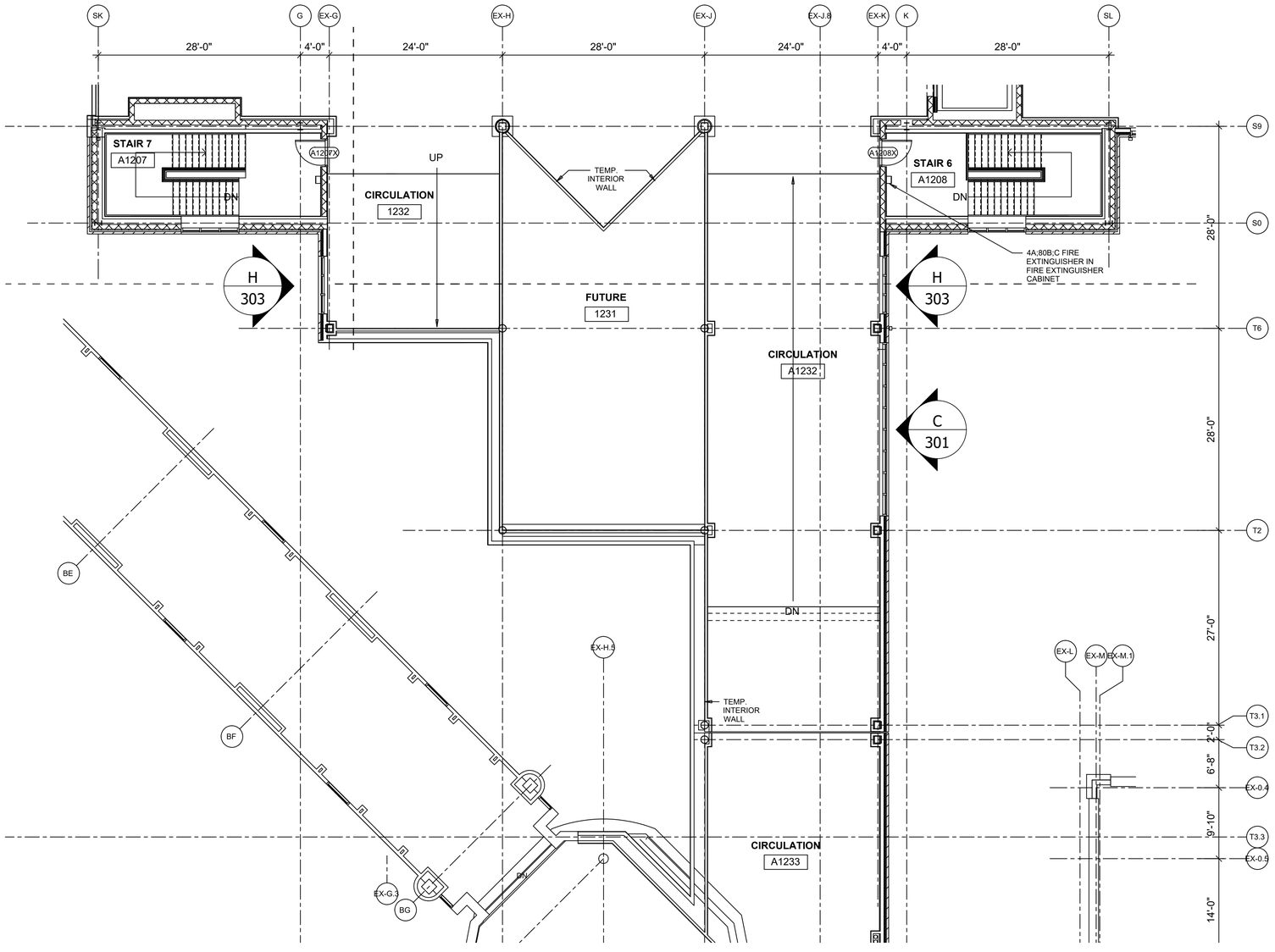
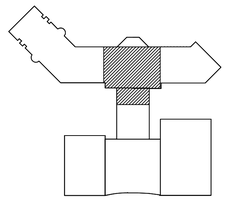


1 PARTIAL FLOOR PLAN (TICKET LEVEL-ZONE 3)

ARCH. REF: 1/A1-123 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
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23518
PH: (757) 587.1898
FAX: (757) 587.1897

BY	DATE	DESCRIPTION
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		REVISED PER ARCHITECT COMMENTS

DATE	REVISION
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2020.05.18	2ND SUBMITTAL
2020.03.24	1ST SUBMITTAL

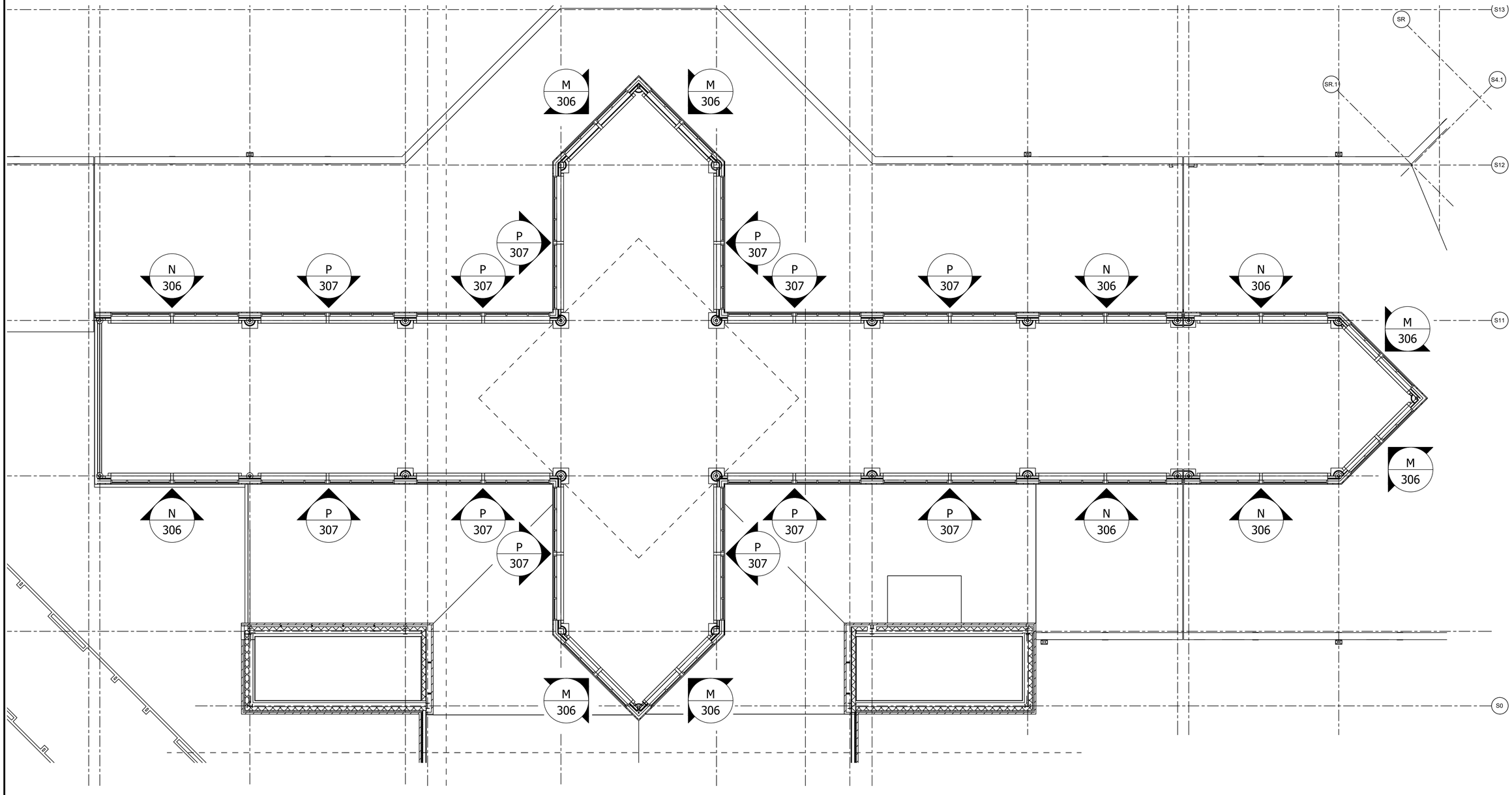
ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

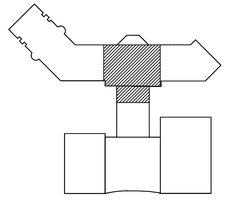
DRAWN BY
GEORGE C.
SCALE
NOT TO SCALE
TITLE
FLOOR PLAN
DWG NO.
102

FOLDER/JOB: C:\Users\John\AppData\Local\Temp\AcPublish_14012\ILM3 - PLANS2.dwg
PLOTTED: June 08, 2020 - 12:15pm



1 CLERESTORY FLOOR PLAN

ARCH. REF: 1/A1-131 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23513
PH. (757) 587.1898
FAX. (757) 587.1897

	DESCRIPTION	BY	DATE
2	REVISED PER ARCHITECT COMMENTS	GC	05/05/20
1	REVISED PER ARCHITECT COMMENTS		

REVISION	DATE
1ST SUBMITTAL	2020.03.24
2ND SUBMITTAL	2020.05.18
3RD SUBMITTAL	2020.06.06

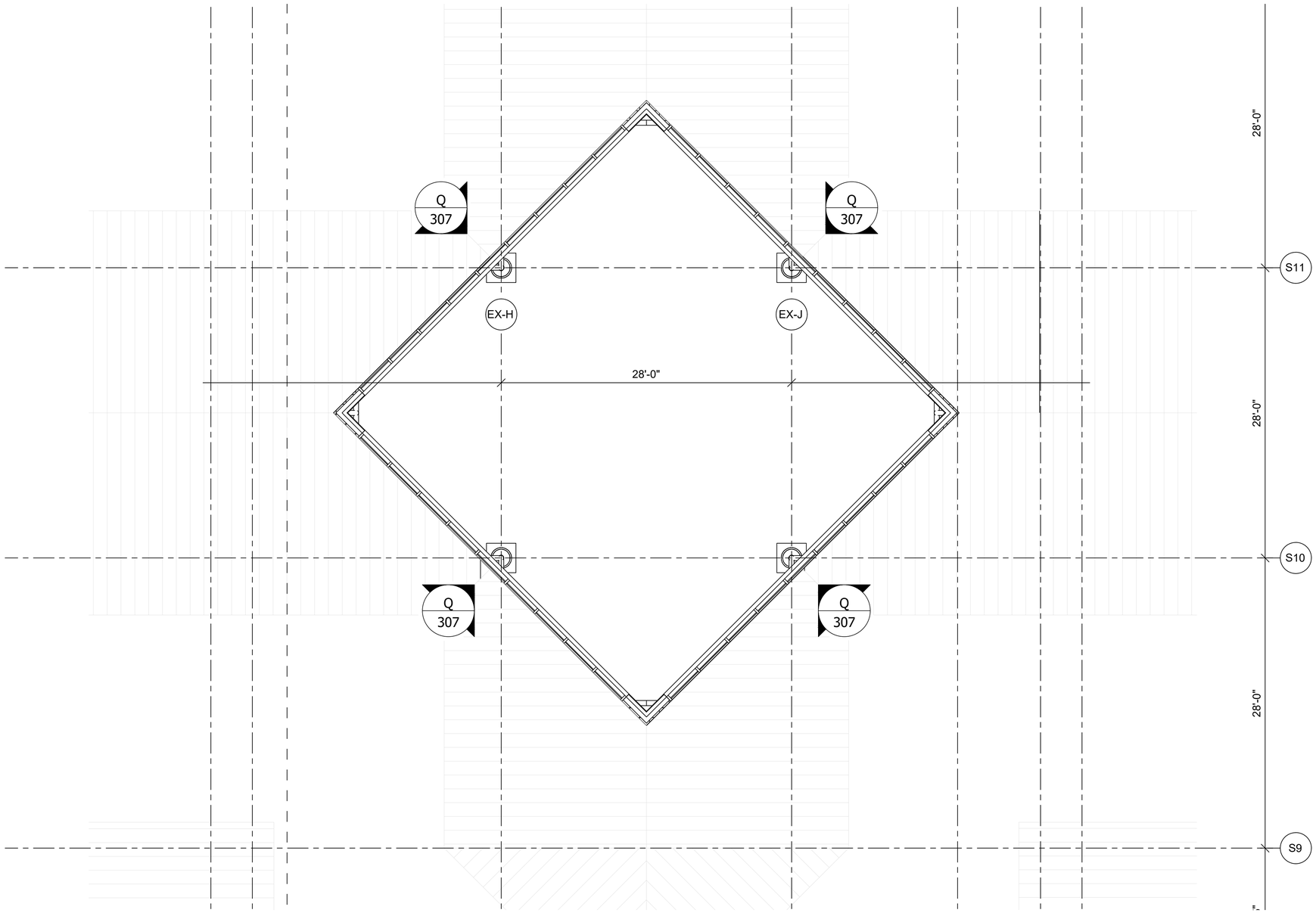
ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

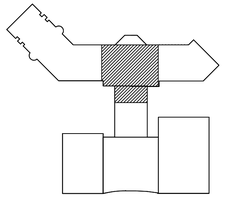
DRAWN BY
GEORGE C.
SCALE
NOT TO SCALE
TITLE
FLOOR PLAN
DWG NO.
103

PLOTTED: June 08, 2020 - 12:15pm
FOLDER/JOB: C:\Users\John\AppData\Local\Temp\AcPublish_14012\ILM3 - PLANS2.dwg



1 CUPOLA LEVEL FLOOR PLAN

ARCH. REF: 3/A1-135 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
GC	05/05/20	REVISED PER ARCHITECT COMMENTS

DATE	REVISION
2020.06.06	3RD SUBMITTAL
2020.05.18	2ND SUBMITTAL
2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
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TITLE
FLOOR PLAN
DWG NO.
104

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SCORE JOINTS GRID

VEHICULAR BARRIER

10'-1"

9'-0"

RD

11"

W 300

T 300

T 300

W 300

RD

A2132X

28.16

A2133Y

OFFICE
A2143

A2143X

CONFERENCE/
BREAK RM
A2133

W 300

W 300

OFFICE
A2142

A2142X

A2133X

WORK
A2132

L5

MECHANICAL
A2134

W 300

OFFICE
A2141

A2141X

A2140X

HALL
A2135

A2137X A2136X

W 300

OFFICE
A2140

A2139X

UNISEX
A2137

UNISEX
A2136

SLOPE

STORAGE
A2139

28.16

A2132Y

A2138X

STORAGE
A2138

28.16

EX-E

EX-F

EX-L EX-M EX-M.1

2'-3" 6"

1 / A2-115

2'-3"

1 / A2-114

1'-10"

10'-0"

1'-0"

2'-0"

2'-6"

27.83

R.O.

G

EX-H

EX-H.5

EX-J

EX-K

K

1 PARTIAL FLOOR PLAN (RAMP LEVEL)

ARCH. REF: 1/A2-113 Scale: NTS

1 KEY PLAN

ADI

8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE
GC	05/05/20

DESCRIPTION	DATE
REVISED PER ARCHITECT COMMENTS	2020.06.06
REVISED PER ARCHITECT COMMENTS	2020.05.18
	2020.03.24
REVISION	DATE
3RD SUBMITTAL	
2ND SUBMITTAL	
IST SUBMITTAL	

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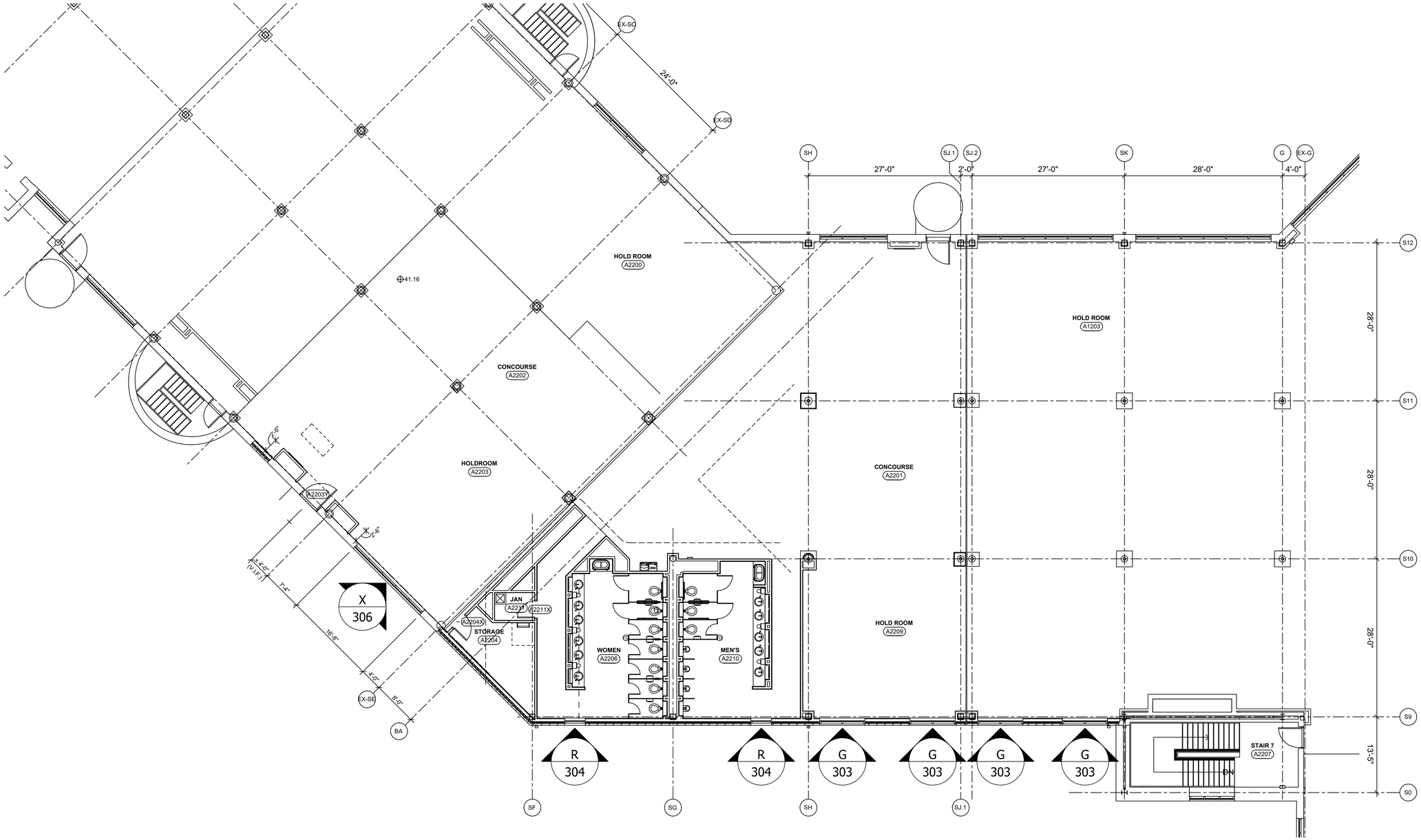
TITLE
FLOOR PLAN

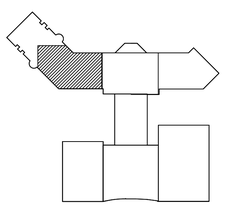
DWG NO.
105

PLOTTED: June 08, 2020 – 12:15am FOLDER/JOB: C:\Users\Liam\AppData\Local\Temp\AcPublish_14012\ILM3 – PLANS2.dwg



1 PARTIAL FLOOR PLAN (BOARDING LEVEL - ZONE 1)

ARCH. REF: 1/A2-121 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
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ARCHITECT
THE WILSON GROUP

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ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
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WILMINGTON, NC 28405

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MONTEITH CONSTRUCTION
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PLOTTED: June 08, 2020 – 12:15pm

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GEORGE C.
SCALE
NOT TO SCALE
TITLE
FLOOR PLAN
DWG NO.
106

H 303

C 301

CIRCULATION
A2231

CIRCULATION
A2239

PSR
A2232

OFFICE
A2233

ALIGN

8'-0"

1'-0"

10'-2 3/4"

60'-0"
SLOPE

10'-7"
SLOPE LINE

DN
SLOPE EDGE

A2237Z 44.16

DN
SLOPE EDGE

A2231X

DD
308

EE
308

EX-E EX-F

EX-L EX-M

2'-0" 10'-0" 2'-3"

4 3/4"

A2234Y

AUTOMATIC
COILING DOOR

EXIT

BYPASS

EXIT

AUTOMATIC
COILING DOOR

A2234X

BB
308

NEW EXISTING

3'-5" 2'-3"

CIRCULATION
A2238

CHECKPOINT
A2237

AA
308

A2238X

CHECKPOINT
A2237

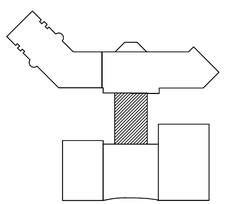
K
304

3'-0"

T6 T2 T3.1 T3.2 EX-0.4 T3.3 EX-0.6 EX-1 0.8 EX-2 0.6

1 PARTIAL FLOOR PLAN (TICKET LEVEL - ZONE 3)

ARCH. REF: 1/A2-123 Scale: NTS



1 KEY PLAN

ADI

8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

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ARCHITECT
THE WILSON GROUP

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SCALE
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TITLE
FLOOR PLAN

DWG NO.
107

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PLOTTED: June 08, 2020 - 12:16pm

EX-G.3 EX-H EX-H.5 EX-J EX-J.8 EX-K K EX-L EX-M EX-M.

LANE TABLE/SOLO BIN/S EMPTY

LANE TABLE/SOLO BIN/S EMPTY

LANE 3 TABLE/SOLO BIN/S EMPTY

LANE 4 TABLE/SOLO BIN/S EMPTY

K 304

A2238X

CHECKPOINT

A2237

48 48 48

TDC/CATS TDC/CATS TDC/CATS TDC/CATS

A2237Y

FUTURE ATO

A2505

ALIGN

2'-3" 6"

CIRCULATION

A2242

A2504

4"

A2505X

A2506Y

A2506X

PASS SVC

A2506

CORRIDOR

A2274

EE 308

OVERHANG ABOVE

OVERHANG ABOVE

STAIR #1

74

CORRIDOR

1 PARTIAL FLOOR PLAN (TICKET LEVEL - ZONE 5)

ARCH. REF: 1/A2-125 Scale: NTS

1 KEY PLAN

ADI

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NORFOLK, VIRGINIA
23513
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ARCHITECT
THE WILSON GROUP

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ILM TERMINAL IMP. CONTRACT 3
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WILMINGTON, NC 28405

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SCALE
NOT TO SCALE
TITLE
FLOOR PLAN
DWG NO.
108

FOLDER/JOB: C:\Users\John\AppData\Local\Temp\AcPublish_14012\ILM3 – PLANS2.dwg
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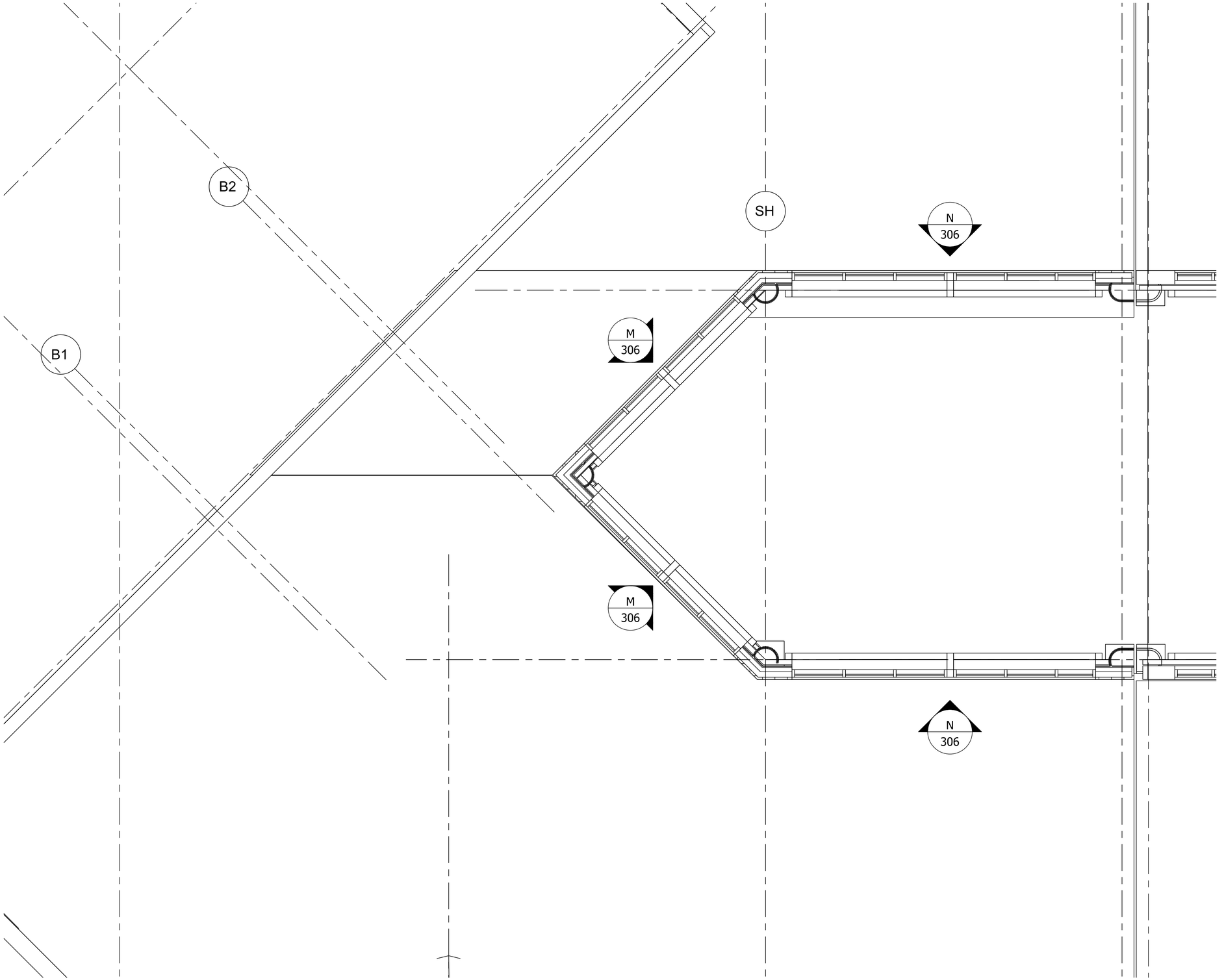
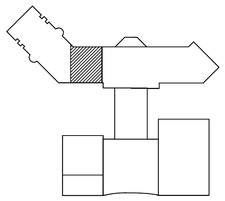


1 PARTIAL FLOOR PLAN (CLERESTORY - ZONE 1)

ARCH. REF: 1/A2-131 Scale: NTS



1 KEY PLAN

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
		REVISED PER ARCHITECT COMMENTS

DATE	REVISION
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2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

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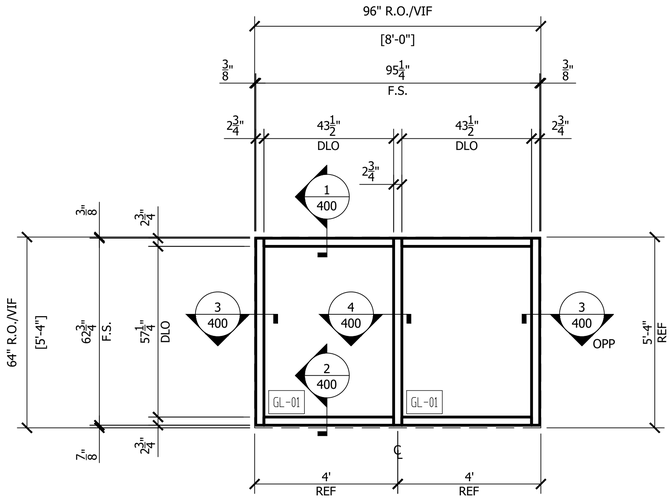
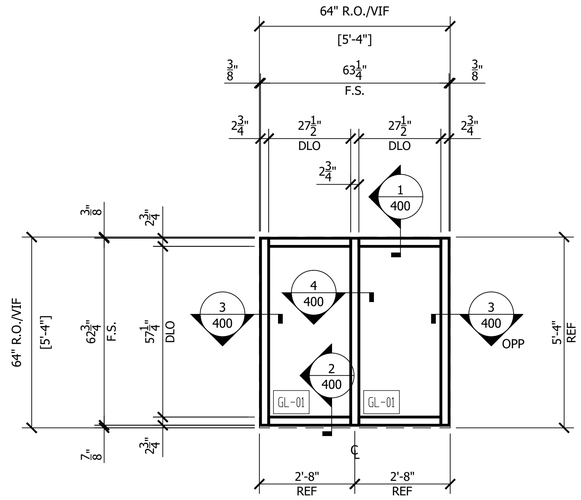
GEORGE C.
SCALE
NOT TO SCALE
TITLE
FLOOR PLAN
DWG NO.
109

PLOTTED: June 08, 2020 - 12:16am FOLDER/JOB: C:\Users\Liam\AppData\Local\Temp\AcPublish_14012\ILM3 - PLANS2.dwg



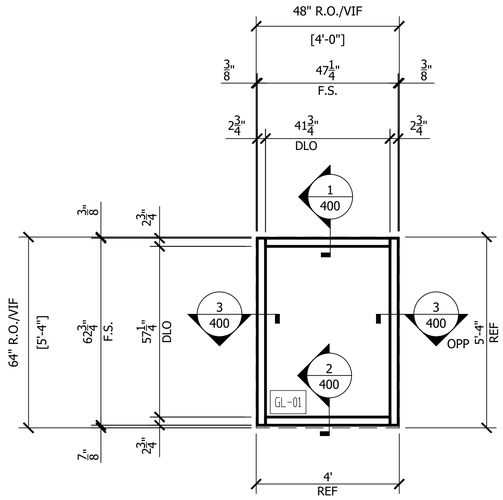
EXTERIOR ELEVATION — A

REQ'D THUS = 1
FRAME: KAWNEER 501T SYSTEM
2-3/4" X 5"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



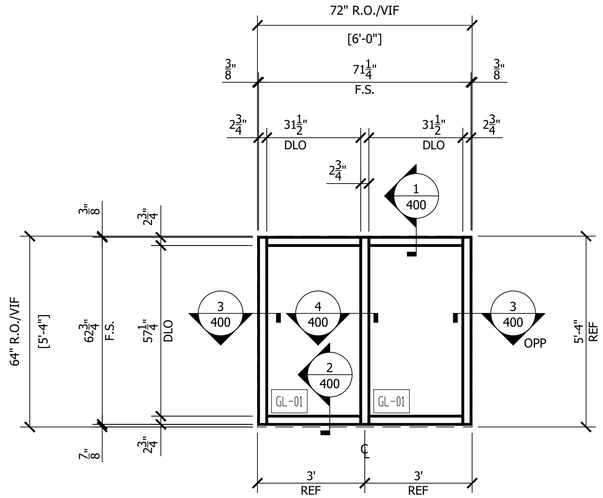
EXTERIOR ELEVATION — B

REQ'D THUS = 3
FRAME: KAWNEER 501T SYSTEM
2-3/4" X 5"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION — T

REQ'D THUS = 2
FRAME: KAWNEER 501T SYSTEM
2-3/4" X 5"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION — W

REQ'D THUS = 7
FRAME: KAWNEER 501T SYSTEM
2-3/4" X 5"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
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ARCHITECT
THE WILSON GROUP

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ILM TERMINAL IMP. CONTRACT 3
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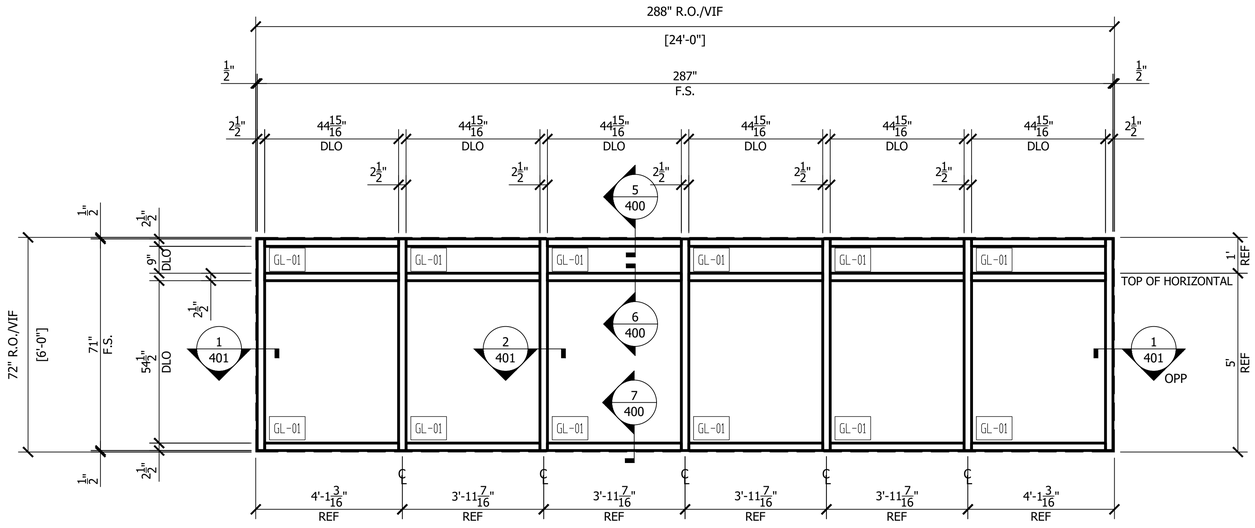
CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg

DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
300

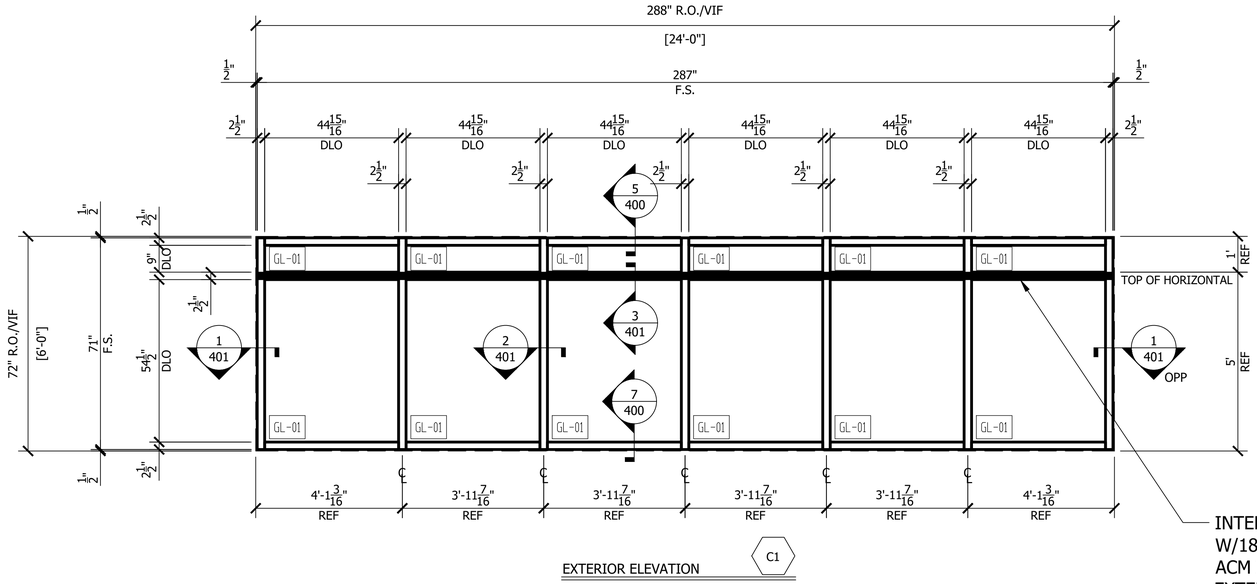
PLOTTED: June 08, 2020 - 12:16pm



EXTERIOR ELEVATION

C

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION

C1

REQ'D THUS = 7
FRAME: KAWNEER 1600 (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

INTERIOR ENLIGHTEN LIGHT SHELF
W/18" PROJECTION,
ACM INFILL BONE WHITE EITHER SIDE,
EXTERIOR VERSOLEIL BLADE 12" PROJECTION

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
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BY	DATE	DESCRIPTION
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MONTEITH CONSTRUCTION
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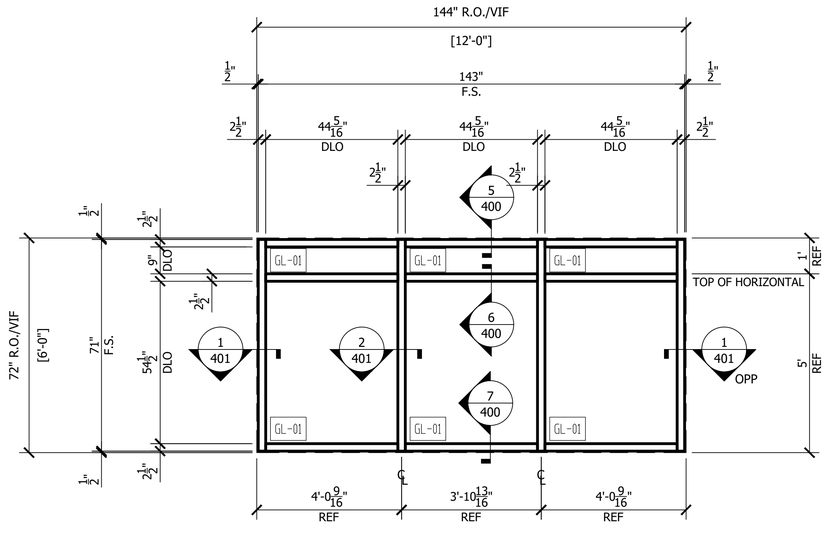
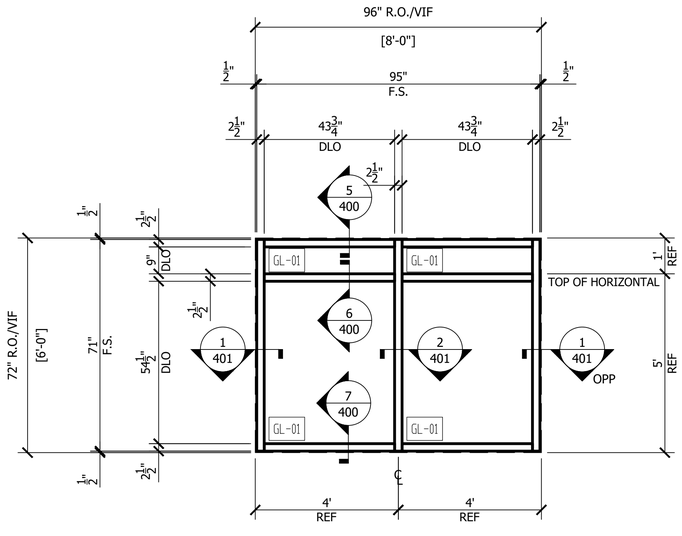
FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg
PLOTTED: June 08, 2020 - 12:16pm

DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
301



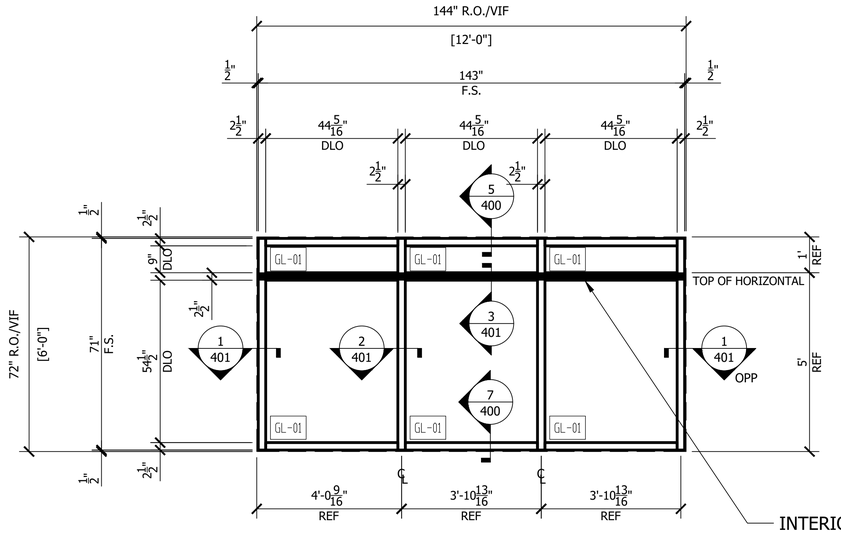
EXTERIOR ELEVATION — E

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION — F

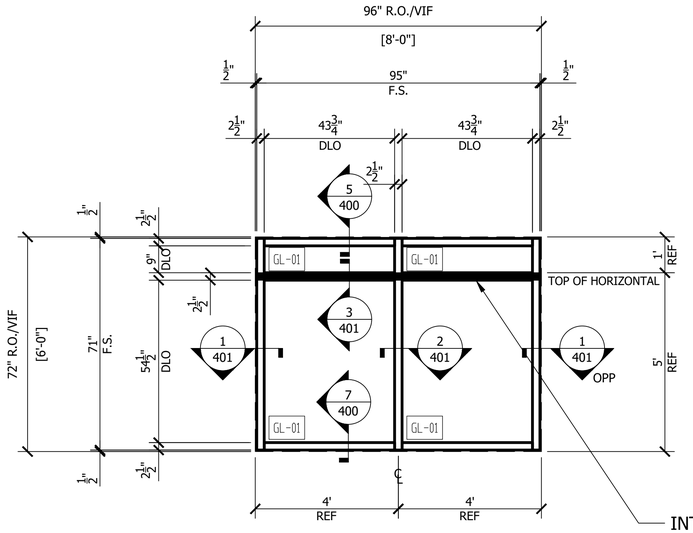
REQ'D THUS = 1
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION — E1

REQ'D THUS = 4
FRAME: KAWNEER 1600 (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

INTERIOR ENLIGHTEN LIGHT SHELF
W/18" PROJECTION,
ACM INFILL BONE WHITE EITHER SIDE,
EXTERIOR VERSOLEIL BLADE 12" PROJECTION



EXTERIOR ELEVATION — F1

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

INTERIOR ENLIGHTEN LIGHT SHELF
W/18" PROJECTION,
ACM INFILL BONE WHITE EITHER SIDE,
EXTERIOR VERSOLEIL BLADE 12" PROJECTION

ADI
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NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

	DESCRIPTION	DATE	BY
1	REVISED PER ARCHITECT COMMENTS	05/05/20	GC
2	REVISED PER ARCHITECT COMMENTS		

REVISION	DATE
3RD SUBMITTAL	2020.06.06
2ND SUBMITTAL	2020.05.18
1ST SUBMITTAL	2020.03.24

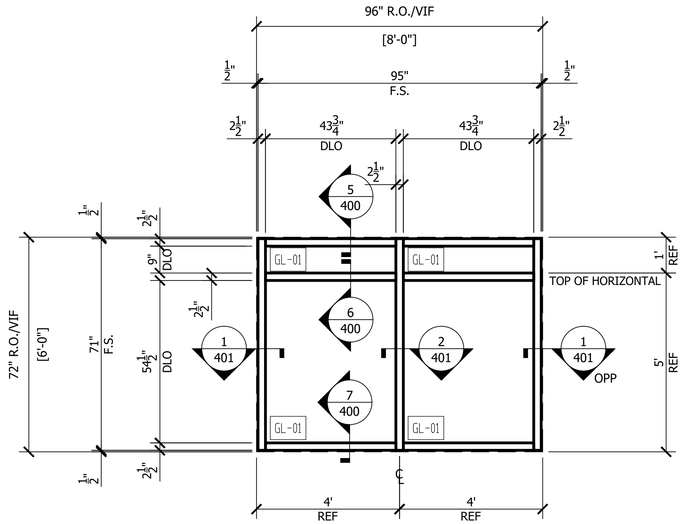
ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

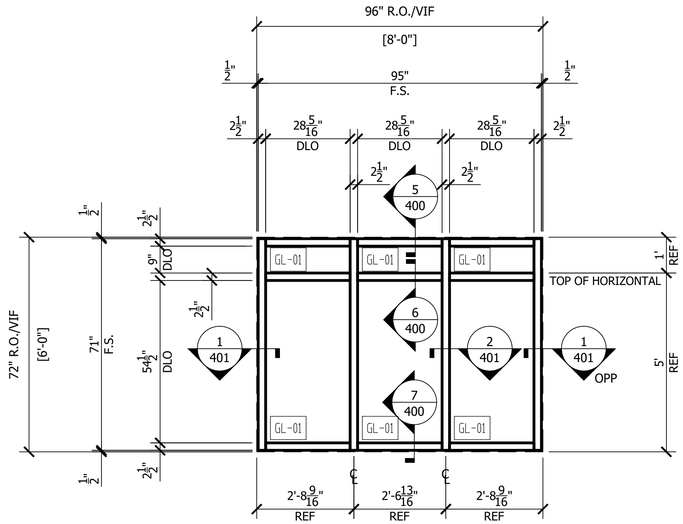
FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg
PLOTTED: June 08, 2020 - 12:16pm

DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
302



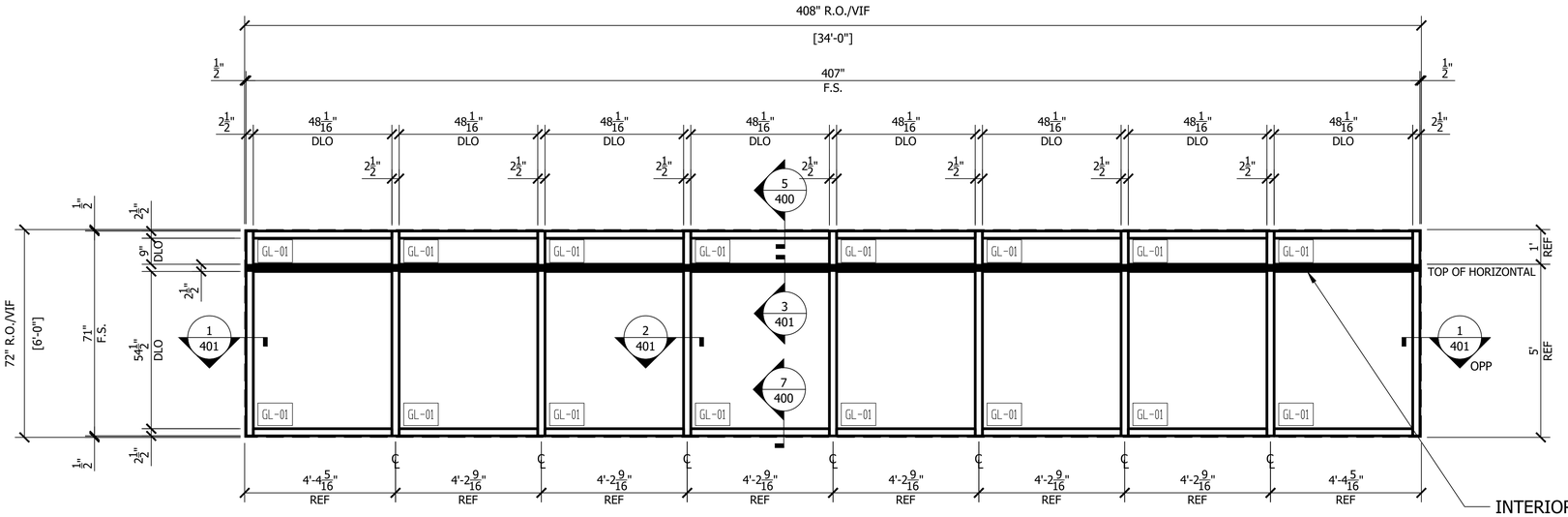
EXTERIOR ELEVATION G

REQ'D THUS = 4
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION H

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION J

REQ'D THUS = 2
FRAME: KAWNEER 1600 (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23513
PH. (757) 857.1898
FAX. (757) 857.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
		REVISED PER ARCHITECT COMMENTS

DATE	REVISION
2020.06.06	3RD SUBMITTAL
2020.05.18	2ND SUBMITTAL
2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

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MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
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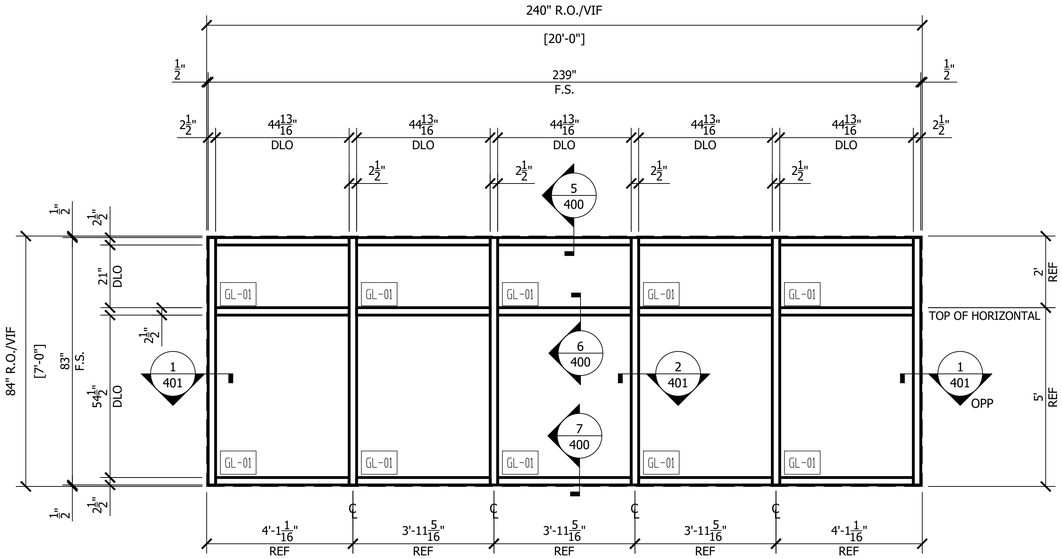
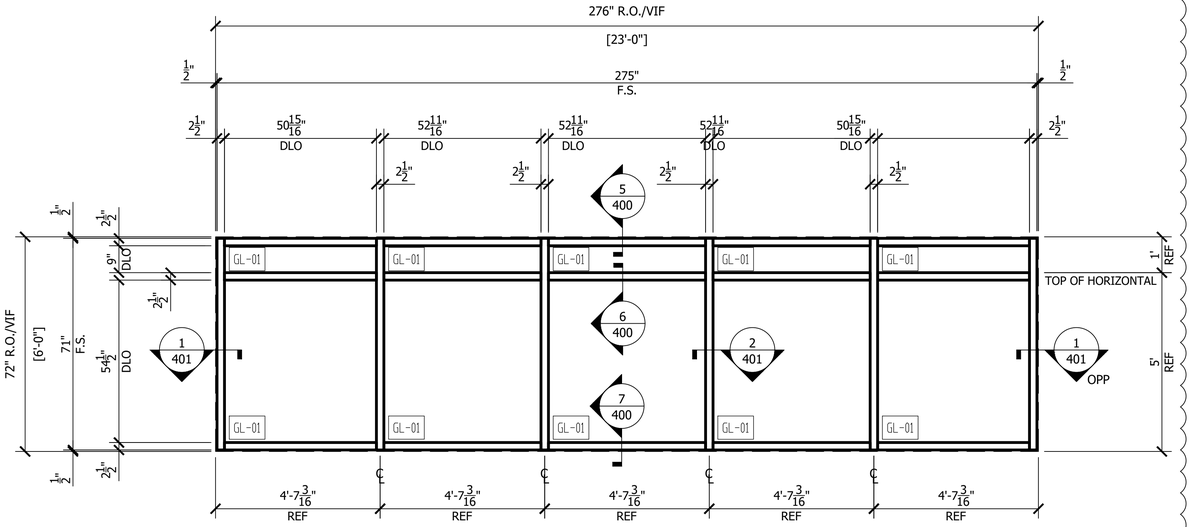
FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg
PLOTTED: June 08, 2020 - 12:16pm

DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
303



EXTERIOR ELEVATION — K

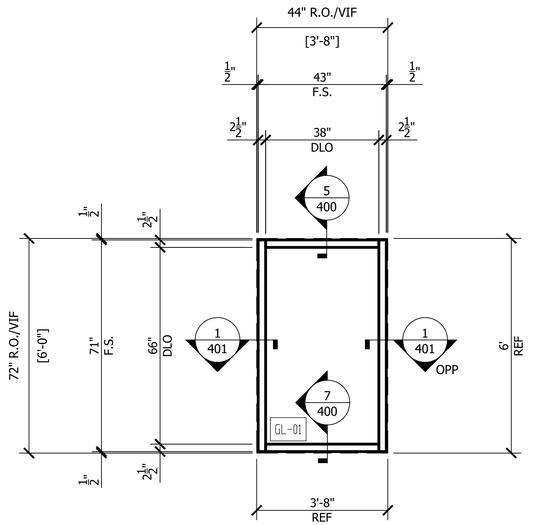
REQ'D THUS = 1
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION — L

REQ'D THUS = 1
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

1



EXTERIOR ELEVATION — R

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
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ARCHITECT
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ILM TERMINAL IMP. CONTRACT 3
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MONTEITH CONSTRUCTION
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WILMINGTON, NC 28401
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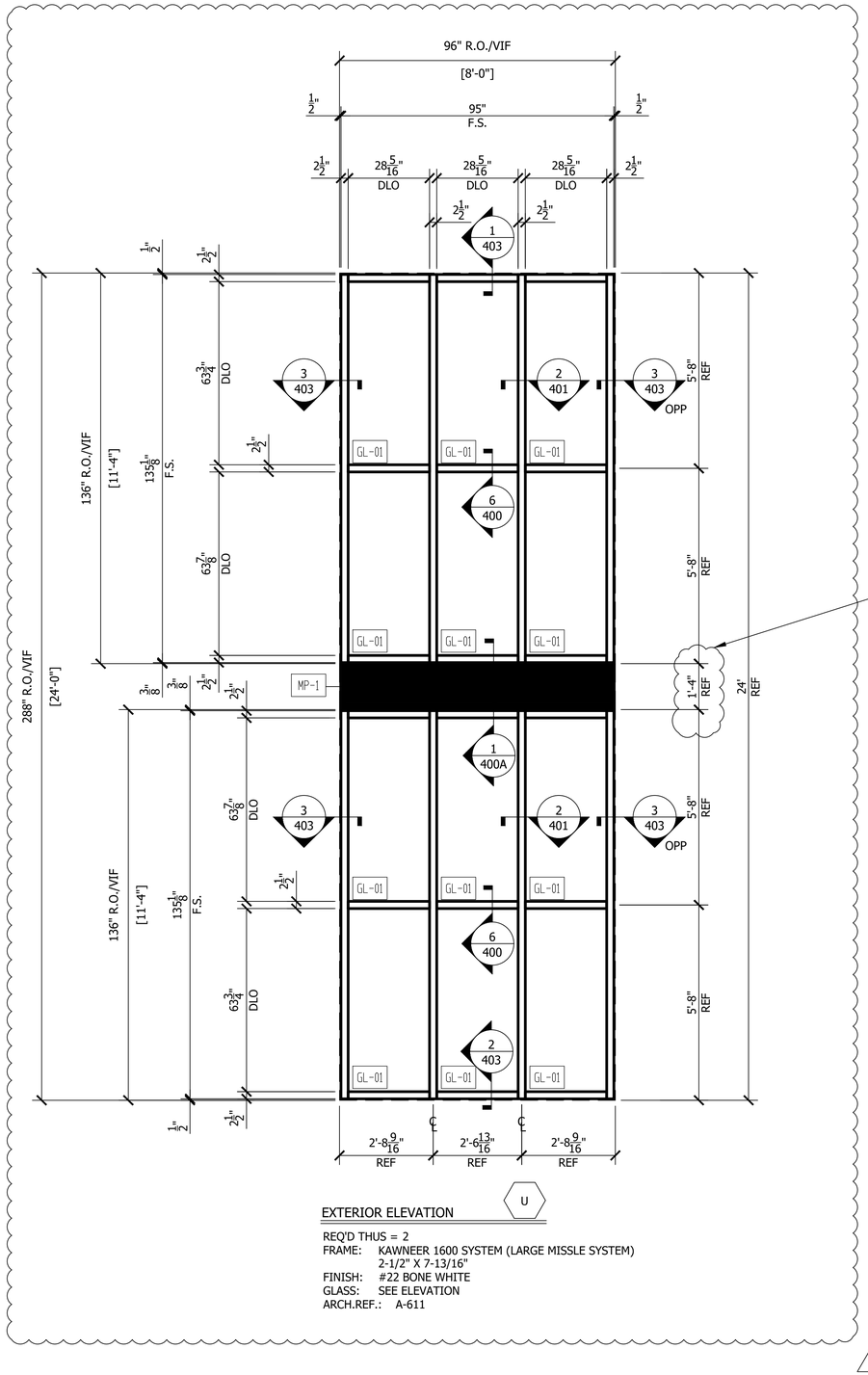
DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
304

PLOTTED: June 08, 2020 - 12:16am FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg



EXTERIOR ELEVATION

REQ'D THUS = 2
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2-1/2" X 7-13/16"
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GLASS: SEE ELEVATION
ARCH.REF.: A-611

1

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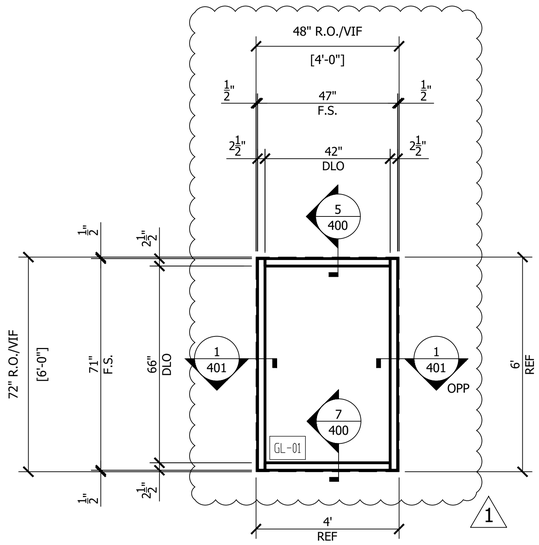
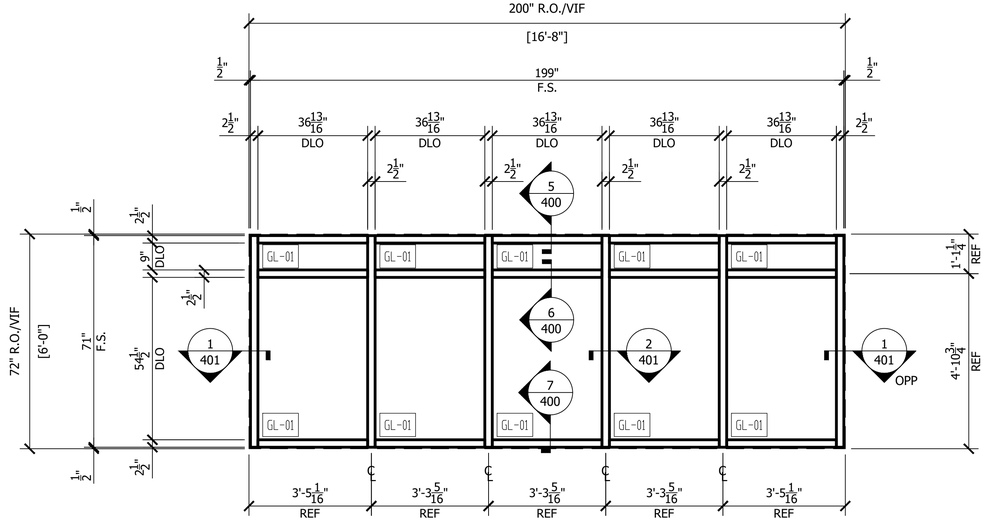
DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
305

PLOTTED: June 08, 2020 - 12:16am FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg



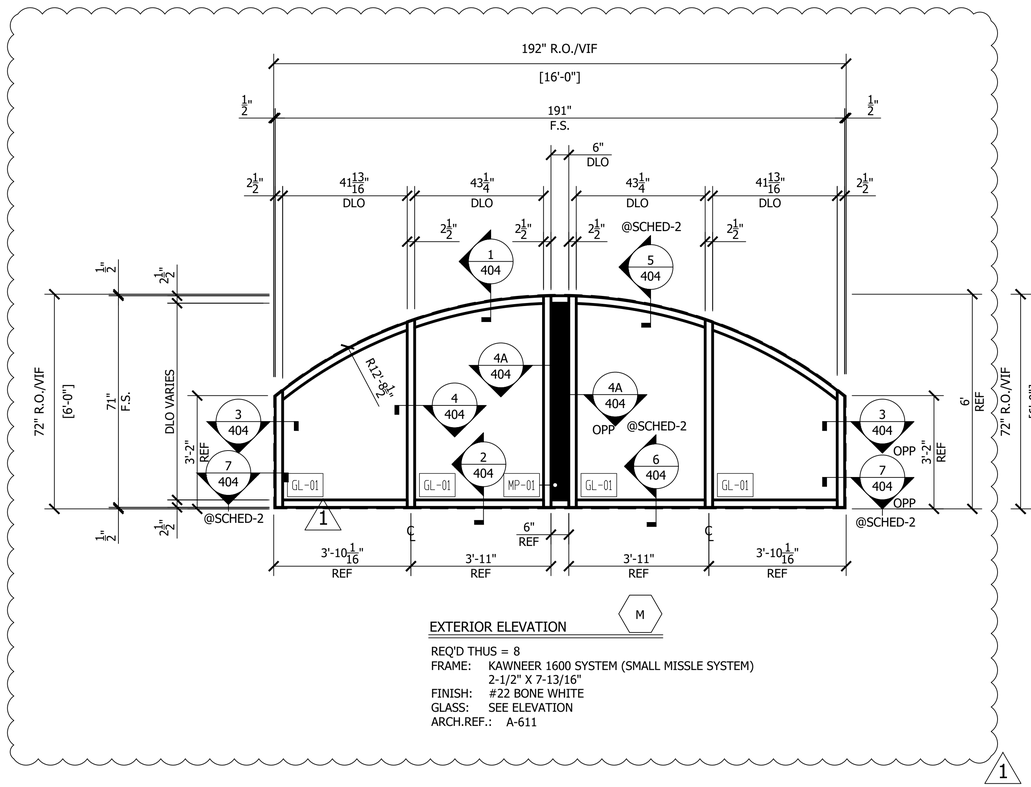
EXTERIOR ELEVATION (V)

REQ'D THUS = 2
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



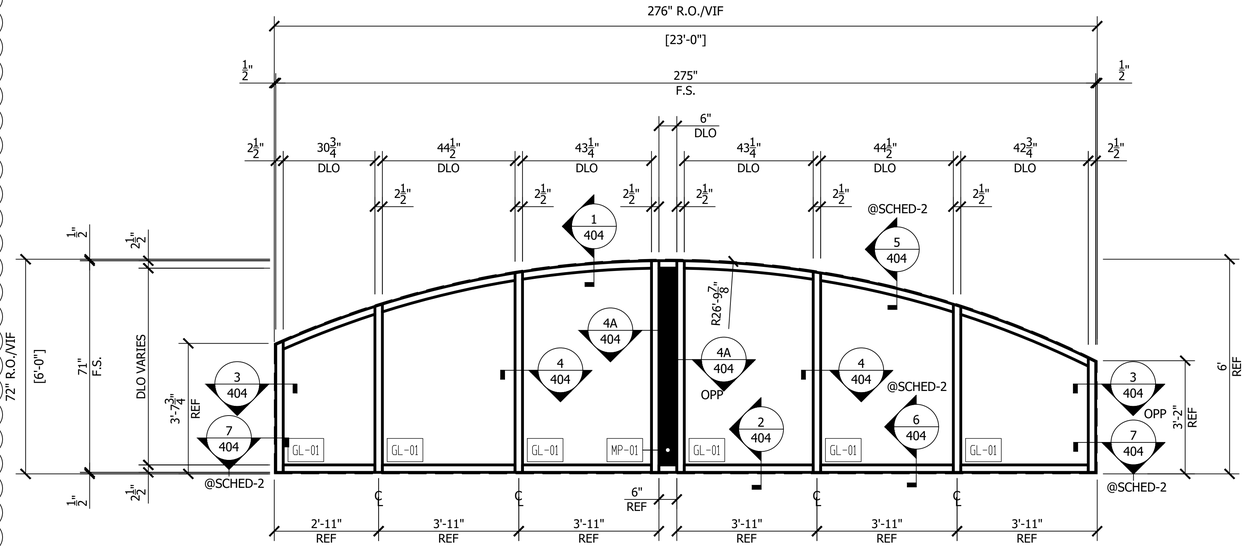
EXTERIOR ELEVATION (X)

REQ'D THUS = 1
FRAME: KAWNEER 1600 SYSTEM (LARGE MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION (M)

REQ'D THUS = 8
FRAME: KAWNEER 1600 SYSTEM (SMALL MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION (N)

REQ'D THUS = 8
FRAME: KAWNEER 1600 SYSTEM (SMALL MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
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WILMINGTON, NC 28401
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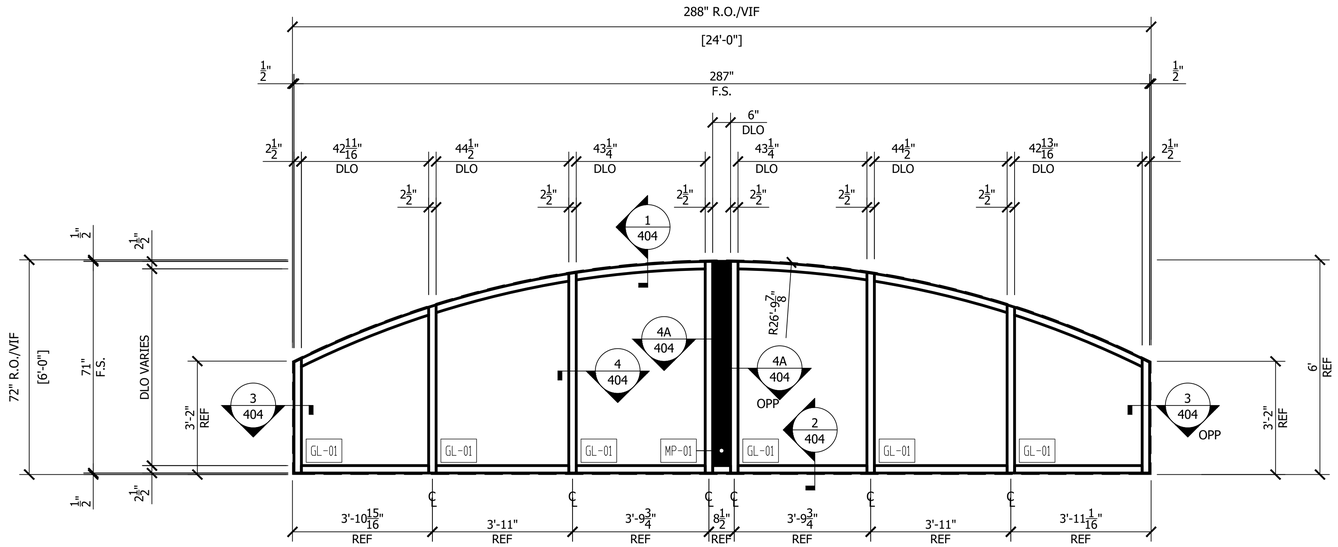
PLOTTED: June 08, 2020 - 12:16pm

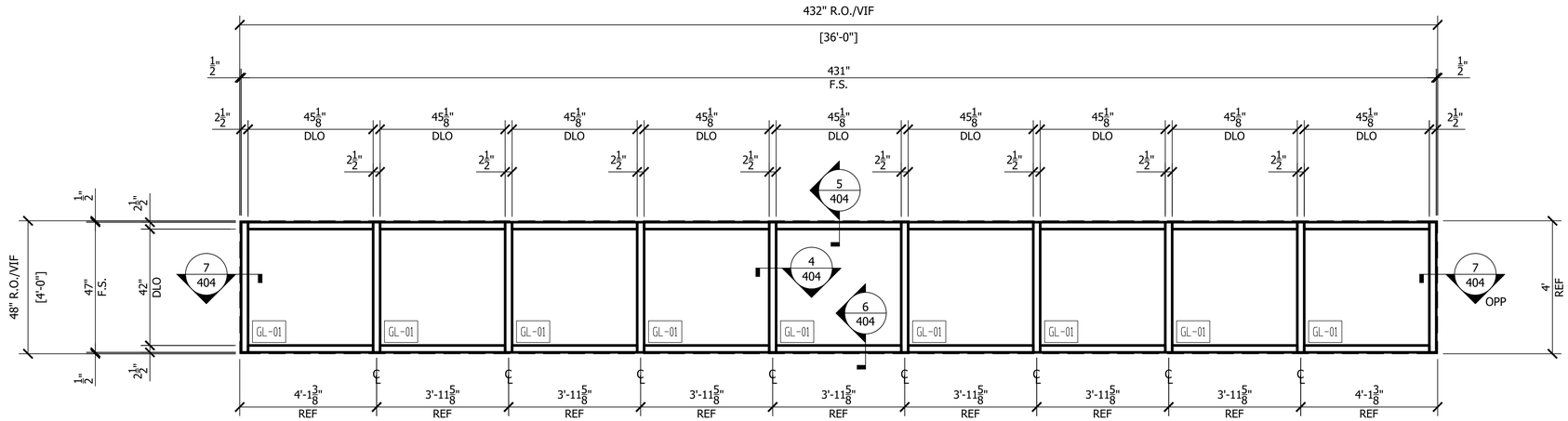
DRAWN BY: GEORGE C.
SCALE: 1/2" = 1'-0"
TITLE: FRAME ELEVATIONS
DWG NO.: 306



EXTERIOR ELEVATION

P

REQ'D THUS = 12
FRAME: KAWNEER 1600 SYSTEM (SMALL MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



EXTERIOR ELEVATION

Q

REQ'D THUS = 4
FRAME: KAWNEER 1600 (SMALL MISSLE SYSTEM)
2-1/2" X 7-13/16"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
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	DESCRIPTION	DATE	BY
2	REVISED PER ARCHITECT COMMENTS	05/05/20	GC
1	REVISED PER ARCHITECT COMMENTS		
△			

DATE	REVISION
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ARCHITECT
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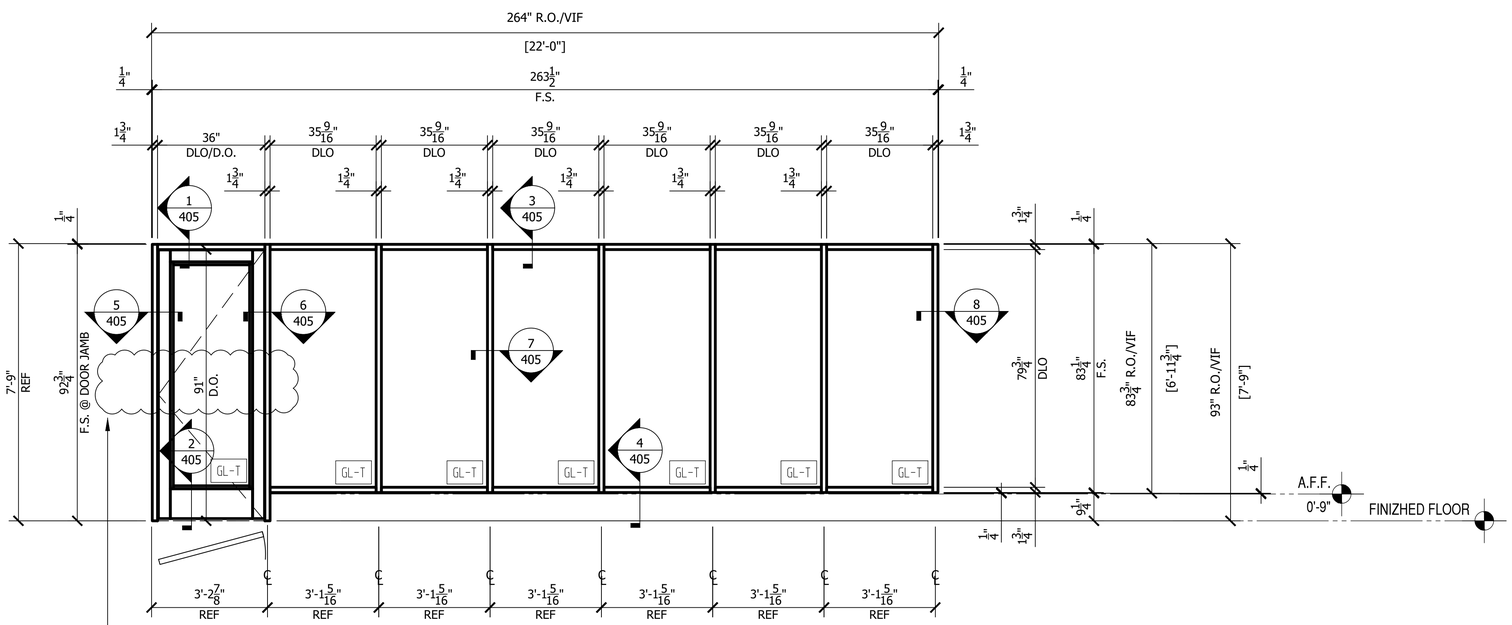
DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
307

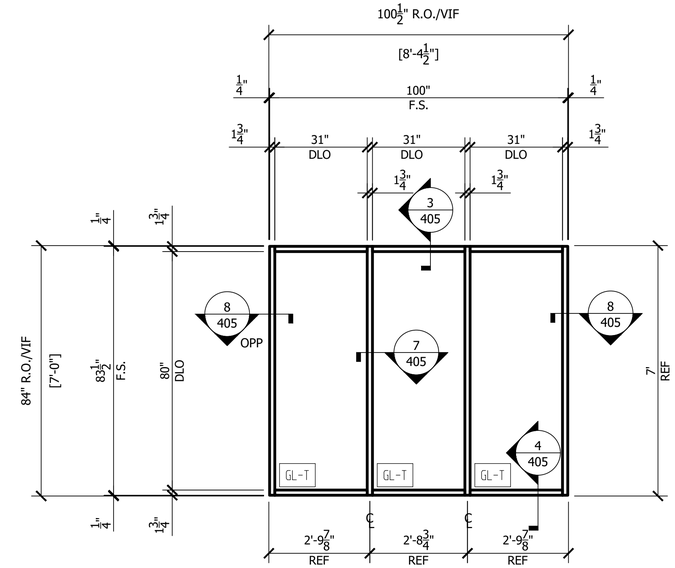
PLOTTED: June 08, 2020 - 12:16pm



ARCHITECT NOTE:
PLEASE VERIFY DOOR HEIGHT.
DOOR SCHEDULE CALLS FOR
7'-0" DOOR HEIGHT

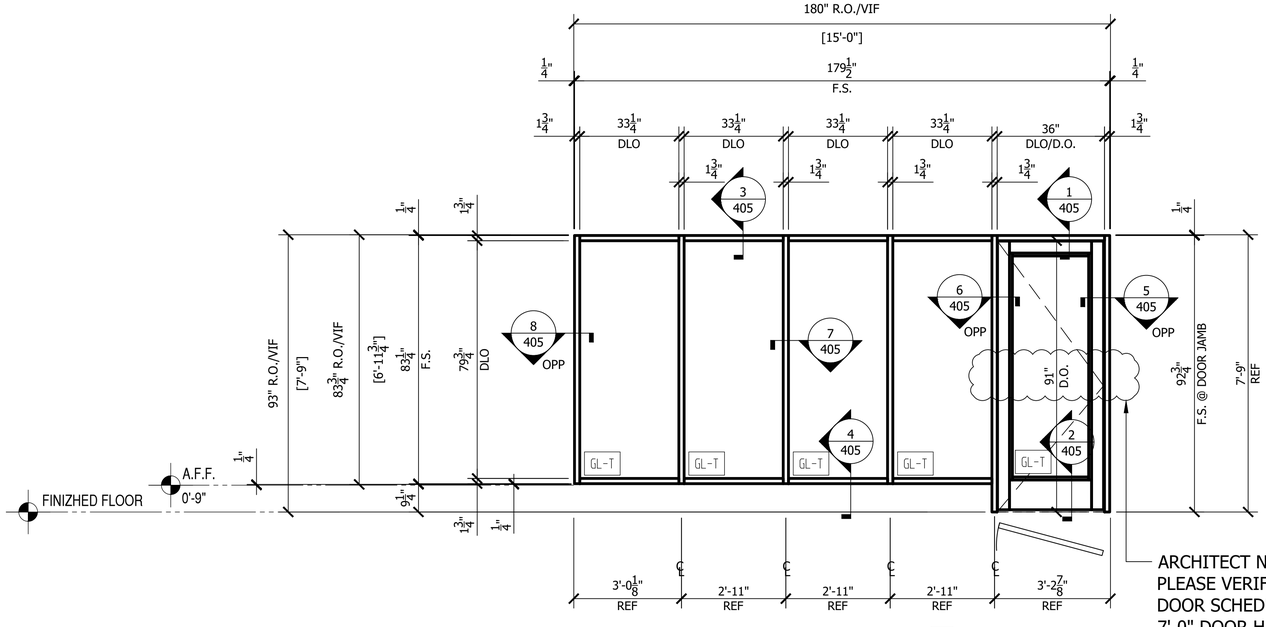
INTERIOR ELEVATION — A2238X — AA

REQ'D THUS = 1
FRAME: KAWNEER 450 INTERIOR
1-3/4" X 4-1/2"
DOOR: 500 WIDE STILE
W/10" BOTTOM
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611
HARDWARE: SEE SCHEDULE SHEET 002



INTERIOR ELEVATION — BB

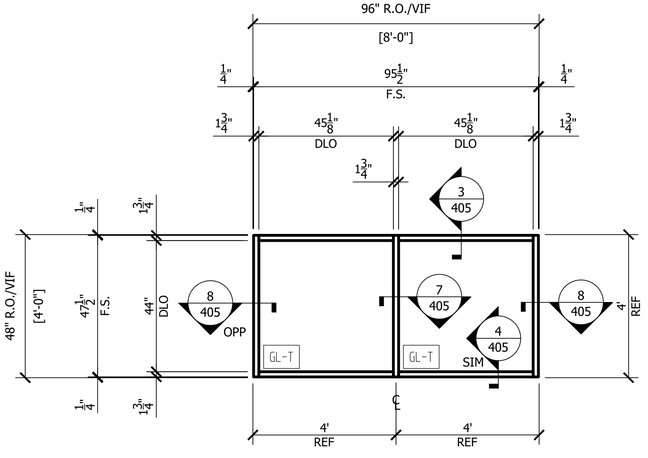
REQ'D THUS = 1
FRAME: KAWNEER 450 INTERIOR
1-3/4" X 4-1/2"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611



ARCHITECT NOTE:
PLEASE VERIFY DOOR HEIGHT.
DOOR SCHEDULE CALLS FOR
7'-0" DOOR HEIGHT

INTERIOR ELEVATION — A2231X — DD

REQ'D THUS = 1
FRAME: KAWNEER 450 INTERIOR
1-3/4" X 4-1/2"
DOOR: 500 WIDE STILE
W/10" BOTTOM
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611
HARDWARE: SEE SCHEDULE SHEET 002



INTERIOR ELEVATION — EE

REQ'D THUS = 2
FRAME: KAWNEER 450 INTERIOR
1-3/4" X 4-1/2"
FINISH: #22 BONE WHITE
GLASS: SEE ELEVATION
ARCH.REF.: A-611

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

DESCRIPTION	DATE	BY
REVISED PER ARCHITECT COMMENTS	05/05/20	GC
REVISED PER ARCHITECT COMMENTS		

DESCRIPTION	DATE
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REVISION	DATE

ARCHITECT
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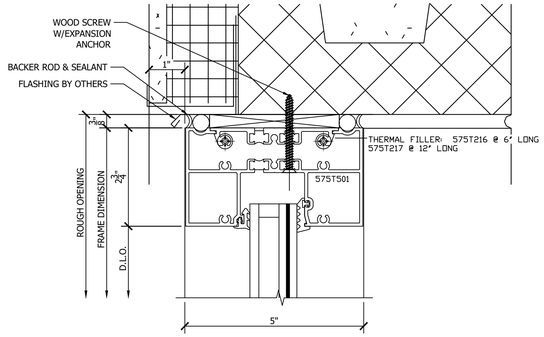
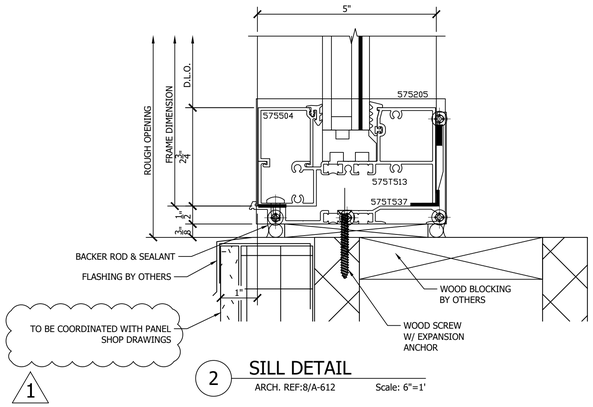
DRAWN BY
GEORGE C.
SCALE
1/2" = 1'-0"
TITLE
FRAME ELEVATIONS
DWG NO.
308

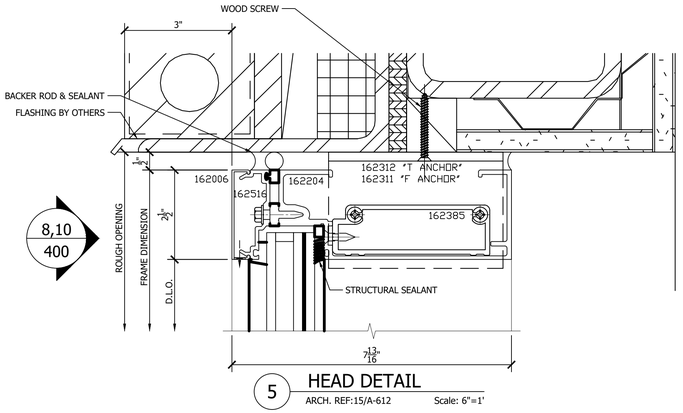
PLOTTED: June 08, 2020 - 12:16pm
FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - FRAME ELEVATIONS.dwg



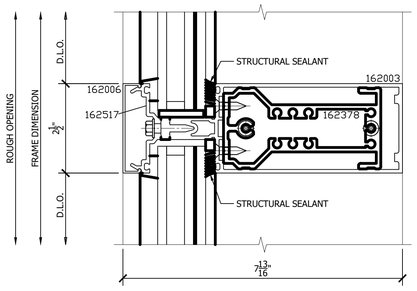
1 HEAD DETAIL
ARCH. REF:13/A-612 Scale: 6"=1'



2 SILL DETAIL
ARCH. REF:8/A-612 Scale: 6"=1'

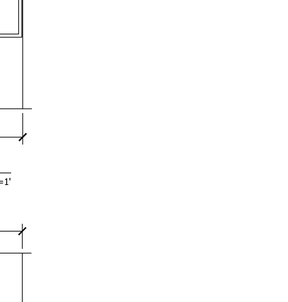


5 HEAD DETAIL
ARCH. REF:15/A-612 Scale: 6"=1'

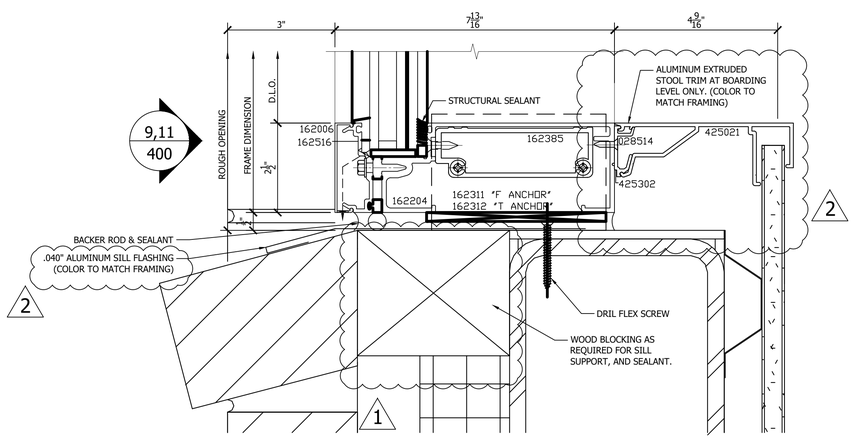


6 HORIZONTAL DETAIL
ARCH. REF: Scale: 6"=1'

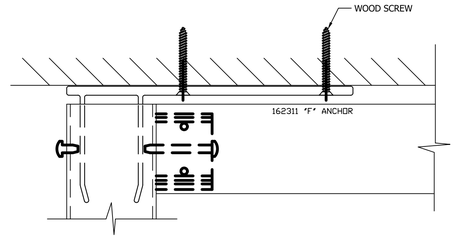
3 JAMB DETAIL
ARCH. REF:3/A-612 Scale: 6"=1'



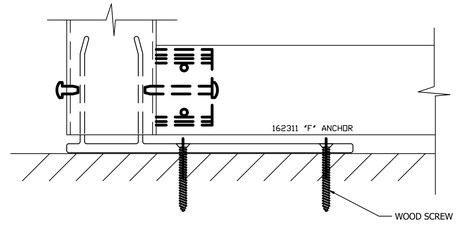
4 VERTICAL DETAIL
ARCH. REF: Scale: 6"=1'



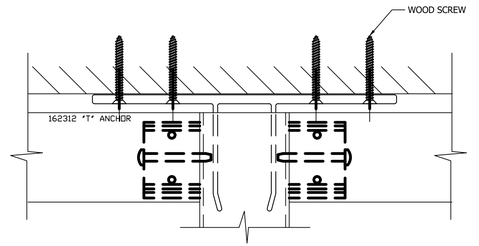
7 SILL DETAIL
ARCH. REF:10/A-612 Scale: 6"=1'



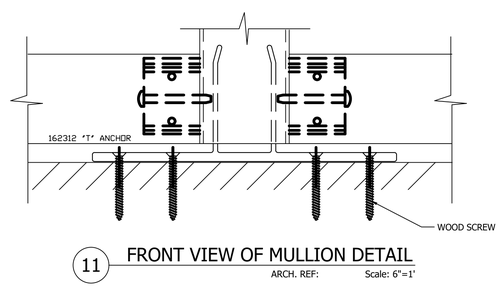
8 FRONT VIEW OF MULLION DETAIL
ARCH. REF: Scale: 6"=1'



9 FRONT VIEW OF MULLION DETAIL
ARCH. REF: Scale: 6"=1'



10 FRONT VIEW OF MULLION DETAIL
ARCH. REF: Scale: 6"=1'



11 FRONT VIEW OF MULLION DETAIL
ARCH. REF: Scale: 6"=1'

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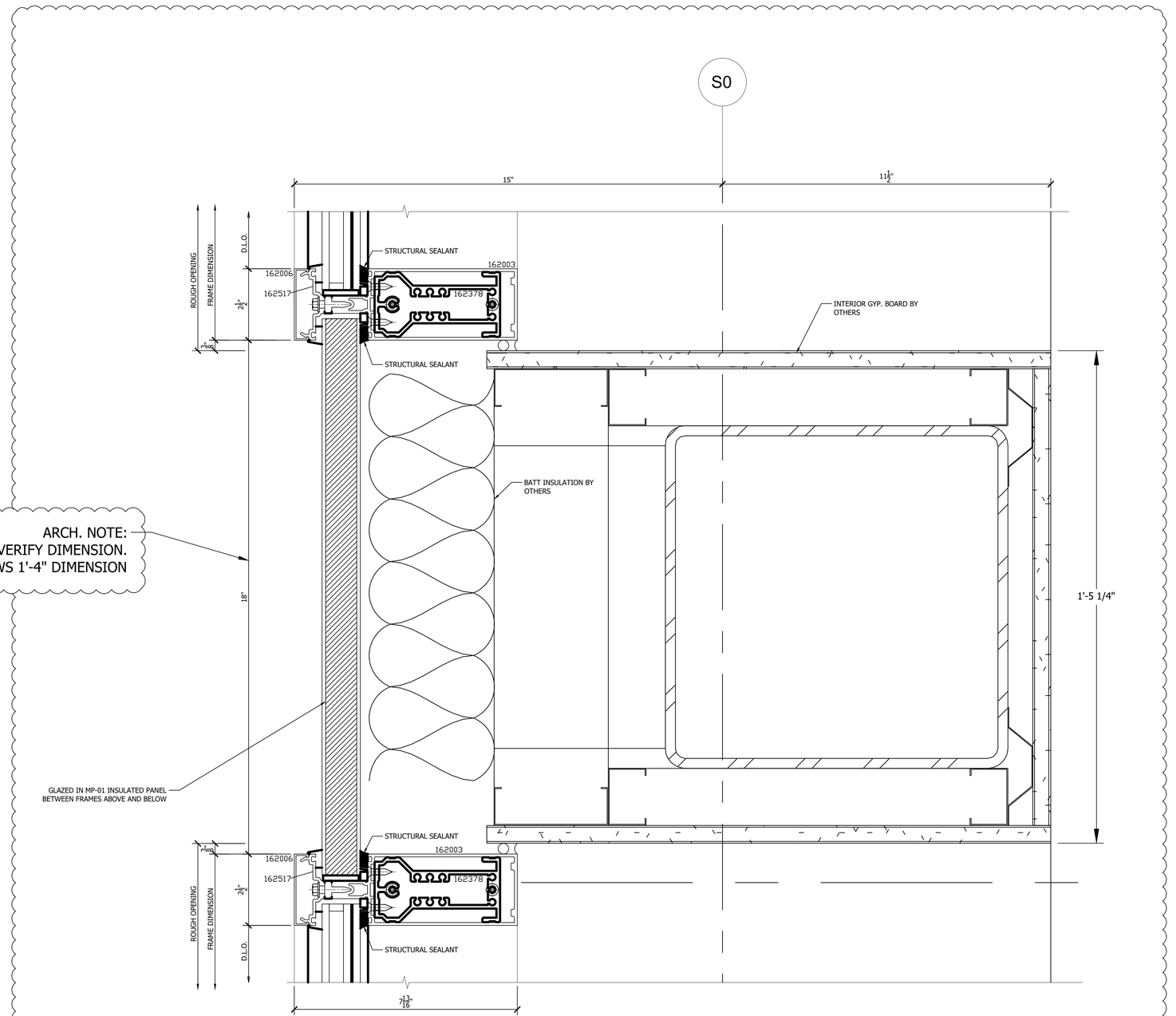
1740 AIRPORT BOULEVARD, SUITE 12
WILMINGTON, NC 28405

CONSTRUCTION MANAGER
MONTEITH CONSTRUCTION
208 PRINCESS STREET
WILMINGTON, NC 28401
(P) 910.791.8101

FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 - DETAILS2.dwg
PLOTTED: June 08, 2020 - 12:16pm

DRAWN BY
GEORGE C.
SCALE
6" = 1'-0"
TITLE
FRAME DETAILS
DWG NO.
400



1 HORIZONTAL DETAIL @ FRAME 'U'

ARCH. REF:6/A-512 Scale: 6"=1'

1

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	REVISED PER ARCHITECT COMMENTS
		REVISED PER ARCHITECT COMMENTS

DATE	REVISION
2020.06.06	3RD SUBMITTAL
2020.05.18	2ND SUBMITTAL
2020.03.24	1ST SUBMITTAL

ARCHITECT
THE WILSON GROUP

PROJECT
ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
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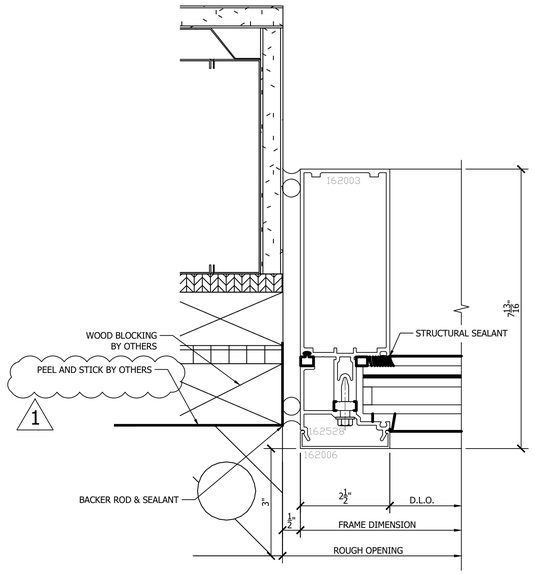
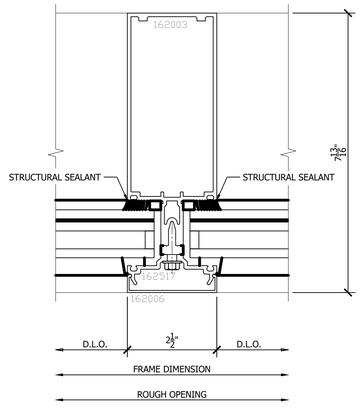
400A

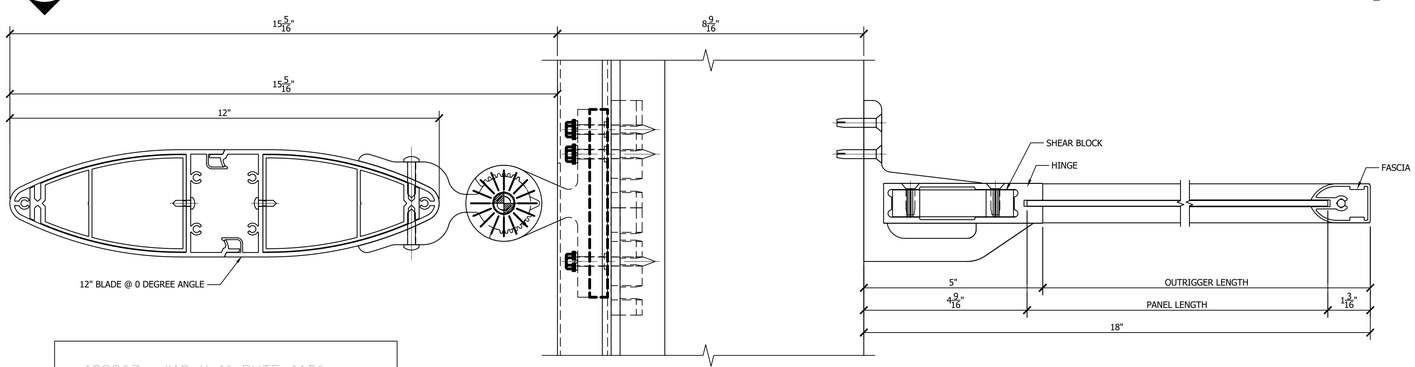


1 JAMB DETAIL
ARCH. REF:5/A-612 Scale: 6"=1'



2 VERTICAL DETAIL
ARCH. REF: Scale: 6"=1'

1,2
402



128267	#12 X 1" PHTF "AB"
128979	SERRATED WASHER
128392	3/8-16 LOCK NUT
128916	3/8-16 X 3" HHMS
128974	1/4" LOCK WASHER 300SS
128972	1/4 X 2-3/8" HHTF "AB"
482260	SB MOUNTING BRACKET
482265	TONGUE FILLER
162335	PRESSURE PLATE
162183	COVER

3 SUNSHADE/LIGHT SHELF DETAIL
ARCH. REF: Scale: 6"=1'

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23513
PH: (757) 857.1898
FAX: (757) 857.1897

	DESCRIPTION	DATE	BY
2020.06.06	3RD SUBMITTAL	05/05/20	GC
2020.05.18	2ND SUBMITTAL		
2020.03.24	1ST SUBMITTAL		
DATE	REVISION		

REVISED PER ARCHITECT COMMENTS
REVISED PER ARCHITECT COMMENTS

ARCHITECT
THE WILSON GROUP

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ILM TERMINAL IMP. CONTRACT 3
WILMINGTON INTERNATIONAL AIRPORT
1740 AIRPORT BOULEVARD, SUITE 12
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SCALE
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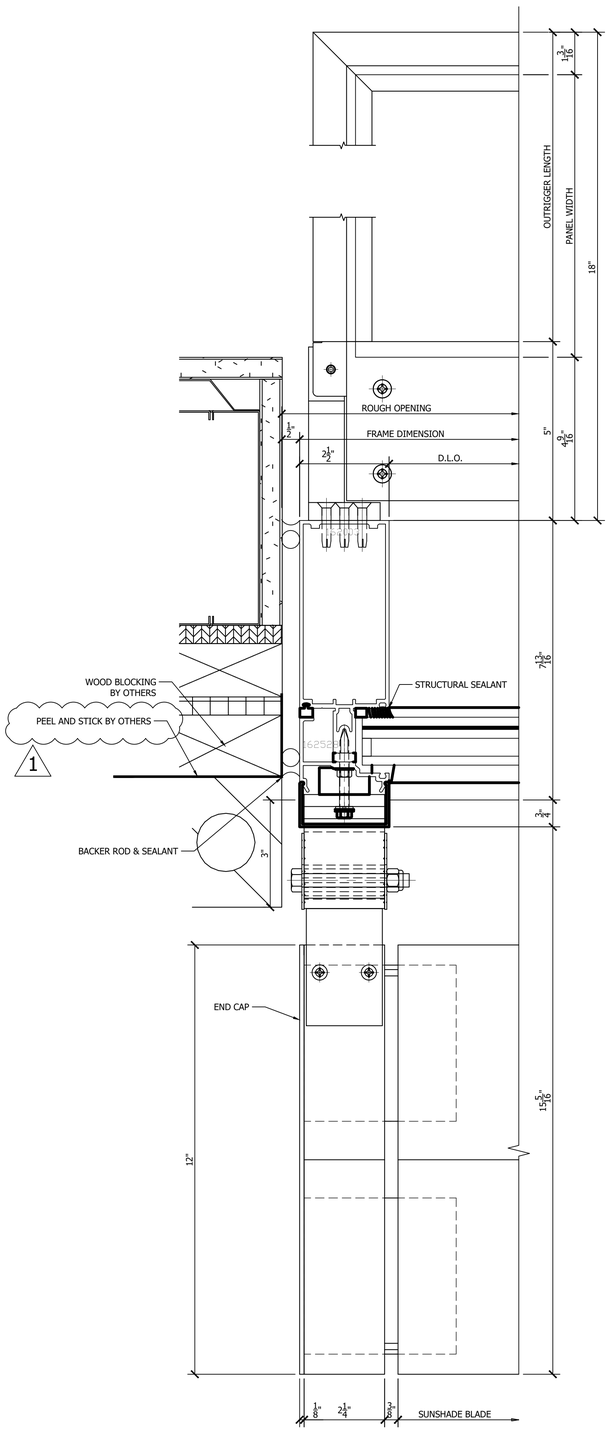
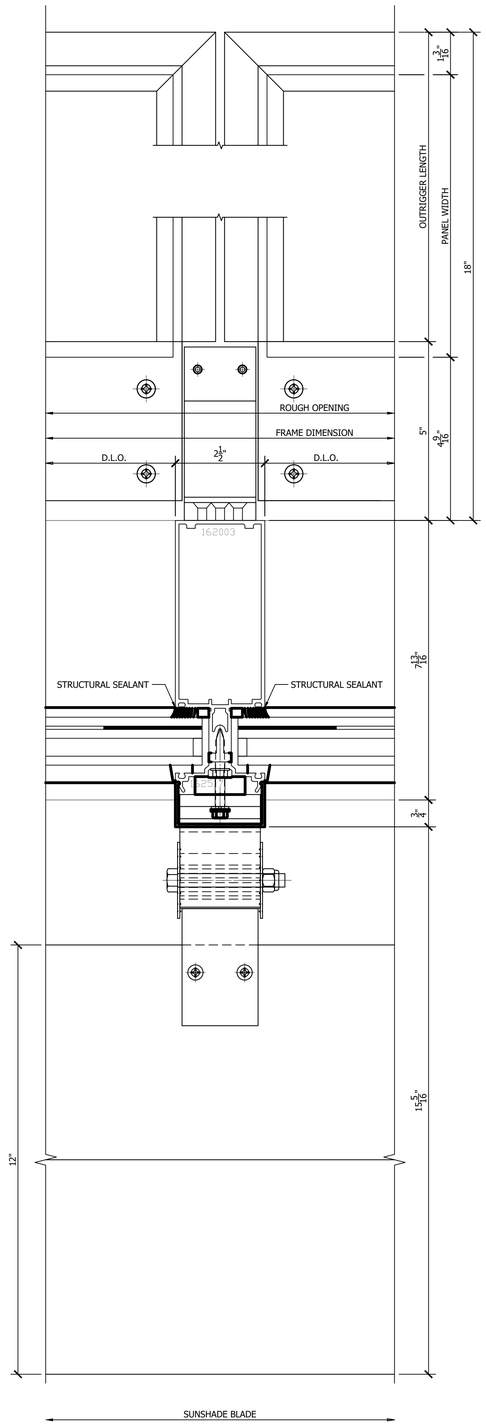
TITLE
FRAME DETAILS
DWG NO.
401



1 JAMB DETAIL @ SUNSHADE/LIGHT SHELF
ARCH. REF:5/A-612 Scale: 6"=1'



2 VERTICAL DETAIL @ SUNSHADE/LIGHTSHELF
ARCH. REF: Scale: 6"=1'

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23513
PH. (757) 857.1898
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BY	DATE	DESCRIPTION
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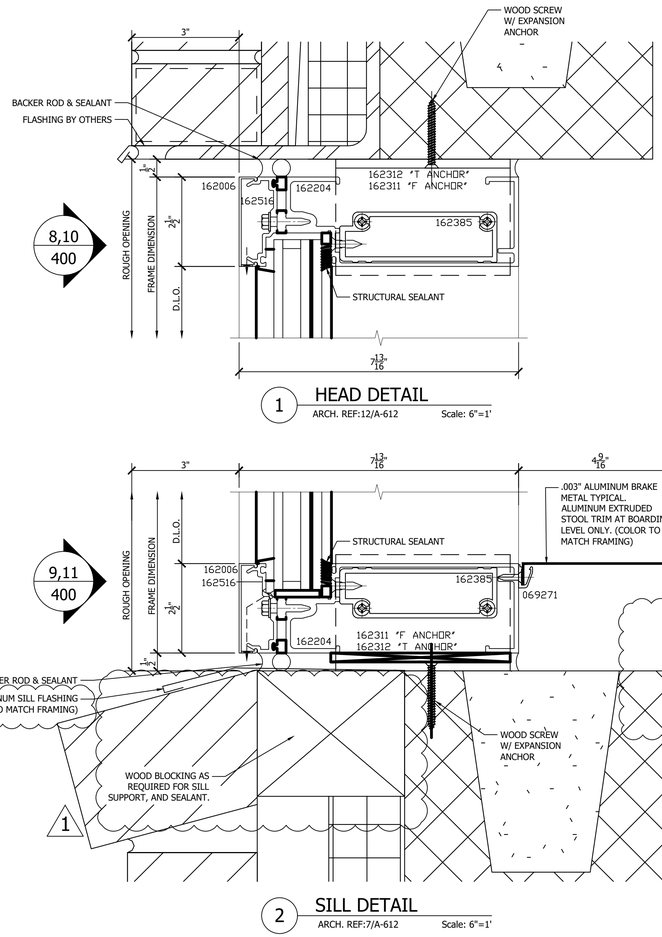
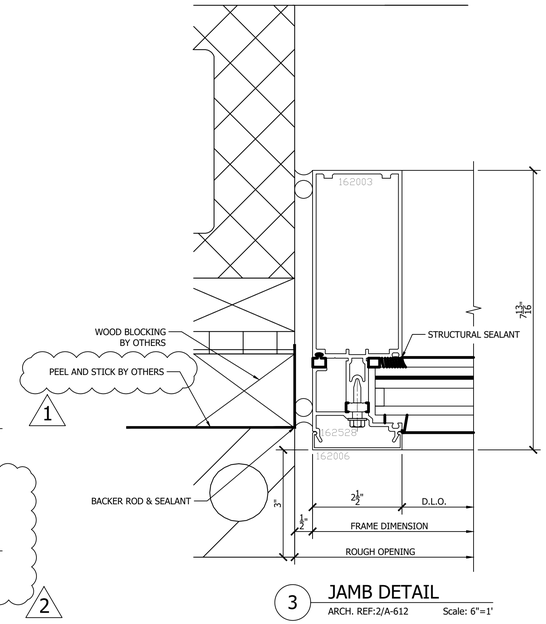


1 HEAD DETAIL
ARCH. REF:12/A-612 Scale: 6"=1'

2 SILL DETAIL
ARCH. REF:7/A-612 Scale: 6"=1'



3 JAMB DETAIL
ARCH. REF:2/A-612 Scale: 6"=1'

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23518
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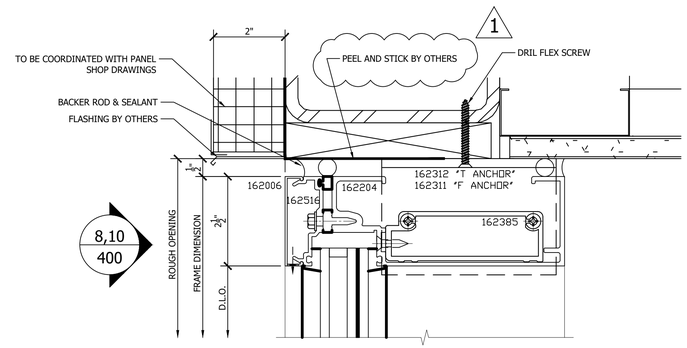
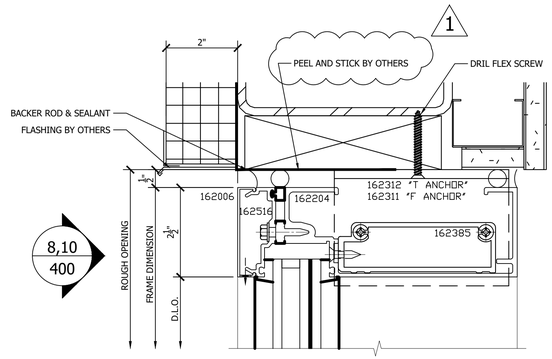
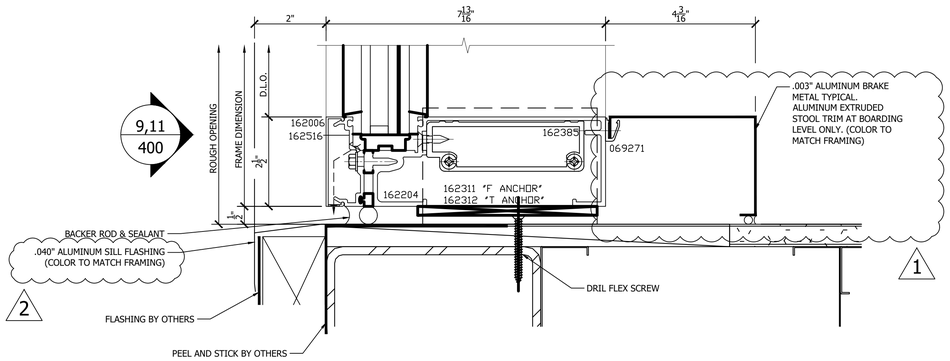
SCALE
6" = 1'-0"
TITLE
FRAME DETAILS
DWG NO.
403



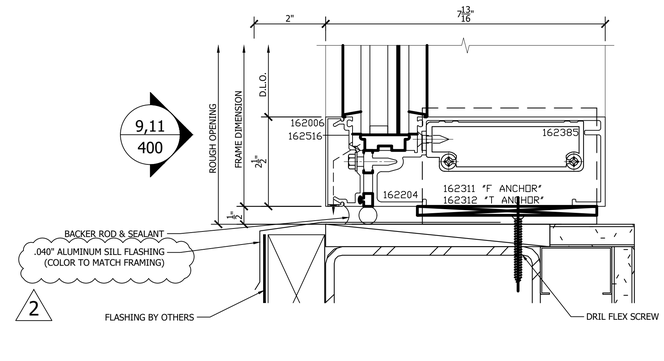
1 HEAD DETAIL
ARCH. REF:11/A-612 Scale: 6"=1'



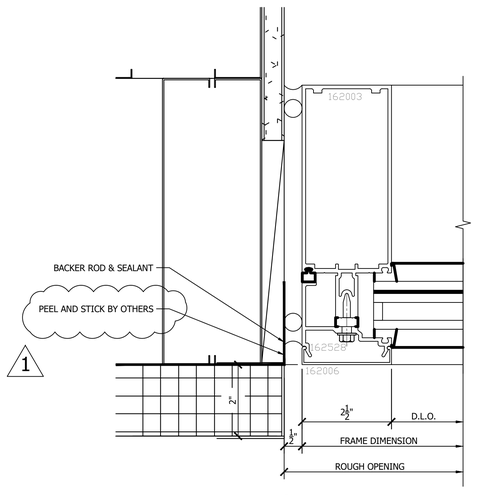
5 HEAD DETAIL
ARCH. REF:14/A-612 Scale: 6"=1'



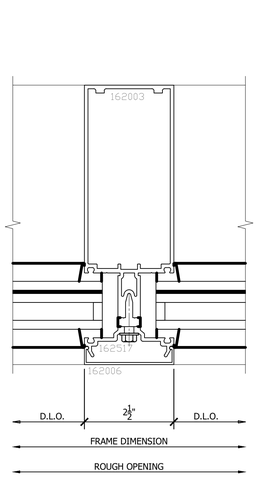
2 SILL DETAIL
ARCH. REF:2/A1-353 Scale: 6"=1'



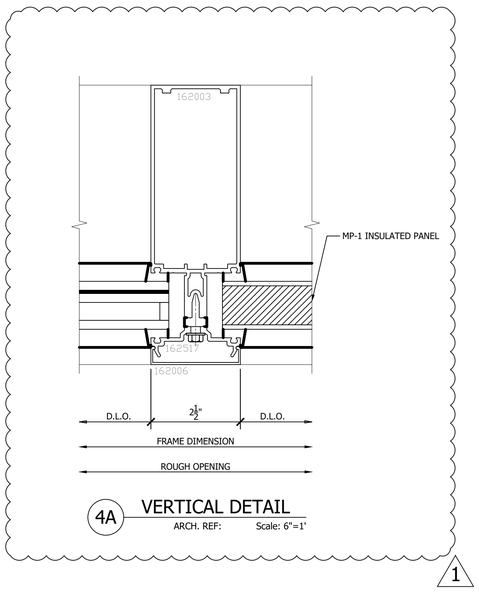
6 SILL DETAIL
ARCH. REF:2/A1-353 Scale: 6"=1'



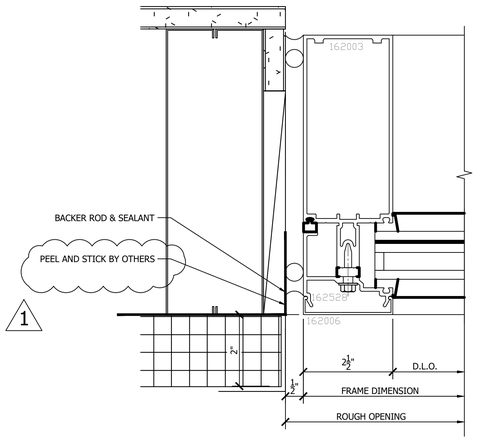
3 JAMB DETAIL
ARCH. REF:1/A-612 Scale: 6"=1'



4 VERTICAL DETAIL
ARCH. REF: Scale: 6"=1'



4A VERTICAL DETAIL
ARCH. REF: Scale: 6"=1'



7 JAMB DETAIL
ARCH. REF:4/A-612 Scale: 6"=1'

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
PH. (757) 587.1898
FAX. (757) 587.1897

BY	DATE	DESCRIPTION
GC	05/05/20	2 REVISED PER ARCHITECT COMMENTS
		1 REVISED PER ARCHITECT COMMENTS

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ARCHITECT
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DRAWN BY
GEORGE C.
SCALE
6" = 1'-0"
TITLE
FRAME DETAILS
DWG NO.
404

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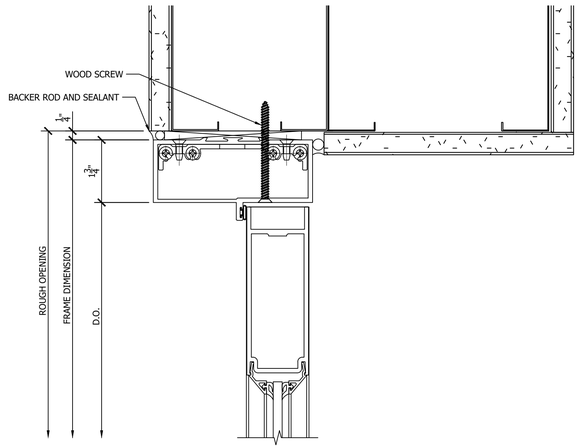
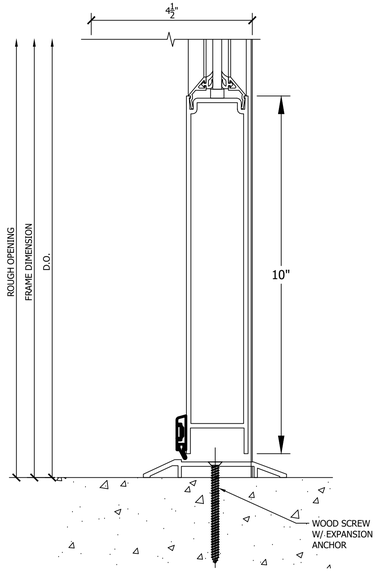
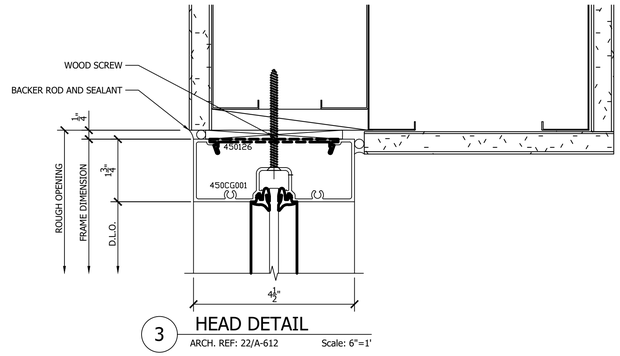
FOLDER/JOB: F:\ACCURATE JOBS\ILM Terminal\ILM3 — DETAILS2.dwg



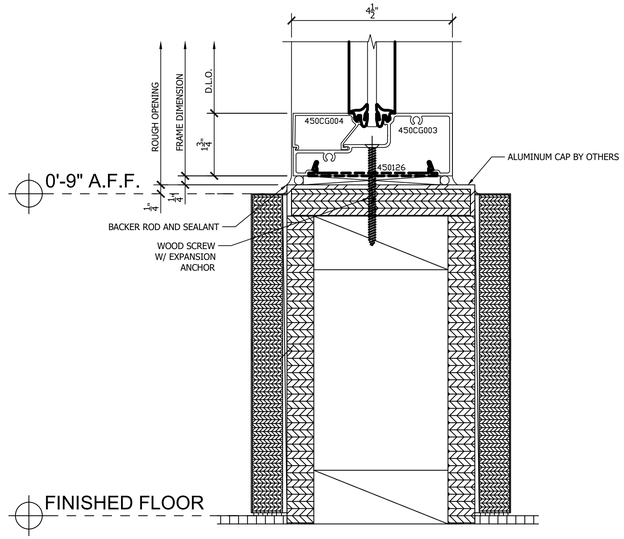
1 DOOR HEAD DETAIL
ARCH. REF: 22/A-612 Scale: 6"=1'



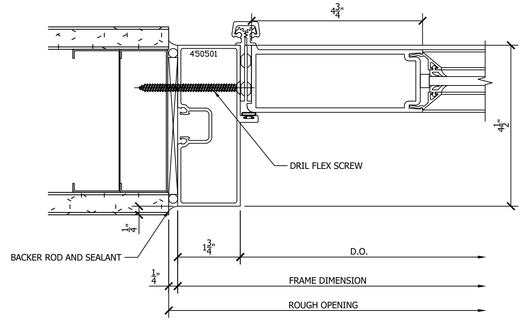
2 DOOR BOTTOM DETAIL
ARCH. REF: - Scale: 6"=1'



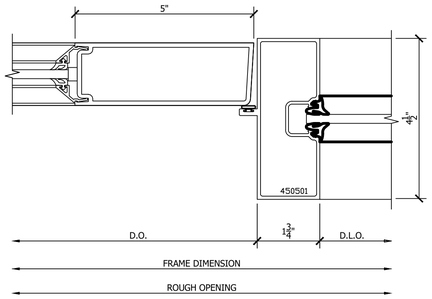
3 HEAD DETAIL
ARCH. REF: 22/A-612 Scale: 6"=1'



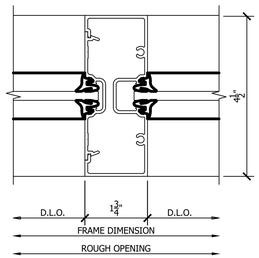
4 SILL DETAIL
ARCH. REF: K/A-654 Scale: 6"=1'



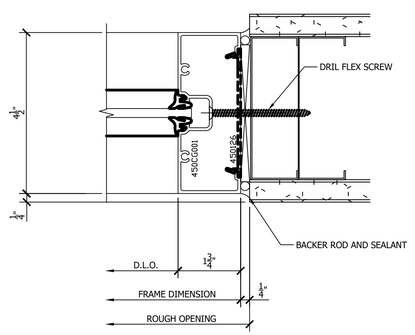
5 JAMB DETAIL
ARCH. REF: 16/A-612 Scale: 6"=1'



6 DOOR JAMB DETAIL
ARCH. REF: - Scale: 6"=1'



7 VERTICAL DETAIL
ARCH. REF: Scale: 6"=1'



8 JAMB DETAIL
ARCH. REF: 16/A-612 Scale: 6"=1'

ADI
8126 FOXDALE DRIVE
NORFOLK, VIRGINIA
23518
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Submittal #088000-1.2
088000 - Glazing

Monteith Construction
208 Princess St
Wilmington, North Carolina 28401
Phone: (910) 791-8101
Fax: (910) 791-8260

Project: 1951 - ILM Terminal Improvements - Contract 3
1740 Airport Blvd
Wilmington, North Carolina 28405

Glazing - Product Data

SPEC SECTION:	088000 - Glazing	**CREATED BY:**	
STATUS:	Open	**DATE CREATED:**	08/06/2020
ISSUE DATE:	08/06/2020	**REVISION:**	2
RESPONSIBLE CONTRACTOR:	[redacted]		
	//		//
FINAL DUE DATE:	09/03/2020		
TYPE:	Product Information		
APPROVERS:	Adam Flynn **(Monteith Construction Corp)**, Mike Travaglia **(Monteith Construction Corp)**, Ron Branch **(The Wilson Group)**, Kevin Dempsey **(The Wilson Group)**, Travis Pence **(The Wilson Group)**		

BALL IN COURT:
Ron Branch **(The Wilson Group)**, Kevin Dempsey **(The Wilson Group)**, Travis Pence **(The Wilson Group)**

DISTRIBUTION:
Clint Howell **(Monteith Construction Corp)** , Steven Almanzar **(Monteith Construction Corp)** , Mike Travaglia **(Monteith Construction Corp)** , Adam Flynn **(Monteith Construction Corp)** , Bettina Acosta **(Monteith Construction Corp)**

DESCRIPTION:
A. Product Data: For each glass product and glazing material indicated.

ATTACHMENTS:

SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
1	[redacted]	Submitter		8/13/2020	8/7/2020	Submitted	088000-1.2 Product Data R100 on Grey over 060 impact lami.pdf	See attached. This should clear it up.
2	Adam Flynn	Approver	8/7/2020	8/20/2020	8/24/2020	Approved		
3	Mike Travaglia	Approver	8/7/2020	8/20/2020		Pending		
4	Ron Branch	Approver	8/24/2020	9/3/2020		Pending		
5	Kevin Dempsey	Approver	8/24/2020	9/3/2020		Pending		
6	Travis Pence	Approver	8/24/2020	9/3/2020		Pending		

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

[redacted]

ILM Terminal Improvements Contract #3

SUBMITTAL

08 8000 – GLAZING
088000-1.2 PRODUCT DATA

FROM

[redacted]

BY

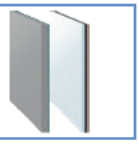
PHILLIP CONRADIE (PM)

DATE
08-7-2020

NOTES:
Exterior Lite – Gray Tint
Laminated glass for the inboard lite
Low-E on the tinted exterior lite on #2 surface

[redacted]

Vitro
Architectural Glass

Thickness (inches)	Transmittance UV %	Transmittance Visible %	Transmittance Total Solar %	Exterior Solar Reflectance %	Exterior Visible Reflectance %	Interior Visible Reflectance %	U-Value (Winter Nighttime) (Btu/hr*ft²*°F)	U-Value(Summer Daytime) (Btu/hr*ft²*°F)	Shading Coefficient (SC)	Solar Heat Gain Coefficient (SHGC)	Light To Solar Gain (LSG)	Thermal Stress Risk	
Solarban® R100 on Solargray® 6mm (2) | Air 1/2" (12.7mm) | 6mmClear_090PVB_6mmClear													
1 1/4 "	0	20	9	16	12	13	0.28	0.27	0.19	0.17	1.18	High	

Specifications

Insulating Unit Construction

Solarban® R100 on Solargray® 6mm (2) | Air 1/2" (12.7mm) | 6mmClear_090PVB_6mmClear

Outdoor Lite: Solargray® with a second surface Solarban® R100

Indoor Lite: Laminate-6mmClear_090PVB_6mmClear

Vitro Approved Manufacturers/Where to Buy Vitro Products: Vitro Certified™ Network

Certification: Vitro lite(s) are Cradle to Cradle certified by McDonough Braungart Design Chemistry, LLC (MBDC www.mbdc.com)

Note: Be aware that laminated glazing constructions may have increased optical distortion and/or strain iridescence from stacked multiple individual layers especially when the glass lites are heat treated. In addition transmitted and reflective color differences can occur when a low-e or reflective coating is located adjacent to the interlayer material. A coating facing an airspace in an IG unit may appear a different color than the same coating in a laminate.

Solarban® R100: Solarban® R100 glass is a color neutral, reflective MSVD solar control low-e glass. Though the coating is transparent (on clear or Starphire® Ultra-Clear glass), it can also be paired with, or applied directly on most Vitro tinted glasses in an insulating glass unit.

Solargray®: Solargray® tinted glass delivers a light gray appearance.

The results represent Center-of-Glass performance data based on ANSI/NFRC 100 and ANSI/NFRC 200 Environmental Design Conditions utilizing the LBNL Window 7.3 software program according to the procedures in ANSI/NFRC 100, ANSI/NFRC 200, and NFRC 300. Performance data is based on representative samples of factory production. Actual values may vary slightly due to variations in the production process. This data is to be used for comparison purposes and should not be considered a contract. For configurations that include diffuse components, performance results cannot be verified and should only be used as a general indication of performance. It is the recipient's responsibility to ensure the manufacturability of the above glazing configurations as well as evaluating appropriate design considerations such as wind and snow load analysis, thermal stress analysis, and local building code compliance. Vitro makes no warranty or guarantee as to the results obtained by the user and assumes no responsibility for the accuracy of the data from non-Vitro manufacturers utilized in the above simulations. Vitro recommends that a full size mock-up be reviewed under the specific job-site conditions and retain the mock-up as a basis of acceptable product.

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Glass colors represented are approximate.

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December 14, 2017
By Rutledge, Amanda
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New Project 118

Make-up Name	Make-up Icon	Glass 1 & Coating	Glass 2 & Coating	Transmittance		Reflectance			U-Value		Solar Heat Gain Coefficient (SHGC)
				Visible (τ_v %)	Solar (τ_e %)	Visible		Solar	Winter Night (Btu/hr·ft²·F)	Summer Day (Btu/hr·ft²·F)	
						ρ_v % out	ρ_v % in	ρ_e % out			
Default Make-up 01	—	**Clear (North America)**	**N/A**	**88**	**76**	**8**	**8**	**7**	**1.00**	**0.91**	**0.81**

Calculation Standard: NFRC 2010

Default Make-up 01

Outdoors

GLASS 1	Clear (North America) Thickness = 3/8" = 10mm	#1 ----- #2 -----	
	Total Unit (Nominal) = 3/8 in / 10 mm	Slope = 90°	Window Height = 1 meter
	Estimated Nominal Glazing Weight: 4.64 lb/ft²		

Indoors

Important Notes

The performance values shown above represent NOMINAL VALUES for the center of glass with no spacer system or framing. Slight variations may occur due to manufacturing tolerances, point of manufacture, and type of instrumentation used to measure the optical properties. For configurations that include non-specular (diffuse) components, performance results cannot be verified and should only be used as a general indication of performance. For configurations which include ceramic frit coating, the actual values may vary significantly based upon the thickness and composition of the frit. For configurations with coatings laminated facing the PVB, there may be a noticeable color change. Guardian recommends a full size mock-up be approved. Calculations and terms in this report are based on NFRC 2010.

Please note that the THERMAL STRESS GUIDELINE is only a rough reference to the thermal safety of a glazing. Other factors such as the size of glass areas, shapes and patterns, glass thickness, glass damaged during shipping, handling or installation, orientation of the building, exterior shading, overhangs/fins that reduce wind speed, and areas with high daily temperature fluctuations can all increase the probability of thermal breakage. The results shown are not for any specific glazing installation and do not constitute a warranty against glass breakage.

Explanation of Terms

% Transmittance Visible or Light Transmittance (τ_v %) is the percentage of visible light at normal incidence (90° to surface) that is transmitted by the glass.

% Ultraviolet (UV) Transmittance (τ_{uv} %) is the percentage of ultraviolet light at normal incidence directly transmitted by the glass. Ultraviolet Light is defined as radiant energy from the sun having a wavelength range of 300 nm to 380 nm.

% Solar Energy Direct Transmittance (τ_e %) is the percentage of solar energy at normal incidence directly transmitted by the glass. Solar Energy is the radiant energy from the sun having a wavelength range of 300 nm to 2500 nm.

% Reflectance Visible Outdoors or Light Reflectance Out (ρ_v % out) is the percentage of visible light at normal incidence directly reflected by the glass back outdoors.

% Reflectance Visible Indoors or Light Reflectance In (ρ_v % in) is the percentage of visible light at normal incidence directly reflected by the glass back indoors.

% Solar Energy Reflected Outdoors or Solar Direct Reflectance Out (ρ_e % out) is the percentage of solar energy at normal incidence directly reflected by the glass back outdoors.

% Solar Energy Reflected Indoors or Solar Direct Reflectance In (ρ_e % in) is the percentage of solar energy at normal incidence directly reflected by the glass back indoors.

Absorptance (α_e %) (Solar, Visible or UV) is defined as a process in which a range of radiation is retained by a substance and converted into heat energy. The creation of heat energy also causes the substance to emit its own radiation.

U-Factor or U-Value (U_G) is the air-to-air thermal conductance of 39" high glazing and associated air films. US Standard units are Btu/hr.ft².F. and SI / Metric units are W/m²K. Winter night values are 12.3 mph wind at -0.4°F outdoors and 69.8°F still indoor air. Summer values are 0 sun, 6.15 mph wind at 89.6°F outdoors and 75.2°F still indoor air.

Relative Heat Gain (RHG) is the total net heat gain to the indoors due to both the air-to-air thermal conductance and the solar heat gain. Imperial units are Btu/hr.ft². RHG = [(Summer U-Value)(89.6°F - 75.2°F) + (Shading Coefficient)(200 Btu/hr-ft²)]. Metric units are W/m². RHG = [(Summer U-Value)(32°C - 24°C) + (Shading Coef.)(631 W/m²)]

Shading Coefficient (SC) is the fraction of solar heat, direct (300 to 2500 nm) plus indirect (5 to 40 μm), transferred indoors through the glass. For reference, 1/8" (3.1 mm) clear glass has a value of 1.00 (SC is an older term being replaced by the SHGC).

Solar Heat Gain Coefficient (SHGC) is the fraction of solar energy incident on the glazing that is transferred indoors both directly and indirectly through the glazing. The direct gain portion equals the direct solar transmittance, while the indirect is the fraction of the solar energy absorbed to the energy reradiated and convected indoors. No heat gain from warmer outdoor air is included. SHGC = (Direct Solar Trans) + {[(Indirect Solar Heat Gain) - (Summer U-Value)(89.6°F - 75.2°F)] / (248.209 Btu/hr-ft²)}

Light-to-Solar Gain (LSG) is the ratio of visible light gain to solar gain. LSG = (Visible Transmittance) / (SHGC)

Color Rendering Index in transmission, D65 (R_a) is the change in color of an object as a result of the light being transmitted by the glass.

Weighted Sound Reduction Index (Rw) is a single-number quantity which characterizes the airborne sound insulation of a material or building element over a range of frequencies.

Sound Transmission Class (STC) is a single-number quantity which characterizes the airborne sound insulation of a material or building element over a range of frequencies.

Disclaimer

This performance analysis is provided for the limited purpose of assisting the user in evaluating the performance of the glass products identified on this report. Spectral data for products manufactured by Guardian reflect nominal values derived from typical production samples. Spectral data for products not manufactured by Guardian were derived from the LBNL International Glazing Database and have not been independently verified by Guardian. The values calculated by this tool are generated according to established engineering practices and applicable calculation standards. Many factors may affect glass performance, including glass size, building orientation, shading, wind speed, type of installation, and others. The applicability and results of the analysis are directly related to user inputs and any changes in actual conditions can have a significant effect on the results. It is possible to create many different glazing types and glass make-ups using this tool. Guardian makes no guarantee that any glazing modeled by the tool is available from Guardian or any other manufacturer. The user has the responsibility to check with the manufacturer regarding availability of any glass type or make-up. While Guardian has made a good faith effort to verify the reliability of this tool, it may contain unknown programming errors that could result in incorrect results. The user assumes all risk relating to the results provided by the tool and is solely responsible for selection of appropriate products for the user's application. GUARDIAN MAKES NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND WITH RESPECT TO THE PERFORMANCE CALCULATOR. THERE ARE NO WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PERFORMANCE CALCULATOR AND NO WARRANTY SHALL BE IMPLIED BY OPERATION OF LAW OR OTHERWISE. IN NO EVENT SHALL GUARDIAN BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND RELATING TO OR RESULTING FROM USE OF THE PERFORMANCE CALCULATOR.

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SECTION 084413 - GLAZED ALUMINUM CURTAIN WALLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Conventionally glazed aluminum curtain walls.
2. Exterior manual-swing entrance doors.
3. Sun control devices.

B. Products installed, but not furnished, under this Section include the following:

1. Door hardware furnished under Section 087100 "Door Hardware."

1.2 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of manufacturer's standard glazed aluminum curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Glazed aluminum curtain walls shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
2. Failure also includes the following:

a. Thermal stresses transferring to building structure.
b. Glass breakage.
c. Noise or vibration created by wind and thermal and structural movements.
d. Loosening or weakening of fasteners, attachments, and other components.
e. Failure of operating units.

B. Delegated Design: Design glazed aluminum curtain walls, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1. Professional engineer shall be legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.

C. Wind Loads: As indicated on Structural Drawings.

D. Structural-Test Performance: Test according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

E. Deflection of Framing Members: At design wind pressure, as follows:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch, whichever is less.

2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch.

F. Story Drift: Accommodate design displacement of adjacent stories indicated.

1. Test Performance: Meeting criteria for passing based on building occupancy type when tested according to AAMA 501.4 at design displacement.

G. Water Penetration under Static Pressure: No evidence of water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft.

1. Maximum Water Leakage: No uncontrolled water penetrating assemblies or water appearing on assemblies' normally exposed interior surfaces from sources other than condensation. Water leakage does not include water controlled by flashing and gutters that is drained to exterior.

H. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures:

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
2. Test Interior Ambient-Air Temperature: 75 deg F.
3. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.

I. Energy Performance: Glazed aluminum curtain walls shall have certified and labeled energy performance ratings in accordance with NFRC.

1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than 0.45 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
2. Solar Heat Gain Coefficient: Fixed glazing and framing areas shall have a solar heat gain coefficient of no greater than 0.40 as determined according to NFRC 200.
3. Air Infiltration: Maximum air leakage through fixed glazing and framing areas of 0.30 cfm/sq. ft. of fixed wall area as determined according to ASTM E 283 at a minimum static-air-pressure differential of 6.24 lbf/sq. ft.
4. Condensation Resistance: Fixed glazing and framing areas shall have an NFRC- certified condensation resistance rating of no less than 50 as determined according to NFRC 500.

J. Windborne-Debris Impact Resistance: Pass ASTM E1886 missile-impact and cyclic-pressure tests according to ASTM E 1996 for Project's wind zone.

1. Large-Missile Test: For glazed openings located within 30 feet of grade.
2. Small-Missile Test: For glazed openings located more than 30 feet above grade.

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Provide glazed aluminum curtain walls that comply with test-performance requirements indicated, as evidenced by reports of tests performed on manufacturer's standard assemblies by a qualified testing agency.

1. Preconstruction Testing Program: Perform tests specified in "Performance Requirements" Article on laboratory mockups in the following order:

a. Structural-performance preloading at 50 percent of the specified wind-load design pressure when tested according to ASTM E 330.
b. Air infiltration when tested according to ASTM E 283.
c. Water penetration under static pressure when tested according to ASTM E 331.
d. Structural performance at design load when tested according to ASTM E 330.

e. Repeat air filtration when tested according to ASTM E 283.
f. Repeat water penetration under static pressure when tested according to ASTM E 331.
g. Structural performance at maximum 150 percent of positive and negative wind-load design pressures when tested according to ASTM E 330.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For glazed aluminum curtain walls. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
2. Show sill flashing.
3. Include full-size isometric details of each vertical-to-horizontal intersection of glazed aluminum curtain walls, showing the following:

a. Joinery, including concealed welds.
b. Anchorage.
c. Expansion provisions.
d. Glazing.
e. Flashing and drainage.

4. Include laboratory mockup Shop Drawings, prepared by a qualified preconstruction testing agency, showing details of laboratory mockup.

a. Resubmit Shop Drawings with changes made to glazed aluminum curtain walls to successfully complete preconstruction testing.

C. Samples for Verification:

1. For each type of exposed finish required, in manufacturer's standard sizes.
2. Sill flashing.

D. Fabrication Sample: Of each vertical-to-horizontal intersection of assemblies, made from 12-inch lengths of full-size components and showing details of the following:

1. Joinery, including concealed welds.
2. Anchorage.
3. Expansion provisions.
4. Glazing.
5. Flashing and drainage.

E. Delegated-Design Submittal: For glazed aluminum curtain walls indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer and testing agency.

B. Welding certificates.

C. Energy Performance Certificates: For glazed aluminum curtain walls, accessories, and components, from manufacturer.

1. Basis for Certification: NFRC-certified energy performance values for each glazed aluminum curtain wall.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified preconstruction testing agency, for glazed aluminum curtain walls, indicating compliance with performance requirements.

E. Field quality-control reports.

F. Warranties: Sample of special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For glazed aluminum curtain walls to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Source Limitations: Obtain glazed aluminum curtain wall and entrances through one source from a single manufacturer.

B. Manufacturer Qualifications: A manufacturer capable of fabricating glazed aluminum curtain walls that meet or exceed energy performance requirements indicated and of documenting this performance by certification, labeling, and inclusion in lists. Manufacturer shall have not less than 10 years successful experience in the fabrication of assemblies of the type and quality required.

C. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

1. Installer shall have successfully completed not less than two projects of similar size, scope, and complexity as that of this Project within the last three years.

D. Preconstruction Testing Agency Qualifications: Qualified according to ISO/IEC 17025 and accredited by ICC-ES for preconstruction testing indicated.

E. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.

F. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.

G. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

H. Energy Performance Standards: Comply with NFRC for minimum standards of energy performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.

1. Provide NFRC-certified glazed aluminum curtain walls with an attached label.

I. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical wall area as shown on Drawings.
2. Include flashing, factory fabricated sill flashing, and other items indicated under sample submittals.
3. Field testing shall be performed on mockups according to requirements in "Field Quality Control" Article.
4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

J. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01. Review methods and procedures related to glazed aluminum curtain walls including, but not limited to, the following:

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review and discuss the finishing of glazed aluminum curtain wall that is required to be coordinated with the finishing of other aluminum work for color and finish matching.
3. Review, discuss, and coordinate the interrelationship of curtain wall with other exterior wall components. Include provisions for structural anchorage, flashing, weeping, sealants, and protection of finishes.
4. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
5. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for glazed aluminum curtain walls by field measurements before fabrication and indicate measurements on Shop Drawings.

1.9 WARRANTY

A. Special Assembly Warranty: Standard form in which manufacturer agrees to repair or replace components of glazed aluminum curtain walls that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration created by wind and thermal and structural movements.
c. Deterioration of metals and other materials beyond normal weathering.
d. Water penetration through fixed glazing and framing areas.
e. Failure of operating components.

2. Warranty Period: Five years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.

1. Warranty Period: 20 years from date of Substantial Completion.

1.10 MAINTENANCE SERVICE

A. Entrance Door Hardware:

1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.
2. Initial Maintenance Service: Beginning at Substantial Completion, provide six months' full maintenance by skilled employees of entrance door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper entrance door hardware operation at rated speed and capacity. Provide parts and supplies the same as those used in the manufacture and installation of original equipment.

    a. Coordinate with door hardware supplier for replacement of defective items.

3. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:

1. EFCO Corporation
2. Kawneer North America; an Alcoa Company
3. Oldcastle BuildingEnvelope
4. Tubelite
5. Wausau Window and Wall Systems
6. YKK AP America Inc.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209.
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
3. Extruded Structural Pipe and Tubes: ASTM B 429.
4. Structural Profiles: ASTM B 308/B 308M.
5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.

B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING

A. Framing Members: Manufacturer's standard extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Thermally improved.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Match existing.
4. Framing Depth: As indicated on Drawings, or as required to meet wind loads.
5. Sightline: Match existing.
6. Finish: High-performance organic finish.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.

D. Sill Extension: Extruded aluminum. Profile as indicated on Drawings.

E. Sill Flashing: Manufacturer's tested and approved sill flashing system, finished to match curtainwall; designed to direct water away from building when installed horizontally at sill.

1. PVC is not acceptable.

F. Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.

G. Perimeter Filler: Provide perimeter filler / backer plate to close back of frame and facilitate placement of backer rod and sealant.

H. Concealed Flashing: Dead-soft, 0.018-inch- thick stainless steel, ASTM A 240/A 240M of type recommended by manufacturer.

I. Framing Sealants: Manufacturer's standard sealants.

2.4 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

C. Glazing Sealants: As recommended by manufacturer.

2.5 ACCESSORY MATERIALS

A. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil thickness per coat.

2.6 ENTRANCE DOOR SYSTEMS

A. Aluminum Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: 2-1/4 inches overall thickness, with minimum 0.125-inch thick, extruded-aluminum tubular rail and stile members. Mortise and tenon joinery at corner with full width 3/8-inch diameter tie rods secured with locking washers and hex nuts.

    a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.

2. Door Design: Wide stile, 5-inch nominal width.

    a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches above floor or ground plane.

3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.

    a. Provide nonremovable glazing stops on outside of door.

2.7 ENTRANCE DOOR HARDWARE

A. General: Except for items specified in this Article, entrance door hardware to be furnished under Section 087100 "Door Hardware."

1. All hardware preparation and installation to be performed as Work of this Section.

B. Weather Stripping: Manufacturer's standard replaceable components.

1. Compression Type: Made of ASTM D 2000, molded neoprene, or ASTM D 2287, molded PVC.
2. Sliding Type: AAMA 701, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

2.8 SUN CONTROL DEVICES

A. Sun Control Devices: Integral sun control system consisting of mount, panel retainer, shelf struts, cover retainer, cover and aluminum panels, fabricated for direct attachment to curtain wall system, field sized and assembled to profile indicated, finished to match curtain wall system.

B. Light Shelf and Light Guard:

1. Panels: Aluminum sheet, 0.090 minimum thickness.
2. Framing, Struts, and Supports: Extruded aluminum.
3. Fascia Profile: As indicated on Drawings.
4. Provide end caps installed on each end, attached to the shelf struts.
5. Slope top panel of light guard to drain. Provide a drip edge.

2.9 INSULATED SPANDREL PANELS

A. Insulated Spandrel Panels: Laminated, metal-faced flat panels with no deviations in plane exceeding 0.8 percent of panel dimension in width or length.

1. Overall Panel Thickness: 1 inch.
2. Exterior and Interior Skin: Aluminum.

a. Thickness: Manufacturer's standard for finish and texture indicated.
b. Finish: Match framing system.
c. Texture: Smooth.
d. Backing Sheet: 1/8-inch- thick tempered hardboard.

3. Thermal Insulation Core: Manufacturer's standard rigid, closed-cell, polyisocyanurate board or extruded polystyrene board.
4. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2.10 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from interior for vision glass and exterior for spandrel glazing and metal panels.
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Fabricate components that, when assembled, have the following characteristics:

1. Internal guttering system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.
2. Pressure-equalized system or double barrier design with primary air and vapor barrier at interior side of glazed aluminum curtain wall and secondary seal weeped and vented to exterior.

E. Factory-Assembled Frame Units:

1. Rigidly secure nonmovement joints.
2. Seal joints watertight unless otherwise indicated.
3. Install glazing to comply with requirements in Section 088000 "Glazing."

F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.11 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Apply finishes to formed metal after fabrication unless otherwise indicated.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.12 ALUMINUM FINISHES

A. General: Comply with the NAAMM "Metal Finishes Manual" for recommendations relative to application and designations of finishes.

B. High-Performance Organic Finish for Curtain Wall Framing: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Provide fasteners at spacing as recommended by manufacturer.
7. Weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.
8. Seal joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.

D. Install components plumb and true in alignment with established lines and grades.

E. Installation of Sill Flashing: Extend sloped flashing to exterior face of building per manufacturer's instruction.

1. Set flashing in a continuous bed of sealant.
2. Do not apply sealant between flashing and bottom of curtain wall frame, except as required by manufacturer to comply with specified performance requirements.

F. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

G. Install glazing as specified in Section 088000 "Glazing."

H. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

I. Install weatherseal sealant according to Section 079200 "Joint Sealants" and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

3.3 ERECTION TOLERANCES

A. Erection Tolerances: Install glazed aluminum curtain walls to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet.
3. Alignment:
    a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit offset from true alignment to 1/16 inch.
    b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from true alignment to 1/8 inch.
    c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from true alignment to 1/4 inch.
4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

3.4 FIELD QUALITY CONTROL

A. Contractor/Installer Testing: Contractor/Installer shall be prepared to provide the following minimum testing as part of the Work.

1. Testing shall be in compliance with AAMA 501.2. Testing shall be performed at approximately 10 percent and 50 percent completion. A minimum of 2 test areas to be tested at each phase. Additional testing may be required if installation crew changes of if construction is suspended and resumed after an extended period of time. Coordinate with Architect’s representative for areas to be tested, testing times, and representative’s availability to monitor tests.

B. Testing Agency: Owner may engage a qualified independent testing and inspecting agency to perform field tests and inspections.

C. Testing Services: Testing and inspecting of representative areas to determine compliance of installed systems with specified requirements shall take place as follows. Do not proceed with installation of the next area until test results for previously completed areas show compliance with requirements.

1. Air Infiltration: Areas shall be tested for air leakage of 1.5 times the rate specified for laboratory testing under "Performance Requirements" Article, but not more than 0.09 cfm/sq. ft., of fixed wall area when tested according to ASTM E 783 at a minimum static-air-pressure difference of 6.24 lbf/sq. ft.
2. Water Penetration: Areas shall be tested according to ASTM E 1105 at a minimum uniform and cyclic static-air-pressure difference of 0.67 times the static-air-pressure difference specified for laboratory testing under Part 1 "Performance Requirements" Article, but not less than 6.24 lbf/sq. ft., and shall not evidence water penetration.

D. Repair or remove work if test results and inspections indicate that it does not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

F. Glazed aluminum curtain walls will be considered defective if they do not pass tests and inspections.

G. Prepare test and inspection reports.

3.5 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.

1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches from the latch, measured to the leading door edge.

END OF SECTION 084413

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

1. Doors.
2. Storefront framing.
3. Curtain walls
4. Glazed entrances.

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. Interspace: Space between lites of an insulating-glass unit.

1.4 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:

1. Design Wind Pressures: As indicated on Drawings.
2. Design Snow Loads: As indicated on Drawings.
3. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.
4. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.
5. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.

C. Roller Wave Distortion: Maximum of 0.003 inch from peak to valley in the center of lite, and a maximum of 0.008 inch within 10.5 inches of the leading or trailing edge.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

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

E. Windborne-Debris-Impact Resistance: Exterior glazing shall comply with testing requirements in ASTM E 1996 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on Project and shall be installed in same manner as glazing indicated for use on Project.

1. Large-Missile Test: For glazing located within 30 feet of grade.
2. Small-Missile Test: For glazing located between 30 and 60 feet above grade.

1.5 ACTION SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Glass Samples: For each type of the following products; 12 inches square.

1. Insulating glass.

C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

D. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For glass and glazing products, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for coated glass, insulating glass, glazing sealants and glazing gaskets.

1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

D. Preconstruction adhesion and compatibility test report.

E. Warranties: Sample of special warranties.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

B. Source Limitations for Glass: Obtain tinted float glass, coated float glass, and insulating glass from single source from single manufacturer for each glass type.

C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

D. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: GANA's "Glazing Manual."
2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

E. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.

F. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

G. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

H. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Install glazing in mockup specified in Section 084413 "Glazed Aluminum Curtain Walls" to match glazing systems required for Project, including glazing methods.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glass product, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.

1. Testing is not required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.
2. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.
3. Test no fewer than eight Samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Schedule enough time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.10 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F.

1.11 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

C. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.

B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.

1. Provide safety glazing labeling.

C. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. For monolithic-glass lites, properties are based on units with lites 6.0 mm thick.
2. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
3. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
4. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
5. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.

B. Heat-Treated Float Glass: ASTM C 1048; Type I; Quality-Q3; Class I (clear) unless otherwise indicated; of Kind FT (Fully Tempered) and condition indicated.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
2. For uncoated glass, comply with requirements for Condition A.
3. For coated vision glass, comply with requirements for Condition C (other coated glass).

2.3 LAMINATED GLASS

A. Windborne-Debris-Impact-Resistant Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, with "Windborne-Debris-Impact Resistance" Paragraph in "Performance Requirements" Article, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Construction: Laminate glass with one of the following to comply with interlayer manufacturer's written recommendations:

a. Polyvinyl butyral interlayer.
b. Polyvinyl butyral interlayers reinforced with polyethylene terephthalate film.
c. Ionoplast interlayer.
d. Cast-in-place and cured-transparent-resin interlayer.
e. Cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene terephthalate film.

2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated.

2.4 INSULATING GLASS

A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.

1. Sealing System: Dual seal, with manufacturer's standard primary and secondary.
2. Spacer: Manufacturer's standard spacer material and construction.
3. Desiccant: Molecular sieve or silica gel, or blend of both.

B. Glass: Comply with applicable requirements in "Glass Products" Article as indicated by designations in "Insulating-Glass Types" Article.

2.5 MONOLITHIC-GLASS TYPES

A. Glass Type: Clear fully tempered float glass, minimum 1/4 inch thick.

2.6 INSULATING-LAMINATED-GLASS TYPES

A. Laminated Glass: Low-E-coated, tinted insulating laminated glass.

1. Overall Unit Thickness: 1-5/16 inch.

2. Minimum Thickness of Each Glass Lite: 6 mm.
3. Outdoor Lite: Tinted fully tempered float glass.
4. Basis of Design: Subject to compliance with requirements, provide basis of design indicated or comparable products by one of the following:
    a. Vitro Glass; Solarban R100 (Basis of Design)
    b. AGC Glass Company
    c. Guardian Industries Corp
5. Tint: Solar gray.
6. Low-E Coating: Sputtered on second surface.
7. Interspace Content: Air or argon.
8. Indoor Lite: Clear, laminated glass with two plies of heat-strengthened float glass.
9. Interlayer Thickness: .090 inch.
10. Interlayer Color: Clear.
11. Performance Requirements: Provide insulated units with values within two percent of the following:
    a. Visible Light Transmittance: 21 percent maximum.
    b. Winter Nighttime U-Factor: 0.29 maximum.
    c. Solar Heat Gain Coefficient: 0.17 maximum.

2.7 INSULATING-GLASS TYPES

A. Glass Type: Low-e-coated, tinted insulating glass.

1. Overall Unit Thickness: 1 inch.
2. Thickness of Each Glass Lite: 1/4 inch.
3. Outdoor Lite: Tinted, fully tempered float glass.
    a. Basis of Design: Subject to compliance with requirements, provide basis of design indicated or comparable products by one of the following:
        1) Vitro Glass; Solarban R100 (Basis of Design)
        2) AGC Glass Company
        3) Guardian Industries Corp
    b. Low-E Coating: Sputtered on second surface.
    c. Tint: Solar grey.
4. Interspace Content: Air or argon.
5. Indoor Lite: Clear, fully tempered float glass.
6. Performance Requirements: Provide insulated units with values within two percent of the following:
    a. Visible Light Transmittance: 21 percent maximum.
    b. Winter Nighttime U-Factor: 0.29 maximum.
    c. Solar Heat Gain Coefficient: 0.17 maximum.

2.8 GLAZING GASKETS

A. Compression Gaskets: Molded or extruded gaskets of type and material indicated below and of profile and hardness required to maintain watertight seal:

1. Silicone dense compression gaskets complying with ASTM C 1115.
2. Silicone soft compression gaskets complying with ASTM C 509, Type II, black.

2.9 GLAZING SEALANTS

A. General:

1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

1. Products: Subject to compliance with requirements, provide the following:

a. Dow Corning Corporation; 790
b. GE Advanced Materials - Silicones; SilPruf LM SCS2700
c. May National Associates, Inc.; Bondaflex Sil 290
d. Pecora Corporation; 890
e. Sika Corporation, Construction Products Division; SikaSil WS-290
f. Tremco Incorporated; Spectrem 1

2.10 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.11 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.12 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches.

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

K. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

L. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.7 LOCK-STRIP GASKET GLAZING

A. Comply with ASTM C 716 and gasket manufacturer's written instructions. Provide supplementary wet seal and weep system unless otherwise indicated.

3.8 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Final Acceptance. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 088000

Monteith Construction RFI Log

Project Name	Curbside Improvements Phase 2	**Owner**	Wilmington International Airport (ILM)
Project Address	1740 Airport Blvd	**CMAR**	Monteith Construction Corp.
	Wilmington NC 28401	**Engineer**	RS&H
Design Phase	Bidding		

RFI #	Status	Bid Package/Scope	Description of Request	Assigned to	Request Date	Link to Attachment or Images	Response Date	Notes
001	Complete	Sitework	Would it be possible for us to get CAD files for the 31A Sitework Package to assist with material & quantity take off.	RS&H	45749		45755	to be included in Addendum #1
003	Complete	Electrical	It was discussed that power would be run to the overhead sign locations on Airport Blvd. Please provide information for the electrician to properly price. Also, please confirm all electrical / low voltage requirements are still accurate form the digital signage package.	RS&H	45749			Overhead sign power will be provided as part of the future Wayfinding signage bid package - there is not enough information at this time to properly select a fixture. The conduit to dynamic wayfinding signage has been provided and installed in Phase 1B, however, cable will likely need to be pulled in Phase 2. There are two dynamic signs in Phase 2 (short term lot & Parking garage). The short term lot dynamic sign has conduit/power/data to it. The parking garage dynamic sign will have conduit/power/data added in the addendum
004	Complete	Furniture	A812 - Volume 2 It was discussed that MCC would be providing all furniture for the Sheriff's Office however A812 states the furniture is owner supplied. Please confirm. If the furniture is contractor supplied and installed, please provide specifications.	RS&H	45749		45757	All furniture is provided at a later date by owner
005	Complete	Furniture	A621 - Volume 1. Please comfirm B-1 and B-2 included in the FF&E legend are constractor supplied and installed.	RS&H	45749		45757	All furniture is provided at a later date by owner
006	Complete	Door Hardware	It was discussed that an Intellikey system may be desired. This is not incorporated into the plans. Please confirm this is not currently required.	RS&H	45749		45751	The intelikey is out of scope for this project.
007	Complete	Flooring	A621 - volume 1. It was discussed that B-3, stainless steel base, would be removed from the plans and replaced with wood base. Please provide an update.	RS&H	45749		45754	Replacing with stainless steel base with wood base, refer to Sheet A610 in Addendum #1.
008	Complete	Concrete	A5/S152 Volume 1 calls for "All steel encsased in concrete shall be coated with the same paint system as the remainder of the canopy" and appears to point at the rebar. Please cofirm no special rebar coatings are required.	RS&H	45749		45750	Note is intended for structural steel. No coating on the rebar is required.
009	Complete	Furniture	A621 - volume 1. The Vondom benches on the 2nd and 3rd floor are listed as "Power Requirement - yes". Power is not indicated on the plans. Please confirm.	RS&H	45749		45754	Power is required in the floor.
010	Complete	Terrazzo	A621 - Volumne 1. What is TZ1? It is not listed in the finish legend.	RS&H	45749		45754	TZ-1 to be included in Addendum #1
011	Complete	Terrazzo	A621 - Volumne 1. What is TERR? It is not listed in the finish legend.	RS&H	45749		45754	on A-621
012	Complete	Finishes	There are alot of finishes listed in the legend that do not appear to be associated with this project. Can the finish legend be updated to only included those materials associated with this project?	RS&H	45749		45754	to be revised in Addendum #1
013	Complete	Roofing	A163 Volume 1. One fan for the elevator shaft was deleted. Can the walkpads be reduced? Can the hide-a-rail be deleted?	RS&H	45749		45751	Yes, all equipment will be more than 10' from the edge so fall protection will not be required and walkpad may be reduced. Updated drawings to be included in Addendum #1
014	Complete	Metals / Paint	2/S304 Volume 2. The 6" galvanized painted rail says see arch. in volume 1. This is not indicated on the architectural plans. Please advise.	RS&H	45749		45755	The 6" galvanized painted rail has been removed from the project. Detail 2/S304 will be revised accordingly.
015	Complete	Metal Panels	A201 Volume 2. The existing building over-clad is showing insulated metal panels. Our understanding was these would be non-insulated rain screen. Please advise.	RS&H	45749		45751	Product selected is an insulated metal panel
017	Complete	Stucco / Framing / Canopy	D3/A503 Volume 2. This details show an 1.5" gap between the canopy and the building projection. It was discussed changing this detail to avoid a potential maintenance concern. Please advise.	RS&H	45749		45763	Install bird spikes at this location to safeguard gap
018	Complete	Site Fencing	Volume 3 - drawing CS-302 - Fence at retaining wall. Notes mention decorative fence but the legend notes wooden post and cable fence. If decorative fence can you provide specifications and height.	RS&H	45749		45768	MCC to provide as-built detail to be included in Addendum #2
019	Complete	All trades	Will a Geotechnical Report be issued?	MCC	45750		45750	The Geotechnical Report can be found in Volume 1 Specifications - Appendix A.
020	Complete	Roofing	A123 Volume 2 call for new metal roofing at the cupola. Please update this plan to indicate the work as NIC. Also, please include the requirements for painting the existing roof.	RS&H	45750		45751	Cupola roof has been identified as NIC
021	Complete	Stucco / Framing	B3/A502 Volumne 2 calls for the stucco to continue from the outside of the building into the vestibule. We are concerned there will be the potential for leaks at this location if the stucco continues from out to inside as shown. Should the stucco terminate at the entrance and start new on the interior?	RS&H	45750		45751	Yes, terminate the tabby stone at the storefront and continue on the interior. Stucco to terminate at glazing and resume on the interior of the vestibule. Details to be updated and provided in Addendum #2
022	Complete	Expansion Joint / Glass	B3/A502 Volumne 2 calls for a 3" expansion joint at the jambs of each entry door. Typically the storefront is attached to the strucuture at the jambs and not just at the head and sill. Please review.	RS&H	45750		45763	Install storefront system/ sliding door per manuf. recommendations. Expansion joint to be relocated and updated details to be provided in Addendum #2
024	Complete	Electrical	Page 2 of the bid form says to include $50K allowance for "Electrical Hookup of section 09 05 10 Light Manipulating Material". Page 90 of the Bid Manual says $10K, and then on page 93 it says $50K. Please clarify which amount we should include for the allowance.	MCC	45751		45757	This has been corrected in R1 - Bid Manual. Please carry $50,000.

025	Complete	ALL trades	Please reference the project manual page 13. Is correct, only allowing 4% markup on change orders?	MCC	45751		45757	This has been revised in R1 - Bid Manual.
026	Complete	All Trades	Can a check be provided in lieu of a bid bond?	MCC	45751		45757	MCC will accept a check as bid guarantee in the amount of 5% of the base bid, lieu of a bid bond pursuant G.S 143-129.
027	Complete	Termite Control	Is termite control required at Parking deck, Tunnel and Atrium slabs.	RS&H	45754		45757	Yes per spec section 31 31 16, we will add a note to the drawings in the addendum.
028	Complete	Signage	Sheet GR503 – Detail A1 – Missing total Quantities and Graphic Layouts for this sign type? Please advise if this is a no-bid item.	RS&H	45755		45765	The lower case "x" shown in the detail title "Sign Type Nx" is a variable. This section detail applies to sign types N1, N2, N2-2, and N3. Quantities for these types are provided in the sign type schedule on GR001.
029	Complete	Signage	Sheet GR001 has in the table (3) Three Sign types for (U1, U2, U3) however there are no construction details listed as to how its to be fabricated or placement for install? Please advise.	RS&H	45755		45765	Sign Types U1, U2, U3 have been removed. The quantity for these signs on the sign type schedule on GR001 should be zero.
030	Complete	Glass	Finish schedule on sheet A610 references anodized aluminum for CW-1 and CW-2. Specification references a two coat painted system. Please confirm finish for CW-1 and CW-2	RS&H	45756		45763	Finish to be Kynar Two-coat fluoropolymer finish as specified.
031	Complete	Glass	On Sheet A601- Door schedule door 209 shows as an SL panel type, but floor plans show a swing door. Please confirm the intended door panel type	RS&H	45756		45763	Door panel type to be SF. Door schedule to be updated and provided in Addendum #2
032	Complete	Glass	Detail B5 on A306 shows what appears to be a second glazing plane. Please confirm if this is accurate. This also appears on A3/A504.	RS&H	45756		45763	This is incorrect. Single layer of the typical glazing system should be shown; graphics to be updated to reflect accurate glazing system and provided in Addendum #2
033	Complete	Plumbing/Civil	Page P111 Vol1 note 4 refereces 1" CW for pump room with continuaiton on CU-102A. No continuation is shown on CU-102A	RS&H	45757		45761	Sheet CU-102A is located in the Volume 3 Drawings
034	Complete	Plumbing/Civil	Page P111 Vol1 note 5 refereces a SS continuation on CU-102B. Page CU-102B does not exist in the current set.	RS&H	45757		45761	Sheet CU-102B is located in the Volume 3 Drawings
036	Complete	Plumbing	Will heat tracing of CW lines be required in the parking deck?	RS&H	45757		45762	Heat Trace for the exterior above grade domestic water piping serving hose bibbs throughout the parking garage will be provided with heat trace.
037	Complete	Plumbing	WIll off hours work be required for terminal plumbing tie-ins or distruption	RS&H	45757		45762	Plumbing piping connections and alterations required to complete the SOW shall be performed in a manner as to not disrupt the normal operations of the terminal during the primary occupied hours of 5am through 11pm.
038	Complete	Electrical	Please confirm the the PRCS vendor is not to be included in the electrical SOW	RS&H	45757		45763	No, the PRCS Vendor is not included in the Electrical scope of work (SOW), Electrical SOW is to provide facility power to the parking revenue control system.
039	Complete	Mechanical	M302 Vol 2 Base - Could further clarificaiton be given as to the intent and construction of the 1" architectural slot between diffusers	RS&H	45757		45762	The 1" linear slot diffusers are scheduled to have conceled frame type. The space between each diffuser is intended to be a continuous open architectural slot blanked off from behind to provide a consistant finished look. The diffuser for HVAC is not intended to be continous.
040	Complete	Mechanical	Do the necessary valves exist to allow a localized drain of the HHW and CHWR piping or should a full system drain be expected. Is there a potential for a freeze?	RS&H	45757		45762	Shutoff valves for the extension of the HHW and CHW will need to be cut into the existing piping. If localized drain down of the existing branch HHW/CHW piping is not possible, contractor shall account for wet tapping existing piping. If shutdown of the hydronic systems are required, indoor space temperatures during occupied hours must be maintained.
041	Complete	Mechanical	Will the duct mounted heat coil replacement take place at the same time as the HHW/CHW shutdown?	RS&H	45757		45762	Timing of HHW duct mounted coil replacement shall be coordinated with the owner. Existing shutoff valves to be utilized and reused for isolation of coil. If shutdown of greater extent of HHW piping is required for SOW to be completed, contractor shall coordinate timing with other system shutdowns.
042	Complete	Mechanical	Is a pre-tab report required for existing systems?	RS&H	45757		45762	Contractor to provide pre-tab report of AHU-1 Zone 5 duct and AHU-8 Zone 8 duct. Contractor to provide AHU aiflow and static pressure output data for AHU-1 and AHU-2 from BMS at the existing 100% fan speed. Notes to be added to plans.
043	Complete	Electrical	What is the expectation for temporary power during the parking deck, tunnel, and canopy construction phases?	RS&H	45757		45762	Temporary power is expected to be addressed through the contractor's means and methods for safe construction and passenger access. As portions of the project are opened to the public, it is expected that those areas shall be able to operate at a level of safety per state and local safety regulations that are acceptable to the Owner.
044	Complete	Steel	Volume 2 C/A421. The prefinished curved aluminum tube indiated on C3/A421 would require a painted finish due to the fabrication methods to produce this shape. Is this acceptable?	RS&H	45758		45763	Painted finish will present maintenance issue for the airport; prefinished anodized finish is preferred
045	Complete	Steel	Addendum 1. A401 Volume 1. The bubbled areas along columen line G and C, please confirm this is striping.	RS&H	45758		45761	Confirmed. The intent is for these to be striping. Yes, this is striping at this location. A note to be provided on plans to identify striping for additional clarity.
046	Complete	Metal Panels	Specification section 074213.23 was added in addendum 1. Where would this specification apply? Is 074213.19 still valid?	RS&H	45758		45762	074213.19 is still valid, 074213.23 does not apply to Phase 2 scope of work. 074213.23 does apply to Phase 1B scope of work.
047	Complete	CMU	Please provide structural details for the cmu walls / rooms at the parking lot. Wall types, reinforcing, connection to the parking deck structure.	RS&H	45758		45762	See A1 & A4 / S540. Provide #5 @ 48" oc maximum typical vertical reinforcing & per D2/S540 at corners. Note will be added to Detail A4 in forthcoming Addendum 2.
048	Complete	CMU	Please provide detail on how the new CMU walls at the parking deck interact with the precast spandrel panels.	RS&H	45758		45762	Provide exterior grade joint sealant and back rod per 07 92 00.
050	Complete	Caulking / Fire Stop / CMU	What is the head of wall detail at the top of the cmu walls in the parking deck?	RS&H	45758		45762	See A1/S540. Provide compressible material in the gap and sealant both sides. Firestop not required and will be removed from detail in forthcoming Addendum 2.
051	Complete	Steel	Volume 1 A201 Addendum 1 calls for a 6" galvanized steel handrail at vehicluar ramps typ., reference structural. STructural references the architectural drawings. Please clarify.	RS&H	45758		45762	Arch references structural for the construction. See A2/S511 for construction of pipe railing. Structural references architectural for finish. Remove galvanizing. Provide factory finished, powder coated, color: white. Note will be updated in forthcoming Addendum 2.
052	Complete	Steel / Concrete	Please cofirm all bollards in the parking deck should be constructed per C1/S502.	RS&H	45758		45762	Correct. Reference architectural drawings for locations.

053	Complete	Finishes	A621 Addendum 1. Please bubble all changes.	RS&H	45758		45763	Clouds added for Addendum 2.
054	Complete	Mechanical	Addendum 1 M 402. Where and how should the condensing units be mounted? Ground Mount? Ceiling Mount? If gound mount, current locations should be reviewed and placed out of the way of passengers.	RS&H	45758		45762	Condensing units for majority of Wall mount split units serving IT/Elec spaces will be wall mounted on brackets at high level. Comm Room Split System unit schedule notes will be updated to provide mounting type for each AC split system.
055	Complete	Electrical	Volume 1 / EP 211 What infrastructure is required for the 12 future EV charging stations?	RS&H	45758		45763	The 12 Level 2 EV Charging stations are not future scope, they are provided and installed by the contractor in the current electrical SOW and then powered from the Rental car Vendor Provided electrical panels. Coordinate with the rental car vendors as required.
056	Complete	Electrical	Volume 1 / EP401 Addendum 1. Please bubble all changes.	RS&H	45758		45763	All changes to this point have been clouded. Only current change on EP401 is the number of conduits in View C1.
057	Complete	Metal Panels	Volume 2. The specifications table of contents notes a new spec section 074212.33. This should be 074212.23 we believe. If so, please see RFI 046 above.	RS&H	45758		45762	074213.19 is still valid, 074213.23 does not apply to Phase 2 scope of work. 074213.23 does apply to Phase 1B scope of work.
058	Complete	Toilet Accessories	A404 Addendum 1. Please provide the locations of TA22.	RS&H	45758		45763	A2/A404
059	Complete	Floor Finishes	Volume 2 / A811 addenum 1 - note A says to reerence civil drawings for restroom floor slope. Please clarify.	RS&H	45758		45763	note removed and floor slope clarified in Addendum 2
060	Complete	Fire Sprinkler	Volume 2 FX102.2 Addendum 1. Are the sprinkler heads all base bid? Which heads are new and which are exsting? Please provide design intent.	RS&H	45758		45761	All work shown is new and is part of Alternate #2.
062	Complete	Metal Panels	Are there Bid Packages available, where I can see where the Metal Panels I'm looking at are included?	MCC	45758			Bid packages are in the bid manual
063	Complete	Metal Panels	I see two different Specification sections, 07 42 00 for Perforated Metal Wall Panels and 07 42 13.19 for Insulated Metal Wall Panels. Looking at the Drawings and Finish the Finish Legend on the Parking Deck and the Terminal I can see the locations on the Insulated Metal panels but I don't see the Perforated Metal Panels. Is there any chance they might be labeled differently from the specifications and I'm missing it?	RS&H	45758		45762	Perforated metal wall panels have been removed from the project
064	Complete	Metal Panels	At the Parking deck there are to sections where Insulated Metal panels will be installed on a curved area. I have asked the Vendor (Kingspan) about how they plan to make those panels but I wanted to see if the designer of this project is anticipating those panels on the curved areas to be curved or installed in small segments (Flat)?	RS&H	45758		45762	Per manufacturer recommendation, the curved metal panels are to be rolled out as one single curve (max. 36" width) and orientation to be perpendicular to the typical metal panel orientation
065	Complete	HVAC	Who is the current controls contractor?	MCC	45758		45758	Climatec, LLC is the current controls contractor.
066	Complete	Glass	CW14 in the Parking Deck Drawings. Is the intent to have this as a full section of glass? Can this be broken into 2 or 3 sections for cost.	RS&H	45761		45765	CW14 to have intermediate mullions. Glazing elevation to be updated and provided as part of Addendum #2
067	Complete	Metal Canopy	Drawing A416 Canopy roof plan. Can you provide specifications for these overhead canopies.	RS&H	45761		45765	Spec section 10 73 00 to be provided with Addendum #2
068	Complete	Metal Canopy	Drawing A161 Volume 1 - At entry shows overhead canopy. On detail A163 no canopy shown. Is a alum. canopy required at this location.	RS&H	45761		45765	Yes, Canopy is required at the Third Level entrance to the Garage Circulation Core. Note and detail reference to be added and provided with Addendum #2
069	Complete	All Trades	When documenting the good faith effort for DBE, is there a certain form/affidavit we need to have notarized	MCC	45762		45762	Please use the DBE Listing form included in addendum 2.
070	Complete	All Trades	Can we have a copy of the subcontractor agreement that will be used?	MCC	45762			This is included in Addendum 2
071	Complete	Electrical	With respect to the project bid construction schedule and the ongoing uncontrollable impacts to the supply chain, shortages of products and long lead times, we assume the Construction Manager and/or General Contractor has or shall take these long lead times into account when providing their CPM schedules to the Owner, to confirm the as-bid electrical work can be performed within the contract duration.	MCC	45758			Yes, that is a reasonable assumption. Monteith will take these supply chain impacts, shortages, and long lead times into account for CPM schedule.
072	Complete	Electrical	Some designs require equipment with long lead times. Examples of long lead equipment are Switchgear, Transformers, Generators, VFD's, Metering, MCC's, and the electronic components of many telecom systems. Because there are no remedies in the bid document at this time, financial or otherwise, to correct potential Jong lead times, please confirm the Electrical Engineer has considered equipment lead times when designing the most available equipment and specified products and has received confirmation of product timely availability to meet the contract end date.	RS&H	45758		45763	The garage design project has not been designed with any specific manufacturer. We are aware that specific electrical items are considered long-lead items, based on the manufacturer selected. If ILM has specific manufacturers they currently use and/or prefer, please confirm to simplify the selection process. This design package was submitted prior (bid set) to allow the general contractor time to provide pricing for those items. The long-lead items will not be required for installation until the later portion of the project schedule. Therefore, the contractor should perform due diligence to determine which manufacturer can provide those items based on the construction schedule. Most manufacturers allow pre-ordering of those long-lead items based on the construction schedule. The AE accepts no responsibility on long-lead items due to the contractor's failure of due diligence.
073	Complete	Glass	Volume 1 - •Please provide full glazing elevations for assemblies CW13 and CW14 on page A612	RS&H	45762		45765	CW13 has been removed from the project. Update to CW14 elevation to be provided with Addendum #2.
074	Complete	Electrical	Reference Volume 1 drawing E001. Some light fixture symbols are noted "with outlet". What kind of outlet?	RS&H	45764		45765	This note is not applicable and will be removed from the E001 sheets. See Vol. 1 and Vol. 2 Drawings in Addendum 2.
076	Complete	Electrical	Reference Volume 1 lighting drawings. This note shows up on all 3 lighting plans. Does it mean 45 feet total for all 3 floors, or 45 feet each floor?	RS&H	45764		45765	The luminaire that this was referring to was removed entirely in Addendum 1 please review the associated Addendum 1 drawings.
077	Complete	Sitework	The CAD files you received and sent us do not contain the EXISTING GROUND TOPO. Please ask the CIVIL ENGINEER to send the existing ground topo. We cannot perform our dirt takeoff without it.	RS&H	45764		45765	The Existing Ground topo cad file has been placed in the sharepoint as "ILM BP3-C3D-V-SURF-01.dwg. Please note that the existing ground represented in the work areas of Phase 1A and Phase 1B are based on design surfaces not as-built surfaces due to these projects currently being under construction

078	Complete	Metal Panels	I have been trying very hard to locate some scopes that we would like to quote but I have not been able to and I need your help. Initially I saw Specification sections: 07 42 00-Perforated Metal Wall Panels. 07 42 13.19 – Insulated metal panels. I was able to locate Insulated metal panels marked as IMP1 and IMP2 on the drawings and on the Finish Legend, but I can not find Perforated Metal Wall Panels neither on the drawings nor in the Finish Legend.	MCC	45765		45765	The perforated panels were on the deck but were removed from project.
080	Complete	Sitework	Note 33 of the BP #31A scope states that the shoring walls for the tunnel construction shall be removed upon completion of the tunnel work. Please confirm this is the case.	MCC			45768	Yes shoring is to be removed.
081	Complete	Sitework	Note 33 of the BP #31A scope also states that the shoring wall for the tunnel construction shall be installed in the location shown on PP-101, however, as the shoring is shown, it would be in conflict with the ramp down to the tunnel. Please confirm the shoring wall should turn to the north before the ramp (See image - column i)	MCC		RFI No 80 img.jpeg	45768	Yes shoring should turm at ramp per RFI .
083	Complete	Sitework	Please provide spoil quantities for the CIP concrete foundations and auger piles that are to be handled by the site contractor.	MCC			45768	Total Quantity for foundations and piles is 13,000 cy
084	Complete	Sitework	What bid package is responsible for the secant/tangent pile support of excavation shown on S500-S501?	MCC			45768	This will be included in bid package #31A - Sitework.
085	Complete	Sitework	It is our understanding that the demolition of the existing canopy at the terminal is to be done by the demolition contractor and the existing brick columns will be removed to existing grade and the removal of the column footings is to be done by the site contractor. Please confirm.	MCC			45768	The demolition contractor to remove all foundations at slabs and column footings.
086	Complete	Sitework	This is a Lump Sum contract. The bid documents include a list of estimated bid items and associated quantities, for reference only. The list provided is incomplete and the quantities do not fully agree with the required scope of work. Addenda 3 included an excel bid form to include unit prices to be submitted with our bid. What purpose do the unit prices serve, as this is a lump sum contract? It is not customary for bidders to provide the unit price breakdown as requested at bid time for a lump sum project.	MCC			45768	This is required at bid time, required form owners and engineers information.
087	Complete	Sitework	Please provide values for bidders to carry for the (3) Bid Package 31A allowances (watermain, sanitary and gas.)	MCC			45768	The only allowances to be included in Package 31A are written on page 102 of scope of work. Those Items listed as allowances on Appendix E have been changed to lump sum values.
088	Complete	Tile/Flooring	Finish Legend calls out STC1 (Stained Concrete) at the History Wall Corridor. Can you please tell me where that Corridor is?	MCC			45768	This is alternate 2 volume 2 , drawing A101-2.
089	Complete	Tile/Flooring	Drawing A803 (Area C)- Is Corridor 109 to have a finish? If "Yes", can you confirm what the finish is to be?	MCC			45768	This alternate 2 volume 2 , see drawing A803-2 for floor finish.
090	Complete	Tile/Flooring	Drawing A803 (Area B) - It appears that the TSA Training (Rm 125) is the only area that gets a floor finish. Can you please confirm?	MCC			45768	This is correct for base bid. Please see Alternate 1 and 2 drawings for flooring in surrounding areas.
091	Complete	Sitework	Clarification #1 provided a unit price bid form. Will the contract be awarded as a lump sum or unit price contract? I'm don't believe the bid form is all inclusive of work to be performed.	MCC			45768	This contract will be isssued as a lumo sum contract.
092	Complete	Sitework	The CAD files provided in Addendum 1 didn't include the phasing plans (GC-005 through GC-010) and line work for the parking garage/ramp.	MCC			45768	The phasing plans have not been incorporated into the cadd drawings.
093	Complete	Sitework	The Logistics Phasing Plan CAD files were also not provided (PP-100 through PP-103). Since there is work described on these included in the sitework bid package narrative, would it be possible to receive these?	MCC			45768	These plans have not been incorporated into the cadd files and will not be isssued.
094	Complete	Sitework	BP #31 Sitework; Specific Inclusions #12 discusses demolition of existing foundations for entrance/exit canopies. BP #02A Demolition; Trade Specific Requirements 1. b. Removal of support columns/foundations as shown. Which bid package is responsible for removing foundations?	MCC			45768	The demolition contractor to remove all foundations at slabs and column footings.
095	Complete	Sitework	BP #31 Sitework; Specific Inclusions #32 states to provide temporary power. Can you clarify what this power is for and the minimum KW desired?	MCC			45768	This temp. power is for any equipment required to complete the BP31 package.
096	Complete	Sitework	Is the sitework contractor responsible for any dewatering that could be required for the other bid package trades (Augured Piles, Precast Tunnel, Parking Garage?)	MCC			45768	Dewatering is for your bid package only.
097	Complete	Glass	(Parking Deck) Which package is responsible for the bus/shuttle shelters detailed on page A180?	MCC			45768	Bus Shelters will be bid direct to CMAR Contractor. do not include in bid package.
098	Complete	Glass	(Parking Deck) Page AS101 shows 2 call outs for bus stops but only 1 is shown. Please confirm how many bus stops there are and their locations.	MCC			45768	Bus Shelters will be bid direct to CMAR Contractor. do not include in bid package.
099	Complete	Glass	(Parking Deck) With the windborne-debris impact rating for this site, will the glazing panels within the bus stops need to also have impact rating?	MCC			45768	No.
100	Complete	Glass	(Parking Deck) Are the bus stops intended to be prefabricated or built in the field? If prefabricated, please provide a spec section.	MCC			45768	Bus shelters by manufactures, not included in Glass package.
101	Complete	Glass	(Parking Deck) Which package is responsible for the glass railing on page A402?	MCC			45768	This work is to be included in Package #8B Glass and Glazing

102	Complete	Glass	(Parking Deck) Which package is responsible for the glass guardrail on page A403?	MCC			45768	This work is to be included in Package #8B Glass and Glazing
103	Complete	Glass	(Parking Deck) The glass railing on A402 and the glass guardrail on A403 both use the same section call out referencing detail B3/A510. Are these both intended to have the same makeup as B3/A510? Will there be different safety standards and load requirements needed for the guardrail on A403?	RS&H			45771	The glass guardrail at the 2nd and 3rd levels of the circulation core call out section C3/A510. Safety requirements at both locations per specification section 05 73 13
104	Complete	Glass	(Parking Deck) Which package is responsible for the LED mirrors?	MCC				This will be by washroom accessories subtrade.
105	Complete	Glass	(Parking Deck) On page A508 there are 2 callouts for a skylight at the garage core beacon. Is a skylight assembly intended at this opening? If so, please provide spec.	RS&H			45771	Reference construction drawings and specifications for details pertaining to the light beacon.
106	Complete	Glass	(Parking Deck) Please provide full glazing elevations for assemblies CW13 and CW14 on page A612	RS&H			45771	See response to RFI 073. Update to CW14 elevation was provided with Addendum #2.
107	Complete	Glass	(Parking Deck) Please provide the locations of all louvers. See detail B3/A613	MCC				Please review drawings to determine locations.
108	Complete	Glass	(Parking Deck) ADD 1B has changed the polycarbonate panels to metal panels at the drop off and plaza walkway canopies. Should we assume the same for the curbside canopy in Vol 2 or provide the polycarbonate panels for all canopies as alternate pricing?	MCC			45768	The drop off and walkway canopy only are changed to metal panel.
109	Complete	Glass	(Terminal Expansion) The architecturals show new work to be completed at Vestibule 3, while the structural plans mark Vestibule 3 as "Not in Contract" (S106 & S111). Please confirm if this location is to be included within BP08Bs scope.	MCC			45768	This Vestibule 3 is not in this contract.
110	Complete	Glass	(Terminal Expansion) Please provide glazing elevations for the assemblies that encompass Vestibule 3, page A107. The elevation callouts reference page A125, however this page is not included within the architecturals.	MCC			45768	This Vestibule 3 is not in this contract.
111	Complete	Glass	(Terminal Expansion) Which package is responsible for the curved acrylic wave panels within the Connector Tunnel on page A421? Please provide spec.	MCC			45768	This is bid direct from manufacturer to CMAR. Not in bid package BP08B.
112	Complete	Glass	(Terminal Expansion) Page A301, detail A1 shows 2 storefront glazing elevations towards the right-hand side of the Admin level building section. These elevations don't seem to appear elsewhere within the architecturals. Do these need to be included within BP08B?	RS&H			45771	These windows locations are shown on plan A1/A102 and are detailed and sized on A603
113	Complete	Glass	(Terminal Expansion) Which package is responsible for the glass handrail inserts at the stairs on detail C1/A411? Please provide spec	MCC			45768	This is included in bid package BP08B. Specifications are in Addendum 1B section 057313Glazed Decorative Metal Railings.
114	Complete	Glass	(Alt 1 – Locker Room) This Alternate set contains a secondary set of plans titled "Option 2 – Expanded Vestibule." These appear to be the same plans that are provided for Vol 2-Alt 4, with the exception that they include a few additional pages (A501-4, A502-4, A521-4, etc.) Should these detail pages be referenced when pricing Vol 2-Alt 4?	MCC			45768	This set to be removed
115	Complete	Glass	(Alt 1 – Locker Room) Will any of the doors added to the project via alternate include vision glass inserts? Please include door schedules for Alts	RS&H			45771	Door schedule has been provided within the base bid set reference sheet A601
116	Complete	Glass	(Alt. 3 Drop Off Canopy) Page A125-3 details a prefabricated bus stop assembly that differs from the bus stop assembly provided in the Parking Deck base plan. Which package will be responsible for these bus shelters? Please provide spec and the locations of these assemblies	MCC			45768	Bus shelters will be bid direct to CMAR from Manufacturuer.
117	Complete	Masonry	Please confirm segmental retaining walls (example see Sheet S403) are NOT a part of the Bid Package - #04A - Masonry Scope.	MCC			45768	The Segmental walls are not in your scope of work, This work is by the site contractor.
118	Complete	Glass	During the pre-bid meeting for the ILM Curbside Phase 2 project today, there was mention that the canopies were a separate package from the glazing package and that they were part of the informal submission.	MCC			45768	The polycarbonite panels on the canopies are to be included in bid package BP08B
119	Complete	Glass	Based on the scope of work in the project bid manual, the glazing subcontractor is supposed to include the polycarbonate glazing canopy system. I just wanted to confirm that you are not looking for us to provide two separate proposals for the glazing and the canopies.	MCC			45768	The polycarbonite panels on the canopies are to be included in bid package BP08B
120	Complete	Glass	Provide submittals on curtain wall and glazing because plans state to match existing.	MCC	45768		45768	Attached are standards shops and glazing submittals from C3.
121	Complete	Signage	The quantities on Sign Schedule Sheet GR001 do not match the quantities on the Message Layouts on Sheets GR610 and 611.	RS&H	45768		45771	1.)Refer to addendum 1 documents with updated plan and message layout drawings. 2.)Some signs have multiple faces (for example sign type J2 which has 4). In this example there are 36 message layouts for 9 sign locations. 3.)Use the following quantities for sign types: (a.)Sign Type J1-1: 27 (b.)Sign Type J1-2: 29 (c.)Sign Type L1: 4 (d.)Sign Type L2: 13 (e.)Sign Type L3: 3 (f.)Sign Type N1: 14 (g.)Sign Type N1-1: 2 (h.)Sign Type N2: 3 (i.)Sign Type S1: 14 (j.)Sign Type S2-1: 9 (k.)Sign Type S2-2: 5 (l.)Sign Type S3: 11 (m.)Sign Type T: 2
121	Complete	Signage	Type L3 on sheet GR610, are these signs wall mounted?	RS&H	45768		45771	4.)Sign type L3 signs are mounted to the parapet wall, refer to elevation A2/GR203.
122	Complete	signage	Sheet GR203 / A2 shows Sign PG-DR.253 at 4" x 4". This is a Type N3 at 1'-9"h x 6'-0"w. Please confirm size needed.	RS&H	45768		45771	1.)Detail A2/GR203 illustrates the attachment of sign type L3 (signs #PG-DIR.353, PG-DIR.354, PG-DIR.355). These signs are 4' x 4'. 2.)PG-DIR.253 is an N3 sign wall mounted at the entry to the garage (refer to plan sheet GR121)

123	Complete	signage	Sheet GR001 / Sign Type Schedule indicates (3) sets of Supergraphics. The Description column indicates painted, the Construction Column says digital print graphic. Please confirm the method. I am assuming it is digital print and if so, do we to provide the aluminum sheets?	RS&H	45768		45771	1.)Supergraphics have been removed from this project. Sign Types U1, U2, U3 are removed. 2.)Refer to fabrication detail sheets GR501 through GR503 for the construction details of graphic elements. All sign types other than R & S (tactile signs) are to have digitally printed graphics. The sign fabricator is responsible for all components of the sign panels, cabinets, and attachments to building.
124	Complete	glass	Page A610: Glass type GL2 is being called out to be manufactured by McGrory, but there is no information on the glass makeup. Can you clarify what this glass is?	RS&H	45768		45771	Per finish legend "See specification section 08 80 00"
124	Complete	Glass	Spec section 08 44 13, paragraph 1.4-B.4: calls for Laboratory mockup shop drawings, but there aren't any other references to a laboratory mockup being required. Can you confirm is there will be an offsite laboratory mockup?	RS&H	45768		45771	This part of the spec can be removed.
125	Complete	Signage	GR203 Post Mount section A2. Will these posts be mounted into the floor, or drilled and mounted onto the side of "knee" wall ?	RS&H	45768		45771	Sign type L3 (A2/GR203 – 3 locations) is intended to be supported from the parapet wall. However, an alternate mounting method to the floor slab with base plate and drilled anchors would be evaluated and may be approved if proposed.
126	Complete	Signage	sometimes are not able to drill into the formed concrete, or poured in place concrete due to affecting the structural integrity. Are there any places where we will run into this issue for sign installation? Specifically the following: GR202, A5, A6, A7 (sign types L1, L2, and N1)	RS&H	45768		45771	Ceiling suspended sign types (L1, L2, N1) are shown suspended from the deck above with anchors mounted to the concrete slab. There are no global restrictions to suspending the signs from the ceiling in this manner.
127	Complete	Electrical	On drawing EP601 the generator and Switchboard S4N-101 are drawn with dashed lines. Does that represent anything?	RS&H	45769		45769	No it does not mean anything specific, It is just our standard symbology.
128	Complete	electrical	Volume 1 drawing EP111 shows 2 different scales on it. Which one is correct?	RS&H	45769		45769	3/64" = 1'0" is the correct scale, the graphic scale on that drawing is incorrect, the correct graphic scale is on EP121 and will be corrected on any subsequent submissions.
129	Complete	electrical	Reference Volume 1 drawing EL131. Type M2 light fixture is not listed in the fixture schedule. Please provide specifications.	RS&H	45769		45769	M2 is the single headed version of the M1 Pole mounted dual area luminaire. Luminaire schedule will be updated in any subsequent submissions
130	Complete	electrical	Do I need to include concrete bases for the pole light fixtures on the parking deck?	RS&H	45769		45769	The Light poles on the parking garage are to be mounted to the precast columns. See detail A1 on sheet EP501.
132	Complete	Concrete	In Concrete Scope of work - item 18. This subcontractor to chip auger cast concrete piles to elevation and expose reinforcing for connection. Please provide a guideline as to how much chipping we should expect.	MCC	45769		45770	Please see clarification added to this No. 18 item on the concrete scope of work.
133	Complete	All Trades	How should the subcontractors handle any potential escalation/ tariff pricing impacts	MCC	45769		45771	Your bid price should cover all tariffs currently in effect at the time of bid submission. Tariffs that are not in effect at the time of bid submission will be addressed on a case-by-case basis. Subcontractors must promptly notify the contractor in writing of any tariff-related impacts as soon as they are identified.