ADDENDUM NO. 1

August 3, 2026

Perry Township Schools:
Southport High School Addition & Renovation Phase 2 (Classroom Addition and Athletic Renovations)
971 E. Banta Road
Indianapolis, IN 46227

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated July 10, 2026, by Lancer Associates Architecture. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1-3, Guideline Schedule and Lancer Associates Architecture Addendum No. 1, dated July 31, 2026, consisting of sixteen (16) pages, Specification Section, 23 21 23, 23 29 23, 23 73 43.19, 26 56 13, 26 56 19, and Addendum 1 Drawings: C6.1, C6.2, C6.7, C7.1, C7.2, C8.1, C8.7, C8.21, S001, SD100, S101O, S101P, S111O, S111P, S121O, S121P, S200, S300, S301, S302, S303, S500, S501, S502, S503, S504, S510, S511, S520, S521, S522, S523, S524, S700, A002, AD101K, A101K, A101L, A101P, A121O, A121P, A205, A304, A305, A312, A313, A314, A404, A505, A720, A721K, A721P, A722P, A731, A752, A761, A762, A764, ES101, EL101, EP102, EP103, EP106, E601, PF105, PP105, MH101, MH103, MH107, MP105, MR104, and M704

A. **SPECIFICATION SECTION 00 00 20 - TABLE OF CONTENTS**

1. **ADD The Following Specification Sections:**
   Specification Section 23 21 23 Hydronic Pumps
   Specification Section 23 29 23 Variable Frequency Motor Controllers
   Specification Section 23 73 43.19 Outdoor, Custom Air-Handling Units
   Specification Section 26 56 13 Lighting Poles and Standards
   Specification Section 26 56 19 LED Exterior Lighting

B. **SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY**

1. Paragraph 3.03 Bid Categories

B. Bid Category No. 2 – General Trades

Add the following Specification Sections:

06 40 00 Architectural Woodwork
06 62 00 Solid Surface Fabrications (As Applicable)

Add the following Clarifications:

13. Reference section 12 32 16 Plastic Laminate Casework; All Plastic Laminate and Solid Surface Fabrications required under this section shall be provided by the Casework Contractor. All remaining Plastic Laminate and Solid Surface Fabrications indicated in construction documents shall be provided by the General Trades Contractor.
14. All steel bollards shall be furnished by Bid Category 4 & installed by Bid Category 2.
15. Reference Detail 4/S502 and Sheet SD100; Provide Geofoam Structural fill below slab.

D. Bid Category No. 4 – Structural Steel

Add the following Clarification:

4. All steel bollards shall be furnished by Bid Category 4 & installed by Bid Category 2.

G. Bid Category No. 7 – Metal Studs, Drywall, Ceilings

Delete the following Specification Section:

06 40 00 Architectural Woodwork

K. Bid Category No. 11 – Casework

Revise the following Specification Section assignment:

06 62 00 Solid Surface Fabrications (As Applicable)

Add the following Clarifications:

1. Reference section 12 32 16 Plastic Laminate Casework; All Plastic Laminate and Solid Surface required under this section shall be provided by the Casework

Contractor. All remaining Plastic Laminate and Solid Surface indicated in construction documents shall be provided by the General Trades Contractor.

N. <u>Bid Category No. 14 – Plumbing & Mechanical</u>

<u>Add the following Specification Section:</u>

23 21 23 Hydronic Pumps
23 29 23 Variable Frequency Motor Controllers
23 73 43.19 Outdoor, Custom Air-Handling Units

O. <u>Bid Category No. 15 – Electrical & Technology</u>

<u>Add the following Specification Section:</u>

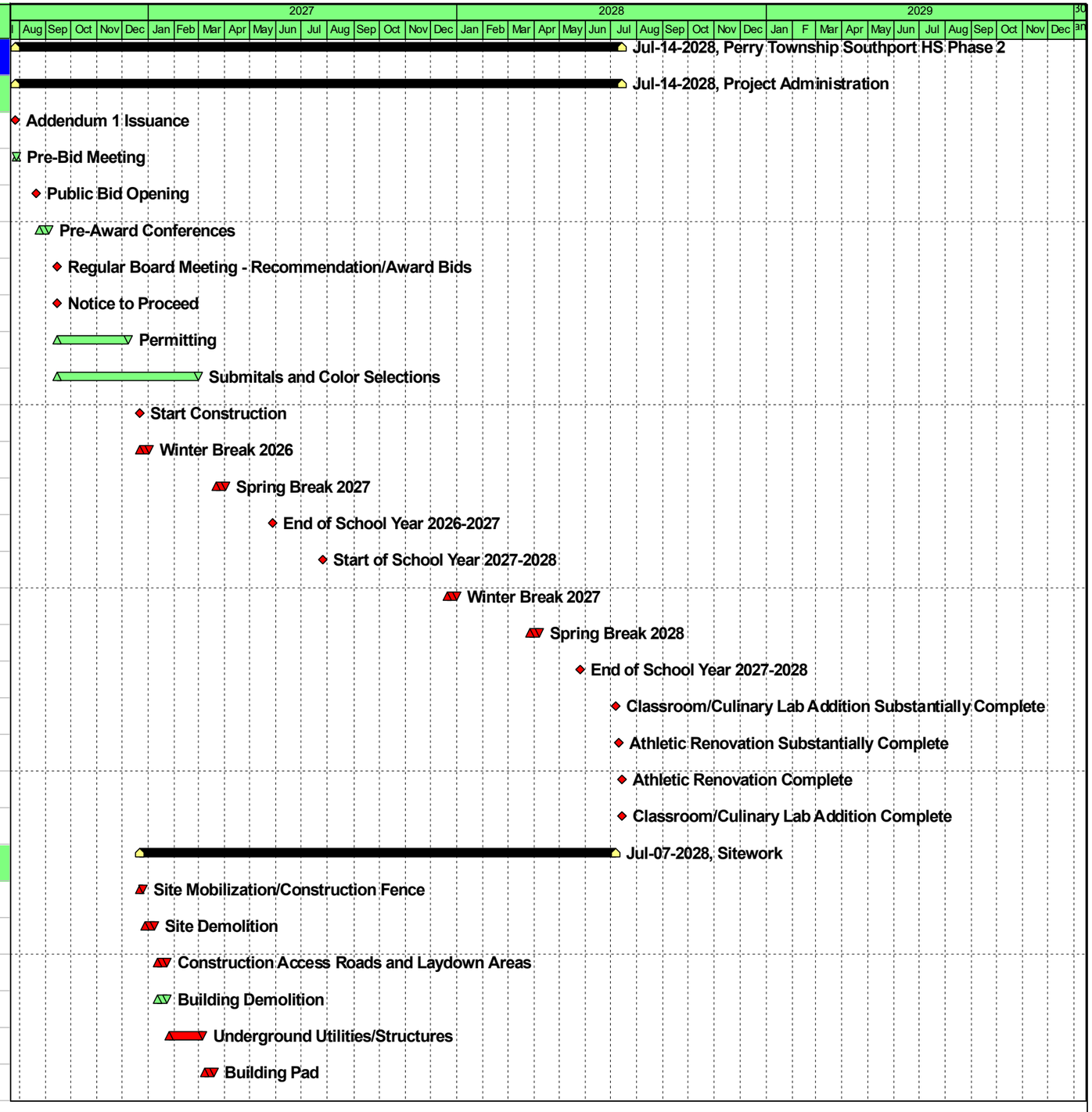
26 56 13 Lighting Poles and Standards
26 56 19 LED Exterior Lighting

C. <u>SPECIFICATION SECTION 01 32 00 - SCHEDULES AND REPORTS</u>

1. ADD:

Insert the included Guideline Schedule.

Activity Name	Original Duration	Start	Finish
Perry Township Southport HS Phase 2	515	Jul-27-2026	Jul-14-2028
Project Administration	515	Jul-27-2026	Jul-14-2028
Addendum 1 Issuance	0	Jul-27-2026	
Pre-Bid Meeting	1	Jul-28-2026	Jul-28-2026
Public Bid Opening	0		Aug-20-2026
Pre-Award Conferences	10	Aug-24-2026	Sep-04-2026
Regular Board Meeting - Recommendation/Award Bids	0		Sep-14-2026
Notice to Proceed	0	Sep-15-2026	
Permitting	60	Sep-15-2026	Dec-07-2026
Submitals and Color Selections	120	Sep-15-2026	Mar-01-2027
Start Construction	0	Dec-21-2026	
Winter Break 2026	10	Dec-21-2026*	Jan-01-2027
Spring Break 2027	10	Mar-22-2027*	Apr-02-2027
End of School Year 2026-2027	0		May-28-2027*
Start of School Year 2027-2028	0	Jul-26-2027*	
Winter Break 2027	10	Dec-20-2027*	Dec-31-2027
Spring Break 2028	10	Mar-27-2028*	Apr-07-2028
End of School Year 2027-2028	0		May-26-2028*
Classroom/Culinary Lab Addition Substantially Complete	0		Jul-07-2028
Athletic Renovation Substantially Complete	0		Jul-10-2028
Athletic Renovation Complete	0		Jul-14-2028
Classroom/Culinary Lab Addition Complete	0		Jul-14-2028
Sitework	405	Dec-21-2026	Jul-07-2028
Site Mobilization/Construction Fence	5	Dec-21-2026	Dec-25-2026
Site Demolition	10	Dec-28-2026	Jan-08-2027
Construction Access Roads and Laydown Areas	10	Jan-11-2027	Jan-22-2027
Building Demolition	10	Jan-11-2027	Jan-22-2027
Underground Utilities/Structures	30	Jan-25-2027	Mar-05-2027
Building Pad	10	Mar-08-2027	Mar-19-2027



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

224733 - Perry Township Southport HS Phase 2
Guideline Schedule Addendum 1 Jul-27-2026

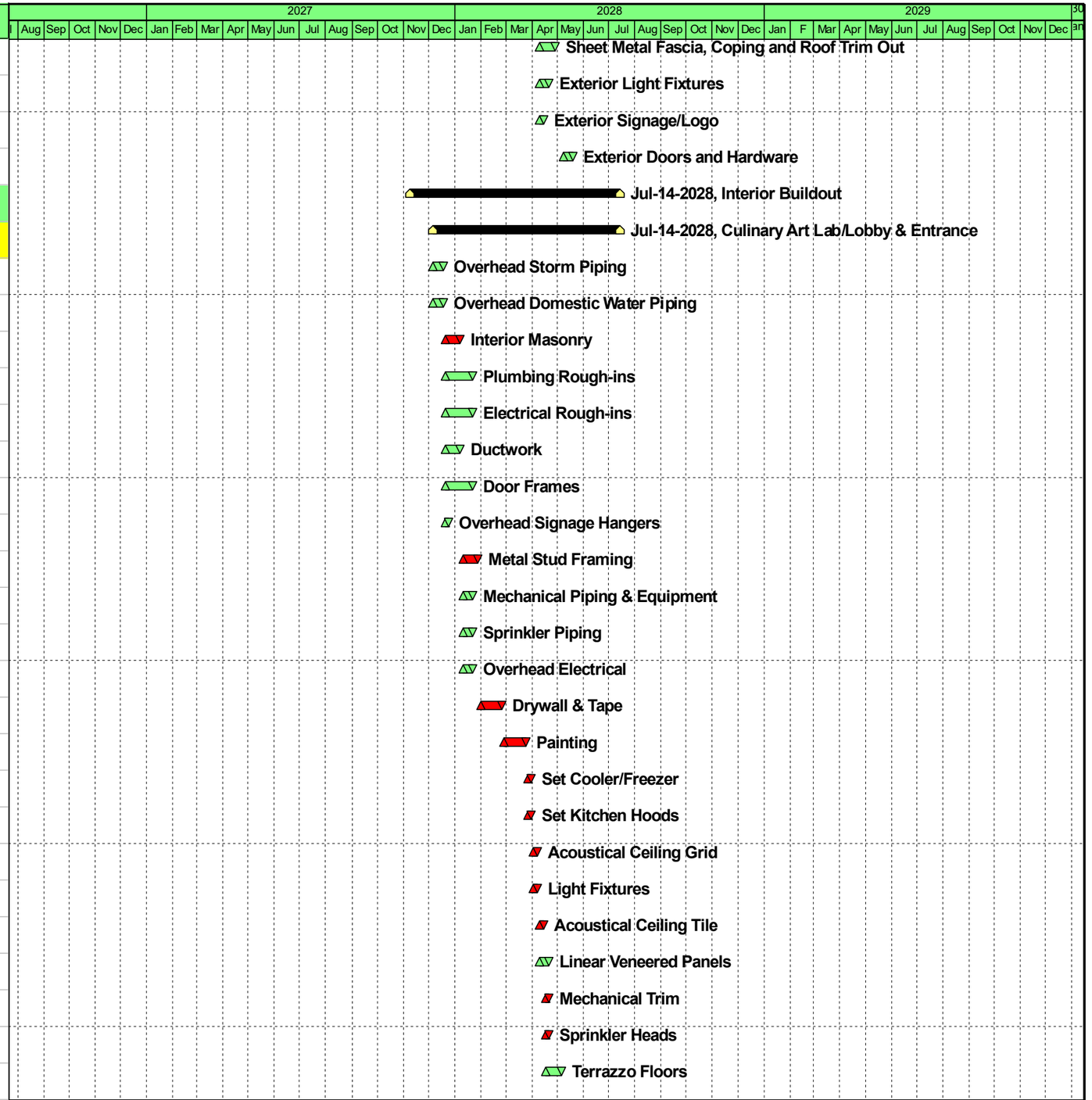
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Activity Name	Original Duration	Start	Finish
Retaining Wall	15	Mar-22-2027	Apr-09-2027
Underground Storm Detention System	20	May-28-2027	Jun-24-2027
Concrete Walks Northwest Corner of Site	10	Jun-25-2027	Jul-08-2027
Partial Asphalt Binder Paving and Parking Lines	5	Jul-09-2027	Jul-15-2027
Site Concrete/Exterior Improvements	20	Apr-10-2028	May-05-2028
Stone and Asphalt Binder	10	May-08-2028	May-19-2028
Asphalt Surface/Markings/Accessories	5	May-22-2028	May-26-2028
Finish Grading/Topsoil Placement	10	May-29-2028	Jun-09-2028
Landscaping	20	Jun-12-2028	Jul-07-2028
Building Core & Shell	290	Apr-12-2027	May-19-2028
Helical Piles/Grade Beams/Footings/Foundation Walls/Piers	30	Apr-12-2027	May-21-2027
Underground Plumbing	15	May-24-2027	Jun-11-2027
Underground Electrical	15	May-24-2027	Jun-11-2027
Stair Well Masonry	15	May-24-2027	Jun-11-2027
Slab on Grade Prep	10	Jun-14-2027	Jun-25-2027
Slab on Grade Pour	10	Jun-28-2027	Jul-09-2027
Structural Steel Framing & Detailing	25	Jul-12-2027	Aug-13-2027
Steel Stairs	10	Aug-16-2027	Aug-27-2027
Slab on Metal Deck	15	Aug-16-2027	Sep-03-2027
Steel Joists and Decking	15	Sep-06-2027	Sep-24-2027
Concrete Stair Infill	10	Sep-06-2027	Sep-17-2027
Exterior Metal Stud Framing and Sheathing	15	Sep-27-2027	Oct-15-2027
Roof Opening Framing/Mechanical Curbs	10	Sep-27-2027	Oct-08-2027
Roofing	20	Oct-11-2027	Nov-05-2027
Cavity Insulation	10	Oct-18-2027	Oct-29-2027
Exterior Veneer Masonry and Limestone Trim	25	Nov-01-2027	Dec-03-2027
Set Rooftop Equipment	5	Nov-08-2027	Nov-12-2027
Exterior Windows and Storefronts	10	Dec-06-2027	Dec-17-2027
Metal Panels	30	Feb-28-2028	Apr-07-2028



Actual Work
Remaining Work
Critical Remaining Work
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Summary

Activity Name	Original Duration	Start	Finish
Sheet Metal Fascia, Coping and Roof Trim Out	15	Apr-10-2028	Apr-28-2028
Exterior Light Fixtures	10	Apr-10-2028	Apr-21-2028
Exterior Signage/Logo	5	Apr-10-2028	Apr-14-2028
Exterior Doors and Hardware	10	May-08-2028	May-19-2028
Interior Buildout	180	Nov-08-2027	Jul-14-2028
Culinary Art Lab/Lobby & Entrance	160	Dec-06-2027	Jul-14-2028
Overhead Storm Piping	10	Dec-06-2027	Dec-17-2027
Overhead Domestic Water Piping	10	Dec-06-2027	Dec-17-2027
Interior Masonry	15	Dec-20-2027	Jan-07-2028
Plumbing Rough-ins	25	Dec-20-2027	Jan-21-2028
Electrical Rough-ins	25	Dec-20-2027	Jan-21-2028
Ductwork	15	Dec-20-2027	Jan-07-2028
Door Frames	25	Dec-20-2027	Jan-21-2028
Overhead Signage Hangers	5	Dec-20-2027	Dec-24-2027
Metal Stud Framing	15	Jan-10-2028	Jan-28-2028
Mechanical Piping & Equipment	10	Jan-10-2028	Jan-21-2028
Sprinkler Piping	10	Jan-10-2028	Jan-21-2028
Overhead Electrical	10	Jan-10-2028	Jan-21-2028
Drywall & Tape	20	Jan-31-2028	Feb-25-2028
Painting	20	Feb-28-2028	Mar-24-2028
Set Cooler/Freezer	5	Mar-27-2028	Mar-31-2028
Set Kitchen Hoods	5	Mar-27-2028	Mar-31-2028
Acoustical Ceiling Grid	5	Apr-03-2028	Apr-07-2028
Light Fixtures	5	Apr-03-2028	Apr-07-2028
Acoustical Ceiling Tile	5	Apr-10-2028	Apr-14-2028
Linear Veneered Panels	10	Apr-10-2028	Apr-21-2028
Mechanical Trim	5	Apr-17-2028	Apr-21-2028
Sprinkler Heads	5	Apr-17-2028	Apr-21-2028
Terrazzo Floors	15	Apr-17-2028	May-05-2028



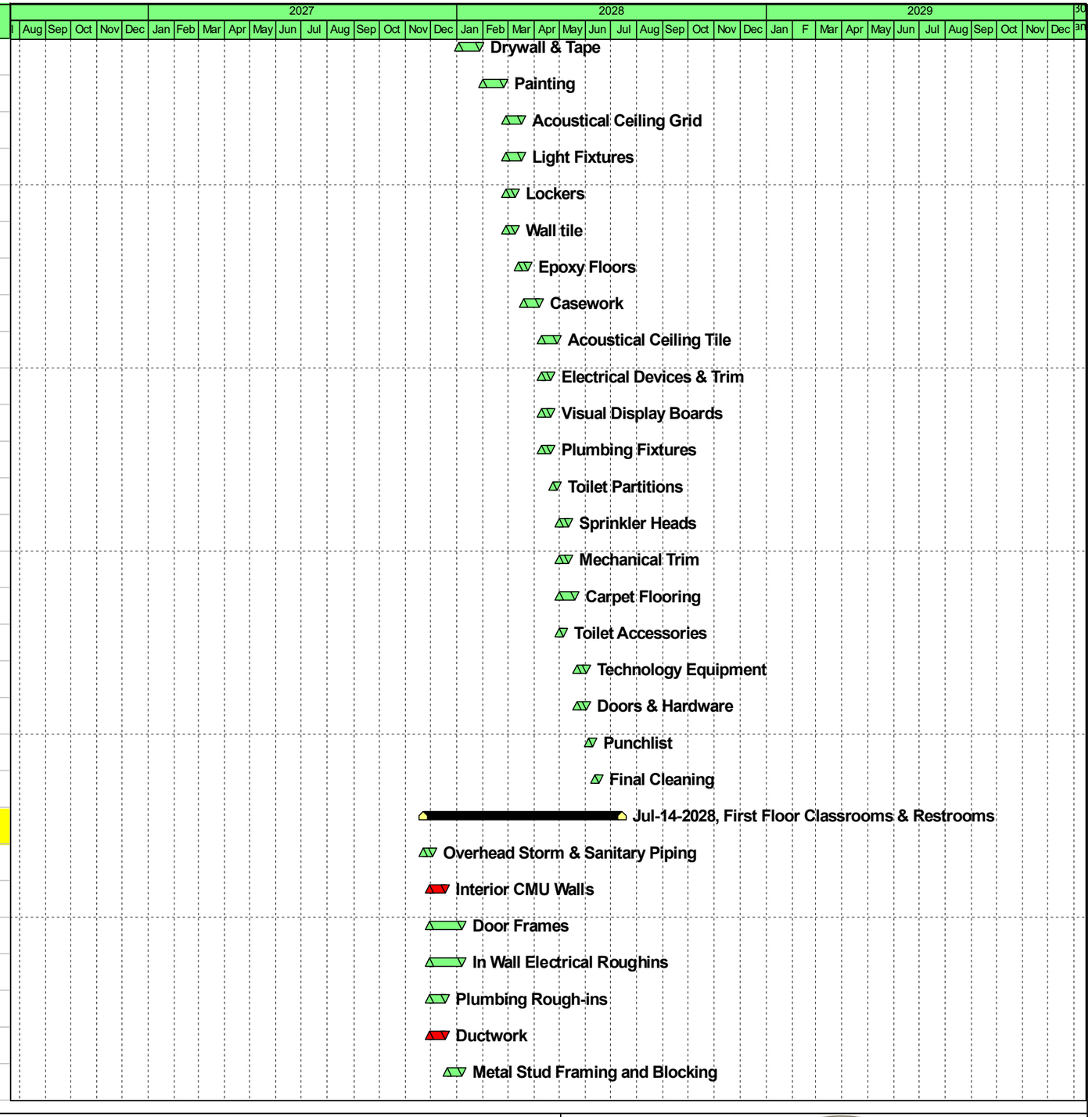
Actual Work
Remaining Work
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Activity Name	Original Duration	Start	Finish
Epoxy Flooring	10	Apr-24-2028	May-05-2028
Overhead Signage	5	Apr-24-2028	Apr-28-2028
Kitchen Equipment	20	May-08-2028	Jun-02-2028
Wall Tile	5	May-08-2028	May-12-2028
Display Cases	5	May-08-2028	May-12-2028
Custom Wall Graphics	5	May-15-2028	May-19-2028
Solid Surfaces	5	May-15-2028	May-19-2028
Acoustical Wall Panels	5	May-15-2028	May-19-2028
Plastic Laminate Panels	5	May-15-2028	May-19-2028
Terrazzo Final Polish	5	May-22-2028	May-26-2028
Electrical Devices & Trim	10	Jun-05-2028	Jun-16-2028
Plumbing Fixtures	10	Jun-05-2028	Jun-16-2028
Overhead Doors	5	Jun-05-2028	Jun-09-2028
Interior Storefronts	5	Jun-05-2028	Jun-09-2028
Doors & Hardware	5	Jun-12-2028	Jun-16-2028
Punchlist	5	Jun-19-2028	Jun-23-2028
Final Cleaning	5	Jun-26-2028	Jun-30-2028
Final Inspections/Owner Occupancy/Loose Furnishings	10	Jul-03-2028	Jul-14-2028
Second Floor Classrooms & Restrooms	160	Nov-08-2027	Jun-16-2028
Interior CMU Walls	15	Nov-08-2027	Nov-26-2027
Door Frames	30	Nov-08-2027	Dec-17-2027
In Wall Electrical Roughins	30	Nov-08-2027	Dec-17-2027
Plumbing Rough-ins	15	Nov-08-2027	Nov-26-2027
Ductwork	15	Nov-08-2027	Nov-26-2027
Overhead Storm Piping	10	Nov-08-2027	Nov-19-2027
Metal Stud Framing and Blocking	15	Nov-29-2027	Dec-17-2027
Overhead Mechanical Equipment and Piping	15	Nov-29-2027	Dec-17-2027
Overhead Electrical and Technology Rough-ins	15	Nov-29-2027	Dec-17-2027
Sprinkler Piping	10	Dec-20-2027	Dec-31-2027



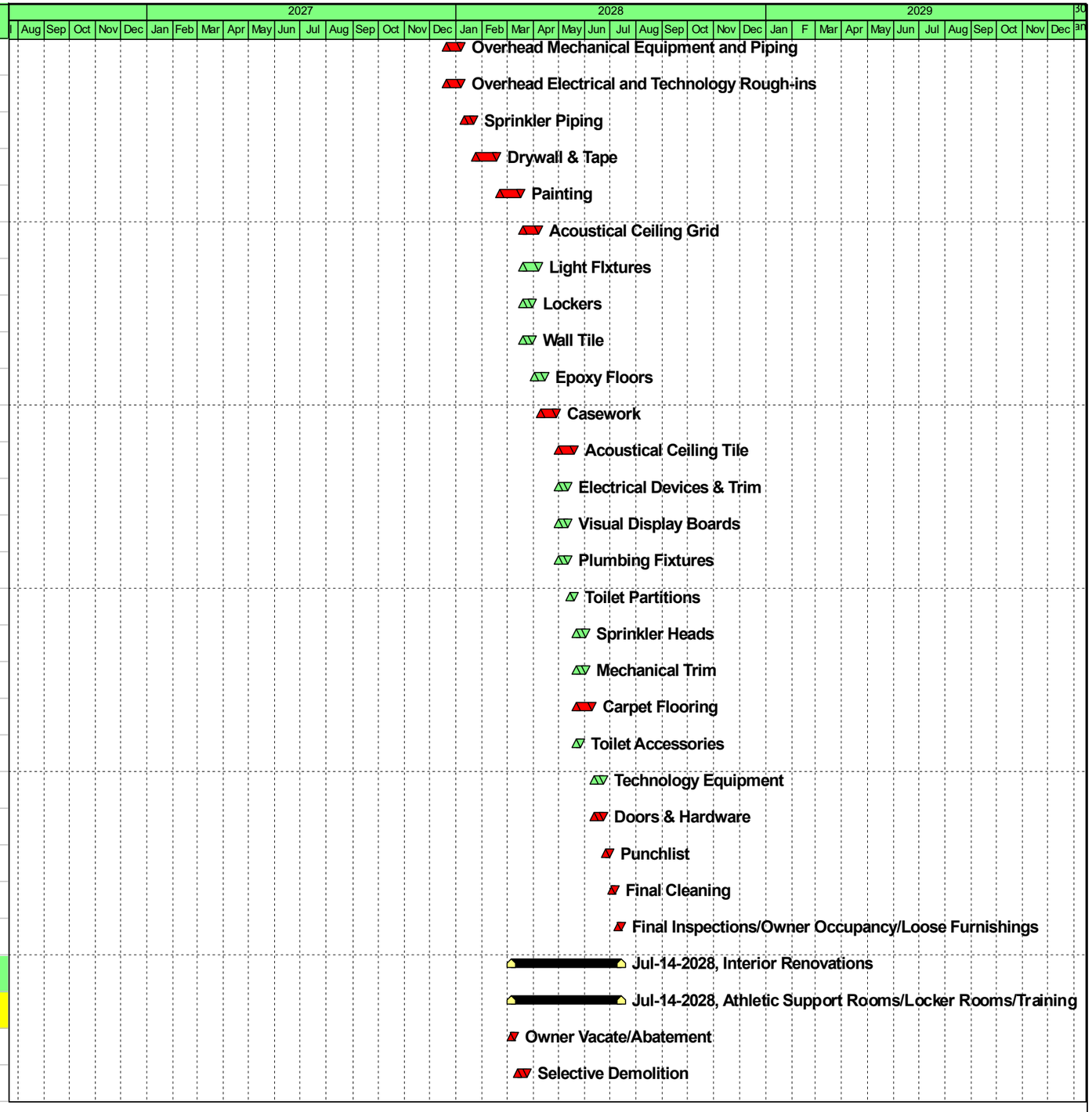
Actual Work
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	Original Duration	Start	Finish
Drywall & Tape	20	Jan-03-2028	Jan-28-2028
Painting	20	Jan-31-2028	Feb-25-2028
Acoustical Ceiling Grid	15	Feb-28-2028	Mar-17-2028
Light Fixtures	15	Feb-28-2028	Mar-17-2028
Lockers	10	Feb-28-2028	Mar-10-2028
Wall tile	10	Feb-28-2028	Mar-10-2028
Epoxy Floors	10	Mar-13-2028	Mar-24-2028
Casework	15	Mar-20-2028	Apr-07-2028
Acoustical Ceiling Tile	15	Apr-10-2028	Apr-28-2028
Electrical Devices & Trim	10	Apr-10-2028	Apr-21-2028
Visual Display Boards	10	Apr-10-2028	Apr-21-2028
Plumbing Fixtures	10	Apr-10-2028	Apr-21-2028
Toilet Partitions	5	Apr-24-2028	Apr-28-2028
Sprinkler Heads	10	May-01-2028	May-12-2028
Mechanical Trim	10	May-01-2028	May-12-2028
Carpet Flooring	15	May-01-2028	May-19-2028
Toilet Accessories	5	May-01-2028	May-05-2028
Technology Equipment	10	May-22-2028	Jun-02-2028
Doors & Hardware	10	May-22-2028	Jun-02-2028
Punchlist	5	Jun-05-2028	Jun-09-2028
Final Cleaning	5	Jun-12-2028	Jun-16-2028
First Floor Classrooms & Restrooms	170	Nov-22-2027	Jul-14-2028
Overhead Storm & Sanitary Piping	10	Nov-22-2027	Dec-03-2027
Interior CMU Walls	15	Nov-29-2027	Dec-17-2027
Door Frames	30	Nov-29-2027	Jan-07-2028
In Wall Electrical Roughins	30	Nov-29-2027	Jan-07-2028
Plumbing Rough-ins	15	Nov-29-2027	Dec-17-2027
Ductwork	15	Nov-29-2027	Dec-17-2027
Metal Stud Framing and Blocking	15	Dec-20-2027	Jan-07-2028



Actual Work
Remaining Work
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Activity Name	Original Duration	Start	Finish
Overhead Mechanical Equipment and Piping	15	Dec-20-2027	Jan-07-2028
Overhead Electrical and Technology Rough-ins	15	Dec-20-2027	Jan-07-2028
Sprinkler Piping	10	Jan-10-2028	Jan-21-2028
Drywall & Tape	20	Jan-24-2028	Feb-18-2028
Painting	20	Feb-21-2028	Mar-17-2028
Acoustical Ceiling Grid	15	Mar-20-2028	Apr-07-2028
Light FIxtures	15	Mar-20-2028	Apr-07-2028
Lockers	10	Mar-20-2028	Mar-31-2028
Wall Tile	10	Mar-20-2028	Mar-31-2028
Epoxy Floors	10	Apr-03-2028	Apr-14-2028
Casework	15	Apr-10-2028	Apr-28-2028
Acoustical Ceiling Tile	15	May-01-2028	May-19-2028
Electrical Devices & Trim	10	May-01-2028	May-12-2028
Visual Display Boards	10	May-01-2028	May-12-2028
Plumbing Fixtures	10	May-01-2028	May-12-2028
Toilet Partitions	5	May-15-2028	May-19-2028
Sprinkler Heads	10	May-22-2028	Jun-02-2028
Mechanical Trim	10	May-22-2028	Jun-02-2028
Carpet Flooring	15	May-22-2028	Jun-09-2028
Toilet Accessories	5	May-22-2028	May-26-2028
Technology Equipment	10	Jun-12-2028	Jun-23-2028
Doors & Hardware	10	Jun-12-2028	Jun-23-2028
Punchlist	5	Jun-26-2028	Jun-30-2028
Final Cleaning	5	Jul-03-2028	Jul-07-2028
Final Inspections/Owner Occupancy/Loose Furnishings	5	Jul-10-2028	Jul-14-2028
Interior Renovations	95	Mar-06-2028	Jul-14-2028
Athletic Support Rooms/Locker Rooms/Training	95	Mar-06-2028	Jul-14-2028
Owner Vacate/Abatement	5	Mar-06-2028*	Mar-10-2028
Selective Demolition	10	Mar-13-2028	Mar-24-2028



Actual Work
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Activity Name	Original Duration	Start	Finish
Interior Masonry	15	Mar-20-2028	Apr-07-2028
Electrical Rough-ins	15	Mar-20-2028	Apr-07-2028
Plumbing Rough-ins	10	Mar-20-2028	Mar-31-2028
Door Frames	15	Mar-20-2028	Apr-07-2028
Metal Stud Framing	5	Mar-20-2028	Mar-24-2028
Ductwork	10	Mar-27-2028	Apr-07-2028
Mechanical Piping & Equipment	10	Mar-27-2028	Apr-07-2028
Fire Protection Piping	10	Mar-27-2028	Apr-07-2028
Overhead Electrical Rough-ins	10	Mar-27-2028	Apr-07-2028
Drywall & Tape	10	Apr-10-2028	Apr-21-2028
Painting	10	Apr-24-2028	May-05-2028
Acoustical Ceiling Grid	10	May-08-2028	May-19-2028
Light Fixtures	10	May-08-2028	May-19-2028
Ceiling Tile Drop	5	May-22-2028	May-26-2028
Mechanical Trim	5	May-22-2028	May-26-2028
Fire Sprinkler Heads	5	May-22-2028	May-26-2028
Electrical Trim	5	May-29-2028	Jun-02-2028
Casework	5	May-29-2028	Jun-02-2028
Epoxy Flooring	15	Jun-05-2028	Jun-23-2028
Plumbing Fixtures	5	Jun-26-2028	Jun-30-2028
Visual Display Boards	5	Jun-26-2028	Jun-30-2028
Locker Benches/Millwork	5	Jun-26-2028	Jun-30-2028
Technology	5	Jun-26-2028	Jun-30-2028
Carpet/LVT Flooring	5	Jun-26-2028	Jun-30-2028
Toilet Partitions	5	Jul-03-2028	Jul-07-2028
Toilet Accessories	5	Jul-03-2028	Jul-07-2028
Lockers	5	Jul-03-2028	Jul-07-2028
Doors & Hardware	5	Jul-03-2028	Jul-07-2028
Punchlist	5	Jul-10-2028	Jul-14-2028



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

224733 - Perry Township Southport HS Phase 2
Guideline Schedule Addendum 1 Jul-27-2026

SKILLMAN

Phase 2: ADDENDUM NO. ONE.

PROJECT:	**Perry Township Southport High School Addition & Renovations, Phase 2**
PROJECT NUMBER:	**24173**
DATE OF ADDENDUM:	**July 31, 2026**



THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND IS ISSUED IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS. ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY SIGNING THE ADDENDUM ACKNOWLEDGMENT SECTION OF THE BID FORM.

GENERAL NOTIFICATIONS:

1. Not Used

QUESTIONS & ANSWERS:

1. Q: Specs state the material must meet the NFPA 286 standard for Fire Rating. This will be significantly more expensive and is typically not needed unless mandated by local Fire Code. Please confirm if this is intended/required.

   A: If referring to HDPE material, it must comply with the NFPA 286 Standard for Fire Rating. Class A.

2. Q: Specs and plan page A720 list Single and Double Tier Lockers but there are no Single Tier Lockers shown in Plans. Please advise.

   A: Single Tier Lockers to be installed in Varsity Locker Rooms. Please see attached revised plan.

3. Q: Specs also list Open Athletic Lockers but none shown in Plans. Please advise.

   A: No Open Athletic Locker type is specified. Omit Open Athletic Lockers.

4. Q: There is no Height dimension listed for the Lockers shown on a concrete bench. Please advise.

   A: Height for HDPE double tier and single lockers to be 60”.

5. Q: Concrete bench height is shown as 16" on 2/A505 but as 20" on 1/A504. Please advise.

   A: Concrete bench height is 16” AFF.

ADDITIONAL APPROVED MANUFACTURERS:

1. Section 10 51 26
   a. Manufacturer: Add Lockers MFG (Manufacturing) to paragraph 2.1.B of section 10 51 26

2. Section 10 51 26
   a. Manufacturer: Add Columbia / PSiSC Solid Plastic Lockers, to paragraph 2.1.B of section 10 51 26.

SPECIFICATIONS:

1. Spec Section: 23 21 23
   Spec Title: HYDRONIC PUMPS

   Change: Add Section

2. Spec Section: 23 29 23
   Spec Title: VARIABLE FREQUENCY MOTOR CONTROLLERS

   Change: Add Section
3. Spec Section: 23 73 43.19
   Spec Title: OUTDOOR, CUSTOM AIR-HANDLING UNITS

Change: Add Section

4. Spec Section: 26 56 13
   Spec Title: LIGHTING POLES AND STANDARDS

   Change: Add Section

5. Spec Section: 26 56 19
   Spec Title: LED EXTERIOR LIGHTING

   Change: Add Section

DRAWINGS:

1. Drawing Sheet Number: C-6.1
   Drawing Sheet Title: SITE PLAN

   Change: Updated Site Plan
   - Updated legend to have the interior courtyard, flagpole, and 6" bollard listed
   - Updated site plan to have an interior courtyard and flagpole called out.

2. Drawing Sheet Number: C-6.2
   Drawing Sheet Title: SITE PLAN

   Change: Updated Site Plan
   - Updated legend to have the interior courtyard, flagpole, and 6" bollard listed
   - Updated site plan to have an interior courtyard and 6" bollard called out.

3. Drawing Sheet Number: C-6.7
   Drawing Sheet Title: SITE DETAILS

   Change: Added 6" Concrete Bollard Detail

4. Drawing Sheet Number: C-7.1
   Drawing Sheet Title: GRADING PLAN

   Change: Edited Grading Plan
   - Adjusted the retaining wall grades.
   - Adjusted the grades where the new interior courtyard is.
   - Adjusted the grades around the retaining wall to match existing.

5. Drawing Sheet Number: C-7.2
   Drawing Sheet Title: GRADING PLAN

   Change: Edited Grading Plan
   - Adjusted the grades where the new interior courtyard is.

6. Drawing Sheet Number: C-8.1
   Drawing Sheet Title: STORM LAYOUT PLAN

   Change: Updated Storm System
   - Connected INT STR-1 to INT STR-2 Utilizing new pipes.

7. Drawing Sheet Number: C-8.2
   Drawing Sheet Title: STORM LAYOUT PLAN

   Change: Updated Storm System
   - Connected INT STR-2 and STR-42 to STR-21 utilizing new pipes.

8. Drawing Sheet Number: C-8.7
   Drawing Sheet Title: STORM LAYOUT PLAN

   Change: Updated Structure Data Table
   - Added INT STR-1, INT STR-2, and STR-42 to the Structure Data Table.

9. Drawing Sheet Number: C-8.21
   Drawing Sheet Title: STORM DETAILS

   Change: Added new detail sheet
   - Added Storm Detail Sheet C-8.21 with ADS Nyloplast details.

10. Drawing Sheet Number: S001
    Drawing Sheet Title: GENERAL NOTES & ABBREVIATION

    Change: Helical Pile-Anchor Notes
    - Loading information added

11. Drawing Sheet Number: SD100
    Drawing Sheet Title: DEMO PARTIAL PLANS – UNIT K

    Change: Detail update
    - Slab infill detail added

12. Drawing Sheet Number: S101O

Drawing Sheet Title: UNIT O FOUNDATION PLAN

Change: Slab recess
- Slab recess added in the cafeteria
- Details added
- Elevations added

Change: Footing and Pier dimensions
- Clarifying footing and pier dimensions added

Change: Grade Beam updates
- Grade beam locations, tags, and base plates modified
- Grid A shifted

13. Drawing Sheet Number: S101P
Drawing Sheet Title: UNIT P FOUNDATION PLAN

Change: Slab recess
- Slab recess added in the cafeteria
- Details added
- Elevations added
- Column footing elevation adjusted

Change: Footings adjusted with plumbing updates on North side of addition
- Footing steps added off grid W
- Fill note added in north vestibule
- Elevations added
- Column footing elevation adjusted

Change: Grade Beam updates
- Grade beam locations, tags, and base plates modified

14. Drawing Sheet Number: S111O
Drawing Sheet Title: UNIT O SECOND FLOOR FRAMING PLAN

Change: Updates to West ramp
- Enlarged plan of ramp added
- SOMD tags added
- W14x22 and dimension info added
- Kickers and dimension info added
- CFS knee walls and dimension info added
- EOS dimensions updated and added
- Steel elevations added
- W12x16’s and dimension info added

Change: Updates to Center ramp
- SOMD tags added
- Expansion joint location adjusted and callout added

Change: Chase openings adjusted with MEP adjustments
- EOS dimensions adjusted and added to both openings
- Expansion joint location adjusted and callout added

15. Drawing Sheet Number: S111P
Drawing Sheet Title: UNIT P SECOND FLOOR FRAMING PLAN

Change: Dimensions
- Grid to grid dimensions added

Change: Details
- Multiple framing details added for clarification

Change: Elevations
- T/STL elevations added in the open lobby area and adjusted

Change: Vestibule framing
- Moment reactions added to cantilevered beams
- W12's added to corners of deck

16. Drawing Sheet Number: S121O
Drawing Sheet Title: UNIT O ROOF FRAMING PLAN

Change: Details
- Multiple framing details added and updated for clarification

Change: Dimensions
- EOS dimensions adjusted

Change: RTU framing and openings adjusted with MEP changes
- Framing around RTU's adjusted
- Dimensions added and adjusted

Change: Expansion Joint
- Expansion joint callout added to center ramp at the existing

17. Drawing Sheet Number: S121P
Drawing Sheet Title: UNIT P ROOF FRAMING PLAN

Change: Dimensions
- Grid to grid dimensions adjusted
- Framing spacings between grids P & R and grids 8 & 38 adjusted
- Framing spacings adjusted in low roof enlarged plan
- EOD dimensions added and updated in low roof enlarged plan

Change: Elevations
- T/STL elevations added in the southeast corner
- D/RBG elevations added and updated

Change: Framing
- Kickers added along grid BB
- W12's at grids 1 & Z.3 removed

18. Drawing Sheet Number: S200
Drawing Sheet Title: FRAMING ELEVATIONS

Change: Callouts
- Plate thicknesses adjusted to "per supplier"
- Brace detail callouts adjusted to 5/S200

19. Drawing Sheet Number: S300
Drawing Sheet Title: BUILDING SECTIONS

Change: Annotation/callout updates
- SOMD Beyond callout added for clarification
- Bent beam callout added
- Deck edge/kicker info added
- T/Existing Slab elevation callout added
- 2" Expansion Joint callout added
- Bent DBA callout added
- Section naming updates
- Grid to grid dimensions added

20. Drawing Sheet Number: S301
Drawing Sheet Title: BUILDING SECTIONS

Change: Annotation/callout updates
- Deck edge references added for clarification
- Bent beam callout added
- Beam elevation adjusted at grid 8
- Deck edges adjusted
- Grid to grid dimensions added

21. Drawing Sheet Number: S302
    Drawing Sheet Title: BUILDING SECTIONS

    Change: Annotation/callout updates
    - Deck edge references added for clarification
    - Deck edges adjusted
    - Elevation callouts added
    - Grid to grid dimensions added
    - Weld information added
    - Kicker bracing information added

22. Drawing Sheet Number: S303
    Drawing Sheet Title: BUILDING SECTIONS

    Change: Annotation/callout updates
    - Support detail callouts added
    - Edge of deck support callout added

    Change: Section added
    - Wesst lobby section was added for support clarification

23. Drawing Sheet Number: S500
    Drawing Sheet Title: FOUNDATION SCHEDULES, SECTIONS, & DETAILS

    Change: Base plate reference details
    - Welding information adjusted and callouts added to column base details case 1, 2 and 3.
    - Column base details case 4 added
    - Case 4 references added and updated in column base plate schedule

    Change: Schedule updates
    - Reinforcing information updated in pier, wall footing, concrete wall, and column footing schedules

24. Drawing Sheet Number: S501
    Drawing Sheet Title: FOUNDATION SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - Elevation tags updated and dimension added in 14/S501
    - Dimension added and section name adjusted in 13/S501

25. Drawing Sheet Number: S502
    Drawing Sheet Title: FOUNDATION SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - Multiple details added to sheet

26. Drawing Sheet Number: S503
    Drawing Sheet Title: FOUNDATION SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - Concrete wall reinforcing detail added to sheet
    - Retaining wall reinforcing information adjusted in 1/S503
    - Vertical reinforcing clearance updated to 2” in 1/S503

27. Drawing Sheet Number: S504
    Drawing Sheet Title: GRADE BEAM ELEVATIONS & DETAILS

    Change: Details
    - New sheet with concrete grade beam details and elevations

28. Drawing Sheet Number: S510
    Drawing Sheet Title: MASONRY SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - Multiple details added to sheet

29. Drawing Sheet Number: S511
    Drawing Sheet Title: MASONRY SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - Sheet added and multiple details added

30. Drawing Sheet Number: S520
    Drawing Sheet Title: FRAMING SCHEDULES, SECTIONS, & DETAILS

    Change: Details
    - 6/S520 Detail removed and replaced
    - Annotation updates to sections 9/S520 and 10/S520

31. Drawing Sheet Number: S521
    Drawing Sheet Title: FRAMING SCHEDULES, SECTIONS, & DETAILS

Change: Details
- Multiple details and shear connection notes added to sheet

32. Drawing Sheet Number: S522
Drawing Sheet Title: FRAMING SCHEDULES, SECTIONS, & DETAILS

Change: Details
- Details 2/S522 and 3/S522 removed and replaced
- Camber note added to 7/S522
- Detail 12/S522 added

33. Drawing Sheet Number: S523
Drawing Sheet Title: FRAMING SCHEDULES, SECTIONS, & DETAILS

Change: Details
- Multiple details added to sheet
- Extensive updates to 1/S523 and 2/S523
- Annotation updates to 3-5/S523

34. Drawing Sheet Number: S524
Drawing Sheet Title: FRAMING SCHEDULES, SECTIONS, & DETAILS

Change: Details
- Multiple details added to sheet
- Slab on metal deck schedule information changes

35. Drawing Sheet Number: S700
Drawing Sheet Title: SPECIAL INSPECTIONS

Change: Details
- Masonry inspection notes added
- Applicable to project (Y/N) information updated

36. Drawing Sheet Number: A002
Drawing Sheet Title: INTERIOR TYPES

Change: Change noted wall types.
- Added half height wall types for CMU and drywall construction.
- Removed furring wall type.

37. Drawing Sheet Number: AD101K
Drawing Sheet Title: DEMOLITION PLAN – FIRST FLOOR - UNIT K

Change:
- Revised scope of floor to be demolished.

38. Drawing Sheet Number: A101K
Drawing Sheet Title: FLOOR PLAN – FIRST FLOOR – UNIT K

Change:
- Added keynotes 38 and 39 to show single tier lockers in varsity locker rooms.
- Added walls around structure in Spirit Wear K131.
- Added general architectural note K. Note applies to **ALL** architectural plans.

39. Drawing Sheet Number: A101L
Drawing Sheet Title: FLOOR PLAN – FIRST FLOOR - UNIT L

Change: Updated General Notes
- Added note 'K' to clarify furniture scope.

Change: Updated Training Room L142
- Removed loose furniture items from room.
- Added wall tag to show half height wall in Training Room L142.

40. Drawing Sheet Number : A101P
Drawing Sheet Title: FLOOR PLAN – FIRST FLOOR – UNIT P

Change: Added bollards on the east side of the entrance along sidewalk.
Change: Added keynote 37 for bollards.
Change: Revised wall tags to show location of half height wall and full height wall in Student Enterprise Concession P112

41. Drawing Sheet Number: A121O
Drawing Sheet Title: REFLECTED CEILING PLAN – FIRST FLOOR – UNIT O

Change:
- Added text notes for expansion joint locations.
- Added noted identifying ceiling material and extent of sloped ceiling.

42. Drawing Sheet Number: A121P
Drawing Sheet Title: REFLECTED CEILING PLAN – FIRST FLOOR – UNIT P

Change:
- Added access panel into drywall ceiling.

43. Drawing Sheet Number : A205
    Drawing Sheet Title: EXTERIOR ELEVATIONS

    Change: Revise limestone profile as indicated.

44. Drawing Sheet Number: A304
    Drawing Sheet Title: BUILDING SECTION

    Change: Add detail 1/A503 to Building Section 3 as indicated.

45. Drawing Sheet Number: A305
    Drawing Sheet Title: BUILDING SECTION

    Change: Add detail 3
    - New detail to for expansion joint on the ramp.

46. Drawing Sheet Number: A312
    Drawing Sheet Title: WALL SECTION

    Change: Wall Section 3/A312
    - Added noted callout to section

    Change: Wall Section 5/A312
    - Revise notation of work as indicated in the section.

47. Drawing Sheet Number: A313
    Drawing Sheet Title: WALL SECTION

    Change: Wall Section 2/A313
    - Added noted callout to section

48. Drawing Sheet Number: A314
    Drawing Sheet Title: WALL SECTION

    Change: Wall Section 2/A314
    - Added notation to clarify existing and new construction.
    - Revised line work to coordinate with Civil documentation.

49. Drawing Sheet Number: A404
    Drawing Sheet Title: SECTION DETAILS

    Change: Updated material tags
    - Added missing material note to details 5 and 6.

50. Drawing Sheet Number: A505
    Drawing Sheet Title: SECTION DETAILS

    Change: Added detail 5, EXPANSION JOINT @ RAMP

51. Drawing Sheet Number: A720
    Drawing Sheet Title: FINISH LEGEND

    Change:
    - Revised TER-1 and TER-2 material information.

52. Drawing Sheet Number: A721K
    Drawing Sheet Title: INTERIOR FINISH PLAN – FIRST FLOOR – UNIT K

    Change:
    - Revised TER-2 transition into existing fieldhouse.

53. Drawing Sheet Number: A721P
    Drawing Sheet Title: INTERIOR FINISH PLAN – FIRST FLOOR – UNIT P

    Change:
    - Added corner guard locations in Lobby P130.
    - Removed wall tile from north wall in the Student Enterprise Concession P112.

54. Drawing Sheet Number: A722P
    Drawing Sheet Title: INTERIOR FINISH PLAN – SECOND FLOOR – UNIT P

    Change:
    - Added rubber flooring and stair treads to existing staircases.

55. Drawing Sheet Number: A731
    Drawing Sheet Title: INTERIOR DETAILS

    Change:
    - Added INTERIOR WINDOW SILL DETAIL TYPICAL 14/A731.
    - Revised numbering layout of sheet.

56. Drawing Sheet Number: A752
    Drawing Sheet Title: INTERIOR ELEVATIONS

    Change:
    - Added interior elevation 5/A752.

- Added note “PROVIDE DRYWALL TRIM…” to interior elevations 1/A752, 2/A752, and 4/A752.

57. Drawing Sheet Number: A761
    Drawing Sheet Title: CASEWORK ELEVATIONS

    Change:
    - Revised casework layout in elevation 7/A761.

58. Drawing Sheet Number: A762
    Drawing Sheet Title: CASEWORK ELEVATIONS

    Change:
    - Revised casework layout in elevation 5/A762.
    - Revised casework layout in elevation 6/A762.

59. Drawing Sheet Number: A764
    Drawing Sheet Title: CASEWORK SECTIONS

    Change:
    - Added casework section detail 3/A764.
    - Added casework section detail 4/A764.
    - Added casework section detail 5/A764.

60. Drawing Sheet Number: ES101
    Drawing Sheet Title: ELECTRICAL SITE PLAN

    Change: Updated plan notes.
    - Relocated flagpole light to new flagpole location.
    - Revised flagpole light circuit for updated voltage.

61. Drawing Sheet Number: EL101
    Drawing Sheet Title: ELECTRICAL LIGHTING FIRST FLOOR PLAN – UNIT K

    Change: Updated plan notes.
    - Relocated exit sign locations to be centered above doors.

62. Drawing Sheet Number: EP102
    Drawing Sheet Title: ELECTRICAL POWER FIRST FLOOR PLAN – UNIT L

    Change: Updated plan notes.
    - Moved conference room receptacle from behind furniture.

63. Drawing Sheet Number: EP103
    Drawing Sheet Title: ELECTRICAL POWER FIRST FLOOR PLAN – UNIT O

    Change: Updated plan notes.
    - Added restroom receptacles for powered lift changing tables.

64. Drawing Sheet Number: EP106
    Drawing Sheet Title: ELECTRICAL POWER SECOND FLOOR PLAN – UNIT P

    Change: Updated plan notes.
    - Changed receptacles in art room where countertops and sinks were added.
    - Relocated receptacle in art storage for A/V rack.

65. Drawing Sheet Number: E-601
    Drawing Sheet Title: ELECTRICAL EQUIPMENT SCHEDULES

    Change: Updated plan notes.
    - Added acceptable manufacturer equals for light fixtures.
    - Revised voltage for fixture type SLFP.

66. Drawing Sheet Number: PF105
    Drawing Sheet Title: PLUMBING FOUNDATION PLAN – UNIT P

    Change: See revised piping.

67. Drawing Sheet Number: PP105
    Drawing Sheet Title: PLUMBING FIRST FLOOR PLAN – UNIT P

    Change: See revised piping.

68. Drawing Sheet Number: MH101
    Drawing Sheet Title: MECHANICAL HVAC FIRST FLOOR PLAN - UNIT K

    Change: Moved supply air duct.

69. Drawing Sheet Number: MH103
    Drawing Sheet Title: MECHANICAL HVAC FIRST FLOOR PLAN - UNIT O

    Change: Revised return and supply sizes, added note 18.

70. Drawing Sheet Number: MH107

Drawing Sheet Title: MECHANICAL HVAC SECOND FLOOR PLAN - UNIT O

Change: Revised return and supply sizes, added note 18.

71. Drawing Sheet Number: MP105
Drawing Sheet Title: MECHANICAL PIPING SECOND FLOOR PLAN - UNIT O

Change: Revised piping layout.

72. Drawing Sheet Number: MR104
Drawing Sheet Title: MECHANICAL ROOF PLAN - UNIT O

Change: Revised exhaust fan and air handler locations.

73. Drawing Sheet Number: M-704
Drawing Sheet Title: TEMPERATURE CONTROLS SCHEMATICS

Change: Added lighting contactor sequence of control.

Attachments:
(Specs) 23 21 23, 23 29 23, 23 73 43.19, 26 5613, and 26 56 19
(Drawings)
C-6.1, C-6.2, C-6.7, C-7.1, C-7.2, C-8.1, C-8.2, C-8.7, C-8.21
S001, SD100, S101O, S101P, S111O, S111P, S121O, S121P, S200, S300, S301, S302, S500, S501, S502, S503, S504.
A002, AD101K, A101L, A101P, A205, A304, A305, A312, A313, A314, A404, A505, A720, A721K, A721P, A722P, A731, A752, A761, A762, A764
ES101, EL101, EP102, EP103, EP106, E-601, PF105, PP105, MH101, MH103, MH107, MP105, MR104, M-704

END OF ADDENDUM NO. ONE, SHS Phase 2

SECTION 23 21 23 - HYDRONIC PUMPS

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. Close-coupled, in-line centrifugal pumps.

1.3 DEFINITIONS

A. ECM: Electronically commutated motor.

B. EPDM: Ethylene propylene diene monomer.

C. EPR: Ethylene propylene rubber.

D. FKM: Fluoroelastomer polymer.

E. HI: Hydraulic Institute.

F. NBR: Nitrile rubber or Buna-N.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of pump.

1. Include certified performance curves and rated capacities, operating characteristics, furnished specialties, final impeller dimensions, and accessories for each type of product indicated.
2. Indicate pump's operating point on curves.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pumps to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Mechanical Seals: One mechanical seal(s) for each pump.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of pumps that fail in materials or workmanship within specified warranty period.

1. Warranty Period for Pumps:
a. Warranty Coverage: 2-years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 CLOSE-COUPLED, IN-LINE CENTRIFUGAL PUMPS

A. Provide products by the following manufacturers:

1. Bell & Gossett.
2. Grundfos.
3. Taco.

B. Source Limitations: Obtain pumps from single source from single manufacturer.

C. Description: Factory-assembled and -tested, centrifugal, overhung-impeller, close-coupled, in-line pump as defined in HI 1.1-1.2 and HI 1.3; designed for installation with pump and motor shafts mounted horizontally or vertically.

D. Pump Construction:

1. Casing: Radially split, cast iron, with threaded gauge tappings at inlet and outletand threaded companion-flange connections.
2. Impeller: ASTM B584, cast bronze; statically and dynamically balanced, keyed to shaft, and secured with a locking cap screw. For constant-speed pumps, trim impeller to match specified performance.
3. Pump Shaft Sleeve: Bronze.
4. Pump Stub Shaft: Type 316 stainless steel.

5. Seal: Mechanical seal consisting of carbon rotating ring against a ceramic seat held by a stainless steel spring, and EPDM rubber bellows and gasket. Include water slinger on shaft between motor and seal.
6. Seal Flushing: Flush, cool, and lubricate pump seal by directing pump discharge water to flow over the seal.
7. Shaft grounding ring.

E. Motor: Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 23 05 13 "Common Motor Requirements for HVAC Equipment."

1. Enclosure : Totally enclosed, fan cooled.
2. NEMA Premium Efficient motors as defined in NEMA MG 1.
3. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
4. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.

F. Capacities and Characteristics:

1. See schedule on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine equipment foundations and anchor-bolt locations for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for piping systems to verify actual locations of piping connections before pump installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PUMP INSTALLATION

A. Comply with HI 1.4.

B. Install pumps to provide access for periodic maintenance including removing motors, impellers, couplings, and accessories.

C. Independently support pumps and piping so weight of piping is not supported by pumps and weight of pumps is not supported by piping.

D. Equipment Mounting: Install in-line pumps with continuous-thread hanger rods and spring hangers of size required to support weight of in-line pumps or floor mounted supports.

1. Comply with requirements for hangers and supports specified in Section 23 05 29 "Hangers and Supports for HVAC Piping and Equipment."

3.3 PIPING CONNECTIONS

A. Where installing piping adjacent to pump, allow space for service and maintenance.

B. Connect piping to pumps. Install valves that are same size as piping connected to pumps.

C. Install suction and discharge pipe sizes equal to or greater than diameter of pump nozzles.

D. Install Y-type strainer and shutoff valve on suction side of pumps.

1. Use startup strainer for initial system startup. Install permanent strainer element before turnover of system to Owner.

E. Install check valve, manual balance valve, and shutoff valve on discharge side of pumps.

F. Install pressure gauges on pump suction and discharge or at integral pressure-gauge tapping, or install single gauge with multiple-input selector valve.

3.4 ELECTRICAL CONNECTIONS

A. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

B. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

C. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

3.6 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's written instructions.

2. Check piping connections for tightness.
3. Clean strainers on suction piping. Use startup strainer for initial startup.
4. Perform the following startup checks for each pump before starting:

    a. Verify bearing lubrication.
    b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
    c. Verify that pump is rotating in correct direction.

5. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
6. Start motor.
7. Open discharge valve slowly.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Hydronic pumps will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain hydronic pumps.

END OF SECTION 23 21 23

SECTION 23 29 23 - VARIABLE-FREQUENCY MOTOR CONTROLLERS

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 separately enclosed, pre-assembled, combination VFCs, rated 600 V and less, for speed control of three-phase, squirrel-cage induction motors.

B. Related Sections:

1. Division 26 Section "Motor-Control Centers" for VFCs installed in motor-control centers.

1.3 ACTION SUBMITTALS

A. LEED Submittals:

1. Product Data for Credit EA 5: For continuous metering equipment for energy consumption.

B. Product Data with Shop Drawings:

1. Product Data: For each type and rating of VFC indicated. Include features, performance, electrical ratings, operating characteristics, shipping and operating weights, and furnished specialties and accessories.
2. Shop Drawings: For each VFC indicated. Include dimensioned plans, elevations, and sections; and conduit entry locations and sizes, mounting arrangements, and details, including required clearances and service space around equipment.

a. Show tabulations of installed devices, equipment features, and ratings. Include the following:

1) Each installed unit's type and details.
2) Factory-installed devices.
3) Enclosure types and details.
4) Nameplate legends.
5) Features, characteristics, ratings, and factory settings of each VFC and installed devices.

6) Specified modifications.

b. Schematic and Connection Wiring Diagrams: For power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

A. Load-Current and Overload-Relay Heater List: Compile after motors have been installed, and arrange to demonstrate that selection of heaters suits actual motor nameplate, full-load currents.

B. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed and arrange to demonstrate that switch settings for motor-running overload protection suit actual motors to be protected.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For VFCs to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting thermal-magnetic circuit breaker and MCP trip settings.
2. Manufacturer's written instructions for setting field-adjustable overload relays.
3. Manufacturer's written instructions for testing, adjusting, and reprogramming microprocessor control modules.
4. Manufacturer's written instructions for setting field-adjustable timers, controls, and status and alarm points.

1.6 DESCRIPTION / QUALITY ASSURANCE

A. Source Limitations: Obtain VFDs of a single type through one source from local manufacturer representative. All VFDs on the jobsite shall be furnished from one VFD manufacturer and have a common user interface (control panel).

B. Drives that are manufactured by a third party and "brand labeled" shall not be acceptable. Drive manufacturers who do not build their own power boards and assemblies, or do not have full control of the power board manufacturing and quality control, shall be considered as a "brand labeled" drive.

C. Manufacturer Qualifications: Maintain, within 100 miles of project site, an independent factory certified sales and service center capable of performing certified start up, commissioning, warranty service, training, parts, emergency maintenance and repairs.

D. The VFD and all Electrical Components, Devices, and Accessories must be UL Listed and labeled.

E. This specification is intended to supplement a drive schedule. The drive schedule identifies the optimized BOM for the project and includes quantity, size, voltage, enclosure rating, options, and harmonic mitigation requirements of the drives. IEEE 519-2014 is an electrical system standard for harmonic mitigation and not intended to be applied to an individual piece of equipment.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation, capable of driving full load without derating, under the following conditions unless otherwise indicated:

1. Ambient Temperature: Not less than 14 deg F and not exceeding 104 deg F.
2. Ambient Storage Temperature: Not less than minus 4 deg F and not exceeding 140 deg F)
3. Humidity: Less than 95 percent (noncondensing).
4. Altitude: 0 to 3,300 feet above sea level.

1.8 COORDINATION

A. Coordinate features of motors, load characteristics, installed units, and accessory devices to be compatible with the following:

1. Torque, speed, and horsepower requirements of the load.
2. Ratings and characteristics of supply circuit and required control sequence.
3. Ambient and environmental conditions of installation location.

B. Coordinate sizes and locations of concrete bases with actual equipment provided. Cast anchor-bolt inserts into bases.

C. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace VFCs that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.
2. Warranty Coverage: At a minimum provide coverage for: Parts, on-site labor, and travel time and costs, or replacement of the complete drive as determined by the drive manufacturer's technical support.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ABB Model ACH by Fuller Engineering.
2. Danfoss.
3. Square D; a brand of Schneider Electric.

B. Application: variable torque.

C. Design and Rating: Match load type, such as fans, blowers, and pumps; and type of connection used between motor and load such as direct or through a power-transmission connection.

D. Output Rating: Three-phase; 10 to 60 Hz, with voltage proportional to frequency throughout voltage range; maximum voltage equals input voltage.

E. Unit Operating Requirements:

1. Input AC Voltage Tolerance: Plus 10 and minus 10 percent of VFC input voltage rating.
2. Input AC Voltage Unbalance: Not exceeding 3 percent.
3. Ambient Temperature Rating: Not less than 14 deg F and not exceeding 104 deg F.
4. Ambient Storage Temperature Rating: Not less than minus 4 deg F and not exceeding (140 deg F)
5. Humidity Rating: Less than 95 percent (noncondensing).

F. Isolated Control Interface: Allows VFCs to follow remote-control signal over a minimum 40:1 speed range.

1. Signal: Electrical.

G. Internal Adjustability Capabilities:

1. Minimum Speed: 25 percent of maximum rpm.
2. Maximum Speed: 100 percent of maximum rpm.
3. Acceleration: 0.1 to 999.9 seconds.
4. Deceleration: 0.1 to 999.9 seconds.
5. Current Limit: 30 to minimum of 150 percent of maximum rating.

H. Self-Protection and Reliability Features:

1. Input transient protection by means of surge suppressors to provide three-phase protection against damage from supply voltage surges 10 percent or more above nominal line voltage.

2. Loss of Input Signal Protection: Selectable response strategy, including speed default to a percent of the most recent speed, a preset speed, or stop; with alarm.
3. Under- and overvoltage trips.
4. Inverter overcurrent trips.
5. VFC and Motor Overload/Overtemperature Protection: Microprocessor-based thermal protection system for monitoring VFCs and motor thermal characteristics, and for providing VFC overtemperature and motor overload alarm and trip; settings selectable via the keypad; NRTL approved.
6. Critical frequency rejection, with three selectable, adjustable deadbands.
7. Instantaneous line-to-line and line-to-ground overcurrent trips.
8. Loss-of-phase protection.
9. Reverse-phase protection.
10. Short-circuit protection.
11. Motor overtemperature fault.

I. Automatic Reset/Restart: Attempt three restarts after drive fault or on return of power after an interruption and before shutting down for manual reset or fault correction; adjustable delay time between restart attempts.

J. Power-Interruption Protection: To prevent motor from re-energizing after a power interruption until motor has stopped, unless "Bidirectional Autospeed Search" feature is available and engaged.

K. Bidirectional Autospeed Search: Capable of starting VFC into rotating loads spinning in either direction and returning motor to set speed in proper direction, without causing damage to drive, motor, or load.

L. Torque Boost: Automatically varies starting and continuous torque to at least 1.5 times the minimum torque to ensure high-starting torque and increased torque at slow speeds.

M. Motor Temperature Compensation at Slow Speeds: Adjustable current fall-back based on output frequency for temperature protection of self-cooled, fan-ventilated motors at slow speeds.

N. Integral Input Disconnecting Means and OCPD: NEMA AB 1, instantaneous-trip circuit breaker with pad-lockable, door-mounted handle mechanism.

1. Disconnect Rating: Not less than 115 percent of VFC input current rating.
2. Disconnect Rating: Not less than 115 percent of NFPA 70 motor full-load current rating or VFC input current rating, whichever is larger.
3. Auxiliary Contacts: NO/NC, arranged to activate before switch blades open.
4. Auxiliary contacts "a" and "b" arranged to activate with circuit-breaker handle.
5. NO alarm contact that operates only when circuit breaker has tripped.

2.2 CONTROLS AND INDICATION

A. Status Lights: Door-mounted LED indicators displaying the following conditions:

1. Power on.
2. Run.
3. Overvoltage.
4. Line fault.
5. Overcurrent.
6. External fault.

B. Panel-Mounted Operator Station: Manufacturer's standard front-accessible, sealed keypad and plain-English language digital display; allows complete programming, program copying, operating, monitoring, and diagnostic capability.

1. Keypad: In addition to required programming and control keys, include keys for HAND, OFF, and AUTO modes.
2. Security Access: Provide electronic security access to controls through identification and password with at least three levels of access: View only; view and operate; and view, operate, and service.

    a. Control Authority: Supports at least four conditions: Off, local manual control at VFC, local automatic control at VFC, and automatic control through a remote source.

C. Historical Logging Information and Displays:

1. Real-time clock with current time and date.
2. Running log of total power versus time.
3. Total run time.
4. Fault log, maintaining last four faults with time and date stamp for each.

D. Indicating Devices: Digital displaymounted flush in VFC door and connected to display VFC parameters including, but not limited to:

1. Output frequency (Hz).
2. Motor speed (rpm).
3. Motor status (running, stop, fault).
4. Motor current (amperes).
5. Motor torque (percent).
6. Fault or alarming status (code).
7. PID feedback signal (percent).
8. DC-link voltage (V dc).
9. Set point frequency (Hz).
10. Motor output voltage (V ac).

E. Control Signal Interfaces:

1. Electric Input Signal Interface:

    a. A minimum of two programmable analog inputs: 0- to 10-V dc 4- to 20-mA dc.
    b. A minimum of six multifunction programmable digital inputs.
2. Remote Signal Inputs: Capability to accept any of the following speed-setting input signals from the BAS or other control systems:

a. 0- to 10-V dc.
b. 4- to 20-mA dc.

3. Output Signal Interface: A minimum of one programmable analog output signal(s) (0- to 10-V dc), which can be configured for any of the following:

a. Output frequency (Hz).
b. Output current (load).
c. DC-link voltage (V dc).
d. Motor torque (percent).
e. Motor speed (rpm).
f. Set point frequency (Hz).

4. Remote Indication Interface: A minimum of two programmable dry-circuit relay outputs (120-V ac, 1 A) for remote indication of the following:

a. Motor running.
b. Set point speed reached.
c. Fault and warning indication (overtemperature or overcurrent).
d. PID high- or low-speed limits reached.

F. PID Control Interface: Provides closed-loop set point, differential feedback control in response to dual feedback signals. Allows for closed-loop control of fans and pumps for pressure, flow, or temperature regulation.

1. Number of Loops: One.

G. BAS Interface: Factory-installed hardware and software to enable the BAS to monitor, control, and display VFC status and alarms and energy usage. Allows VFC to be used with an external system within a multidrop LAN configuration; settings retained within VFC's nonvolatile memory.

1. Network Communications Ports: Ethernet and RS-422/485.
2. Embedded BAS Protocols for Network Communications: ASHRAE 135 BACnet Echelon LonWorks; protocols accessible via the communications ports. Provide protocol to be compatible with BMS provider.

2.3 LINE CONDITIONING AND FILTERING

A. Input Line Conditioning: The VFC shall have internal 5% impedance reactors to reduce harmonics to the power line and to add protection from AC transients. The 5% impedance may be from dual (positive and negative DC bus) reactors, or 5% AC line reactors. VFD's with only one DC reactor shall add AC line reactors. The VFC shall include a coordinated AC transient protection system consisting of 4 - 120 joule rated MOV's (phase to phase and phase to ground), a capacitor clamp and 5% impedance reactors.

B. Output Filtering: If the motor load is located more than 100 ft. from VFC, provide output line. Size output line reactor to properly handle and protect the load.

C. Remote manual disconnect: If a remote disconnect is used on the load side of the VFC, an auxiliary set of contacts will be provided in that disconnect wired to disable the VFC. Run disable control wiring in separate conduit from power feed.

2.4 ENCLOSURES

A. VFC Enclosures: NEMA 250, to comply with environmental conditions at installed location.

1. Dry and Clean Indoor Locations: Type 1.
2. Outdoor Locations: Type 3R.
3. Other Wet or Damp Indoor Locations: Type 4.
4. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: Type 12.

B. Plenum Rating: UL 1995; NRTL certification label on enclosure, clearly identifying VFC as "Plenum Rated."

2.5 ACCESSORIES

A. General Requirements for Control-Circuit and Pilot Devices: NEMA ICS 5; factory installed in VFC enclosure cover unless otherwise indicated.

1. Push Buttons, Pilot Lights, and Selector Switches: Standard-duty, type.

a. Stop and Lockout Push-Button Station: Momentary-break, push-button station with a factory-applied hasp arranged so padlock can be used to lock push button in depressed position with control circuit open.

B. NO bypass contactor auxiliary contact(s).

C. Control Relays: Auxiliary and adjustable solid-state time-delay relays.

D. Phase-Failure, Phase-Reversal, and Undervoltage and Overvoltage Relays: Solid-state sensing circuit with isolated output contacts for hard-wired connections. Provide adjustable undervoltage, overvoltage, and time-delay settings.

1. Current Transformers: Continuous current rating, basic impulse insulating level (BIL) rating, burden, and accuracy class suitable for connected circuitry. Comply with IEEE C57.13.

E. Supplemental Digital Meters:

1. Elapsed-time meter.
2. Kilowatt meter.
3. Kilowatt-hour meter.

F. Breather and drain assemblies, to maintain interior pressure and release condensation in NEMA 250, Type 4 Type 4X Type 12 enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

G. Space heaters, with NC auxiliary contacts, to mitigate condensation in NEMA 250, Type 3R Type 4X Type 12 enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

H. Cooling Fan and Exhaust System: For NEMA 250, Type 12; UL 508 component recognized: Supply fan, with stainless steel intake and exhaust grills and filters; 120 -V ac; obtained from integral CPT.

I. Sun shields installed on fronts, sides, and tops of enclosures installed outdoors and subject to direct and extended sun exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, surfaces, and substrates to receive VFCs, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance.

B. Examine VFC before installation. Reject VFCs that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for conduit systems to verify actual locations of conduit connections before VFC installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Coordinate layout and installation of VFCs with other construction including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Wall-Mounting Controllers: Install VFCs on walls with tops at uniform height and with disconnect operating handles not higher than 79 inches above finished floor unless otherwise indicated, and by bolting units to wall or mounting on lightweight structural-steel channels bolted to wall. For controllers not on walls, provide freestanding racks complying with Division 26 Section "Hangers and Supports for Electrical Systems."

C. Floor-Mounting Controllers: Install VFCs on 4-inch nominal thickness concrete base. Comply with requirements for concrete base specified in Division 03 Section "Cast-in-Place Concrete."

1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
2. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
4. Install anchor bolts to elevations required for proper attachment to supported equipment.

D. Roof-Mounting Controllers: Install VFC on roofs with tops at uniform height and with disconnect operating handles not higher than 79 inches above finished roof surface unless otherwise indicated, and by bolting units to curbs or mounting on freestanding, lightweight, structural-steel channels bolted to curbs. Seal roof penetrations after raceways are installed.

1. Curbs and roof penetrations are specified in Division 07 Section "Roof Accessories."
2. Structural-steel channels are specified in Division 26 Section "Hangers and Supports for Electrical Systems."

E. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

F. Install fuses in each fusible-switch VFC.

G. Install fuses in control circuits if not factory installed. Comply with requirements in Division 26 Section "Fuses."

H. Install heaters in thermal-overload relays. Select heaters based on actual nameplate full-load amperes after motors have been installed.

I. Install, connect, and fuse thermal-protector monitoring relays furnished with motor-driven equipment.

J. Comply with NECA 1.

3.3 IDENTIFICATION

A. Identify VFCs, components, and control wiring. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
2. Label each VFC with engraved nameplate.

B. Operating Instructions: Frame printed operating instructions for VFCs, including control sequences and emergency procedures. Fabricate frame of finished metal, and cover instructions with clear acrylic plastic. Mount on front of VFC units.

3.4 CONTROL WIRING INSTALLATION

A. Install wiring between VFCs and remote devices and facility's central-control system. Comply with requirements in Division 26 Section "Control-Voltage Electrical Power Cables."

B. Bundle, train, and support wiring in enclosures.

C. Connect selector switches and other automatic control devices where applicable.

1. Connect selector switches to bypass only those manual- and automatic control devices that have no safety functions when switches are in manual-control position.
2. Connect selector switches with control circuit in both manual and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor overload protectors.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

C. Tests and Inspections:

1. Inspect VFC, wiring, components, connections, and equipment installation. Test and adjust controllers, components, and equipment.
2. Verify that voltages at VFC locations are within 10 percent of motor nameplate rated voltages. If outside this range for any motor, notify Architect before starting the motor(s).
3. Test each motor for proper phase rotation.
4. Perform each electrical test and visual and mechanical inspection stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
5. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

6. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

D. VFCs will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports, including a certified report that identifies the VFC and describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations made after remedial action.

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.7 ADJUSTING

A. Program microprocessors for required operational sequences, status indications, alarms, event recording, and display features. Clear events memory after final acceptance testing and prior to Substantial Completion.

3.8 PROTECTION

A. Temporary Heating: Apply temporary heat to maintain temperature according to manufacturer's written instructions until controllers are ready to be energized and placed into service.

B. Replace VFCs whose interiors have been exposed to water or other liquids prior to Substantial Completion.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, reprogram, and maintain VFCs.

END OF SECTION 23 29 23

SECTION 23 73 43.19 - OUTDOOR, CUSTOM AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Outdoor, custom air-handling units.

1.2 ACTION SUBMITTALS

A. Product Data: For each outdoor, custom air-handling unit.

1. Product information organized to show compliance with each performance requirement of "Performance Requirements" article.
2. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
3. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
4. Include unit dimensions and weight.
5. Include cabinet material, metal thickness, finishes, insulation, and accessories.
6. Fans:

    a. Include certified fan-performance curves with system operating conditions indicated. For fans operating at variable speeds include curves in 10 percent speed increments starting at design speed down to minimum speed.
    b. Include fan-sound power ratings in all eight octave bands. Include inlet or outlet sound power levels to coincide with sound requirements indicated on Drawings.
    c. Include fan construction and accessories. Submit sufficient information to show product compliance with requirements indicated.
    d. Include dimensions and weight.
    e. Include motor ratings, electrical characteristics, and motor accessories.

7. Vibration isolation product data with performance ratings. Uniquely identify and include information for each different isolator type and indicate for each air-handling unit where each isolator type is being used.
8. Include certified coil-performance ratings with system operating conditions indicated. Product data to include: dimensions, dry and operating weight, volume of fluid contained, materials of construction, and performance ratings with system operating conditions indicated.
9. Casing insulation product data and performance ratings.
10. Access door and access panel product data and performance ratings.
11. Roofing product data and performance ratings.
12. Louver product data and performance ratings.

13. Paint product data and performance ratings.
14. Electrical product data and performance ratings.
15. Metal grating product data and performance ratings.
16. Dampers product data, including housings, linkages, and operators with performance ratings.
17. Filters product data with performance characteristics.
18. Roof curbs product data.

B. Shop Drawings: For each type and configuration of indoor, custom air-handling unit.

1. Prepared by manufacturer's factory employees with review and sign-off by those individuals responsible for manufacturing the air-handling units.
2. Include plans, elevations, sections, and mounting details. For air-handling units consisting of multiple levels, create drawings for each level showing interrelationship of levels superimposed.
3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, methods of field assembly, components, and location and size of each field connection.
4. Detail fabrication and assembly of indoor, custom air-handling units, as well as procedures and diagrams.
5. Indicate details of construction with materials description including applicable specified standards and material grades in sufficient detail for reviewers to evaluate point by point compliance with requirements indicated for each air-handling unit.
6. Use actual dimensions of internal equipment in preparing Shop Drawings. Identify mechanical equipment shown on Shop Drawings with equipment designations on Drawings.
7. Thickness and finish of all casing materials with cross references indicated where each is used. Uniquely identify and include information for each different casing construction.
8. Details for each unique casing joint and reinforcing. Indicate wall joints, wall to floor joints, wall to roof joints, floor joints, and roof joints.
9. Roofing details.
10. Assembly details of base and casing for units consisting of multiple sections requiring field assembly.
11. Sizes and dimensioned locations of field connections for ductwork, piping, electrical, and controls.
12. Base and casing penetration and sealing details for factory-installed conduit.
13. Base and casing penetration and sealing details for factory-installed piping including coils.
14. Details of casing connections to field-installed ductwork.
15. Size, shape and layout of base members including localized support of internal components.
16. Base materials, thickness, finishes, lifting provisions, and mounting requirements. Uniquely identify and include information for each different base construction. Clearly indicate for each air-handling unit.
17. Recommended points of field attachment with dimensioned locations.
18. Size and location of each access door, including clearing opening size, with door swing indicated.
19. Size and location of each access panel with service equipment superimposed to show relationship of panel to internal equipment.

20. Drain pans and associated piping, with sizes and locations dimensioned, including relationship to internal equipment.
21. Floor drains and associated piping, with sizes and locations dimensioned, including relation to internal equipment.
22. Coil framework and support including enlarged details showing framework attachment to air-handling unit base, coil attachment to framework, and means for individual coil removal.
23. Mounting details of all internal components, such as fans, filters, and dampers.
24. Hoist rails layout for internal equipment showing size of members, attachments to structure, and serviced equipment superimposed to indicate relationships.
25. Size and location of catwalks, handrails, ladders, and safety cages including construction details and details of attachment to air-handling unit base.
26. Location of UV-C lamp systems, service clearances, and mounting details.
27. Location of receptacles, service lights, and switches.
28. Location of motor controllers and disconnect switches.
29. Size and location of junction boxes used for interface with field electrical power.
30. Point-to-point electrical power wiring diagrams including wire size, conduit size, motor controllers sizes, switch types and ratings, receptacle types and ratings, service light fixture types and ratings.
31. Point-to-point control wiring diagrams including cable types and sizes, conduit sizes, and connected control devices.
32. Point-to-point control tubing diagrams including tubing types and sizes, conduit sizes, and connection controls devices.
33. Control panel drawings drawn to scale showing detailed internal layout.
34. Indicate code, operating, and maintenance clearances drawn to scale using dashed lines.
35. Indicate weights of internal components, weight of each separately shipped section, and air-handling unit total weight.
36. .

C. Comparison Schedule:

1. Submit a schedule to indicate performance of equipment scheduled on Drawings directly compared to performance of submitted equipment.
2. Clearly identify each line in schedule to indicate "Scheduled" where indicating performance scheduled on Drawings and "Submitted" where indicating performance of submitted equipment.
3. Organize schedule to first indicate performance scheduled on Drawings on one line followed by line directly below that indicates performance of submitted equipment.
4. Comparison schedule shall follow arrangement and organization of scheduled information indicated on Drawings.
5. Submitted equipment shall have a value for each scheduled value indicated.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Floor plans, sections, and other details, or BIM model, drawn to scale, showing the items described in this Section and coordinated with all building trades.

B. Source quality-control reports.

C. Startup service reports.

D. Field quality-control reports.

E. Sample Warranty: For manufacturer's warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-handling units to include in emergency, operation, and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Panel Filters: One set(s) for each air-handling unit.
2. Access Door Gaskets: One set(s) for each unique access door.
3. Fan Belts: One set(s) for each fan with belt-drive assembly.

B. Tool Kit: Manufacturer to provide a tool kit including special tools required for air-handling unit service. See "Accessories" Article for additional requirements.

1.6 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate sizes and locations of structural-steel support members, if any, with actual equipment provided.

1.7 DELIVERY, STORAGE, HANDLING

A. Deliver air-handling units with factory-installed shipping skids and lifting lugs; pack small components in factory-fabricated protective containers. Cover units with heat-shrinkable plastic sheeting suitable for shipping from point of manufacture to Project.

B. Handle air-handling units carefully to avoid damage to components, casing, and finish. Do not install damaged components; replace and return damaged components to air-handling unit manufacturer.

C. Store air-handling units in a clean dry place and protect them from weather and construction activities.

D. Keep air-handling units fully covered and protected during construction. Remove dirt and debris and clean units to a factory-cleaned condition.

E. Comply with manufacturer's written rigging and installation instructions for unloading air-handling units and moving them to their final locations.

1.8 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of air-handling units that fails in materials or workmanship within specified warranty period.

1. Warranty Period: One year(s) from date of Substantial Completion.

B. Extended warranties include, but are not limited to, the following:

1. Complete Air-Handling Unit: Two years from date of Substantial Completion for entire air-handling unit and longer where indicated for individual components.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of air-handing units and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

E. Casing Structural Performance:

1. Floor: Capable of withstanding positive/negative 8 inches wg of internal static pressure, without exceeding a deflection of L/300 of span.
2. Walls and Roof: Capable of withstanding positive/negative 8 inches wg of internal static pressure, without exceeding a midpoint deflection of L/200 of span.

F. Casing Leakage Performance, ASHRAE 111: Class 3 leakage or better at plus or minus 8 inches wg.

G. Casing Thermal Performance:

1. Surface Condensation: Air-handling manufacturer shall evaluate potential for condensation and design and manufacture entire unit casing to prevent condensation at most extreme operating conditions encountered.
2. Thermal Break: Incorporate a thermal break at each through metal path to prevent condensation from occurring on interior and exterior of casing.

3. U-Value: Overall U-value or equivalent R-value of casing shall not exceed governing codes and ASHRAE/IES 90.1 while considering the effects of metal-to-metal contact and thermal bridging in calculations.

H. Air Tunnel Aerodynamic Performance: Position air-handling unit internal components and transition between internal components to maintain uniform airflow; minimize sound levels and energy consumption. Use methods indicated and other means to ensure compliance.

1. Use turning vanes if necessary to direct the air path.

a. Design, manufacture, and install vanes in accordance with applicable requirements in ASHRAE and SMACNA guidelines, handbooks, and standards.
b. Install vanes firmly in place so that no vane movement occurs at worst-case airflow capacity possible.

2. Use fan inlet and discharge transitions and other devices to maximize system regain and minimize airborne sound levels.
3. Center system components such as coils, fans, and filters, vertically and horizontally, in the airstream.
4. Maintain spacing between components such that airflow patterns to adjacent components are as uniform as possible and that component "dead spots" or "jetted areas" are avoided.
5. Design and install internal structural supports, piping, and conduit that do not block airflow and impede performance of coils, fans, filters, and other unit components, and service space clearances.

I. Durability Performance: Design and manufacture air-handling units with underlying requirement to provide a highly durable piece of equipment.

1. Unit Life Expectancy: 25 years.
2. Supporting Documentation: Submit documentation showing proposed products to consider and include design features, components, and materials to satisfy requirement.

J. Outdoor Environment:

1. Air-handling units specially designed to withstand effects of wind, rain, ice, snow, seismic, air quality, sun, and other influences associated with outdoor installations.
2. Comply with requirements of air-handling unit and governing codes.

K. Safety:

1. Comply with OSHA regulations.
2. Exposed sharp edges and corners of metal shall be protected or rounded to prevent injury to personnel not wearing gloves.
3. Cover exposed ends of screws with plastic or metal covers to prevent injury to personnel coming in contact with screws.

L. Serviceability:

1. Hoisting Provisions: Fans and motors weighing more than 200 lb shall have full-length hoist rails mounted over the equipment to facilitate service, removal, and replacement.
2. Mounting Location: Install internal components in readily accessible locations to facilitate ease of service and replacement.
3. Service Access:

    a. Internal components shall be serviceable through access sections with doors indicated on Drawings.
    b. Internal components shall be removable and replaceable through access doors or panels.
    c. Review requirements for access doors and panels indicated and recommend additional access doors and panels if required for uninhabited service, removal, and replacement of components.

4. Tripping Hazards: Floors in accessible sections of air-handling unit shall be free of standing seams, reinforcing, supports, or section splits located in the walking path that is capable of causing a tripping hazard. Locate section splits immediately adjacent to internal walls.

M. Quality: Type and thickness of materials indicated are the minimum acceptable. Provide better-quality materials of a heavier thickness if required to comply with performance requirements indicated.

1. If manufacturer's standard construction exceeds requirements indicated, use manufacturer's standard construction.
2. If manufacturer's standard construction does not comply with requirements indicated, modify manufacturer's standard construction to comply with requirements.

N. Vibration Performance: Air-handling unit manufacturer shall evaluate vibration of internal components installed inside of air-handling units and include internal vibration isolation required to limit the vibration transmitted to the building at a low enough level that vibration is not perceived by building occupants.

2.2 CAPACITIES AND CHARACTERISTICS

A. See equipment schedules on Drawings.

2.3 SOURCE LIMITATIONS

A. Source all outdoor custom air-handling units from same manufacturer.

B. Like components furnished with air-handling units shall be from same manufacturer.

C. Air-handling units shall be manufactured in United States or Canada.

D. OUTDOOR, CUSTOM AIR-HANDLING UNITS

E. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Haakon Industries.
   2. Air Flow Equipment, Inc.
   3. Ventrol (Fully Custom Line).

F. Unit Arrangement and Configuration:

   1. Arrangement: Project-specific arrangement and configuration of air-handling units indicated on Drawings. Do not deviate from requirements indicated without submitting a formal request clearly describing each deviation and reason for each deviation, and only after receiving Architect's written acceptance.
   2. Mounting Requirements: Indicated on Drawings.
   3. Multiple Sections: Each air-handling unit shall consist of multiple sections for field assembly to comply with requirements indicated on Drawings.
   4. Multiple Sections, Splits: Air-handling unit manufacturer to determine number of sections and location of section splits required for each air-handling unit in accordance with the following criteria:

      a. Physical size and weight of each section, on-site path of travel, and methods for erection and installation. Air-handling manufacturer to review criteria with Installer before preparing Shop Drawings.
      b. Maximize physical size of each air-handling unit section considering, shipping, moving, erecting, and installation.
      c. Minimize the number of air-handling unit sections requiring field assembly. Preference is for single-piece air-handling units where possible.

G. Air-Handling Unit Base:

   1. Performance:

      a. Air-handling unit manufacturer shall design and assemble air-handing unit casing and internal components for attachment and support by air-handling unit structural base.
      b. Design air-handling units to be lifted from only the air-handling unit structural base and not the casing.
      c. Support air-handling units from only the perimeter base unless otherwise indicated on Drawings.
      d. Air-handling unit manufacturer to size and locate intermediate structural base supports as required to comply with structural performance indicated for air-handling unit floors.
      e. Level base before factory assembly of air-handling unit casing and internal components to ensure proper fit and alignment.

   2. Structural Member Size:

      a. Air-handling unit manufacturer shall select size of base members and construction of base to withstand the rigors of loading, unloading, shipping,

and rigging without damage to air-handling unit components or misalignment of factory-assembled components.
b. Depth and weight of structural members shall be selected by air-handling unit manufacturer to comply with performance requirements indicated.
c. Depth of perimeter base members is not less than 8 inchesdeep.

3. Structural Member Spacing: Positioned as required to comply with requirements indicated, but not to exceed 24 inches.
4. Materials: Structural aluminum, ASTM B209, Alloy 6061 T6 Structural stainless steel, ASTM A276/A276M, Type 304L or structural stainless steel, ASTM A276/A276M, Type 316L.

   a. Perimeter Members: channel or tube.
   b. Intermediate Members (Spanning Full Width of Unit): channel or I or W beam shapes or tube.
   c. Cross Members (Spanning Intermediate Members): channel or tube.
5. Welding Filler Metals: Comply with AWS welding codes for welding materials appropriate for thickness and chemical analysis of material being welded.

   a. Use welding materials with corrosion properties equal to material being welded.

6. Welding Procedures:

   a. Structural Welding Codes: AWS D1.2/D1.2M for aluminum and AWS D1.6/D1.6M for stainless steel.
   b. Join structural members to one another using continuous welds.
   c. After welding and fabrication, deburr and grind exposed welds to provide smooth surfaces free of sharp edges.

7. Penetrations through Base Perimeter: Seal weld pipe, tubing, and conduit penetrations through base perimeter members to provide a watertight assembly.
8. Section Joints: Air-handling units consisting of multiple sections for field assembly shall be joined with structural joining plates.

   a. Joining plate material type to match base.
   b. Joining plate of thickness required to join sections without resulting in a permanent deflection, minimum 1/2 inch thick.
   c. Continuously weld joining plates to each mating end of base.
   d. Joining plates shall not extend beyond outer edge of adjoining base.
   e. Plates to include at least three equally spaced holes for field connection using factory-furnished threaded hardware of a nominal diameter of at least 1/2 inch.

9. Lifting Provisions: Air-handling unit manufacturer to design and install lifting lugs of size and location required to comply with performance requirements indicated. Lifting lugs extending beyond the base shall be easily removable in the field after unit is installed.
10. Curb Cap:

a. For air-handling units installed on a continuous perimeter curb, provide air-handling unit base with a continuous structural angle counterflashing.
b. Angle shall extend down vertical face of curb to completely cover wood nailer.
c. Coordinate inside dimension of angle counterflashing with curb dimension and roofing. Provide adequate clearance between angle counterflashing and roofing over curb.

H. Unit Casings:

1. Casing Assembly:

a. Appearance:

1) Exposed exterior surfaces of casing shall have a neat and finished appearance free of standing seams, exposed reinforcing, and other casing protrusions more than 0.5 inch beyond the exterior skin surface.
2) Underside of air-handling units with finished installation exposed to view shall have finished appearance matching casing walls. Casing shall be recessed within the perimeter structural base to provide a single contiguous plane.
3) Interior surfaces of casing shall have a neat and finished appearance free of standing seams, exposed reinforcing, and other casing protrusions more than 0.5 inch beyond the skin surface.

b. Dissimilar Metals: Isolate dissimilar metals that are in contact to prevent galvanic action and corrosion.
c. Framing and Supports: Interconnect and support individual casing wall and roof panels using either formed panel construction or framed construction with structural support members. For framed casing construction, materials used to construct casing of structural support members shall be as follows:

1) Casings with Aluminum Outer and Inner Skins: Aluminum extrusions in accordance with ASTM B211 Alloy 6063 T6.
2) Casings with Galvanized-Steel Outer and Inner Skins: Galvanized steel.
3) Casings with Galvanized-Steel Outer Skin and Aluminum or Stainless Steel Inner Skins: Stainless steel.
4) Casings with Stainless Steel Outer and Inner Skins: Stainless steel.

d. Seals: Seal interior and exterior joints and seams to make casing air- and watertight. Trim factory-applied sealant flush with adjacent surface.
e. Double-Wall Casings: Consisting of insulation sandwiched between an outer and inner metal wall. Use double-wall casings to construct air-handling units unless septum casings are required.
f. Septum Casings: Triple-wall construction consisting of a solid metal inner wall sandwiched between insulation layers that are covered with metal walls. Use septum casings for applications having performance requirements that are not achievable with double-wall casings.

g. Wall and Roof Penetrations: Seal voids around conduit, piping, and tubing penetrations.

1) Conduit, Pipe, and Tube: Sizes NPS 3 (DN 80) and smaller:

a) Seal void through casing with a nonhardening vapor-barrier caulk covered by an escutcheon on both interior and exterior sides of casing. Back caulk using formed insulation within a sheet metal sleeve.
b) Seal void using a friction fit neoprene or EPDM sheet material attached to casing using a bed of adhesive.
c) Cover penetration and sealing sheet material with metal escutcheon matching adjacent casing material.

2) Larger Conduit, Pipe, and Tube Sizes: Seal annular void using an adjustable compression-type sealing sleeve.

h. Floors: Route conduit, pipe, and tube within a floor-mounted pipe sleeve.

1) Sleeve:

a) Fabricate sleeve of aluminum or stainless steel pipe.
b) Extend top of sleeve above adjacent floor surface to prevent standing water on floor from entering annular space of sleeve.
c) Seal weld sleeve to top of floor for an air- and watertight seal.
d) Seal annular void of sleeve using an adjustable compression seal or nonhardening packing material.

i. Floor Openings with Metal Grating:

1) Factory install walk-on safety gratings over any floor opening large enough to create a safety hazard for operators including, but not be limited to, supply-, return-, and exhaust-air openings.
2) Bar Grating:

a) Materials: Use stainless steel grating for aluminum and stainless steel floors.
b) Air-handling unit manufacturer shall select depth and thickness of grating bars to limit deflection to 1/360 of span when subjected to a dynamic load of not less than 500 lb.
c) Industry-standard welded grating with bars at least 1-1/2 inches deep by at least 3/16 inch thick with nominal 1-3/16-inch main bar spacing and 4-inch cross bar spacing.
d) Source: Product manufacturer specializing in metal gratings.
e) Grating bearing surface shall extend beyond clear opening in floor at least 2 inches.

3) Mounting Frame:

a) Mount grating in a continuous structural angle or bar frame so no ends of grating bars are exposed. Top of frame to be flush with top of grating.
b) Secure grating to frame with threaded hardware so grating does not move when walked on but can be easily removed from top to gain access behind grating.
c) Continuously weld mounting frame to air-handling unit floor.
d) Fasten mounting frame to air-handling unit floor with hardware and seal attachment air- and watertight.
e) For applications with automatic dampers installed at floor openings, elevate height of mounting frame and grating to enclose entire damper assembly including jackshaft so walk-on surface of grating is above damper assembly.

j. Waterproof Floors: Continuously weld floor joints, seams, and penetrations to completely seal floor. Roll all edges of floor up at least 1.5 inch to create a shallow tub capable of holding standing water.
k. Duct Connections - Direct to Casing: Frame and reinforce unit casing around perimeter of unit duct openings to accommodate direct attachment of field-installed ductwork. Coordinate requirements with Installer to accommodate field connection.

l. Materials for Outer Skin of Casing Walls and Roofs:

Retain any of "Galvanized-Steel Solid Sheet," "Aluminum Solid Sheet," and "Stainless Steel Solid Sheet" subparagraphs below.

m. Galvanized-Steel Solid Sheet: ASTM A653/A653M; G90 coating; minimum (nominal) 18 gauge thick.
n. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, stucco-embossed texture finish; minimum (nominal) 0.063 inch thick.

2. Materials for Inner Skin of Casing Walls and Roofs:

a. Galvanized-Steel Solid Sheet: ASTM A653/A653M; G90 coating, minimum (nominal) 18 gauge thick.
b. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.040 inch thick.
c. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M; Type 304Lor Type 316L; No. 2D finish; minimum (nominal) 18 gauge thick.

3. Materials for Floor Walking Surface:
a. Aluminum Diamond Treadplate: ASTM B632/B632M, Alloy 6061 T6; mill finish; minimum (nominal) 0.1875 inch thick.
b. Stainless Steel Diamond Treadplate: ASTM A793; Type 304Lor Type 316L; mill finish; minimum (nominal) 0.125 inch thick.

4. Materials for Underside of Floor Insulation:
a. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.063 inch thick.

b. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M; Type 304L**or** Type 316L; No. 4 finish; minimum (nominal) 18 gauge thick.

5. Materials for Internal Walls:
   a. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.063 inch thick.
   b. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M, Type 304Lor Type 316L; No. 2D finish; minimum (nominal) 16 gauge thick.

6. Surfaces in Contact with Airstream:

   a. Comply with ASHRAE 62.1 and NFPA 90A.

7. Insulation for Casing Walls and Roofs Not Exposed to Airstream:

   a. Materials Not Exposed to Airstream: Glass or mineral-fiber board, injected or sprayed polyurethane foam or polyurethane foam board insulation with a minimum nominal density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

8. Insulation for Casing Walls and Roofs Exposed to Airstream:

   a. Materials Exposed to Airstream: Glass or mineral-fiber board insulation with a minimum density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

9. Insulation for Casing Floors:

   a. Materials: Glass or mineral-fiber board insulation, injected or sprayed polyurethane foam or polyurethane foam board insulation with a minimum nominal density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

10. Access Doors:

   a. Application: Install access doors in air-handling units at locations indicated on Drawings.
   b. Adjustment: Design doors for field adjustment capable of maintaining specified leakage rate.
   c. Mounting Height: Install bottom of door frame within 2 inches (50 mm) of air-handling unit floor walking surface.
   d. Performance: Leakage as required to satisfy overall unit leakage performance indicated, but not more than 1.0 cfm per door when tested at 10 inches wg.
   e. Fabrication: Formed and reinforced, constructed of same materials and thicknesses as casing.
   f. Swing: Arrange doors to be opened against pressure, unless otherwise indicated on Drawings.

g. Frame: Extruded aluminum with thermal break or stainless steel with welded mitered corners.
h. Handles:

1) Secure door closed using not less than two latches with handles located at quarter points along door height.
2) If three latches with handles are included, install one at midpoint of door height and equally space others.
3) Air-handling unit manufacturer has option to use a multipoint latching mechanism that is operable from a single door handle located at midpoint of door height, but secures door to frame at top, bottom, and handle location.
4) Include door handles on outside and inside of door to allow operator access to open and close door from outside and inside of unit.
5) Field adjustable to accommodate changes to fit and gasket compression.
6) Durable product capable of withstanding repeated opening and closing of door while operating under design pressure without damage.

i. Hinges: full-length, concealed, stainless steel piano hinge.
j. Gasket:

1) Design: Specially formed with an internal air chamber specifically designed to seal on two surfaces without taking a permanent set.
2) Dual Gaskets: Primary and secondary gasket.
3) Location: Install gaskets around entire perimeter of doors or frames.
4) Material: EPDM, neoprene, or santoprene.
5) Protection: Seat gasket in a protective metal ribbed chamber integral to door or door frame to protect gasket from damage by operator incidental contact.
6) Service: Field replaceable.
7) Adhesive-backed tape-type gaskets adhered to a single flat surface are unacceptable.

k. Size of Door Frame Clear Opening: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components.

1) Width: At least 24 inches clear inside of door frame.
2) Height: Full clear height of unit casing up to a maximum height of 72 inches clear inside of door frame.

l. Safety Latches and Stops:

1) Safety Latches: Install safety latch with retainers on outward swing doors that do not open against pressure to allow restricted travel for purpose of pressure relief and so that doors do not open uncontrollably due to inside pressure.

2) Stops: Install cushioned door stops on inward swinging doors where necessary to limit door travel that could potentially damage the door or internal components.

m. Tie-Backs: Install tie-backs with retainers on outward-swinging access doors to hold doors in an open position during service.

n. Windows:

1) Construction: Fabricate windows with frame mounted in access doors of double-glazed safety glass with an airspace between panes and interior and exterior seals.
2) Condensation Control: Install desiccant material in airspace between panes if necessary to prevent condensation from forming on glazing.
3) Clear Viewing Size: Minimum 12 inches (300 mm), square or round.
4) Mounting Location: Center window in door width. For doors up to 60 inches high, locate top of window 6 inches below top of door. For taller doors, locate center of windows at optimal viewing height, approximately 60 inches above floor adjacent to unit.
5) Application: Install windows in all access doors.

11. Standing-Seam Metal Roof: Construct air-handling unit roof casing with standing seams designed for waterproof roofing applications.

a. Construct air-handling unit roof using same materials and finish as walls.
b. Slope roof away from primary access side of unit at not less than 1 percent.
c. For air-handling units shipped in multiple sections, include standing-seam joiners at each split with adhesive, hardware, and cover strips for field joining by Installer.

12. Roofing Membrane:

a. Cover entire roof with a roofing membrane. Extend membrane down sides of unit a sufficient distance to provide a waterproof roof assembly and secure in place with a metal flashing matching casing material and finish.

1) Roofing membrane shall have an elongation of at least 450 percent when tested in accordance with ASTM D412.
2) Roofing membrane shall not become brittle at temperatures down to minus 40 deg F.

b. Slope unit roof away from primary access side of unit at a slope in accordance with roofing manufacturer's written instructions, but not less than 1 percent.
c. Application: Factory or field applied as determined by air-handling unit manufacturer; in accordance with roof manufacturer's written instructions.

1) Field-applied roofing to be supervised by an air-handling unit manufacturer's factory service representative.

13. Service Corridors:

a. Description: Integral walk-in service corridors with heated temperature-controlled indoor environment for weather-protected service access to unit access doors and factory-installed piping electrical and controls.
b. Size and Arrangement: As indicated on Drawings.
c. Construction: Base, floor, walls, and roof to match air-handling unit.
d. Access Doors:

1) Width: Minimum 24-inch (900-mm) clear inside frame opening.

e. Electrical: Factory install and wire service lights with switches and receptacles.
f. Indoor Environmental Control: Factory install HVAC equipment required to thermostatically controlled indoor environment to maintain following indoor conditions:

1) Minimum Temperature: 40F.

g. Field Connections to Factory-Installed Piping, Electrical, and Controls: Arranged to make field connections to factory terminations inside of service corridor. Frame openings in air-handling unit floor to accommodate field connections.

I. Internal Structural Supports:

1. General:

a. Air-handling unit manufacturer shall design and assemble air-handing unit internal structural supports for attachment and support by air-handling unit structural base.
b. Factory install structural supports for internal support casing if required to comply with casing structural performance.
c. Factory install hoist beams and rails over equipment to comply with performance requirements for service.

2. Structural Member Size and Spacing:

a. Size: Air-handling unit manufacturer shall select size of members and construction to do the following:

1) Withstand the rigors of loading, unloading, shipping and rigging without damage to air-handling unit components or misalignment of factory-assembled casing and components.
2) Comply with performance requirements indicated.

b. Spacing: Positioned as required to comply with requirements.

3. Materials: Structural aluminum, ASTM B209, Alloy 6061 T6 Structural stainless steel, ASTM A276/A276M, Type 304L or structural stainless steel, ASTM A276/A276M, Type 316L.

a. Structural Supports: Angle, channel, I or W beam shapes or tube shapes selected by air-handling unit manufacturer for application.
b. Hoist Beams for Internal Components (Spanning Full Width of Unit): I or W beam shapes.

J. Centrifugal Plenum Fans:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Greenheck fan Corporation.
b. Loren Cook Company.
c. New York Blower Company (The).
d. Twin City Fan & Blower.

2. Source Limitations: Obtain fans from single source from single manufacturer.
3. Operating Performance:

a. Air-handling unit manufacturer shall account for, and include in, submitted fan selections any static pressure drops associated with unit, and system effect due to fan operating in the air-handling unit.

1) Add additional static pressure to fan scheduled total static pressure.
2) If fan motor horsepower is increased, notify Architect.

b. Fans shall have sharply rising pressure characteristics at operating point and stable in operation. Fan horsepower characteristics shall be self-limiting and non-loading.
c. Fan speed, brake horsepower, and sound power levels indicated are maximum acceptable.
d. Motor horsepower, airflow rate, and static pressure are minimum acceptable. Motor horsepower shall be capable of handling maximum horsepower of fan at scheduled speed.
e. Fan air performance ratings shall be based on tests in accordance with ASHRAE 51/AMCA 51 and AMCA 210.
f. Base fans sound ratings on AMCA 300 and calculation methods in accordance with AMCA 301.
g. At a minimum, fans shall have AMCA class indicated on Drawings.

1) Fan operating limits shall be in accordance with AMCA 99 for AMCA class indicated.
2) If AMCA class is not indicated, use AMCA 99 as basis for determining AMCA class.
3) AMCA class selected shall be capable of accommodating a plus 10 percent increase to fan static pressure indicated on Drawings.

h. Motor starting torque shall exceed fans speed-torque requirements.

4. Vibration Balance:

a. Each fan/motor assembly shall be factory balanced to AMCA 204, BV-4, Balance Quality Grade G2.5 or better through entire operating speed range

from minimum speed to maximum speed. If minimum speed is not indicated on Drawings, assume minimum speed to be 10 percent of design speed.

b. Identify and record each speed and speed range within the fan operating range that could cause potential vibration problems.
c. Submit test reports as an information submittal for Project record.

5. Operation and Service Requirements:

a. Each fan/motor assembly shall be capable of lock-out/tag-out procedure without interrupting operation of other fans in air-handling unit.
b. Design and incorporate features to permit safe, rapid, and economical maintenance.

6. Fan Base:

a. Mount fan, motor, and drive on a structural-steel or an aluminum base; except, where indicated on Drawings, install fan on a concrete-filled inertia base.
b. Include base and vibration isolators in accordance with requirements indicated.
c. Electrically weld the base.
d. Size and design the base construction to withstand the rigors of shipping and rigging.
e. Include the base with lifting lugs or holes.
f. Construct base with gusseted brackets to accommodate spring isolators indicated.

7. Fan Panel:

a. Construct fan panel of aluminum or powder-coated steel.
b. Support fan wheel and bearings from a structural aluminum or powder-coated steel framework.
c. Reinforce and brace fan panel to prevent vibration and pulsation.
d. Include stiffeners to form a rigid panel that is free of structural resonance and vibration.

8. Fan Inlet and Wheel Cone:

a. Precision-spun or die-formed, matched inlet and wheel cone to ensure streamlined airflow into the wheel and full loading of blades.
b. Inlet and wheel cones shall be hyperbolic.
c. Inlet cone shall be a single piece, constructed of aluminum or powder-coated carbon steel.
d. Fasten inlet cone to fan panel using bolts, nuts and washers to provide a positive and secure attachment that can be field removable.
e. Inlet cones that are held in place using retaining clips are unacceptable.

9. Fan Wheel:

a. Fan blades shall be a true hollow airfoil shape, continuously welded to backplate and wheel cone.
b. Construct blades of aluminum, reinforced for AMCA fan class and operating conditions scheduled.
c. Design blades to provide smooth and aerodynamic airflow over all surfaces of blade.
d. Construct fan hubs of cast aluminum or cast-iron ASTM A48/A48M Class 20A and better, with integral bracing for extra strength and stiffness.

    1) Castings shall be sound and free of shrink holes, blow holes, cracks, scale, blisters, or other similar injurious defects.
    2) Clean surfaces of castings by blasting, pickling, or other standard method.
    3) Mold-parting fins and remains of gates and risers shall be chipped, filed, and ground flush.
    4) Design hubs to maintain a high resistance to fatigue and low relative wheel imbalance.

e. Hubs shall be keyed and setscrewed to shaft for positive attachment.
f. Construct the wheel backplates of aluminum.
g. Statically and dynamically balance fan wheel before fan is assembled.
h. Select entire rotating assembly so first critical speed is at least 30 percent greater than fan design speed and at least 20 percent greater than maximum AMCA class speed.

10. Fan Drive:

    a. Direct drive, arrangement 4 in accordance with AMCA 99 for single-width, single-inlet fans.
    b. Adjust wheel width and diameter to match motor speed while providing performance scheduled.
    c. Fasten fan wheel directly to motor shaft using a key and setscrew as previously specified.
    d. Construct motor base and pedestal of aluminum or powder-coated carbon steel plate.
    e. Fan Speed Limitation: Fan speed at design conditions indicated shall not exceed speed on motor nameplate for direct-drive applications. Do not select fans to operate at motor speeds greater than motor nameplate.

11. Protective Screens: Factory furnish and install protective screens on fan inlet and discharge.

    a. Expanded metal or welded wire welded to a painted carbon steel or stainless steel frame.
    b. Screens shall comply with OSHA requirements.
    c. Screens shall be constructed of painted carbon or stainless steel.
    d. Fasten screens to fan frame for easy removal by maintenance personnel.

12. Welding:

a. Use AWS- or ASME-certified welders to weld materials required by application.
b. All welds shall be continuous full penetration welds.

13. Hardware: Hex-head, high-strength 300 series stainless steel.
14. Nameplates:

a. Construct nameplates and rotation arrows of aluminum or 300 series stainless steel.
b. Securely fasten nameplate and rotation arrow to fan housing using pins or sheet metal screws.
c. Locate nameplates in a highly visible location on motor side of fan.
d. Provide the following information on nameplate: Engraved or stamped.

1) Manufacturer, address, phone number, and website address.
2) Manufacturer model number.
3) Serial number.
4) Manufacturing date.
5) Fan size.
6) Fan schedule equipment designation (may be listed on a separate nameplate if there is insufficient space).
7) Design airflow.
8) Design static pressure.
9) Design fan speed.
10) AMCA fan class.
11)

15. Air-Handling Unit Factory Assembly:

a. Internal Access: Include each fan with internal access from downstream and upstream sides as indicated on Drawings.
b. Removal and Replacement: Each fan shall be independently removable and replaceable through a removable access panel installed in air-handling unit casing.
c. Fan Supports:

1) Construct a freestanding and self-supporting structural framework to support each fan individually from and independent of adjacent fans.
2) Construct frame work from aluminum , painted steel, or stainless steel.

K. Fan Motors:
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Baldor Electric Company.
b. Emerson Electric Company.
c. Toshiba International Corporation.
d. US Motors; Nidec Motor Corporation; Nidec Corporation

2. Source Limitations: Obtain motors from single source from single manufacturer.

3. Standard: Comply with NEMA MG 1 unless more stringent requirements are indicated.
4. Description: NEMA MG 1, Design A, as required to comply with capacity and torque characteristics; medium-induction motor.

    a. Performance:

        1) Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.
        2) Efficiency: NEMA Premium Efficiency rating complying with NEMA MG 1.
        3) Motor Horsepower: Minimum size as indicated on Drawings. Motor shall operate fan under all conditions indicated without exceeding motor nameplate and without use of motor service factor.
        4) Inverter-Duty Rating: Comply with minimum requirements of Class F or Class H insulation, suitable for "inverter-duty" or "drive-duty" applications in accordance with NEMA MG 1. Motor operation through a variable-frequency controller shall not adversely affect the motor performance, operation, useful life, and warranty.
        5) Service Factor: 1.15.
        6) Temperature Rise: Match insulation rating.

5. Enclosure Type: ODP.
6. Shaft Grounding System:

    a. Shaft grounding system to protect bearings from induced voltage.
    b. Shaft grounding system shall have low drag (less than 0.05 percent of motor horsepower), and shall operate for a minimum of three years without periodic maintenance or adjustments.
    c. Mounting: External or internal to motor enclosure.

7. Frame:

    a. Frames with integrally cast feet unless other requirements of driven equipment require a different arrangement.
    b. Frame, front and back end brackets, and front and back end bearing intercaps constructed of cast iron, ASTM A48/A48M, Class 25 or better.

8. Rotor:

    a. Fabricate rotor frame from die-cast aluminum, copper, or associated alloys.
    b. Key rotors to motor shaft.
    c. Rotating assembly shall be dynamically balanced to within limits defined in NEMA MG 1.
    d. Motors shall have the entire rotating assembly between bearing inner caps coated with a corrosion-resistant coating.

9. Stator:

a. Copper windings shall be spike resistant to withstand 1600 peak V.
b. Entire wound and insulated stator coated with a coating to protect against moisture and corrosion.

10. Shaft:

a. Solid shaft fabricated of Type 304 stainless or Type 316 stainless steel, accurately turned, ground and polished, and inspected for accuracy.
b. End of shaft with drilled hole for use in field measurements.

11. Bearings:

a. Grease-lubricated ball or roller bearings.
b. ABMA 11 L-10 motor bearing life of 100,000 hours.
c. Bearing Lubrication:

1) Factory lubricate motor bearings using a premium moisture-resistant polyurea thickened grease with rust inhibitors suitable for extreme operating temperatures encountered.
2) Coordinate special requirements that may impact lubrication and include appropriate lubrication.

12. Grease Fittings:

a. Equip each bearing housing with an easily accessible grease inlet.
b. Fit grease inlets with a grease fitting and protective fitting cap.
c. Equip inlets with an automatic grease relief fitting to prevent excessive greasing.
d. Equip each bearing housing with grease drain and threaded plug.

13. Conduit Box:

a. Material same as frame.
b. For motor frames 365T and below, furnish conduit boxes sized with internal volumes in accordance with NEMA MG 1.
c. For motor frames larger than 365T, furnish conduit boxes one size larger than NEMA MG 1.
d. Coordinate the location and mounting of conduit box with driven equipment manufacturer.
e. Factory mount conduit box on motor.

14. Grounding: NRTL-listed clamp-type grounding lug mounted in conduit box.
15. Motor Leads:

a. Non-wicking type, Class F temperature rating or better and permanently numbered over entire length for identification.
b. Lead terminals shall be manufacturer's standard.

16. Condensate Drains:

a. Motor with drain holes at the lowest point for drainage of condensate.

b. Each drain hole with a threaded removable plug.

17. Hardware: Hex-head, high-strength, zinc-plated carbon steel or stainless steel.
18. Lifting Eyebolts: Eyebolt threaded into frame receptacle and design to prevent moisture and other foreign material from entering motor cavity when eyebolt is removed.
19. Nameplates:

a. Construct nameplates of aluminum or stainless steel and attach to motor frame with aluminum, stainless steel, or brass drive pins.
b. Engrave or stamp data on the nameplate.
c. At a minimum, include nameplate data in accordance with NEMA MG 1.

L. Vibration Isolation:

1. General:

a. Provide fans inside air-handling units with base and vibration isolation.

2. Spring Isolators:

a. Performance:

1) Deflection: Minimum deflection indicated on Drawings. Use a greater deflection if required to maintain an isolator efficiency of at least 98 percent under all operating conditions encountered. Calculate isolator efficiency using actual support conditions considering the rigidity of structure.
2) Laterally stable freestanding open-spring mounting.
3) Spring diameter not less than 0.8 of compressed spring height at rated load and in the installed and operating condition.
4) Reserve travel to solid shall be equal to a minimum of 50 percent of rated deflection and in no case less than 25 percent of rated deflection in an installed and operating condition.
5) Ratio of horizontal stiffness to vertical stiffness equal to approximately one.
6) Design and install so that ends of springs remain parallel.
7) Select springs that are non-resonant with equipment related frequencies and natural frequencies of support structure.
8) Springs shall not take a permanent set when compressed to coil bind.

b. Construction:

1) Coat springs with PVC or neoprene. Color-code springs to allow positive identification after installation.
2) Construct baseplates, spring retainers, and other components of stainless steel. Etch and paint aluminum components.
3) Use nuts, bolts, and washers and other associated hardware constructed of zinc-electroplated carbon steel or stainless steel.
4) Isolators with integral leveling bolts.

5) Baseplates with holes and isolation grommets for bolting.
6) Bond nominal 1/4-inch- thick, neoprene friction pad to baseplate.

3. Elastomeric Grommets:

a. Elastomeric grommets shall be a combination of neoprene washer and bushing.
b. Elastomer shall be 56-durometer maximum.
c. Grommets formed to prevent bolts from directly contacting the secured item.

4. Flexible Connections:

a. Construct flexible connection stainless steel edges firmly attached to waterproof and fire-retardant fabric.
b. Fabric shall be 6 inches wide or more.
c. Suitable for operation in extreme temperatures encountered.
d. NRTL listed for application and complying with NFPA 90A.

M. Hydronic Coils:
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Aerofin.
b. Heatcraft.
c. Marley.

2. Sourcing Option: In lieu of sourcing hydronic coils from a specialty coil manufacturer, air-handling unit manufacturer has option to furnish in-house hydronic coils that achieve equal or better performance while complying with other requirements indicated.
3. General: Provide air-handling units with hydronic coils where indicated on Drawings.
4. Description: Plate fin coils constructed of staggered tubes mechanically expanded into continuous collars that are die formed into plate fins.
5. Design and Performance:

a. Capacities, face area, and number of rows indicated on Drawings are minimum acceptable.
b. Air pressure drop, water pressure drop, fin spacing, and face velocity indicated on Drawings are the maximum acceptable.
c. Coils shall be counterflow design, air to fluid. Fluid supply shall enter air leaving side of coil and exit air entering side.
d. Design coils to be drainable.

1) Coils shall have all circuits drainable when coils are installed in horizontal position and level.
2) Coil supply and return header shall be furnished with a drain connection at lowest point on header.

e. Design coils to be self-venting.

1) Supply connection near bottom of supply header.
2) Return connection near top of return header.
3) Furnish coil return and supply header with a vent connection at highest point on header.

f. Coils supply and return piping connections on same end of coil.
g. Coils shall be rated for system operating pressures and temperatures encountered by installation, but not less than 200 psig.
h. Coil selection criteria, unless otherwise indicated on Drawings, are as follows:

1) Face Velocity: Maximum of 500 fpm.
2) Fluid Tube Velocity (at Design Flow Rate):

a) Maximum: 6 fps.
b) Minimum: 3 fps.

3) Fluid Header Velocity: Maximum of 6 fps.

a) Fin Height: Maximum of 48 inches.
b) Fin Spacing: Maximum of 12 fins per inch.

i. Cooling coils shall have no moisture carryover at design conditions. Install moisture eliminators on discharge face of coil if it is necessary to eliminate moisture carryover.

6. Casing and Tube Sheets:

a. Depth: Extend coil casing and tube sheets a minimum of 1/2 inch beyond face of fins on both entering and leaving side.
b. Casing and Tube Sheet Materials:

1) Cooling Coils: Stainless steel, ASTM A240/A240M or ASTM A480/A480M, Type 304L or Type 316L, No. 2D finish.
2) Heating Coils:

a) Stainless steel, ASTM A240/A240M or ASTM A480/A480M, Type 304L or Type 316L, No. 2D finish.

c. Top and Bottom Casings:

1) Flange face minimum of 1-1/2 inches; double flange edge for rigidity and ease of removal with secondary flange face minimum of 1/2 inch.
2) Thickness:

a) Coils with Fin Length of up to 72 Inches: Minimum of 16 gauge thick.
b) Coils with Fin Length Exceeding 72 Inches: Minimum of 16 gauge thick.

d. End Tube Sheets:

1) Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2) Flange face minimum of 1-1/2 inches.
3) Thickness: Minimum of 16 gauge thick.

e. Intermediate Tube Sheets:

1) Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2) Space intermediate tube sheets a maximum of 48 inches o.c. and locate to provide equal spacing between tube sheet across coil tube length.
3) Flange face minimum of 1/2 inch.
4) Thickness: Minimum of 16 gauge thick.

f. Holes: Include number, size, and location of holes in casing and end tube sheets required for coil installation.

7. Fins:

a. Materials:

1) Aluminum: 0.0075 inch thick.

b. Collars: Full collars for accurate fin spacing and maximum tube contact while leaving no surface of tube exposed.
c. Fin Configuration: Flat face or enhanced ripple fins as required by performance.

8. Headers:

a. Construct header of seamless copper, ASTM B75/B75M drawn temper of diameter and wall thickness based on coil size, flow rate, design pressure, design temperature, and circuiting.
b. Tube-to Header Connections: Tube-to-header holes shall intrude inward so landed surface area is three times the core tube thickness, to provide enhanced header to tube joint integrity. Tubes shall evenly extend within the ID of the header no more than 0.12 inch.
c. Header Top and Bottom Caps: End caps shall be die-formed and installed on the ID of header such that the landed surface area is three times the header wall thickness.
d. Drains: Include low point of supply and return header with a NPS 1/2 drain connection. Extend copper or red brass pipe through air-handling unit casing and terminate end with male national pipe threads (MNPT). Pipe shall be threaded on both ends to facilitate easy field removal and replacement.
e. Vents: Include high point of supply and return header with a NPS 1/2 vent connection. Extend copper or red brass pipe through air-handling unit casing and terminate end with MNPT. Pipe shall be threaded on both ends to facilitate easy field removal and replacement.
f. Supply and Return Connections:

1) Terminate ends with MNPT.
2) Connections to header shall be either copper tube with brazed ASME B16.18 threaded male adapters or red brass pipe with machine-threaded MNPT connections. Pipe shall extend through air-handling unit casing and be threaded on both ends to facilitate easy field removal and replacement.
3) Connections NPS 2-1/2 and larger shall have a bronze ASME 16.24 threaded flanges attached to threaded connections to provide for a flanged field connection. Select flange class, Class 150 or Class 300, for system pressure and temperature encountered.

g. Protect openings of supply, return, vent, and drain connections with a threaded cap to prevent entry of dirt into the coil.

9. Tubes:

a. Material: Copper, ASTM B75/B75M annealed temper or ASTM B280 drawn temper;.
b. Tube Nominal Diameter: 5/8 inch before expanding, selected to provide performance indicated.
c. Tube Nominal Wall Thickness: As required by performance, minimum of 0.035 inch thick.

10. Tube Return Bends: 180-degree bends brazed to tubes; material, wall thickness, and nominal diameter to match tubes.

11. Brazing: High-temperature brazing alloy with not less than 5 percent silver when brazing like non-ferrous materials together and more than 30 percent silver when brazing ferrous to non-ferrous materials.

12. Hardware: Use hex-head bolts, nuts, and washers constructed of Type 304 or Type 316 stainless steel.

13. Cleaning: Residual manufacturing oils and solid contaminants shall be removed internally and externally by completely submersing the coil in an environmentally acceptable degreasing solution that is chemically compatible with the coil material.
14. Air-Handling Unit Factory Assembly:

a. Coil Connections: Extend each coil connection through casing access panel and terminate connections, approximately 4 inches (100 mm) beyond exterior face of access panel, and seal each penetration as indicated. Casing access panels shall be removed and reinstalled with coils installed inside air-handling units.
b. Internal Access: Include each coil with internal access from sides as indicated on Drawings.
c. Removal and Replacement: Each coil shall be independently removable and replaceable through a removable access panel installed in air-handling unit casing.
d. Supports for Coils:

1) Construct a freestanding and self-supporting structural framework to support each coil individually from and independent of adjacent coils.
2) Construct framework for cooling coils, from aluminum or stainless steel structural shapes.
3) Construct frame work for heating coils from aluminum or stainless steel structural shapes.

N. Drain Pans:

1. General:

a. Include a drain pan for each cooling coil and at other locations indicated.
b. Continuously weld drain pan seams, joints, and mitered corners to make the assembled drain pan watertight.
c. Drain pans shall be located under the entire coil and provide full coil coverage including coil return bends and headers.
d. Slope drain pans in multiple directions toward low point drain connection at a uniform slope of at least 2 percent from high point to low point.
e. Include stainless steel blank-offs to prevent air from bypassing around coil.

2. Intermediate Drain Pans:

a. Where multiple individual horizontally mounted coils are vertically stacked to make a coil bank, install intermediate drain pans under each stacked coil in the coil bank.
b. Material: Type 304L stainless steel ASTM A240/A240M or ASTM A480/A480M, a minimum of 16 gauge thick.
c. Minimum Depth: 1.0 inch.
d. Extend drain pan beyond air leaving face of coil casing at least 6 inches.

e. Drain Pan Connection:

1) Stainless steel threaded coupling welded to underside of drain pan at lowest point.
2) Minimum Nominal Connection Size: NPS 1.

f. Drain Pipe:

1) Air-handling unit manufacturer to connect full-size drain pipe to each drain pan connection. Option to use one of following pipe materials:
a) Stainless steel pipe with threaded MNPT ends.

2) Extend drain pipe to top of drain pan immediately below.
3) Include a removable stainless steel support to secure bottom of drain pipe from drain pan below to prevent lateral movement.
4) In applications where multiple drain pans are stacked, align stacked drains pan connections and pipes for clear vertical flow.

3. Bottom Drain Pans:

a. Mounting Location, Recessed in Floor: Air-handling unit manufacturer has option to recess bottom drain pan into the floor or install drain pan above air-handling unit floor walking surface.
b. Grating: Install removable stainless steel grating on top of drain pan.
c. Double-Wall Construction: Double-wall sheet with space between walls filled with 1-inch insulation.
d. Material: Type 304L stainless steel ASTM A240/A240M or ASTM A480/A480M, a minimum of 16 gauge thick.
e. Minimum Depth: 1.5 inches.
f. Extend drain pan beyond air leaving face of coil casing at least 12 inches.

g. Drain Pan Connection:

1) Stainless steel threaded half-coupling welded to lowest point of drain pan.
2) Location: one end.
3) Minimum Nominal Connection Size: NPS 1.5.

h. Drain Pipe:

1) Air-handling unit manufacturer to connect full size drain pipe to each drain pan connection. Option to use one of following pipe materials:
a) Stainless steel pipe with threaded MNPT ends.

2) Extend drain pipe and terminate 3 inches beyond exterior face of casing.

O. Cartridge Filters:
1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

a. AAF International.
b. Camfil Farr, Inc.
c. Flanders Corporation.
d. Koch Filter Corporation.

2. Source Limitations: Obtain filters from single source from single manufacturer.
3. Description: Factory-fabricated, dry, extended-surface, disposable, air filters with media formed in mini-pleats and arranged in a V-shape pattern.
4. Performance:

a. Filtration Efficiency, ASHRAE 52.2 MERV Rating: 13.
b. Initial Air Pressure Drop: With face velocity of 500 fpm (2.5 m/s), clean filter pressure drop shall not exceed the following:
1) MERV 13 and MERV 13A: 0.25 inch wg (63 Pa).

c. Manufacturer-Recommended Final Air Pressure Drop: 1.5 inches wg.
d. Pressure Differential without Failure: 10 inches wg.
e. Temperature Rating: 175 deg F.

5. Certification:

    a. AHRI: Tolerances in accordance with AHRI 850 (I-P) and AHRI 851 (SI).
    b. ASHRAE: Tested and rated in accordance with ASHRAE 52.2.
    c. UL: UL 900 listed.

6. Size:

    a. Nominal size of individual filters indicated on Drawings:
    b. Nominal Filter Size:

        1) Face: 24 by 24 inches.
        2) Depth: 12 inches.

    c. Actual Filter Size: Suitable for installation in an industry-standard filter holding frame.

7. Filter Media Surface Area: Each filter shall contain at least 200 sq. ft. for a filter with a nominal 24-by-24-inch face.
8. Construction:

    a. Media: Microfine glass media formed into mini-pleats and arranged in V-shape patterns.
    b. Media Frame: Plastic or corrosion-resistant metal.
    c. Adhesive: Fire-retardant bonding adhesive where bonding media to frame.

P. Pleated Panel Filters:
1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

    a. AAF International.
    b. Camfil Farr, Inc.
    c. Flanders Corporation.
    d. Koch Filter Corporation.

2. Source Limitations: Obtain filters from single source from single manufacturer.
3. Description: Factory-fabricated, self-supported, extended-surface, pleated, panel-type, disposable air filters.
4. Performance:

    a. Filtration Efficiency, ASHRAE 52.2 MERV Rating: 8.
    b. Initial Air Pressure Drop: With face velocity of 500 fpm, clean filter pressure drop shall not exceed the following:

        1) MERV 8 and MERV 8A:
            a) Depth 2 Inches: 0.31 inch wg.

    c. Manufacturer-Recommended Final Air Pressure Drop: 1.0 inch wg.
    d. Pressure Differential without Failure: 2 inches wg.

5. Certification:

    a. AHRI: Tolerances in accordance with AHRI 850 (I-P) and AHRI 851 (SI).
    b. ASHRAE: Tested and rated in accordance with ASHRAE 52.2.
    c. UL: UL 900 listed.

6. Size:
    a. Nominal Filter Size:

        1) Face: 24 by 24 inches.
        2) Depth: 2 inches.

    b. Actual Filter Size: Suitable for installation in an industry-standard filter holding frame.

7. Filter Media Surface Area: Each filter shall contain the following minimum media surface area for a filter with a nominal 24-by-24-inch face:
    a. Depth 2 Inches: 17.3 sq. ft..

8. Construction:

    a. Media: Glass or synthetic blend of fibers arranged in a series of pleats attached to and supported by a corrosion-resistant welded-wire grid. Coat media with an antimicrobial agent.
    b. Filter Media Casing: High wet strength (28-point) beverage board that is bonded around the periphery to eliminate air bypass.

        1) Diagonal support members across upstream and downstream filter face constructed of same material as casing shall ensure pleat spacing and stability.

    c. Adhesive: Fire-retardant bonding adhesive where bonding media to casing.

Q. ASHRAE-Rated Filter Holding Frames:

1. Filter Holding Frames for ASHRAE-Rated Filters:

    a. Fabricate filter holding frames with mitered corners and reinforce frame to maintain a durable, rugged, true square shape.
    b. Construct frames of galvanized or stainless steel. Use stainless steel frames in applications exposed to corrosive airstreams.
    c. For applications with pre-filter and final filters sharing the same filter holding frame, frames shall be suitable for supporting and holding both pre-filter and final filters in frame with both filters serviceable from upstream (entering air) side.
    d. Frame Depth: At least 2.75 inches.
    e. Gaskets: Continuous, suitable for same operating temperature as filters.
    f. Filter Clips: Each filter holding frame with spring clip fasteners at each corner. Spring clips shall allow filters to be removed and replaced without use of tools.

g. Frames shall be industry-standard size to provide interchangeability of filters from other manufacturers.

2. Air-Handling Unit Factory Installation:

a. Air-handling unit manufacturer shall furnish filters and provide filter holding frames, retaining clips, and filter support structures.
b. Furnish filter quantity, size, type, and performance indicated on Drawings.
c. Install filter frames in a flat vertical position for horizontal airflow.
d. Install holding frames in accordance with manufacturer's written instructions and to prevent passage of unfiltered air. Include additional gaskets as necessary.
e. Secure individual holding frames together to build a multiple filter bank.
f. Construct aluminum or stainless steel support structure to hold frames and filters.

1) Design support structure for maximum system operating pressures encountered equal to fan shutoff pressure.
2) Design and fabricate support structure to limit deflection across filter bank to 1/360 of the span when subjected to a 200-lb lateral force applied at any point on the filter holding frame assembly.

R. Filter Gauges:

1. Basis-of-Design Product: Subject to compliance with requirements, provide the following:

a. Gauge: Dwyer Instruments, Inc; 2000 Series Magnahelic filter gauge.
b. Vent Valves: Dwyer Instruments, Inc; A-310A.
c. Static Pressure Sensors: Dwyer Instruments, Inc.; A-310A .
d. Tubing Compression Fittings: Parker; CPI.

2. Provide a gauge to indicate pressure differential between entering and leaving side of each filter bank. Panel filter bank separate from cartridge filter bank.

a. Where multiple filters share a common frame, include a separate gauge for each filter bank.
b. Include a metal spacer constructed of same material as filter frame for one of the filters installed in filter bank to accommodate pressure differential measure across both upstream and downstream filters.

3. Gauge shall have a nominal 4-inch-diameter face.
4. Select range of gauge to be approximately twice the dirty filter pressure drop.
5. Provide each gauge with vent valves to allow for re-zeroing the gauge without removing tubing connections.
6. Include static pressure sensors on entering and leaving side of each filter bank.
7. Air-Handling Unit Factory Assembly:

a. Mount each filter gauge on exterior surface of unit casing near associated filter sections.

b. Mount center of gauges 60 inches above bottom of air-handling unit structural base.
c. Connect static pressure sensors to filter gauges using aluminum copper or stainless steel tubing and compression type fittings.
d. Support tubing at intervals not greater than 60 inches o.c.

S. Automatic Dampers:

1. General: Provide air-handling units with automatic dampers where indicated on Drawings.

a. Unless otherwise indicated, use parallel-blade configuration for two-position control, for equipment isolation service, and when mixing two airstreams. For other applications, use opposed-blade configuration.
b. Factory assemble multiple damper sections to provide a single damper assembly of size required by application.

2. Rectangular Dampers with Aluminum Blades:
a. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

1) TAMCO (T.A. Morrison & Co. Inc.).

b. Source Limitations: Obtain dampers from single source from single manufacturer.
c. Performance:

1) Leakage: AMCA 511, Class 1A. Leakage shall not exceed 3 cfm/sq. ft. against 1-inch wg differential static pressure.
2) Pressure Drop: 0.05 inch wg at 1500 fpm across a 24-by-24-inch damper when tested in accordance with AMCA 500-D, figure 5.3.
3) Velocity: Up to 4000 fpm.
4) Temperature: Minus 40 to plus 185 deg F.
5) Pressure Rating: Damper close-off pressure equal to fan shutoff pressure with a maximum blade deflection of 1/200 of blade length.
6) Damper shall have AMCA seal for both air leakage and air performance.

d. Construction:

1) Frame:

a) Material: ASTM B211, Alloy 6063 T5 extruded-aluminum profiles, 0.07 inchthick.
b) Hat-shaped channel with integral flange(s). Flange mating face shall be a minimum of 1 inch.
c) Width not less than 5 inches.

2) Blades:

a) Hollow, airfoil, extruded aluminum.
b) Parallel- or opposed-blade configuration as required by application.
c) Material: ASTM B211, Alloy 6063 T5 aluminum, 0.07 inch thick.
d) Width not to exceed 6 inches.
e) Length as required by close-off pressure, not to exceed 48 inches.

3) Seals:

a) Blades: Replaceable, mechanically attached extruded silicone, vinyl, or plastic composite.
b) Jambs: Stainless steel, compression type; or replaceable, mechanically attached extruded silicone.

4) Axles: 0.5-inch-diameter, stainless steel, mechanically attached to blades.
5) Bearings:

a) Molded synthetic or stainless steel sleeve mounted in frame.
b) Where blade axles are installed in vertical position, include thrust bearings.

6) Linkage:

a) Concealed in frame.
b) Constructed of aluminum and stainless steel.
c) Hardware: Stainless steel.

3. Damper Actuators: Furnished and installed in field by TCC.

T. Air-Handling Unit Factory Drain Piping and Piping Insulation:

1. General:

a. Air-handling unit manufacturer to factory install piping inside air-handling units.
b. If more than one material is listed, material selection is by air-handling unit manufacturer.

2. Aluminum Piping:

a. Pipe: Aluminum ASTM B241/B241M, Grade 1061, Temper T6, seamless longitudinal joins with beveled or plain ends; and wall thickness as indicated under applications.
b. Fittings: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, ASME B16.1 Class 150; threaded ends.
c. Flanges: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, ASME B16.1, Class 150 including bolts, nuts, washers, and gaskets of the following end connections and facings:

1) Threaded end connections for threaded joints, welding-neck with butt-joint for welded joints, and blinds for use with flanged joints requiring close-off.

d. Unions: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, hexagonal-stock body; female NPT threaded ends.

3. Copper Tubing:

a. Tubing: Drawn-temper, ASTM B88, Type M or Type DWV in accordance with ASTM B306.
b. Fittings: Wrought-copper and copper alloy, ASME B16.22, pressure fittings.
c. Unions: Cast-copper-alloy, MSS SP-123, hexagonal-stock body; female NPT threaded ends
d. Solder Filler Metals: ASTM B32, lead-free alloys, and water-flushable flux in accordance with ASTM B813.

4. Stainless Steel Piping:

a. Pipe: ASME B36.19/ASME B36.19M, stainless steel ASTM A312/A312M, with beveled or plain ends; seamless [or welded]longitudinal joints, Grade TP316L, and wall thickness as indicated under applications.
b. Fittings, Threaded: MSS SP-114, Class 150, stainless steel ASTM A351/A351M, Grade CF8M.
c. Fittings, Welded: ASME B16.9, stainless steel ASTM A403/A403M, Grade WP316L, seamless, wall thickness to match adjoining pipe.
d. Flanges: Stainless steel ASTM A182/A182M, Grade F316L, ASME B16.5, Class 150 including bolts, nuts, washers, and gaskets of the following material group, end connections, and facings:

1) Material Group: 2.2.
2) Threaded end connections for threaded joints, welding-neck with butt-joint for welded joints, and blinds for use with flanged joints requiring close-off.

e. Unions: MSS SP-114, Class 150, stainless steel ASTM A351/A351M, Grade CF8M; female NPT threaded ends.

5. Floor Drain Piping:

a. Schedule 40 aluminum or stainless steel pipe with threaded ends or copper tube with soldered threaded male adapters.
b. Factory install a dedicated drain pipe for each floor drain and extend pipe to access side of air-handling unit.

1) Terminate pipe with a threaded pipe cap 3 inches beyond exterior face of air-handling unit casing. Threaded pipe cap material to match pipe material.
2) Pipe size to match size of floor drain connection.

6. Drain Pan Piping:

a. Schedule 40 aluminum or stainless steel pipe with threaded ends or copper tube with soldered threaded male adapters.
b. Factory install drain piping for drain pan(s). Install a dedicated drain pipe for each drain pan serving different air-handling unit internal components. Where multiple drain pans serve like components interconnect drain piping to a single drain pipe for field connection.

1) Where interconnecting cooling coil condensate drain pans from upstream and downstream sides of cooling coil, provide pipe with a water seal trap configured to prevent air bypass.
2) Terminate pipe with a threaded pipe cap 3 inches beyond exterior face of air-handling unit casing. Threaded pipe cap material to match pipe material.
3) Drain pipe size to match size of drain pan connection.

7. Piping Insulation:

a. Factory insulate bottom cooling coil drain pan pipe with 1-inch- thick, flexible elastomeric insulation where pipe is located under and outside of the air-handling unit casing but within the air-handling unit base.
b. Cover pipe insulation with a factory-applied aluminum or stainless steel jacket.

U. Drains:

1. Floor Drains:

a. Drain Body: Fabricate floor drain body of NPS 4or larger aluminum or stainless pipe and weld a plate of same material to the bottom. Option to fabricate an aluminum or stainless steel rectangular box drain at least 4 by 4 inches of material at least 0.1 inchthick.
b. Drain Connection: Weld a nominal NPS 2 half coupling in side of drain body located within 1 inchfrom bottom.
c. Drain Cover: Perforated plate, at least 0.1 inch thick, or grating, fabricated from aluminum or stainless steel. Drain cover shall be supported and secured in place by drain body, but not fastened to drain body with fasteners.
d. Fluid Seal: Weld floor drain body to air-handling unit floor for a watertight installation.
e. Mounting: Recess floor drain body into structural base. Top of floor drain to be slightly recessed below air-handling unit finished floor for unobstructed gravity flow from floor into drain.
f. Application:

1) Install floor drains in air-handling unit floors at locations indicated on Drawings.
2) Install floor drains in air-handling unit floors of all sections, including service vestibule.

V. Factory-Assembled Electrical:

1. Factory install service light fixtures and switches, and receptacles for each air-handling unit.

    a. Locate in a convenient and field-accessible location.
    b. Installation shall comply with NFPA 70.
    c. Wire, Conduit, and Enclosures:

        1) Minimum Conduit Size: 3/4 inch.
        2) Materials: Aluminum or stainless steel.
        3) Supports: Support conduits, boxes, and enclosures using corrosion-resistant fastening hardware constructed of stainless steel.
        4) Conduit: Locate conduit inside the air-handling unit casing. Conduit installed on exterior of air-handling unit casing is unacceptable.
        5) Wire: Copper, rated for 600 V, solid wire for size No. 10 AWG and smaller and stranded wire for larger sizes.
        6) Minimum Wire Size: No. 12 AWG.
        7) Each circuit shall have a ground wire.
        8) Install wire in conduit.

    d. Boxes, Conduit Outlet Bodies, and Enclosures:

        1) Located in Airstream: NEMA 250, Type 4.

        2) Located in Service Corridor: NEMA 250, Type 1.
        3) Located on Exterior of Air-Handling Unit Casing: NEMA 250, Type 3R.

    e. Seals: Seal pathways to prevent air leakage between air-handling unit exterior and interior, and between internal component sections.
    f. Service Lighting Applications:

        1) Provide quantity of 20-A branch circuits required to power service light fixtures.
        2) Factory install a field power junction box for interfacing air-handling power for service lighting with single-point field power wiring connection.

    g. Receptacle Applications:

        1) For air-handling units consisting of multiple stacked tiers, provide separate circuits for top and bottom tiers of air-handling units.
        2) Factory wire receptacles to a field power junction box for interfacing air-handling power for receptacles with a single-point field power wiring connection.

2. Field Power Junction Box: Factory-install junction box with internal wire terminal block mounted on air-handling unit casing exterior for interface of factory power wiring with field power wiring.

3. Interior Service Light Fixtures:

a. LED Luminaires:
   1) Suitable for wet locations and operation in cold- and hot-temperature extremes encountered; dust and moisture resistant.
   2) High-impact, UV-stabilized fiberglass housing and acrylic lens.
   3) Light Color: 5000 K.
   4) Light Output: 2000 lumens.

b. Vaportight Fixtures:
   1) Suitable for wet locations and operation in cold- and hot-temperature extremes encountered; dust and moisture resistant.
   2) Cast-aluminum housing and guard with heat-resistant, tempered, clear glass globe.
   3) LED A21 Series Lamps:

      a) Light Color: 5000 K.
      b) Light Output: 1700 lumens.

c. Application:
   1) Provide one service light fixture in each accessible section of air-handling units.

4. Toggle Switches for Service Light Fixtures:
   a. Lighted Single-Pole Switches, 120/277 V, 20 A: Comply with NEMA WD 1, UL 20, and FS W-S-896.

      1) Description: Handle illuminated when switch is on.

   b. Toggle Switch Box and Cover: Mount toggle switch in a metal outlet box with cast-aluminum or stainless steel cover. Weatherproof where exposed to outdoors.
   c. Application:

      1) Factory install switching configuration (single, three way, or four way) required to operate a single service light fixture or group of service light fixtures from any access door that opens to respective service light fixtures.
      2) Factory install a single service light switch to switch all service light fixtures from a single location.

5. Receptacles:

   a. Duplex GFCI Receptacles, 125 V, 20 A:

      1) Description: Integral GFCI with "Test" and "Reset" buttons and LED indicator light. Two pole, three wire, and self-grounding.
      2) Configuration: NEMA WD 6, Configuration 5-20R.
      3) Type: Non-feed through.
      4) Standards: Comply with UL 498, UL 943 Class A, and FS W-C-596.

b. Receptacle Box and Cover: Mount receptacle in a metal outlet box with cast-aluminum or stainless steel cover. Weatherproof where exposed to outdoors.
c. Applications: Factory install a receptacle in a convenient and field-accessible location in air-handling unit service vestibule..

6. Power Supply to Fan Motors:
   a. Factory install a junction box for each fan motor.
      1) Locate in a convenient and field-accessible location in unit service vestibule.
      2) Installation shall comply with NFPA 70.
      3) Wire, Conduit, and Enclosures:
         a) Minimum Conduit Size: 3/4 inch.
         b) Materials: Metal, corrosion resistant and constructed of stainless steel.
         c) Motor Termination: Flexible conduit, NRTL listed, not to exceed 36 inches long.
         d) Supports: Support conduits, boxes, and enclosures using corrosion-resistant fastening hardware constructed of stainless steel.
         e) Wire: Copper, rated for 600 V, solid wire for size No. 10 AWG and smaller and stranded wire for larger sizes.
         f) Minimum Wire Size: No. 12 AWG.
         g) Each circuit shall have a ground wire.
         h) Install wire in conduit.
      4) Boxes, Conduit Outlet Boxes, and Enclosures:
         a) Located in Airstream: NEMA 250, Type 4.
         b) Located in Service Corridor: NEMA 250, Type 1.
         c) Located on Exterior of Air-Handling Unit Casing: NEMA 250, Type 3R.

7. Motor Field Power Junction Box:
   a. Provide junction box with internal wire terminal block mounted on unit exterior for interface with field power wiring.
      1) Provide for each motor not installed with a factory disconnect or controller with integral disconnect.
   b. Factory install internal wiring and conduit to motor.

W. Hardware:

1. Screws:

a. For Galvanized-Steel Materials: Self-tapping, hex-head, zinc-plate steel or 300 series stainless steel screws with a neoprene gasket encapsulated by a zinc-plate steel or 300 series stainless steel washer.
b. For Aluminum and Stainless Steel Materials: Self-tapping, hex-head, 300 series stainless steel screws with a neoprene gasket encapsulated by a 300 series stainless steel washer.
c. Provide protective covers on exposed screws to prevent personnel injury.

2. Bolts, Nuts, and Washers:

a. For Joining Galvanized and Painted Carbon Steel Materials: Hex-head, high-strength, 300 series stainless steel.
b. For Joining Aluminum and Stainless Steel Materials: Hex-head, high-strength, 300 series stainless steel.
c. Use washers and lock washers at each bolted connection.
d. Select bolt size and spacing sufficient for load and application.

X. Welding:

1. Welding Filler Metals: Comply with AWS welding codes for welding materials appropriate for thickness and chemical analysis of material being welded.

a. Use welding materials with corrosion properties equal to material being welded.

2. Use welders that are certified to weld at least twice the thickness of the material to be welded. Certification shall be within six months of work being performed.
3. Welds shall be continuous, full-penetration welds unless otherwise indicated. Intermittent welds, stitch welds and tack welds are permitted only in specific applications indicated.
4. Use welders and welding procedures complying with the following:

a. Piping Systems: Section IX of the ASME Boiler and Pressure Vessel Code and Section V of ASME B31.1.
b. Structural Aluminum: AWS D1.2/D1.2M.
c. Structural Carbon Steel: AWS D1.1/D1.1M.
d. Structural Stainless Steel: AWS D1.6/D1.6M.
e. Sheetmetal: AWS D9.1/D9.1M.

Y. Painting:

1. General:

a. Painted OEM components do not require additional coating other than touch-up to damaged areas. Match the touchup coating to surrounding undamaged surfaces.
b. Finish miscellaneous surfaces to match continuous surfaces.
c. Protect mill galvanized surfaces that are exposed to view, such as raw steel cuts and damage by welding, with multiple coats of matching galvanized paint.

d. Protect mill galvanized surfaces that are concealed, such as raw steel cuts and damage by welding, with multiple coats of zinc-rich paint or matching galvanized paint.
e. Touch up or entirely repaint surface finishes, damaged during shipment and installation, to the original condition, using original materials and methods.

2. Preparation:

a. Submit proposed manufacturer's written preparation and application instructions for information.
b. If paint manufacturer's recommended preparation requirements differ from those indicated, use the more stringent requirements.
c. Structural carbon steel to be painted shall be deburred, ground smooth, cleaned, and blasted in accordance with SSPC-SP 6/NACE No. 3.
d. Before applying a primer and a finish coat, remove oil and grease from surfaces to be coated using clean rags soaked in thinner in accordance with SSPC-SP 1.
e. Treat surfaces to be painted to ensure that paint adheres.

3. Primer:

a. Rust-inhibiting type, with a minimum dry film thickness of 1 mil(s) per coat.
b. Apply at least two coats of primer to unfinished carbon steel surfaces and at least one coat of primer to other surfaces.
c. Use primer that is compatible with substrate and finish coat.

4. Finish Coat:

a. Finish coat painting system shall be alkyd-enamel.
b. Use dry film thickness recommended by paint manufacturer for each coat. Total dry film thickness of all finish coats not less than 3 mils.
c. Painted Surfaces Minimum Properties:

1) Salt Spray ASTM B117: 5 percent salt solution fog at 95 deg F for 1000 hours with no deterioration.
2) Adhesion, ASTM D3359: When the coating is cut into 0.0625-inch squares and 3M No. 600 tape is suddenly removed, there is no loss of adhesion.
3) Acid Resistance ASTM D3260: 15-minute exposure to 10 percent hydrochloric acid at room temperature with no effect.
4) Alkali Resistance ASTM D1647: 15-minute exposure to 10 percent sodium hydroxide at room temperature with no effect.
5) Humidity Resistance ASTM D2247: 850-hour exposure to 100 deg F and at least 95 percent relative humidity with no effect.
6) Pencil Hardness ASTM D3363: A hardness of 1H.

d. Finish coat color shall be selected by Architect and not be limited to manufacturer's standard offering.

1) Submit a written request for color selection and indicate in the request the date color selection must be returned without impacting schedule.

5. Application: Paint the following surfaces with primer and finish coat indicated:

a. Unfinished carbon steel surfaces.
b. Exposed mill galvanized-steel surfaces of air-handling unit casing exterior.
c. Exposed aluminum surfaces of air-handling unit casing exterior.
d. Exposed stainless steel surfaces of air-handling unit casing exterior.

Z. Cleanliness Requirements:

1. General:

a. Provide equipment that has been manufactured, shipped, stored, and installed maintaining highest degree of cleanliness possible.
b. Owner Cleanliness Inspection: Air-handling unit(s) cleanliness is subject to Owner cleanliness inspection and must pass a white glove test before packaging for shipment.
.

2. During Manufacturing:

a. Clean materials to be free of mill grease, oxidation, dirt, dust, and other impurities before manufacturing and assembly.
b. Protect casing materials from contamination during manufacturing and assembly.
c. Use sealing materials that do not outgas.
d. Provide OEM components and equipment from their respective manufacturers free of grease, oxidation, and dirt. Store OEM components and equipment indoors. Cover and protect OEM components and equipment to maintain cleanliness. Follow OEM instructions for equipment storage.

3. After Manufacturing:

a. Before shipment, after unit is completely assembled, clean unit inside and out.

1) Vacuum entire inside to remove dirt, dust, and debris using HEPA-filtered vacuum equipment.
2) Purge hard to reach surfaces with dry, oil-free, compressed or bottled nitrogen.
3) Wipe down all surfaces, inside and out, with a residue-free cleaning agent.

b. Protect unit to maintain cleanliness.

4. Shipping:

a. Protect interior and exterior of air-handling unit from exposure to weather dirt, dust, and debris during shipment and rigging.
b. Cover openings with puncture-resistant durable coverings to ensure that cleanliness is maintained inside unit while providing an air- and watertight seal.

5. On-Site Storage:

a. If air-handling unit is to be stored before installation, Installer shall work closely with air-handling unit manufacturer for air-handling unit manufacturer to provide adequate protection at the factory to ensure that cleanliness for both unit interior and unit exterior is maintained. This protection shall remain in place until unit startup is performed.
b. For extended periods of storage, provide a means to rotate fan and motor assemblies on a periodic basis (as recommended in writing by manufacturer) without compromising unit cleanliness.

AA. Accessories:

1. Tool Kit:

a. Manufacturer shall assemble a tool kit specially designed for use in servicing air-handling units furnished.
b. Include only special tools required to service air-handling unit components not readily available for purchase by Owner service personnel in performing routine maintenance.
c. Place tools in a lockable case with hinged cover.
d. Mark case cover with large and permanent text to indicate special purpose of tool kit, such as "Air-Handling Unit Tool Kit." Text size shall be at least 1 inch high.
e. Provide a list of each tool furnished and permanently attach the list to underside of case cover. Text size shall be at least 1 inch high.

2.4 SOURCE QUALITY CONTROL

A. AHRI Compliance:
1. AHRI 410: Air-handling unit coils shall be rated in accordance with AHRI 410 and shall be listed by AHRI and labeled in accordance with AHRI.

B. AMCA Compliance:

1. AMCA 201: Air-handling unit manufacturer shall evaluate fan's performance within the air-handling unit in accordance with AMCA 201, "Fans and Systems" and account for conditions within the air-handling unit that could be detrimental to fan's performance by adjusting the fan performance indicated on Drawings.
2. AMCA 205 Certification: Air-handling unit fan's fan efficiency grade (FEG) shall be rated in accordance with AMCA 205, "Energy Efficiency Classifications for Fans" and shall bear the AMCA-certified fan efficiency grade seal.
3. AMCA 210 Certification: Air-handling unit fan's air performance shall be rated in accordance with AMCA 210, "Laboratory Methods of Testing Fans for

Aerodynamic Performance Rating" and shall bear the AMCA-certified air ratings seal.

4. AMCA 300: Air-handling unit fan's sound performance shall be rated in accordance with AMCA 300, "Reverberant Room Method for Sound Testing of Fans."
5. AMCA 301 Certification: Air-handling unit fans sound performance shall be rated in accordance with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data" and shall bear the AMCA-certified sound ratings seal.
6. AMCA 500-D: Air-handling unit damper's performance shall be rated in accordance with AMCA 500-D, "Laboratory Methods of Testing Dampers for Rating" and shall bear the AMCA-certified air ratings seal.

C. NFPA Compliance:

1. NFPA 70: Electrical components, devices, and accessories shall be listed and labeled by a qualified testing agency, and marked for intended location and application.
2. NFPA 90A: Design, fabrication, and installation of air-handling units and components shall comply with NFPA 90A.

D. UL Compliance:

1. UL 1598 Certification: Air-handling unit UVGI shall be NRTL listed and labeled in accordance with UL 1598, "Luminaires."
2. UL 1995 Certification: Where indicated, air-handling unit components shall be NRTL listed and labeled in accordance with UL 1995, "Standard for Safety Heating and Cooling Equipment."

2.5 SOURCE QUALITY CONTROL - AIR-HANDLING UNIT FACTORY TESTS

A. Functional Run Test:

1. Run test each unit before shipment.
2. Test and balance fans to comply with vibration requirements indicated.
3. Energize each electrical device to ensure it is operational.
    a. Take meter readings for volts, amperes, and kVAr on each phase leg of each motor.
    b. Take meter readings for volts, amperes, and kVAr on each single-phase power connection to field power.
4. Exercise each damper to ensure proper operation.
5. Exercise each access door to ensure proper fit.
6. Exercise each valve to ensure proper operation.
7. Submit a written report for each unit tested. Written report shall include, at a minimum, full name of each person witnessing test, detailed list of each unit component tested, condition observed, and corrective action required. Each line item shall have full name of the person doing the checkout and date and time the checkout was performed.

B. Airflow Capacity Performance Test:

1. Perform an airflow capacity performance test for each assembled air-handling unit.
2. Test results shall indicate that units comply with design airflow requirements indicated. Make changes to noncompliant air-handling units and retest until units comply with requirements.
3. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single air-handling unit, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

C. Hydronic Piping Systems Testing: Pressure test factory-assembled piping systems with compressed air or water at a pressure to comply with governing codes and ASME B31.9, but not less than design pressure indicated.

1. Test results shall indicate that piping systems are without leaks. Make changes to noncompliant piping systems and retest until units comply with requirements.
2. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single air-handling unit, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

2.6 SOURCE QUALITY CONTROL - OEM COMPONENT FACTORY TESTS

A. Coil Testing:

1. Hydronic Coils: Factory tested with air while coil is completely submerged underwater to design pressure indicated, but not less than 300-psig internal pressure.
2. Coils to display a tag with inspector's identification as proof of testing.

B. Fan Vibration Testing:

1. Perform a fan vibration test for each fan.
2. Energize each fan after final assembly and perform a vibration analysis with fan operating at design speed and at all speeds throughout the range from design to minimum speed.
3. Three vibration measurements shall be taken for each bearing in the vertical, and axial directions. Vibration measurements shall be recorded and consist of vibration amplitude verses frequency with filter-in.
4. Fan bearing measurement points shall be marked or scribed on bearings for permanent record.

5. Test results shall indicate units comply with vibration requirements indicated. Make changes to noncompliant fans and retest until fans comply with requirements.
6. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single fan, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine air-handling units before installation. Reject units with physical damage, and air-handling unit components that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for the following before installation of air-handling units:

1. Structural substrate mounting and anchorage to verify actual sizes, types, and locations.
2. Piping systems to verify actual sizes, types, and locations of connections.
3. Ductwork and plenums to verify actual sizes, types, and locations of connections.
4. Electrical services and controls to verify actual sizes, types, and locations of connections.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF OUTDOOR, CUSTOM AIR-HANDLING UNITS

A. Equipment Mounting: Install air-handling units at locations indicated on Drawings. Unless, otherwise indicated on Drawings, install air-handling units on concrete equipment bases.

1. Units Mounted to Structural-Steel Supports: Level unit air-handling bases using aluminum or stainless steel shims compatible with air-handling unit base material. Continuously seal between structural supports and air-handling unit bases with nonhardening sealant.
2. Install air-handling units on curbs following air-handling unit manufacturer's written procedures.

    a. Install gaskets before setting air-handling units on curbs.
    b. Secure air-handling units to curbs using stainless steel fasteners.
    c. Install curb and fasten to structure.

d. Coordinate curb requirements, attachment, and location before installation.

B. Roof Openings:

1. Provide exact size and location of roof openings to trade installing structural framing and roof structure.
2. Supervise framing of openings to ensure coordinated installation with air-handling units.

C. Equipment Clearances and Access:

1. Arrange installation of air-handling units to provide access space around air-handling units for service and maintenance and for removal and replacement of internal components.
2. Provide clearance and access required by governing codes and NFPA 70.
3. At a minimum, comply with requirements indicated on Drawings and air-handling unit manufacturer's written instructions.

3.3 PROTECTION DURING CONSTRUCTION

A. Exterior Covers: Cover air-handling units during construction with sealed covers to protect air-handling unit casing and externally mounted components from physical damage, dirt, dust and debris, paint splatter, and any other construction materials.

1. Minor physical damage, as determined by Owner, shall be repaired by air-handling unit factory service personnel to factory-finished condition.
2. Replace air-handling units with damage that in any way compromises the performance indicated.

B. Internal Access: Keep access doors locked to maximum extent possible and restrict access to only authorized personnel.

1. Open access doors only during periods authorized work inside air-handling units is required.
2. Coordinate and monitor work inside air-handling units on a shift basis. Lock access doors once work is complete or at the end of each shift.
3. Immediately report unauthorized access and any observed damage to Owner.

3.4 DUCT CONNECTIONS

A. Connect ducts and plenums to air-handling unit connections. Comply with requirements in Section 23 31 13 "Metal Ducts."

B. Connect ducts and plenums to air-handling unit connections with flexible connections. Comply with requirements in Section 23 33 00 "Air Duct Accessories."

C. Provide duct transitions required to make field connections to air-handling units.

D. Arrange ducts and plenums to provide unobstructed access to inside of air-handling units.

3.5 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to air-handling unit, provide unobstructed access to inside of air-handling units for service and maintenance.

C. Connect piping to air-handling units with flexible connectors.

D. Drain Pan Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping."

1. Make connections to air-handling unit connections with flanges or unions.
2. Extend drain piping from each air-handling unit connection to nearest equipment or floor drain and arrange piping to maintain clear service aisle paths free of potential tripping hazards.
3. Construct traps near air-handling unit connections to seal airflow from escaping within air-handling unit. Locate traps in a serviceable location that is away from access doors.
4. Install threaded cleanouts at changes in direction.
5. Secure drain piping to structure.

E. Air-Handling Unit Floor Drains: Do not require installation of permanent drain piping.

F. Air-Handling Unit Floor Drain Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping."

1. Make connections to air-handling unit connections with flanges or unions.
2. Extend drain piping from each air-handling unit connection to nearest equipment or floor drain and arrange piping to maintain clear service aisle paths free of potential tripping hazards.
3. Construct traps near air-handling unit connections to seal airflow from escaping within air-handling unit. Locate traps in a serviceable location that is away from access doors.
4. Install threaded cleanouts at changes in direction.
5. Secure drain piping to structure.

G. Chilled-Water Coil Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping" and Section 23 21 16 "Hydronic Piping Specialties."

1. Comply with requirements indicated on Drawings.
2. Make connections to coils with a flange.
3. Connect to each coil inlet with shutoff valve, test plug, pressure gauge and thermometer.
4. Connect to each coil outlet with balancing valve, test plug, pressure gauge thermometer, temperature control valve, and shutoff valve.

5. Connect each coil drain connection with a drain valve, which is full size of drain connection. Connect drain pipe to drain valve with union, and extend drain pipe to terminate over floor drain.
6. Connect each coil vent connection with [automatic] [or] [manual] vent, which is full size of vent connection.

H. Hot-Water Coil Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping" and Section 23 21 16 "Hydronic Piping Specialties."

1. Comply with requirements indicated on Drawings.
2. Make connections to coils with a flange.
3. Connect to each coil inlet with shutoff valve, test plug, pressure gauge and thermometer.
4. Connect to each coil outlet with balancing valve, test plug, pressure gauge thermometer, temperature control valve, and shutoff valve.
5. Connect each coil drain connection with a drain valve, which is full size of drain connection. Connect drain pipe to drain valve with union, and extend drain pipe to terminate over floor drain.
6. Connect each coil vent connection with manual vent, which is full size of vent connection.

3.6 ELECTRICAL CONNECTIONS

A. Install field power to each air-handling unit electrical power connection. Coordinate with air-handling unit manufacturer and installers.

B. Connect wiring in accordance with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

C. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

D. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

E. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.7 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with Section 26 05 23 "Control-Voltage Electrical Power Cables."

C. Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.8 STARTUP SERVICE

A. Engage an air-handling unit factory-authorized service representative to perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's written instructions.
2. Verify that shipping, blocking, and bracing are removed.
3. Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, controls, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers, and switches.
4. Verify proper motor rotation direction, free fan wheel rotation, and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
5. Verify that bearings, pulleys, belts, and other moving parts are lubricated with factory-recommended lubricants.
6. Verify that face-and-bypass dampers provide full face flow.
7. Verify that outdoor- and return-air mixing dampers open and close, and maintain minimum outdoor-air setting.
8. Comb coil fins for parallel orientation.
9. Verify that proper thermal-overload protection is installed for electric heaters.
10. Install new, clean filters.
11. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.
12. .

B. Starting procedures for air-handling units include the following:

1. Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm. Replace fan and motor pulleys as required to achieve design conditions.
2. Measure and record motor electrical values for voltage and amperage.
3. Manually operate dampers from fully closed to fully open position and record fan performance.
4. .

3.9 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Section 23 05 93 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

C. Before turning equipment over to Owner for use, adjust air-handling unit components that require further adjustment for proper operation. Consult air-handling unit manufacturer for instruction.

D. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

E. Seasonal Adjustments: Make seasonal visits during warranty period to inspect and review operation of equipment. Make necessary adjustments for components observed to require adjustments for proper operation. Prepare and submit a report to Owner documenting each visit, observations, and any adjustments made.

3.10 CLEANING

A. Cleaning Schedule: After completing system installation and testing, adjusting, and balancing air-handling unit and air-distribution systems, and after completing startup service, and immediately before Owner use, clean air-handling units to remove foreign material and construction dirt and dust.

B. Unit Interior: Clean air-handling units internally to factory clean condition. Remove foreign material and construction debris, dirt, and dust.

1. Vacuum clean with HEPA-filtered vacuum and then wipe down with cleaning solution.
2. Clean casing floors, roofs, wall surfaces, access doors, and panels.
3. Clean all internal components, such as coils, dampers, filter frames, fans, and motors.
4. Clean light fixtures and control devices.

C. Unit Exterior: Clean external surfaces of air-handling units to factory clean condition. Remove foreign material and construction debris, dirt and dust. Vacuum clean with HEPA-filtered vacuum and then wipe down all surfaces with cleaning solution.

D. Cleaning Materials: Use cleaning materials and products recommended in writing by air-handling unit manufacturer.

E. Acceptance: Following unit cleaning submit a written request for review and Owner acceptance. Acceptance for cleaning of air-handling units must pass a white glove test.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: [**Owner will engage**] [**Engage**] a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Tests and Inspections: Perform the following tests and inspections with the assistance of a factory-authorized service representative.

1. After field piping connections are complete, test hydronic coils and connections for leaks.
2. Charge refrigerant coils with refrigerant and test for leaks.
3. Field-Assembly Supervision: Instruct Installer and supervise field installation of first air-handling unit(s) shipped in multiple pieces for field assembly.
4. Roof-Mounted Field-Installation Supervision: Instruct Installer and supervise field installation of first roof-mounted air-handling unit(s).
5. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
6. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Air-handling unit or components will be considered defective if unit or components do not pass tests and inspections.

E. Prepare test and inspection reports.

3.12 OPERATION DURING CONSTRUCTION

A. Operation of air-handling units for temporary cooling, heating, and ventilation is not allowed without Owner authorization.

1. Submit written request for Owner approval by signature with detailed description of operating procedures to be followed including, but not limited to, the following:

a. Description of construction activities while units are operating.
b. Operation:

1) Beginning and ending calendar dates.
2) List each day during week.
3) List start and stop time and hours for each day.

c. Startup procedures and shut-down procedures.
d. Provisions for routine monitoring of unit operation.
e. Provisions to prevent and protect against damage to equipment due to adverse operation such as, low temperature, high temperature, over pressure, fire, smoke, electrical over- and undervoltage and current and electrical fault.
f. Provisions and safeguards for filtration to keep inside of units from getting dirty.
g. Record keeping.

2. If approved by Owner, units used for temporary cooling, heating, and ventilation during and before interior finish work is complete shall include an unconditional

complete unit labor and parts warranty to extend at least [**two**] years after the warranty indicated expires.

3. Interior and exterior of air-handling units shall be cleaned to a factory-cleaned condition and clean condition must be accepted by Owner.

B. Filtration During Temporary Use:

1. Protect air-handling system ducts (exhaust air, outdoor air, and return air) with temporary filters installed and supported to prevent filter media from collapse and bypass of unfiltered air. Temporary media shall be installed at each inlet and shall have a published filtration efficiency of MERV 8 in accordance with ASHRAE 52.2.
2. Protect air-handling units with open inlets that are not ducted with temporary filters installed and supported to prevent filter media from collapse and by-pass of unfiltered air. Temporary media shall be installed at each inlet and shall have a published filtration efficiency of MERV 8 in accordance with ASHRAE 52.2.
3. Do not operate air-handling units until both temporary and scheduled permanent air-handling unit particulate filters are in place. Temporary filters must be installed upstream of permanent filters while units are operating.
4. Replace temporary and permanent filters used during construction when dirty. After end of temporary use, replace permanent filters with new, clean filters before beginning testing, adjusting and balancing.

C. Comply with SMACNA 008, "IAQ Guidelines for Occupied Buildings under Construction," for procedures to protect HVAC system.

3.13 DEMONSTRATION

A. Engage air-handling unit manufacturer employed training instructor or factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

B. Training shall include, but not be limited to, procedures and schedules related to performance, safety, startup and shut down, troubleshooting, servicing, preventive maintenance, and how to obtain replacement parts.

1. Access Doors: Adjustment, gasket removal and replacement, handle removal and replacement, and spare parts.
2. Access Panels: Removal and replacement, adjustment, gasket removal and replacement, and spare parts.
3. Air Blenders: Cleaning, operation, removal, and replacement.
4. Coils: Cleaning, combing fins, draining, venting, removal, and replacement.
5. Controls: Calibration, cleaning, operation, service, removal and replacement, and spare parts.
6. Damper Assemblies: Cleaning, operation, service, removal and replacement, and spare parts.
7. Drain Pans: Cleaning, removal, and replacement.
8. Duct Silencers: Cleaning, removal, and replacement.
9. Electric Heaters: Cleaning, operation, service, removal and replacement, and spare parts.

10. Heat Wheels: Cleaning, operation, service, removal and replacement, and spare parts.
11. Fan and Motor Assemblies: Cleaning, operation, removal and replacement, service, and spare parts.
12. Filters: Operation, removal and replacement, frame gasket removal and replacement, clip removal and replacement, and spare parts.
13. Fixed Plate heat Exchangers: Cleaning, removal, and replacement.
14. Heat Pipe Heat Exchangers: Cleaning, combing fins, removal, and replacement.
15. Humidifiers: Cleaning, operation, service, removal and replacement, and spare parts.
16. UV-C Lamp Systems: Cleaning, operation, service, removal and replacement, and spare parts.
17. Lights, Receptacles and Switches: Cleaning, operation, service, removal and replacement, and spare parts.
18. .

C. Instructor:

1. Instructor shall be factory trained and certified by air-handling unit manufacturer with current training on equipment installed.
2. Instructor(s) shall have not less than three years of training experience with air-handling unit manufacturer and past training experience on at least three projects of comparable size and complexity.

D. Schedule and Duration:

1. Schedule training with Owner at least 20 business days before first training session.
2. Training shall occur before Owner occupancy.
3. Training shall be held at mutually agreed date and time during normal business hours.
4. Each training day shall not exceed eight hours of training. Daily training schedule shall allow time for a one -hour lunch period and 15 -minute break after every two hours of training.
5. Perform not less than eight hours of training.

E. Location: Owner to provide a suitable on-site location to host classroom training.

F. Training Attendees: Assume three people.

G. Training Attendance Records: For record purposes, document training attendees at start of each new training session. Record date, time, brief description of training covered during the session, attendee's name, signature, phone number, and e-mail address. Submit scanned copy of sign-in sheet to Owner for each training session.

H. Training Format: Individual training modules to include classroom training followed by hands-on field demonstration and training.

I. Training Materials: Provide training materials in electronic format to each attendee.

1. Include instructional videos showing general operation and maintenance that are coordinated with operation and maintenance manuals.

J. Training Video Recording: Video record each classroom training session and submit an electronic copy to Owner before requesting Owner acceptance of training.

K. Written Acceptance: Obtain Owner written acceptance that training is complete and requirements indicated have been satisfied.

END OF SECTION 23 73 43.19

SECTION 26 56 13 - LIGHTING POLES AND STANDARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Poles and accessories for support of luminaires.

1.2 DEFINITIONS

A. EPA: Equivalent projected area.

B. Luminaire: Complete luminaire.

C. Pole: Luminaire-supporting structure, including tower used for large-area illumination.

D. Standard: See "Pole."

1.3 ACTION SUBMITTALS

A. Product Data: For each pole, accessory, and luminaire-supporting and -lowering device.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Detail fabrication and assembly of poles and pole accessories.
4. Foundation construction details, including material descriptions, dimensions, anchor bolts, support devices, and calculations, signed and sealed by a professional engineer licensed in the state of installation.
5. Anchor bolt templates keyed to specific poles and certified by manufacturer.
6. Method and procedure of pole installation. Include manufacturer's written installations.

1.4 INFORMATIONAL SUBMITTALS

A. Material test reports.

B. Field quality-control reports.

C. Sample warranty.

D. Soil test reports.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of pole(s) that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within a specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs from special warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. 01 40 00Structural Characteristics: Comply with AASHTO LTS-6-M.

B. Dead Load: Weight of luminaire and its horizontal and vertical supports, and supporting structure, applied according to AASHTO LTS-6-M.

C. Live Load: Single load of 500 lbf distributed according to AASHTO LTS-6-M.

D. Ice Load: Load of 3 lbf/sq. ft., applied according to AASHTO LTS-6-M for applicable areas on the Ice Load Map.

E. Wind Load: Pressure of wind on pole and luminaire, calculated and applied according to AASHTO LTS-6-M.

1. Basic wind speed for calculating wind load for poles exceeding 50 feet in height is 100 mph.

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 50 years.
c. Velocity Conversion Factor: 1.0.

2. Basic wind speed for calculating wind load for poles 50 feet high or less is 100 mph.

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 25 years.
c. Velocity Conversion Factor: 1.0.

F. Strength Analysis: For each pole, multiply the actual EPA of luminaires and brackets by a factor of 1.1 to obtain the EPA to be used in pole selection strength analysis.

G. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless steel fasteners and mounting bolts unless otherwise indicated.

2.2 STEEL POLES

A. Refer to light fixture schedule for manufacturer and series.Source Limitations: Obtain poles from single manufacturer or producer.

B. Source Limitations: For poles, obtain each color, grade, finish, type, and variety of pole from single source with resources to provide products of consistent quality in appearance and physical properties.

C. Poles: Comply with ASTM A500/A500M, Grade B carbon steel with a minimum yield of 46,000 psig; one-piece construction up to 40 feet in height with access handhole in pole wall.

1. Shape: Square, straight.
2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.

D. Steel Mast Arms: Single-arm type, continuously welded to pole attachment plate. Material and finish same as plate.

E. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adaptor fitting welded to pole, allowing the bracket to be bolted to the pole-mounted adapter, then bolted together with stainless-steel bolts.
2. Cross Section: Tapered oval, with straight tubular end section to accommodate luminaire. Match pole material and finish.

F. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.

G. Fasteners: Stainless steel, size and type as determined by manufacturer. Corrosion-resistant items compatible with support components.

1. Materials: Compatible with poles and standards as well as the substrates to which poles and standards are fastened and shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.

H. Grounding and Bonding Lugs: Welded 1/2-inch threaded lug, complying with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size indicated, and accessible through handhole.

I. Handhole: Oval shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless steel captive screws.

J. Intermediate Handhole and Cable Support: Weatherproof, 3-by-5-inch handhole located at midpoint of pole, with cover for access to internal welded attachment lug for electric cable support grip.

K. Cable Support Grip: Wire-mesh type with rotating attachment eye, sized for diameter of cable and rated for a minimum load equal to weight of supported load multiplied by a 5.0 safety factor.

L. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.

M. Powder-Coat Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces according to SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair powder coat bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, according to SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Powder Coat: Comply with AAMA 2604.

a. Electrostatic-applied powder coating; single application and cured to a minimum 2.5- to 3.5-mils dry film thickness. Coat interior and exterior of pole for equal corrosion protection.
b. Color: As selected by Architect from manufacturer's full range.

2.3 ALUMINUM POLES

A. Refer to light fixture schedule for manufacturer and series.Poles: Seamless, extruded structural tube complying with ASTM B221, Alloy 6061-T6, with access handhole in in pole wall.

1. Shape: Square, straight.
2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.

B. Mast Arms: Aluminum Single-arm type, continuously welded to pole attachment plate. Material and finish same as plate.

C. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adaptor fitting welded to pole, allowing the bracket to be bolted to the pole-mounted adapter, then bolted together with stainless-steel bolts.
2. Cross Section: Tapered oval, with straight tubular end section to accommodate luminaire. Match pole material and finish.

D. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.

E. Grounding and Bonding Lugs: Bolted 1/2-inch threaded lug, complying with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.

F. Fasteners: Stainless steel, size and type as determined by manufacturer. Corrosion-resistant items compatible with support components.

1. Materials: Compatible with poles and standards as well as to substrates to which poles and standards are fastened and shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.

G. Handhole: Oval shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless steel captive screws.

H. Powder-Coat Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair powder coat bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, according to SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Powder coat shall comply with AAMA 2604.

a. Electrostatic applied powder coating; single application with a minimum 2.5- to 3.5-mils dry film thickness; cured according to manufacturer's instructions. Coat interior and exterior of pole for equal corrosion protection.
b. Color: As selected by Architect from manufacturer's full range.

2.4 POLE ACCESSORIES

A. Base Covers: Manufacturers' standard metal units, finished same as pole, and arranged to cover pole's mounting bolts and nuts.

2.5 MOUNTING HARDWARE

A. Anchor Bolts: Manufactured to ASTM F1554, Grade 55, with a minimum yield strength of 55,000 psi.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Bent rods as required by manufacturer.
3. Threading: Uniform National Coarse, Class 2A.

B. Nuts: ASTM A563, Grade A, Heavy-Hex.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Two nuts provided per anchor bolt, shipped with nuts pre-assembled to the anchor bolts.

C. Washers: ASTM F436, Type 1.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Two washer(s) provided per anchor bolt.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. 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 - EXECUTION

3.1 POLE FOUNDATION

A. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Structural steel complying with ASTM A36/A36M and hot-dip galvanized according to ASTM A123/A123M; and with top-plate and mounting bolts to match pole-base flange and strength required to support pole, luminaire, and accessories. Concrete, reinforcement, and formwork are specified in Section 03 30 00 "Cast-in-Place Concrete."

B. 03 30 00Anchor Bolts: Install plumb using manufacturer-supplied steel template, uniformly spaced.

3.2 POLE INSTALLATION

A. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Section 03 30 00 "Cast-in-Place Concrete."

B. Foundation-Mounted Poles: Mount pole with leveling nuts and tighten top nuts to torque level according to pole manufacturer's written instructions.

C. Raise and set pole using web fabric slings (not chain or cable) at locations indicated by manufacturer.

3.3 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum using insulating fittings or treatment.

B. Steel Conduits: Comply with requirements in Section 26 05 33.13 "Conduits for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- thick, pipe-wrapping plastic tape applied with a 50-percent overlap.

3.4 GROUNDING

A. Ground Metal Poles and Support Structures: Comply with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems."

1. Install grounding electrode for each pole unless otherwise indicated.
2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.

END OF SECTION 26 56 13

SECTION 26 56 19 - LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior solid-state luminaires that are designed for and exclusively use LED lamp technology.
2. Luminaire supports.

B. Related Requirements:

1. Section 26 09 23 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.
2. Section 26 56 13 "Lighting Poles and Standards" for poles and standards used to support exterior lighting equipment.

1.2 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color rendering index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of luminaire.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Delegated Design Submittals: For luminaire supports.

1. Include design calculations for luminaire supports.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale and coordinated.

B. 26 05 48Product Certificates: For each type of the following:

1. Luminaire.

C. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1. Provide a list of all lamp types used on Project. Use ANSI and manufacturers' codes.
2. Provide a list of all photoelectric relay types used on Project; use manufacturers' codes.

1.6 FIELD CONDITIONS

A. Mark locations of exterior luminaires for approval by Architect prior to the start of luminaire installation.

1.7 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 2 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 01 60 0001 60 00LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Luminaires shall be listed and labeled for indicated class and division of hazard by an NRTL.

C. UL Compliance: Comply with UL 1598 and listed for wet location.

D. CRI of minimum 80. CCT: Refer to light fixture schedule.

E. L70 lamp life of 50,000 hours.

F. Lamps dimmable from 100 percent to 0 percent of maximum light output.

G. Nominal Operating Voltage: Refer to light fixture schedule.

H. In-line Fusing: Separate in-line fuse for each luminaire.

I. Lamp Rating: Lamp marked for outdoor use and in enclosed locations.

J. Source Limitations:

1. Obtain luminaires from single source from a single manufacturer.
2. For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 LUMINAIRE TYPES

A. Area and Site:

1. Refer to light fixture schedule for manufacturer and series.
2. Luminaire Shape: Refer to light fixture schedule.
3. Mounting: Refer to light fixture schedule.
4. Luminaire-Mounting Height: Refer to light fixture schedule.
5. Distribution: Refer to light fixture schedule.

B. Canopy:

1. Refer to light fixture schedule for manufacturer and series.
2. Shape: Refer to light fixture schedule.
3. Dimensions: Refer to light fixture schedule.

2.3 MATERIALS

A. Metal Parts: Free of burrs and sharp corners and edges.

B. Sheet Metal Components: Refer to light fixture schedule. Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.

D. Diffusers and Globes:

1. Acrylic Diffusers: 100 percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
2. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

E. Lens and Refractor Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

F. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.

G. Housings:

1. Rigidly formed, weather- and light-tight enclosure that will not warp, sag, or deform in use.
2. Provide filter/breather for enclosed luminaires.

2.4 FINISHES

A. Variations in Finishes: Noticeable variations in same piece are unacceptable. 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.

B. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

C. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
2. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20 requirements; and seal aluminum surfaces with clear, hard-coat wax.
3. Class I, Clear-Anodic Finish: AA-M32C22A41 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.
4. Class I, Color-Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker), complying with AAMA 611.

    a. Color: Refer to light fixture schedule.

D. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.

a. Color:

1) As selected from manufacturer's standard catalog of colors.

2.5 LUMINAIRE SUPPORT COMPONENTS

A. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

A. Comply with NECA 1.

B. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.

C. Install lamps in each luminaire.

D. Fasten luminaire to structural support.

E. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Support luminaires without causing deflection of finished surface.
4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

F. Wall-Mounted Luminaire Support:

1. Attached to a minimum 1/8 inch backing plate attached to wall structural members.

G. Wiring Method: Install cables in raceways. Conceal raceways and cables.

H. Install luminaires level, plumb, and square with finished grade unless otherwise indicated. Install luminaires at height and aiming angle as indicated on Drawings.

I. Coordinate layout and installation of luminaires with other construction.

J. Adjust luminaires that require field adjustment or aiming. Include adjustment of photoelectric device to prevent false operation of relay by artificial light sources, favoring a north orientation.

K. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables" and Section 26 05 33.13 "Conduits for Electrical Systems" for wiring connections and wiring methods.

3.2 INSTALLATION OF INDIVIDUAL GROUND-MOUNTED LUMINAIRES

A. Aim as indicated on Drawings.

B. Install on concrete base with top 4 inches above finished grade or surface at luminaire location. Cast conduit into base, and finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Section 03 30 00 "Cast-in-Place Concrete."

3.3 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.

B. Steel Conduits: Comply with Section 26 05 33.13 "Conduits for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.4 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

B. Perform the following tests and inspections:

1. 26 09 23Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Photoelectric Control Operation: Verify operation of photoelectric controls.

C. Illumination Tests:

1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IES testing guide(s):

a. IES LM-5.
b. IES LM-50.
c. IES LM-52.
d. IES LM-64.
e. IES LM-72.

2. 26 09 23Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

D. Luminaire will be considered defective if it does not pass tests and inspections.

E. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.6 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaires.

END OF SECTION 26 56 19

GENERAL NOTES

As used in these General Notes:
"Drawings" means the latest structural design drawings, uno.
"Specifications" means the latest project specifications, uno.
"Contract Documents" is defined as the design drawings and the specifications.
"SER" is defined as the structural engineer of record for the structure in its final condition.
"Design Professionals" is defined as the owner's architect
"MEP" includes, but is not limited to Mechanical, Electrical, Plumbing, Fire Protection.
"Contractor" is defined to include any of the following: General Contractor and their Subcontractors, Construction Manager and their Subcontractors, Structural Steel Fabricator or Structural Steel Erector.
"Base Building Structure" is defined as the structural frame desinged by JQOL Global LLC.
"Structure in its final condition" means all structural elements shown on the structural contract documents are installed and completely connected and inspected with no outstanding non-comliance issues.

The Contractor is solely responsible for the stability of the structure until the construction of the structure reaches its final condition.

The Contractor is responsible for coordination of the Structural work with the Architectural, Civil, MEP contract documents, as well as any other applicable trades. The architectural, mechanical, electrical and plumbing aspects are not in the scope of these drawings. Therefore, all required materials and work may not be indicated. Refer to architectural drawings for all dimensions not shown on these drawings. Locations, sizes and numbers of all openings may not be completely indicated in the structural drawings. The respective contractor shall verify their work with all other disciplines.

The contractor is solely responsible for the design, installation, and removal of temporary bracing and construction supports, for new and existing structures, as necessary to complete the project. No portion of the project while under construction is intended to be stable in the absence of the contractor's temporary supports and braces. Contractor shall retain a structural engineer licensed in the state in which the project is located to design temporary bracing and construction supports.

The contract documents represent the structure only. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not limited to, bracing, shoring, underpinning, etc. the Engineer of Record is not responsible for the contractor's means, methods, techniques, sequences or safety procedures during construction.

The specifications are an integral part of the contract documents and shall be used in conjunction with the structural drawings.

The contractor shall verify all existing dimensions and conditions and coordinate with the structural drawings, architectural drawings, drawings from other consultants, project shop drawings and field conditions.

Apply details, sections, and notes on the drawings where conditions are similar to those indicated by detail, detail title or note.

Only use dimensions indicated on the drawings. Do not scale drawings.

Assume equal spacing between established dimensions, if not indicated on drawings.

Centerlines of columns and foundations coincide with grid line intersections, uno.

Centerlines of grade beams and walls coincide with centerlines of foundations, uno.

Centerlines of framing members coincide with column centerlines, uno.

The contractor shall verify that construction loads do not exceed the capacity of the structure at the time the load is applied.

Reactions and forces indicated are unfactored, Allowable Strength Design (ASD) loads.

If Drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern.

Notes and details shall take precedence over general structural notes. Where no details or sections are shown, construction shall conform to similar work on the project. Typical sections and details may not be cut on the plans, but apply unless noted otherwise.

Verify all existing conditions prior to any construction or fabrication. If different than shown, notify engineer/architect immediately for modification of drawings.

Provisions for future expansion:
Horizontal: None
Vertical: None

CODES AND DESIGN CRITERIA

CODES

Building Code:	2012 International Building Code
Local Building Code:	Indiana Building Code 2014
Code Standard:	ASCE 7-10
Steel Standard:	AISC 360-10 ASD
Steel Seismic Standard:	AISC 341-10 ASD
Concrete Standard:	ACI 318-11
Masonry Standard:	TMS 402/602-11
Wood Standard:	AITC/APA/NDS Current Ed.
Risk Category:	III
Exposure Category:	C
ROOF LOADS	SEE LOAD MAPS
FLOOR LOADS	SEE LOAD MAPS

SOILS

Soils Report:	A&W Project No. 25IN0492	
Report Date:	10.08.2025	
	Spread	Wall
Allowable Bearing Pressure, qa:	2500 psf	2000 psf
Soil Density, yt:	120 pcf	
Minimum Foundation Bearing Depth:	36 in	

SLAB ON GRADE

Compacted Fill Thickness	6 in
Compaction Specification:	95% Modified Proctor D-1557

SNOW DESIGN CRITERIA

Ground Snow Load, Pg:	20 psf	
Flat Roof Snow Load, Pf:	15.4 psf	
Minimum Snow, Pm:	22 psf	
Importance Factor, Is:	1.1	
Exposure Factor, Ce:	1.0	Partially
Thermal Factor, Ct:	1.0	Heated
Warm Slope Factor, Cs:	1.0	

WIND DESIGN CRITERIA

Ultimate Wind Speed, Vult:	120 mph
Design Wind Speed, Vasd:	90 mph
Enclosure Class:	Enclosed
Internal Pressure Coefficient, GCpi:	0.18
Roof Net Uplift:	See S-010 Loading Sheet

SEISMIC DESIGN CRITERIA

Importance Factor, Ie:	1.25
Ss:	0.163
S1:	0.088
SDS:	0.174
SD1:	0.141
Site Class:	D
Seismic Design Category:	C
Analysis Procedure:	ELFA
Response Modification Coeff., R:	3
Overstrength Factor, Ω:	3
Seismic Response Coefficient, CS:	0.073
Unfactored Design Base Shear, V:	7.3% * W
Basic Seismic-Force-Resisting System:	H. Steel Systems not Specifically Detailed for Seismic Resistance 1. Steel Systems, R=3

010002 EXISTING STRUCTURE NOTES

The actual existing structure configuration, member sizes, etc. has not been field verified.

All existing structure indicated is for reference only.

Field verify existing structure. If existing structure varies from configuration, sizes, etc. from drawings, notify engineer of record immediately.

Existing structural information has been obtained from drawings prepared
by TISLOW HUNTER & BERGEN ASSOCIATED, dated 10.25.1965 &
by THE MCGUIRE & SHOOK CORPORATION, dated 01.28.1988

014000 DELEGATED DESIGN

DELEGATED DESIGN REQUIREMENTS
A Specialty Structural Engineer (SSE), registered in the state of the project, shall be responsible for the structural design of the following products and systems complying with specific performance and design criteria indicated.

1. Steel Joists, joist girders, bridging and accessories.
2. Structural Steel Connections, except as shown on drawings.
   AISC Option 2 (Detailer): Simple shear connections.
   AISC Option 3 (SSE): All other connections not shown.
3. Cold-Formed Steel CFS wall studs, CFS floor joists and accessories.
4. Stairs, ladders, and railings.
5. Post-Tensioned Slab and Beams.
6. Precast Prestressed Concrete elements and accessories.
7. Sprinkler supports and required loading.

The contractor is to review each submittal prior to forwarding to architect and structural engineer. The contractor is to stamp each submittal verifying that the following is addressed:

1. The shop drawing is requested.
2. The shop drawing is based on the latest design.
3. The architect' s and structural engineer' s comments from any previous submittals are addressed.
4. The work is coordinated among all construction trades.
5. Revisions from previous submittals are clearly marked by circling or clouds.
6. Submittal is complete.
7. Submittal does not include substitution request
8. Submittal shall include a stamp indicating project name and location, submittal number, specification section number.

The structural engineer shall return, without comment, submittals which the contractor has not stamped or which do not meet the above requirements. The structural engineer' s review of submittals shall be for general conformance with the design intent. No work shall be started without such review.

The structural engineer will return the shop drawing items within ten working days after having received the reproducible shop drawing.

SHOP DRAWINGS SUBMITTAL

The Contractor shall prepare detailed shop drawings to enable all parts of the work to be fabricated and constructed in accordance with the drawings and specifications. These shop drawings will be reviewed for general compliance with the design intent only. The contractor is responsible for all dimensions, accuracy and fit of the work.

All shop drawings shall be reviewed by the contracted prior to submittal to the structural engineer. Drawings without the contractor's review will be returned without review.

Work requiring submittals for structural engineer review shall not be started by the contractor without appropriate reviewed submittals. Work performed by the contractor prior to receiving appropriate received submittals shall be subject to removal and replacement as deemed necessary by the structural engineer, at the contractor's expense, and with no cost to the owner

Submit shop drawings for each of the following items:

1. CONCRETE MIX DESIGNS
2. STRUCTURAL STEEL
3. REINFORCING STEEL - FOUNDATIONS
4. REINFORCING STEEL - CONCRETE MASONRY UNITS (SUBMITTAL SHALL INCLUDE PLAN VIEW, WALL ELEVATIONS AND WALL SECTIONS)
5. EMBEDDED ITEMS
6. METAL DECK
7. STEEL JOISTS
8. PRECAST HOLLOW CORE PLANKS
9. PRECAST STAIRS
10. ELEVATORS (SUBMITTED FOR ENGINEER'S RECORDS ONLY AND WILL NOT RECEIVE THE ENGINEER'S SHOP DRAWING STAMP)
11. COLD-FORMED STEEL
12. CONCRETE MASONRY UNITS
13. STRUCTURAL WOOD FRAMING - LOAD BEARING STUDS, SILLS, FLOOR JOISTS, LEDGERS AND SPECIFIED ANCHORS CLIPS AND FASTENERS

017900 DEMOLITION NOTES

All shoring shall be in place before demolition begins.

It is the Contractor's responsibility to select the appropriate shoring system for the loads and work indicated.

Reactions and forces indicated for shoring are actual, working loads.

If Drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern. Contractor shall bring all discrepancies to the attention of the engineer immediately.

Verify all existing conditions prior to any demolition, construction or fabrication. If different than shown, notify engineer/architect immediately for modification of drawings.

All contractors are required to coordinate their work with all disciplines to avoid conflicts. The architectural, mechanical, electrical and plumbing aspects are not in the scope of these drawings. Therefore, all required materials and work may not be indicated. It is the contractor's responsibility to coordinate these drawings with all other construction documents. Refer to architectural drawings for all dimensions not shown on these drawings. Locations, sizes and numbers of all openings may not be completely indicated in the structural drawings, the respective contractor shall verify their work with all other disciplines.

The contract documents represent the structure only. They do not indicate the method of demolition, shoring or construction. The contractor shall provide all measures necessary to protect the structure during demolition and construction. The Engineer of Record is not responsible for the contractor's means, methods, techniques, sequences or safety procedures during construction.

020000 SHALLOW FOUNDATION AND SLAB ON GRADE NOTES

Soil to be stripped, compacted and tested in accordance with the recommendations of the soils engineer and project specifications.

Footings shall be placed on firm, undisturbed soil or on engineered fill. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

Slabs shall be placed on 6" compacted, free-draining, frost-free drainage course. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve. All fill shall be compacted to a minimum dry density of 95% of the standard Proctor maximum dry density (ASTM-D698), placed in 6" to 8" lifts. Pea gravel may not be used as fill. Utility trenches and excavations under the foundations or slabs shall meet the same requirements. See soils investigation report for further recommendations.

Undercutting of the soil for foundation and/or slab placement may be required. These drawings do not indicate the entire scope of undercutting, fill or bad soil removal that may be required to attain the design soil bearing pressures. It is the responsibility of the contractor to obtain a soils investigation report, before bidding, to assess the extent of excavation and compaction that may be required to meet the design criteria. The contractor shall retain the services of a soils engineer to monitor all backfilling operations and to inspect footing bearing material. A report certified by the soils engineer shall be furnished to the architect/engineer verifying that all foundations were placed on a material capable of sustaining the design bearing pressures.

If dewatering is required, sumps shall not be placed within the foundation excavation.

Maintain a maximum slope between adjacent footing bearing elevations of 2 horizontal to 1 vertical. Maintain a 2 horizontal to 1 vertical slope next to existing foundations to avoid undermining foundations.

No horizontal joints are permitted in any foundation. Vertical joints are permitted only in wall footings.

Shallow foundations may be earth-formed where the excavation permits. If earth-forming is used, add 2" to the width and length of all foundations.

The bottom of all foundations shall be a minimum of 36" depth below final grade.

033000 CAST IN PLACE CONCRETE NOTES (Foundations, Slabs, & Walls)

See concrete mix schedule for mix design requirements.

All reinforcing shall conform to the following concrete cover:

COVER	LOCATION
3"	Foundations & Footings: All surfaces; Exterior Slabs: Bottom; Grade Beams & Trench Footings: All surfaces; All concrete cast against soil.
2"	Exterior Walls, All Piers & All Pilasters: All surfaces; Exterior Slabs: Top; All exterior concrete
1 1/2"	Interior beams & columns: All surfaces; All concrete not exposed to weather or in contact with ground.
3/4"	Interior slabs, Walls & joists

Welded Wire Reinforcement (WWR) for slabs and fill for metal deck shall be placed in the upper-third of the slab or fill. See details.

All reinforcing steel shall be detailed, supplied and placed in accordance with ACI 315, ACI 318 and CRSI MSP-1.

All reinforcing steel shall be shop fabricated and, where applicable, shall be wired together and conform to ASTM A-615, Grade 60.

Chamfer edges of exposed concrete 3/4", unless noted otherwise.

Contractor shall make four, 6"x12" test cylinders for each 50 cubic yards of concrete poured for each days operation. Break 1 at 7 days, 2 at 28 days and retain spare.

All welded wire fabric shall conform to ASTM A1064, Fy(min) of 65 ksi. All welded wire fabric laps shall be 8".

All finished concrete, concrete formwork and falsework shall be in accordance with ACI 301. Contractor is solely responsible for the design and construction of all formwork, falsework and shoring.

Provide sleeves for all openings in grade beams or walls to totally separate pipe from concrete.

Foundations may be earth-formed where the excavation permits. If earth-forming is used, add 2" to the width, length & thickness of all foundations.

Plastic Vapor Retarder: ASTM E 1745, Class A, not less than 10 mils (0.25 mm) thick, see specifications. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.

Adhesive Anchors and Adhesives Used for Reinforcing Anchorage:
1. The adhesive anchor system used for post-installed anchorage to concrete shall conform to the requirements of the most recently published ACI 355.4.
2. Adhesive anchors indicated are the Basis-of-Design. Approved equal meeting ACI 355.4 is permitted.
3. Bulk-mixed adhesives are not permitted.
4. Anchors shall be supplied as an entire system with manufacturer's recommendations adhered to.
5. Adhesive anchors shall be installed by qualified personnel trained to install adhesive anchors.
6. Installation of adhesive anchors horizontally or upwardly inclined shall be performed by personnel certified by the ACI/CRSI Adhesive Anchor Installer Certification program.
7. Adhesive anchors installed in horizontal or upwardly inclined orientations shall be continuously inspected during installation by an inspector specially approved for that purpose.

Bonding agent for bonding fresh concrete to hardened concrete: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

042000 MASONRY AND REINFORCED MASONRY NOTES

Minimum 28 day compressive strength of concrete masonry units shall be 2000 p.s.i. based on net area of the unit. Specified design compressive strength of masonry shall be f'm = 2000 p.s.i. All units for exterior walls, load-bearing walls and shear walls shall be normal weight block.

All mortar shall be Type S. No admixtures may used unless approved by architect/engineer. Mortar shall not be used for grouting cores or filling bond beams.

Lay masonry units in running bond uno with units designed to align with webs on each course.

Course grout shall be used where grouting is required. Slump shall be 8" +/- 1". Minimum grout compressive strength shall be 2000 p.s.i.

All reinforcing shall be ASTM A615 Grade 60 (Fy=60 ksi). Lap all reinforcing a minimum of 48 bar diameters.

Center vertical reinforcing in block cores, unless noted otherwise.

See architectural and specifications for all control joint locations. Reinforcing in bond beams shall be discontinuous at control joints.

Provide ladder type horizontal joint reinforcement at 16" o.c. typical and 8" o.c. for parapets and below ground floor elevation. Side rods and cross rods shall be #9 wire, galvanized, see specifications. Cut joint reinforcement at control joints.

Provide "L" bars at all bond beam corners as required.

Fill cores of block solid with grout two full courses below the bearing of all beams or lintels supported on masonry.

All attachments to block shall be made with Hilti HLC 1/2" diameter x 3" sleeve anchors, unless noted otherwise. Anchors shall be installed per manufacturer's recommendations.

See typical schedules for masonry and steel lintels not indicated on plans.

Grout solid cores with reinforcment. Grout solid cells in below grade construction where masonry is in contact with soil.

Provide ties to all structural steel.

All interior, non-load bearing masonry walls over 12'-0" high, shall be supported on thickened slab as per typical detail. Wall vertical reinforcing shall be #5 @ 48" OC full height. Unless noted otherwise.

Place grout by low-lift method. Maximum grout pour shall be 5 feet.

051200 STRUCTURAL STEEL NOTES

All structural steel shall conform to the following:

W Shapes	ASTM A992, Grade 50.
Angles, Channels, Plates, Bars	ASTM A36 (Fy=36 ksi)
HSS Tubes	ASTM A500, Grade C (Fy=50 ksi)
HSS Rounds	ASTM A500, Grade C (Fy=46 ksi)
Anchor Rods	ASTM F1554, Grade 36

All steel shall be detailed, fabricated and erected in accordance with:
- AISC 360 "Specification for Structural Steel Buildings", Allowable Strength Design (ASD)
- AISC 303 "Code of Standard Practice"

Submit connections not specifically detailed on the drawings to the SER for review prior to review of shop drawings. Where no shear is indicated on drawings design connection for minimum 10 k reaction and where no moment is indicated on drawings provide full moment capacity of member per ASD Design Requirements.

All bolted connections shall be made with 3/4" diameter, A325 bolts with nuts and washers, unless otherwise noted. All connections shall be shear bearing connections tightened to snug-tight condition, unless otherwise noted.

All shop and field welds shall be made using E70 electrodes or equivalent.

Splices shall be allowed only at locations specifically indicated on the structural drawings unless approved otherwise by the SER in writting.

For steel members and embedments exposed to weather, provide hot-dipped galvanized finish, uno.

Provide holes in all steel as required to provent any accumulation of water. All penetrations through main members shall not exceed 1 1/8" dia. and shall be ground smooth. These drains must be kept clean and open.

Field modification of structural steel is prohibited without prior approval of the architect and structural engineer.

Steel fabricator shall obtain the size and location of all openings for grilles, louvers, etc. before proceeding with the fabrication and erection of any required frames.

Provide Heckman #129 and #130 channel slot anchors and channel slot at all columns that abut masonry walls, uno.

Provide temporary bracing of the structure until all permanent lateral support is in place.

Structure Stability: The entire roof and/or floor decking materials must be fully erected and connected to the supporting steel before temporary, erection bracing is removed.

RD = Roof Drain location. Provide steel frame for drains. See other drawings for actual drain type, number, size, etc. Coordinate with drain contractor.

Remove erection bolts and fill holes in all exposed braces.

052100 STEEL JOIST NOTES

Provide all joists, bridging and accessories for the complete erection of joists in accordance with the current Steel Joist Institute "STANDARD SPECIFICATIONS AND LOAD TABLES FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS" and Underwriters Laboratories "STANDARD, FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS".

Bridging shall be completely erected and joists aligned before any construction loads are placed on joists.

Do not weld bottom chord of joists to columns unless noted on drawings.

Install erection bolts at all joist girder to column and joist to column connections.

Where ballasted roofing is not shown on architectural drawings, provide uplift bridging at all joists as per "STANDARD SPECIFICATIONS AND LOAD TABLES FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS" for a net uplift load of 20 psf, unless noted or shown otherwise.

053100 STEEL DECK NOTES

All metal deck material, fabrication and installation shall conform to Steel Deck Institute" SDI SPECIFICATIONS AND COMMENTARY" and "CODE OF RECOMMENDED STANDARD PRACTICE", Current edition, unless noted.

FASTENING DECK
1. Roof deck shall be welded using 5/8" diameter puddle welds, 36/4 pattern with (1) #10 TEK sidelap fastener unless otherwise shown in typical detail or indicated on drawings.
2. Floor deck shall be welded using 3/4" diameter puddle welds, 36/4 pattern unless otherwise shown in typical detail or indicated on drawings.

Provide TS 2 1/2x 2 1/2x 1/8 deck support, field welded to joist or beam at all deck span changes.

Provide L3x3x1/4 deck support at all columns where required, unless noted.

Provide 20 gauge cover plate at all roof deck span changes.

Provide L3x3x1/4 at all unsupported edges of deck and around roof perimeter, unless otherwise noted.

All deck shall be provided in a minimum of 3-span lengths where possible.

316217 HELICAL PILE-ANCHOR NOTES

All piles/anchors shall meet or exceed the following minimum criteria, unless noted.
Capacities shown are ASD (working):
Soils report by: Alt & Witzig Engineering, Inc. No. 25IN0492 _
Compression: 50 k
Tension: 25 k
Base bid length: 25 ft below existing ground surface

All Helical piles and anchors shall have galvanized steel shafts.

All piles shall be designed and installed by a specialty engineer to provide the resistance indicated on the pile layout plan, or, as indicated above. Submit calculations for review to the architect and structural engineer.

Contractor shall have a soils engineer on site to keep placement logs and verify pile capacities. All logs and reports shall be certified by the soils engineer and copies provided to the architect and structural engineer.

Extend helical piles and anchors into bottom of caps, grade beams, as shown in typical details. Provide manufacturers standard pile head suitable to transfer reactions. Notify EOR immediately if dimensions vary from size indicated.

Basis of Design Product: Pile spacing and anchorage based on the following:
Manufacturer: A.B. Chance
Shaft: SS 200
Bolts and Welds Match capacity of shaft and cap

All bolted connections field modified to field welded connections: See specifications for requirements.

ABBREVIATIONS LIST

AR	ANCHOR RODS	O/O	OUT TO OUT
ABV	ABOVE	OAL	OVERALL
ACI	AMERICAN CONCRETE INSTITUTE	OC	ON CENTER
ADD'L	ADDITIONAL	OD	OUTSIDE DIAMETER
ADH	ADHESIVE	OFC	OUTSIDE FACE
ADJ	ADJACENT	OH	OVER HEAD
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	OPNG	OPENING
		OPP	OPPOSITE
AFF	ABOVE FINISHED FLOOR	OPP HD	OPPOSITE HAND
AGGR	AGGREGATE	OSB	ORIENTED STRAND BOARD
AHU	AIR HANDLING UNIT	OSL	OUTSTANDING LEG
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	OVS	OVERSIZE HOLE
		PAF	POWDER ACTUATED FASTENER
AISI	AMERICAN IRON AND STEEL INSTITUTE	PC	PRECAST
		PL	PLATE
ALUM	ALUMINUM	PLF	POUNDS PER LINEAR FOOT
ALT	ALTERNATE	PLYWD	PLYWOOD
APPROX	APPROXIMATE	PNL	PANEL
ARCH	ARCHITECT	PROJ	PROJECTION
ARCH'L	ARCHITECTURAL	PSF	POUNDS PER SQUARE FOOT
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	PSI	POUNDS PER SQUARE INCH
		PSL	PARALLEL STRAND LUMBER
AWS	AMERICAN WELDING SOCIETY	PT	PRESSURE TREATED
L	ANGLE	PTN	PARTITION
BAL	BALANCE	R	RADIUS
BB	BOND BEAM	RD	ROOF DRAIN
B/B	BACK TO BACK	REF	REFERENCE
BC	BOTTOM CHORD	REINF	REINFORCE(D) (ING) (MENT)
BD	BOARD	REQ'D	REQUIRED
BLDG	BUILDING	REV	REVISION/REVISED
BLK	BLOCK	RO	ROUGH OPENING
BLW	BELOW	RRD	ROOF RELIEF DRAIN
BM	BEAM	RTN	RETURN
BOTT	BOTTOM	RTU	ROOF TOP UNIT
BP	BEARING PLATE	RW	RETAINING WALL
BRDG	BRIDGING	SCHED	SCHEDULE
BRG	BEARING	SECT	SECTION
BRK	BRICK	SHT	SHEET
BS	BOTH SIDES	SIM	SIMILAR
BSMT	BASEMENT	SJ	SAWCUT JOINT
BTWN	BETWEEN	SJI	STEEL JOIST INSTITUTE
BUC	BUILT UP COLUMN	SL	SLOPED
c	CAMBER	SPA	SPACE(S)
C/C	CENTER TO CENTER	SPECS	SPECIFICATIONS
CANT	CANTILEVER	SQ	SQUARE
CAIS	CAISSON	SS	STAINLESS STEEL
CFS	COLD FORMED STEEL	SSL	SHORT SLOTTED HOLES
CJ	CONTROL AND/OR CONSTRUCTION JOINT	STD	STANDARD
		STIFF	STIFFENERS
CL	CENTERLINE	STL	STEEL
CLR	CLEAR	STRUCT	STRUCTURAL
CMU	CONCRETE MASONRY UNIT	SYMM	SYMMETRICAL
COL	COLUMN	T&B	TOP AND BOTTOM
COORD	COORDINATE	T&G	TONGUE AND GROOVE
COMP	COMPACTED	TB	TIE BEAM
CONC	CONCRETE	TC	TOP CHORD
CONN	CONNECTION	TCX	TOP CHORD EXTENSION
CONST	CONSTRUCTION	TEMP	TEMPERATURE
CONT	CONTINUOUS	TF	TRENCH FOOTING
CONTR	CONTRACTOR	THK	THICK
CTR	CENTER	THKS	THICKENED SLAB
CTRD	CENTERED	THR'D	THREADED
DIA	DIAMETER	TL	TOTAL LOAD
DIAG	DIAGONAL	TOPG	TOPPING
DIM	DIMENSION	TRANS	TRANSVERSE
DL	DEAD LOAD	TYP	TYPICAL
DLT	DEEP LEG TRACK	UNO	UNLESS NOTED OTHERWISE
DO	DITTO	VERT	VERTICAL
DN	DOWN	VIF	VERIFY IN FIELD
DTL	DETAIL	w/	WITH
DWG	DRAWING	WD	WOOD
DWL	DOWEL	WO	WINDOW OPENING (MASONRY)
EA	EACH	WP	WORKING POINT
EE	EACH END	WT	WEIGHT
EF	EACH FACE	WWF	WELDED WIRE FABRIC
EJ	EXPANSION JOINT		
ENG	ENGINEER	**ELEVATION TOP AND BOTTOM OF LIST**	
ELEV	ELEVATION		
ELECT	ELECTRICAL	T/	"ELEVATION, TOP OF"
EOD	EDGE OF DECK	B/	"ELEVATION, BOTTOM OF"
EOS	EDGE OF SLAB	J/BRG	JOIST BEARING ELEVATION
EQ	EQUAL	T/BB	TOP OF BOND BEAM
EQUIV	EQUIVALENT	T/BM	TOP OF BEAM
ES	EACH SIDE	T/CONC	TOP OF CONCRETE
EW	EACH WAY	T/F	TOP OF FOOTING
EXIST	EXISTING	T/LDG	TOP OF LEDGE
EXP	EXPANSION	T/MAS	TOP OF MASONRY
EXT	EXTERIOR	T/P	TOP OF PIER
F/	FACE OF	T/SLAB	TOP OF SLAB
FD	FLOOR DRAIN	T/STL	TOP OF STEEL
FDN	FOUNDATION	T/W	TOP OF WALL
FIN	FINISH	T/GB	TOP OF GRADE BEAM
FLR	FLOOR	T/CAIS	TOP OF CAISSON
FLG	FLANGE	B/PL	BOTTOM OF PLATE
FS	FARSIDE	B/F	BOTTOM OF FOOTING
FTG	FOOTING		
GA	GAUGE	**SPECIAL CHARACTERS**	
GALV	GALVANIZED		
GB	GRADE BEAM	°	DEGREE
GC	GENERAL CONTRACTOR	±	PLUS OR MINUS
GL	GLULAM	℄	ELEVATION
GR	GRADE	Ø	DIAMETER
HC	HOLLOW CORE		
HD	HOLD DOWN		
HGT	HEIGHT		
HI	HIGH		
HK	HOOK		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HS	HEADED STUD		
HSS	HOLLOW STRUCTURAL SECTION		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
INFO	INFORMATION		
INT	INTERIOR		
INV	INVERT		
JST	JOIST		
JT	JOINT		
K	KIP		
KO	KNOCK OUT		
LB	POUND		
LDG	LEDGE		
LG	LONG		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LNTL	LINTEL		
LSL	LONG SLOTTED HOLES		
LONG	LONGITUDINAL		
LP	LOW POINT		
LVL	LAMINATED VENEER LUMBER		
MAS	MASONRY		
MAT'L	MATERIAL		
MAX	MAXIMUM		
MBM	METAL BUILDING MFR		
MCJ	MASONRY CONTROL JT		
MECH	MECHANICAL		
MEZZ	MEZZANINE		
MFR	MANUFACTURER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MO	MASONRY OPENING		
MOM	MOMENT		
MSW	MASONRY SHEAR WALL		
MSL	MEAN SEA LEVEL		
MTL	METAL		
NO	NUMBER		
NS	NEAR SIDE		
NTS	NOT TO SCALE		

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSA KAY RABLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

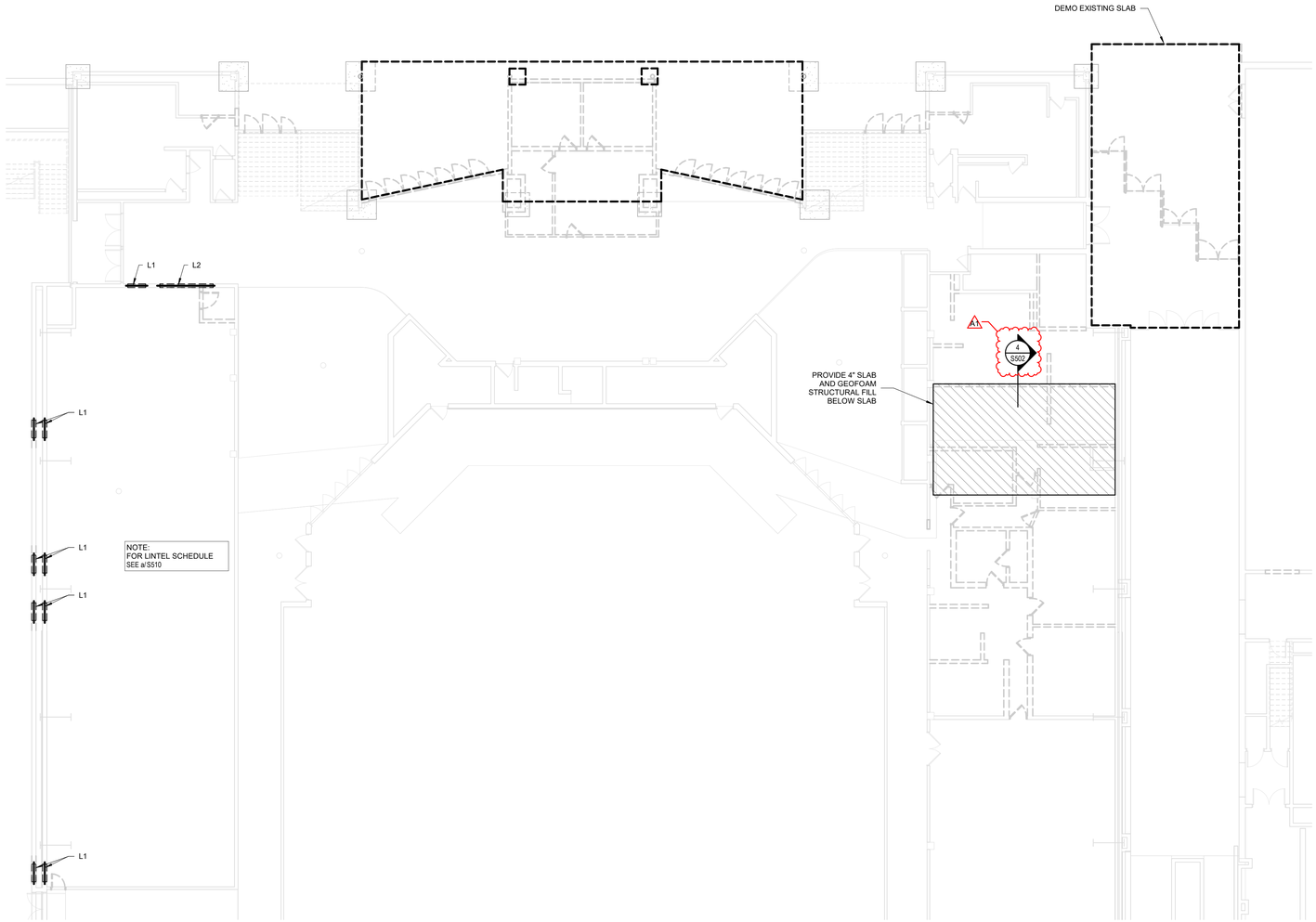
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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

GENERAL NOTES & ABBREVIATIONS

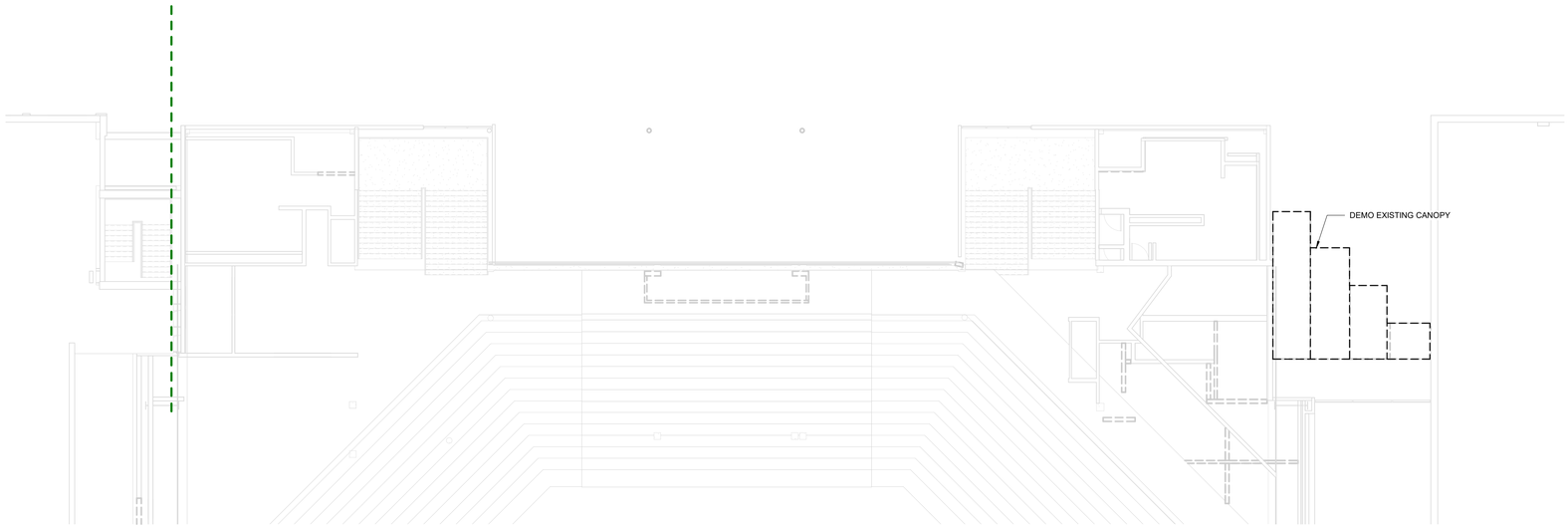
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UNIT K FOUNDATION DEMO PLAN

SCALE: 3/32" = 1'-0"



UNIT K ROOF DEMO PLAN

SCALE: 3/32" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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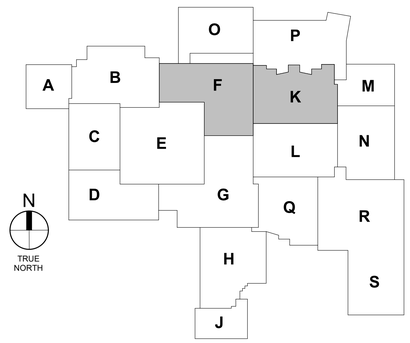


07.10.2026

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	#	Date	Desc.
△	A1	07.31.2026	Addendum 1

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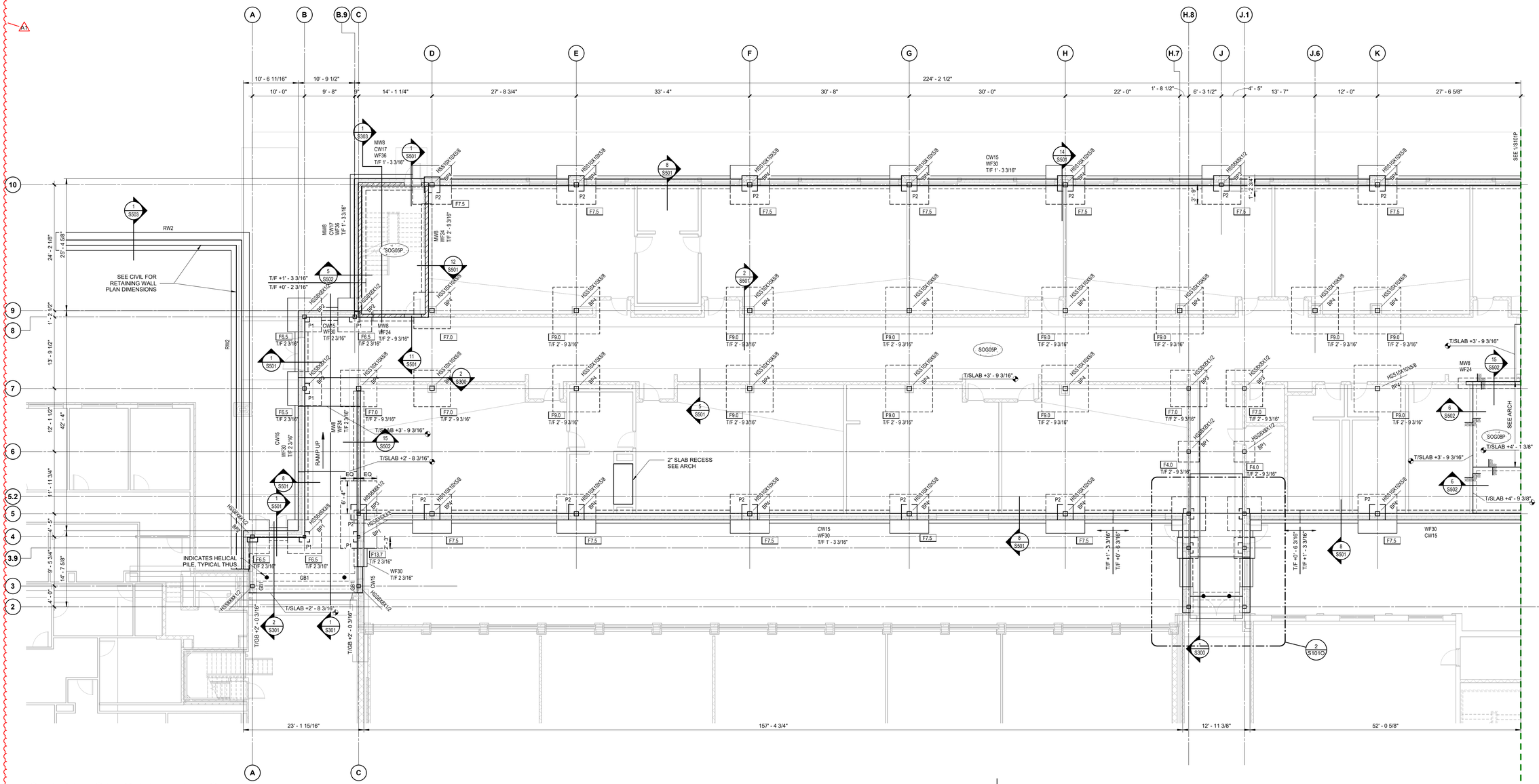
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DEMO PARTIAL PLANS - UNIT K

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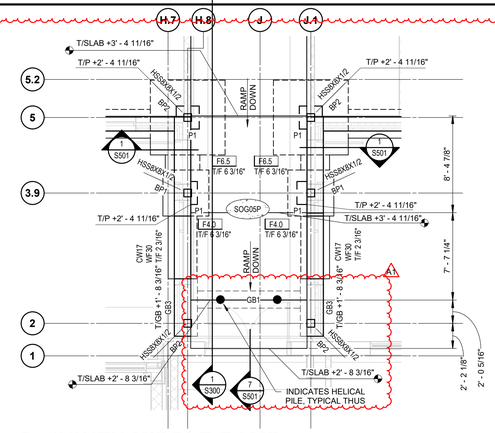


FOUNDATION PLAN - UNIT O

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

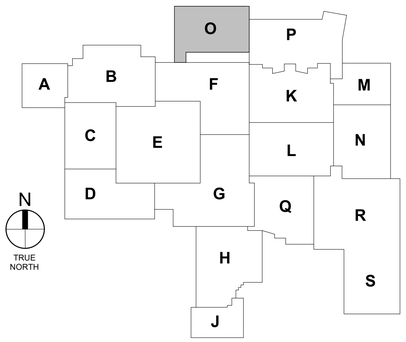
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1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0". SEE CIVIL DRAWINGS.
2. UNIT O TYPICAL FIRST FLOOR ELEV +3'-9 3/16" (APPROX 758.41'). SEE CIVIL.
3. UNIT O TYPICAL T/PIER ELEV +2'-9 3/16 (-1'-0" FROM FFE) U.N.O.
4. UNIT O TYPICAL T/FDN ELEV +1'-3 3/16 (-2'-6" FROM FFE) U.N.O.
5. UNIT P TYPICAL FIRST FLOOR ELEV +4'-9 3/8" (APPROX 759.43'). SEE CIVIL.
6. UNIT P TYPICAL T/PIER ELEV +3'-9 3/8 (-1'-0" FROM FFE) U.N.O.
7. UNIT P TYPICAL T/FDN ELEV +2'-3 3/8 (-2'-6" FROM FFE) U.N.O.
8. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.



2 / S101O SOUTH MIDDLE RAMP

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



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

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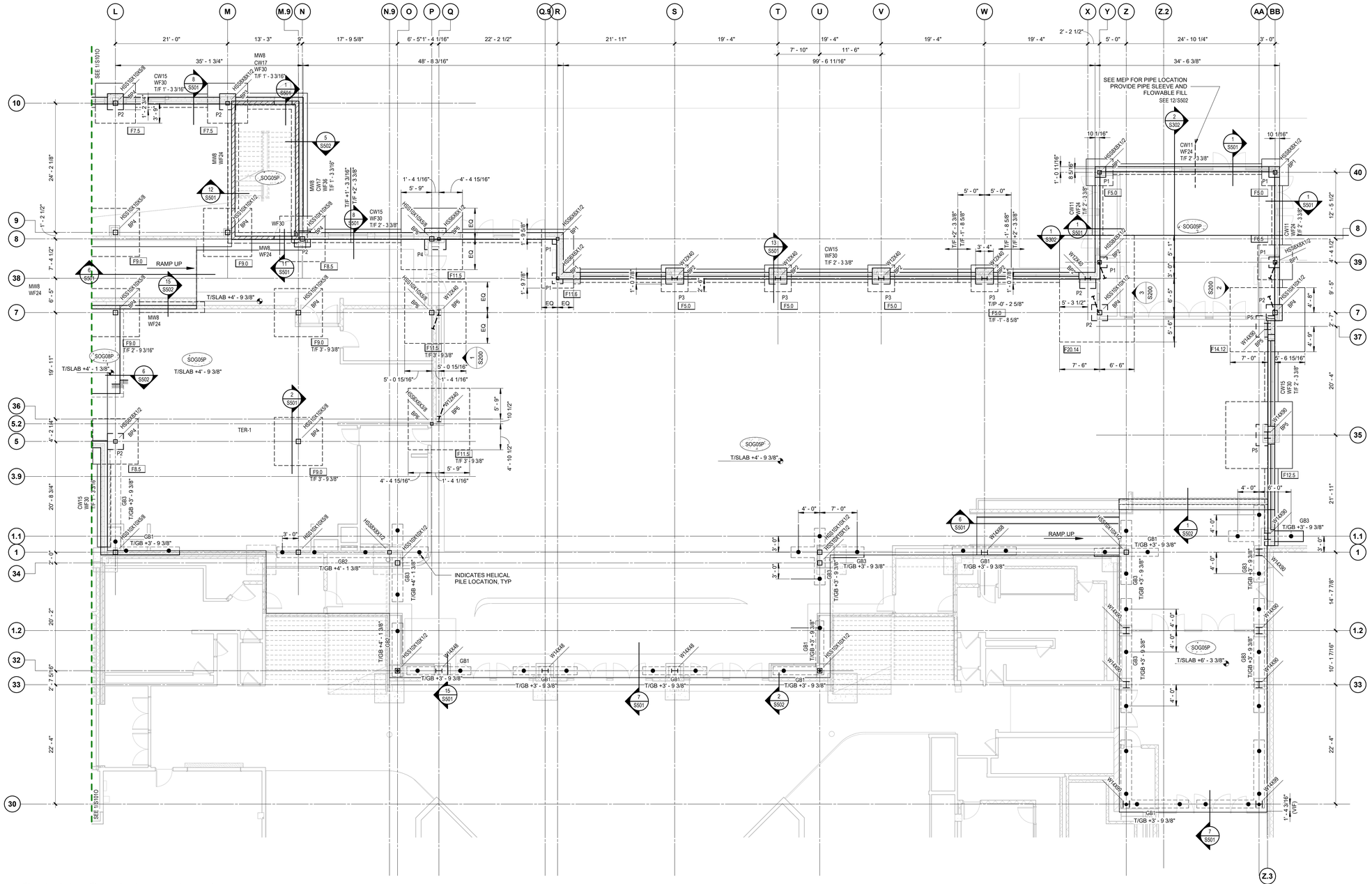
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DATE:	07/10/2026
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UNIT O FOUNDATION PLAN

S101O

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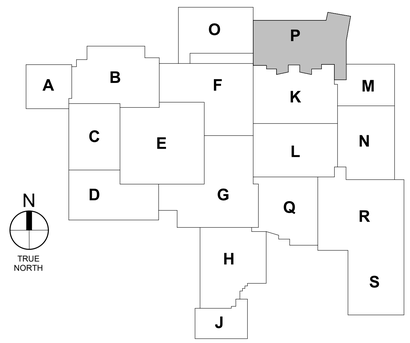


FOUNDATION PLAN - UNIT P

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

FOUNDATION PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. UNIT O TYPICAL FIRST FLOOR ELEV +3'-9 3/16" (APPROX 758.41'). SEE CIVIL.
3. UNIT O TYPICAL T/PIER ELEV +2'-9 3/16 (-1'-0" FROM FFE) U.N.O.
4. UNIT O TYPICAL T/FDN ELEV +1'-3 3/16 (-2'-6" FROM FFE) U.N.O.
5. UNIT P TYPICAL FIRST FLOOR ELEV +4'-9 3/8" (APPROX 759.43'). SEE CIVIL.
6. UNIT P TYPICAL T/PIER ELEV +3'-9 3/8 (-1'-0" FROM FFE) U.N.O.
7. UNIT P TYPICAL T/FDN ELEV +2'-3 3/8 (-2'-6" FROM FFE) U.N.O.
8. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

UNIT P FOUNDATION PLAN

S101P

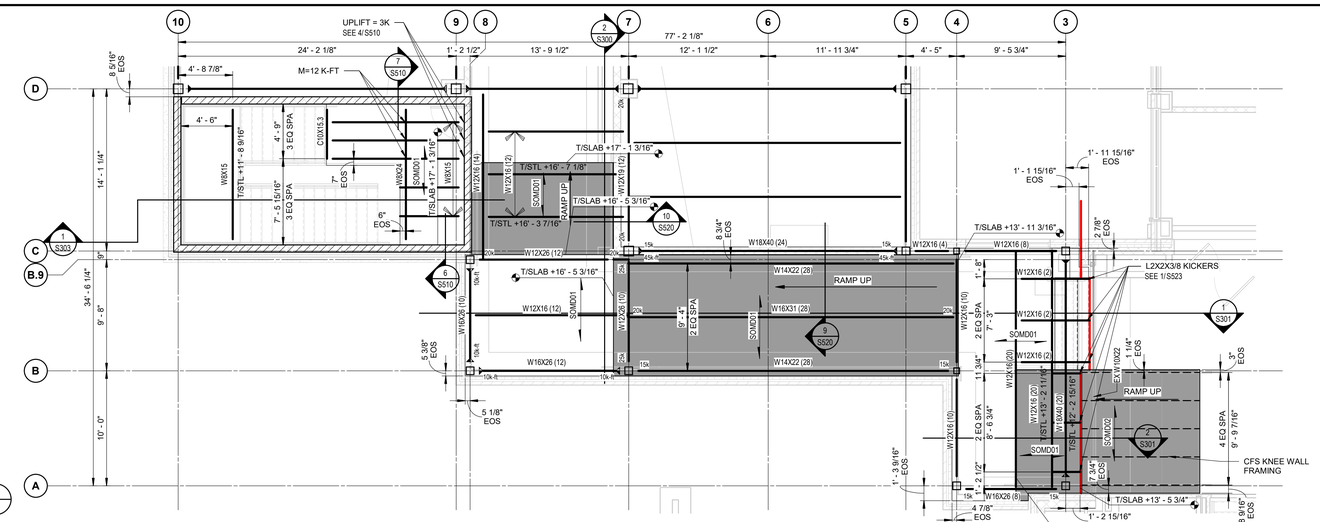
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SECOND FLOOR FRAMING PLAN - UNIT O

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

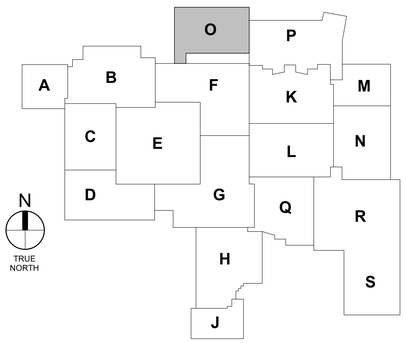
FRAMING PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



SECOND FLOOR WEST RAMP ENLARGED FRAMING PLAN

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



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

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SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:			
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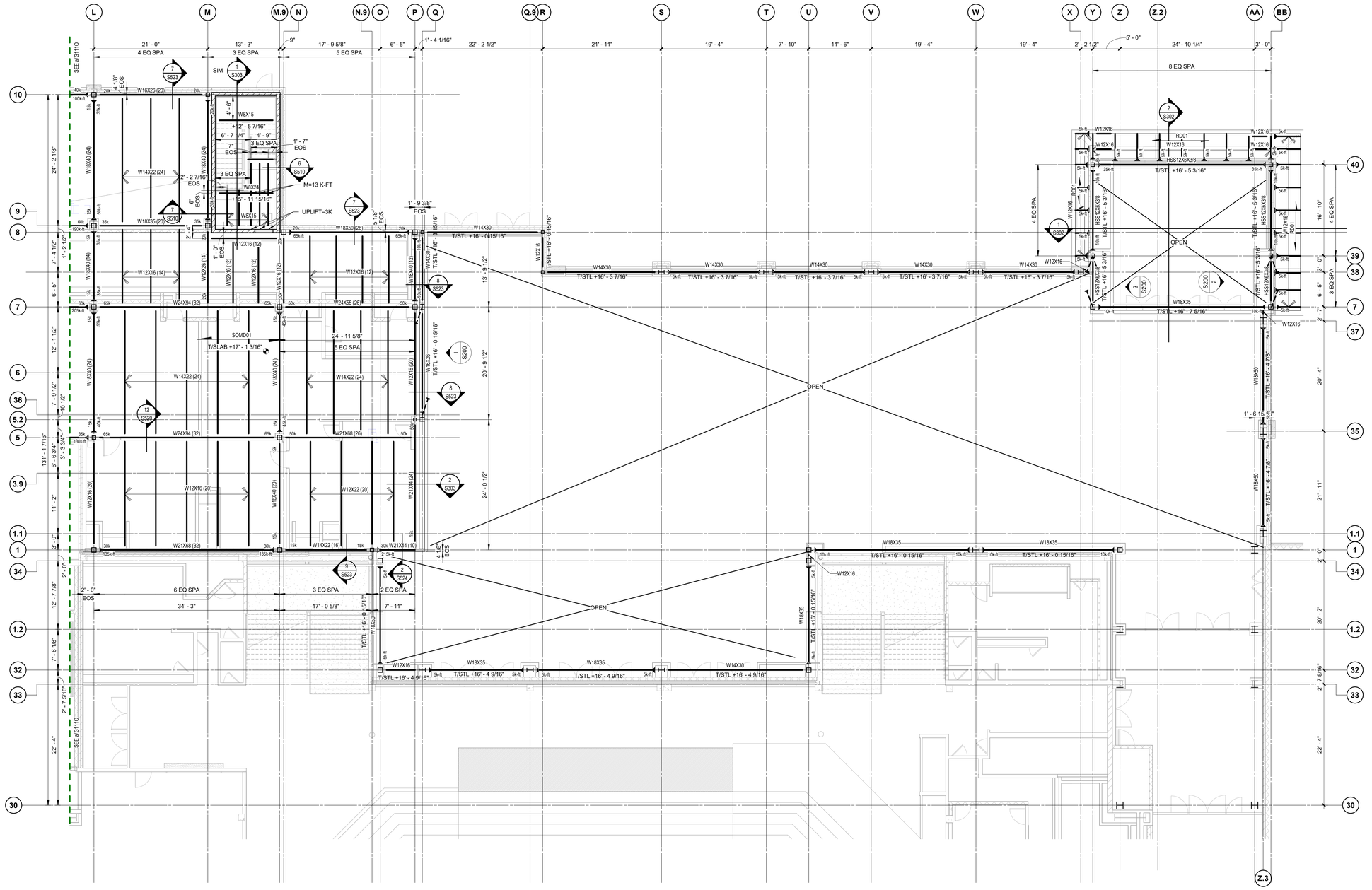
100% CONSTRUCTION DOCUMENTS

PROJECT: #2417SS
DATE: 07/10/2026
DRAWN BY: DWM/CMM

UNIT O SECOND FLOOR FRAMING PLAN

S111O

PLOT DATE/TIME: 7/10/2026, 1:59:59 AM

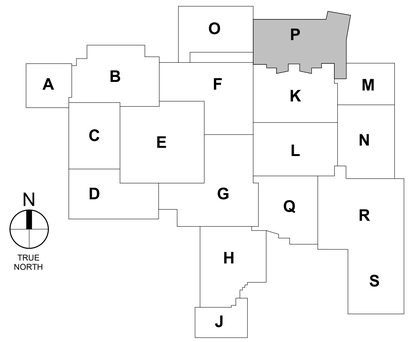


SECOND FLOOR FRAMING PLAN - UNIT P

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

FRAMING PLAN NOTES:

1. ELEVATIONS ± ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARSONS
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

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A1	07.31.2026	Addendum 1

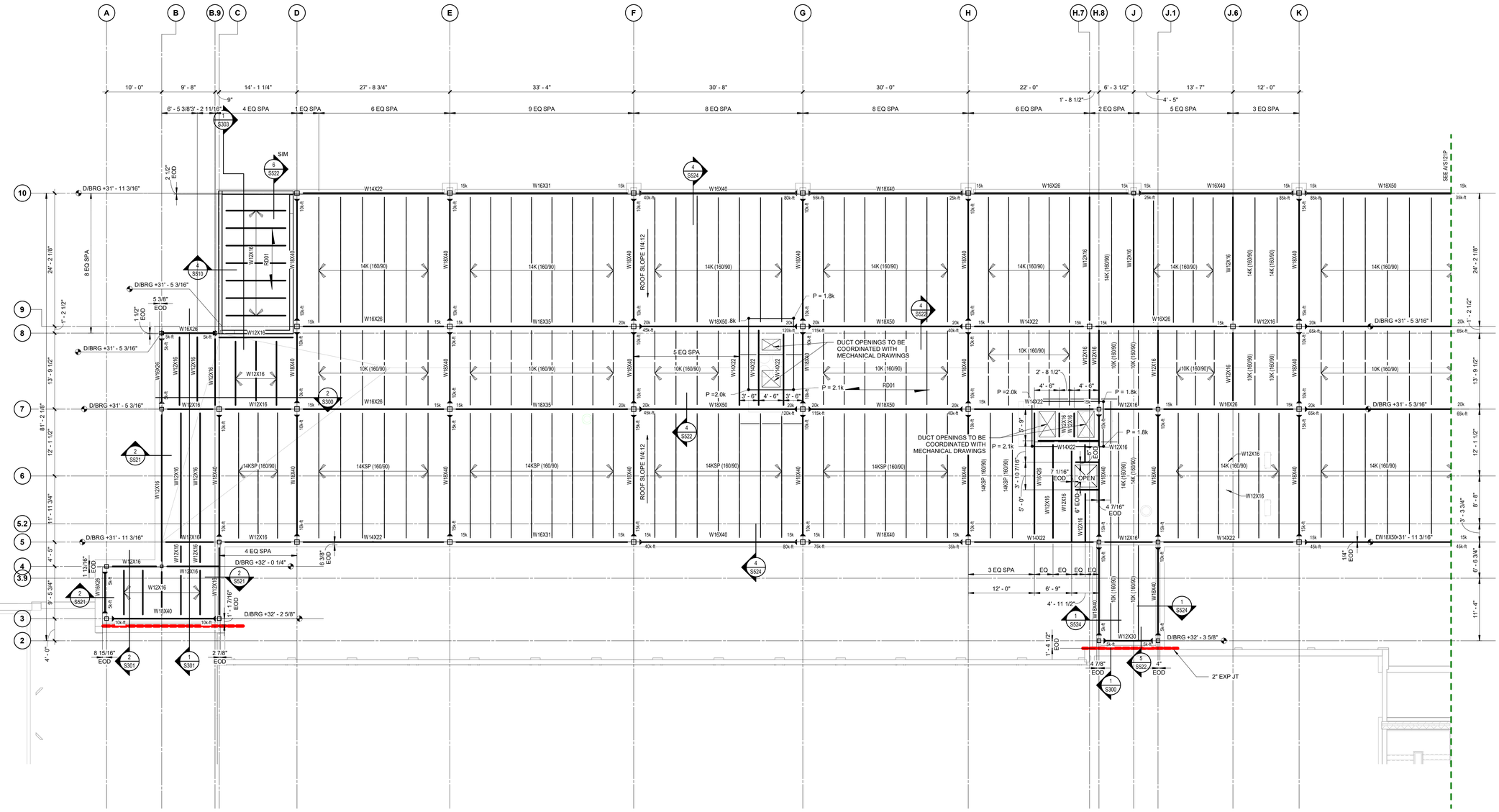
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

UNIT P SECOND FLOOR FRAMING PLAN

S111P

PLOT DATE/TIME: 7/31/2026 11:56:06 AM



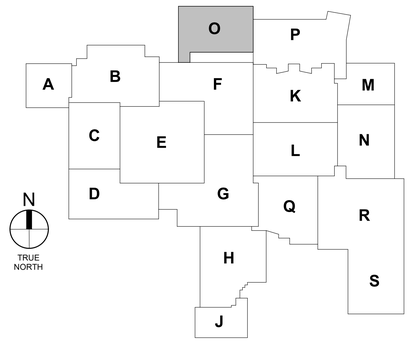
ROOF FRAMING PLAN - UNIT O

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

N

FRAMING PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

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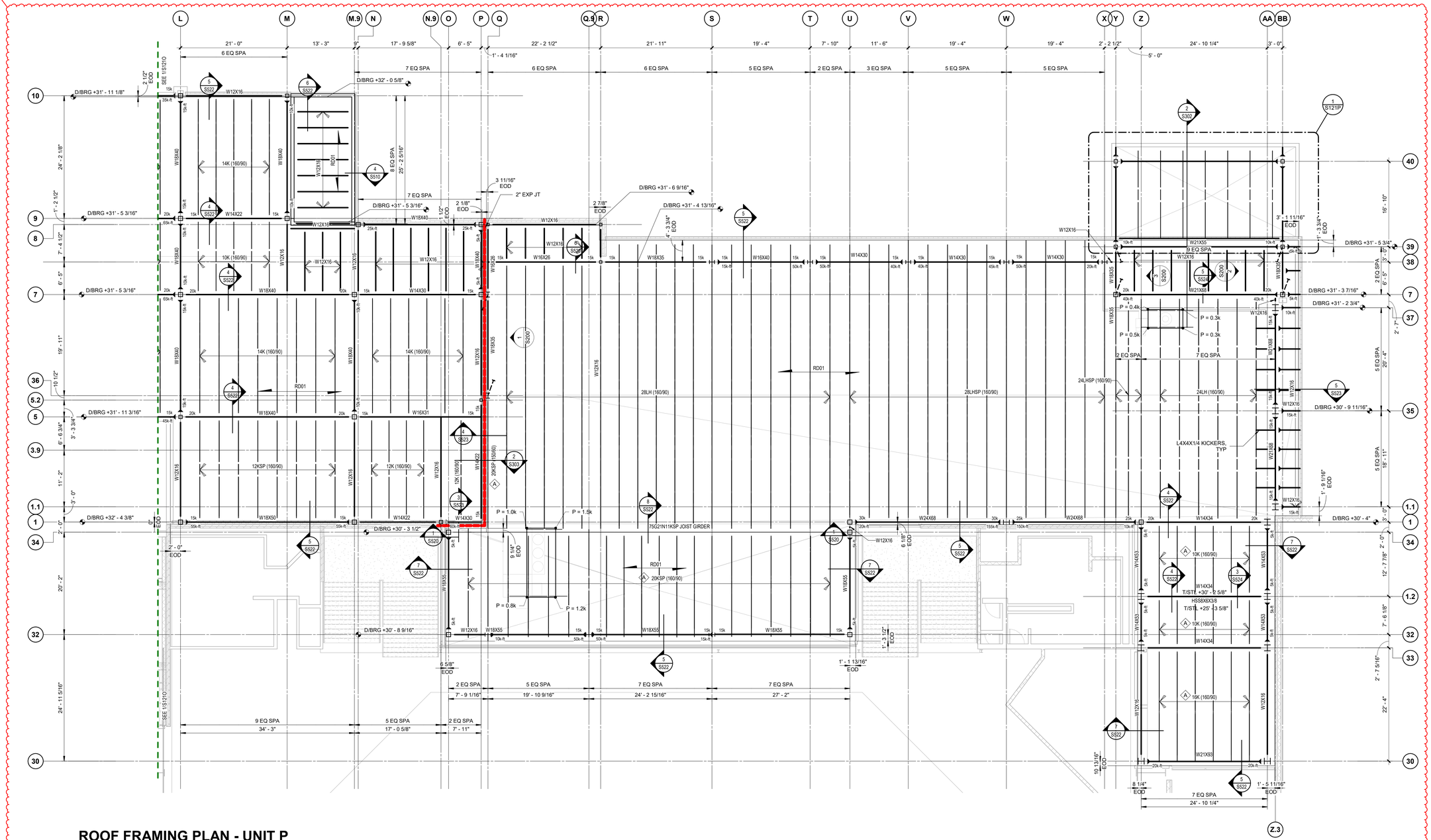
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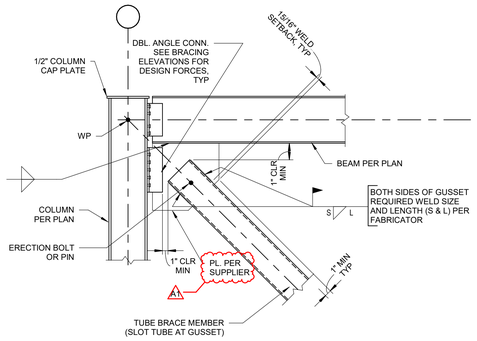
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DATE:	07/10/2026
DRAWN BY:	DWM/CMM

UNIT O ROOF FRAMING PLAN

S121O

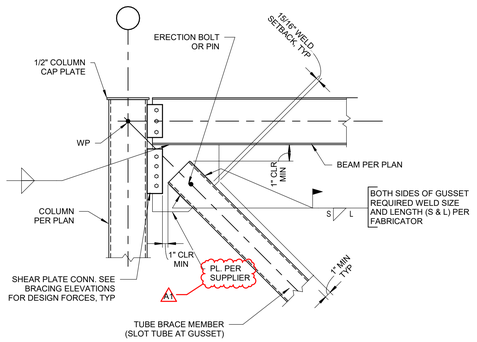
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21' - 0"
13' - 3"
17' - 9 5/8"
6' - 5"
22' - 2 1/2"
21' - 11"
19' - 4"
7' - 10"
11' - 6"
19' - 4"
19' - 4"
2' - 2 1/2"
24' - 10 1/4"
3' - 0"
6 EQ SPA
7 EQ SPA
6 EQ SPA
6 EQ SPA
5 EQ SPA
2 EQ SPA
3 EQ SPA
5 EQ SPA
5 EQ SPA
5' - 0"
1' - 4 1/16"
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9
8
7
36
5.2
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1.1
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32
30
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2.3
D/BRG +31' - 11 1/8"
D/BRG +31' - 5 3/16"
D/BRG +31' - 5 3/16"
D/BRG +31' - 11 3/16"
D/BRG +32' - 4 3/8"
D/BRG +30' - 8 9/16"
D/BRG +32' - 0 5/8"
D/BRG +31' - 5 3/16"
D/BRG +31' - 3 1/2"
D/BRG +31' - 6 9/16"
D/BRG +31' - 4 13/16"
D/BRG +31' - 5 3/4"
D/BRG +31' - 3 7/16"
D/BRG +31' - 2 3/4"
D/BRG +30' - 9 11/16"
D/BRG +30' - 4"
2 1/2" EOD
SEE 1/S121O
24' - 2 1/8"
1' - 2 1/2"
7' - 4 1/2"
6' - 5"
19' - 11"
10 1/2"
3' - 3 3/4"
6' - 6 3/4"
11' - 2"
3' - 0"
2' - 0"
20' - 2"
24' - 11 5/16"
SEE 1/S121O
14K (160/90)
10K (160/90)
14K (160/90)
14K (160/90)
RD01
12KSP (160/90)
12K (160/90)
12K (160/90)
20KSP (160/90)
28LH (160/90)
28LHSP (160/90)
24LHSP (160/90)
24LH (160/90)
RD01
RD01
20KSP (160/90)
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19K (160/90)
19K (160/90)
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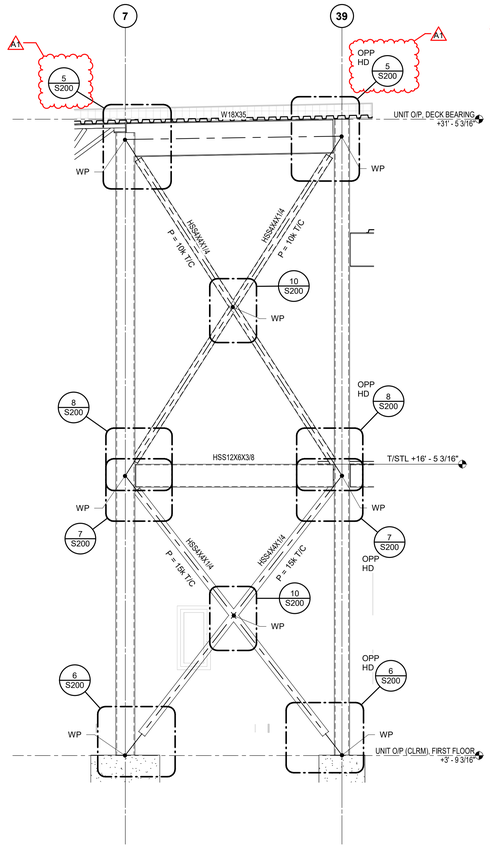
TOP OF COLUMN BRACE DETAIL (GUSSET TO FLANGE CONNECTION)

4 S200 SCALE: 3/4" = 1'-0"



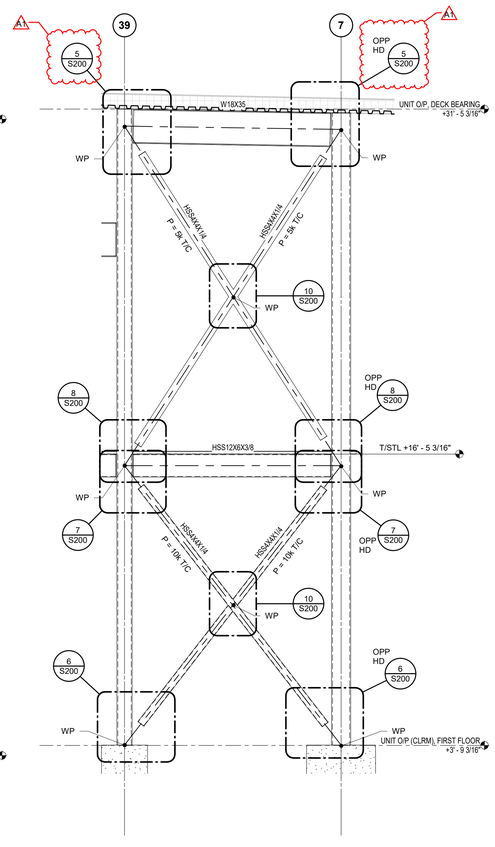
TOP OF COLUMN BRACE DETAIL (GUSSET TO HSS TUBE WALL CONN)

5 S200 SCALE: 3/4" = 1'-0"



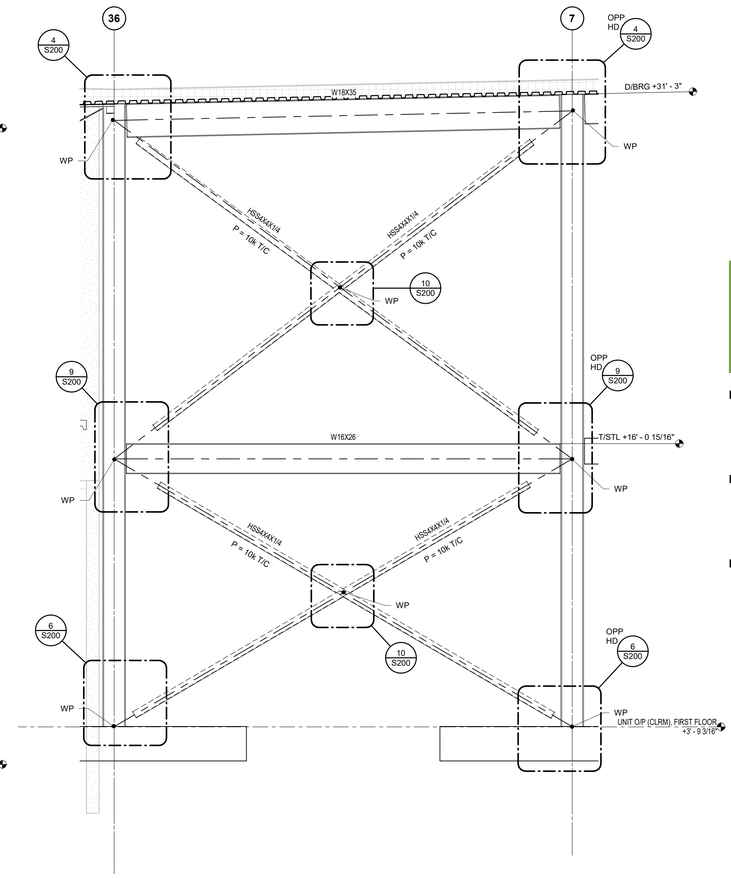
3 S200 BRACE FRAME BTW GRID 7 & 38

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



2 S200 BRACE FRAME BTW GRID 38 & 7

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



1 S200 BRACE FRAME BTW GRID 35 & 7

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

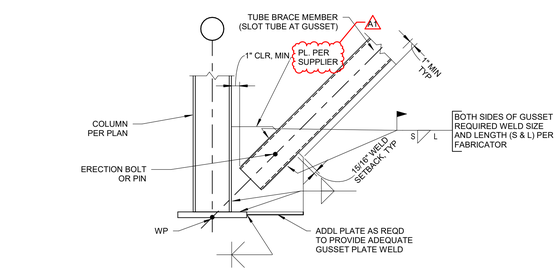
ELEVATION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

BRACING GENERAL NOTES

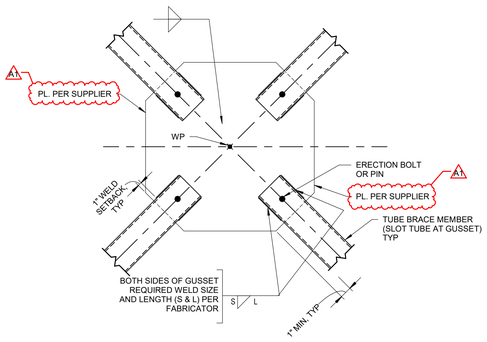
1. FORCES SHOWN ARE THE MORE CRITICAL OF ALL APPLICABLE BUILDING CODE ASD LOAD COMBINATIONS.
2. CONNECTIONS SHALL BE DESIGNED FOR BRACE FORCE INDICATED ON ELEVATION ACTING CONCURRENTLY WITH BEAM REACTION AND ANY INDICATED TRANSFER FORCES. ECCENTRICITY SHALL BE CONSIDERED IN DESIGN OF CONNECTION.
3. EACH MEMBER'S CONNECTION SHALL BE SYMMETRIC ABOUT THE CENTER OF GRAVITY OF THAT MEMBER.
4. ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL WITH CLASS A FAYING SURFACES.
5. SLOT IN BRACE AT GUSSET NO LARGER THAN GUSSET THICKNESS + 1/16"
6. ABBREVIATIONS:
   T = TENSION
   C = COMPRESSION

GENERAL:
ALL BRACING CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR, UNO. BRACE DETAILS INDICATED ON THE STRUCTURAL DRAWINGS ARE PROVIDED TO SHOW CONNECTION CONCEPT ONLY AND ARE NOT TO BE CONSIDERED A FINAL DESIGN. FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER SHALL DESIGN AND DETAIL ALL FINAL CONNECTIONS AS REQUIRED TO SAFELY TRANSFER THE DESIGN FORCES AND ALLOW FOR FIELD FIT-UP AND ERECTION TOLERANCES.



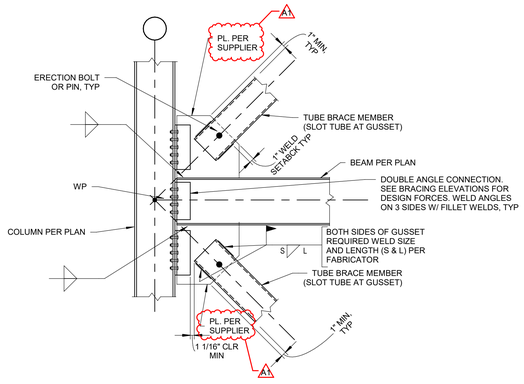
COLUMN BASE BRACE DETAIL (GUSSET TO FLANGE CONNECTION)

6 S200 SCALE: 3/4" = 1'-0"



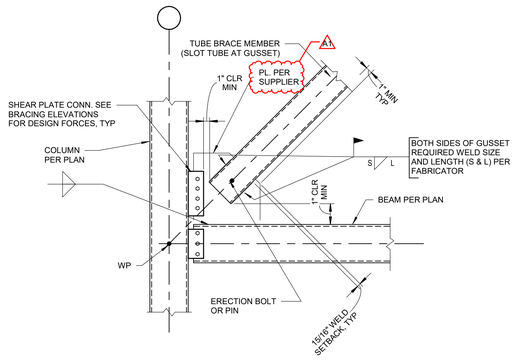
10 S200 X-BRACE DETAIL AT BEAM

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



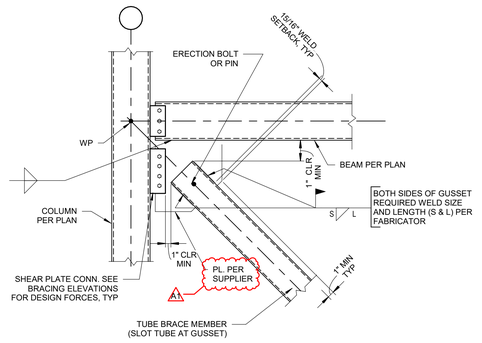
COLUMN MID-HEIGHT BRACE HIGH-LOW DETAIL (GUSSET TO FLANGE CONNECTION)

9 S200 SCALE: 3/4" = 1'-0"



MID-HEIGHT COLUMN BRACE HIGH DETAIL (GUSSET TO HSS TUBE WALL CONN)

8 S200 SCALE: 3/4" = 1'-0"



MID-HEIGHT COLUMN BRACE LOW DETAIL (GUSSET TO HSS TUBE WALL CONN)

7 S200 SCALE: 3/4" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
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PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARLOW
REGISTERED
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PROFESSIONAL ENGINEER
07.10.2026

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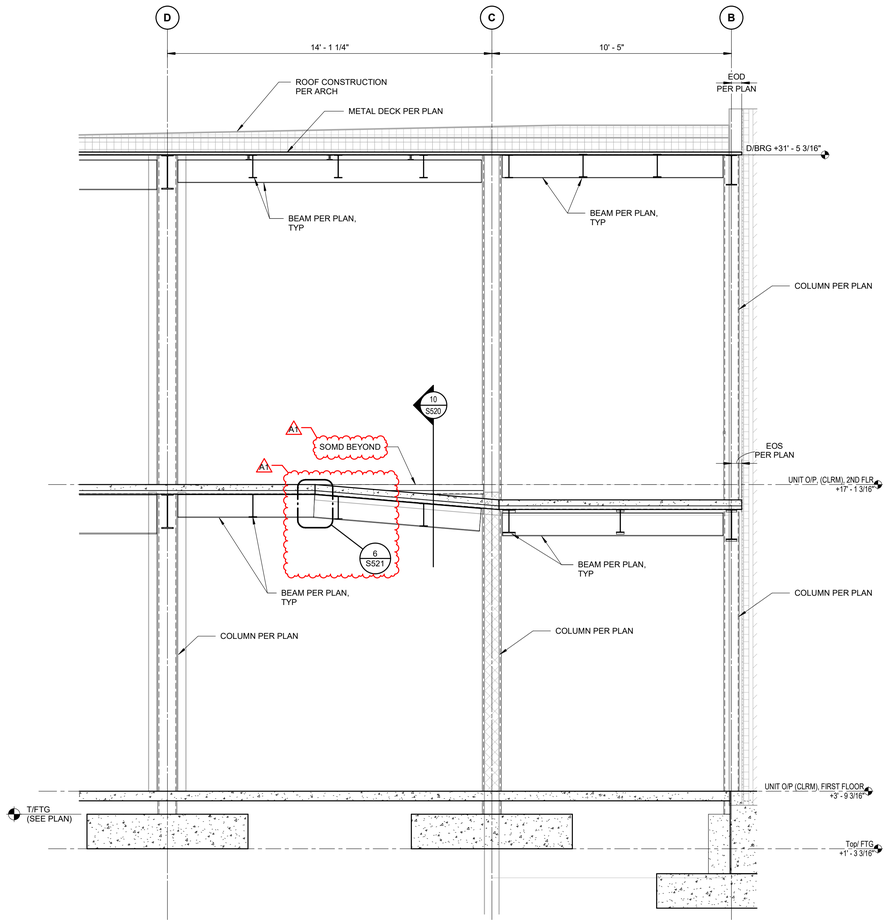
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING ELEVATIONS

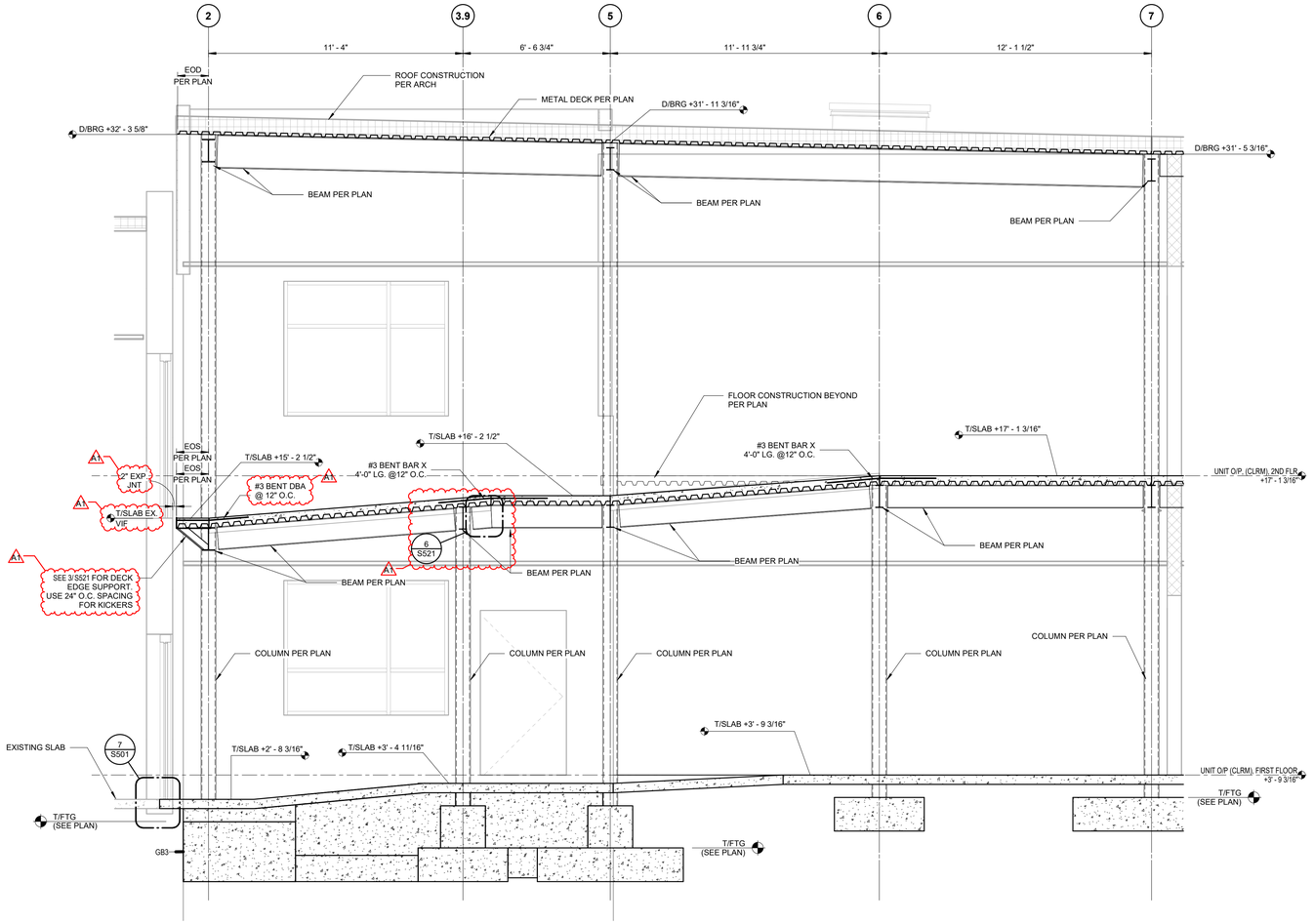
S200

PLOT DATE/TIME: 7/31/2026 11:00:06 AM



2 S300 NORTHWEST RAMP SECTION

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



1 S300 SOUTH RAMP ELEVATION

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

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
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PLOT DATE/TIME:7/31/2026 11:05:07 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
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PERRY TOWNSHIP SCHOOLS
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JESSICA KAY BAIRD
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07.10.2026

REVISIONS:

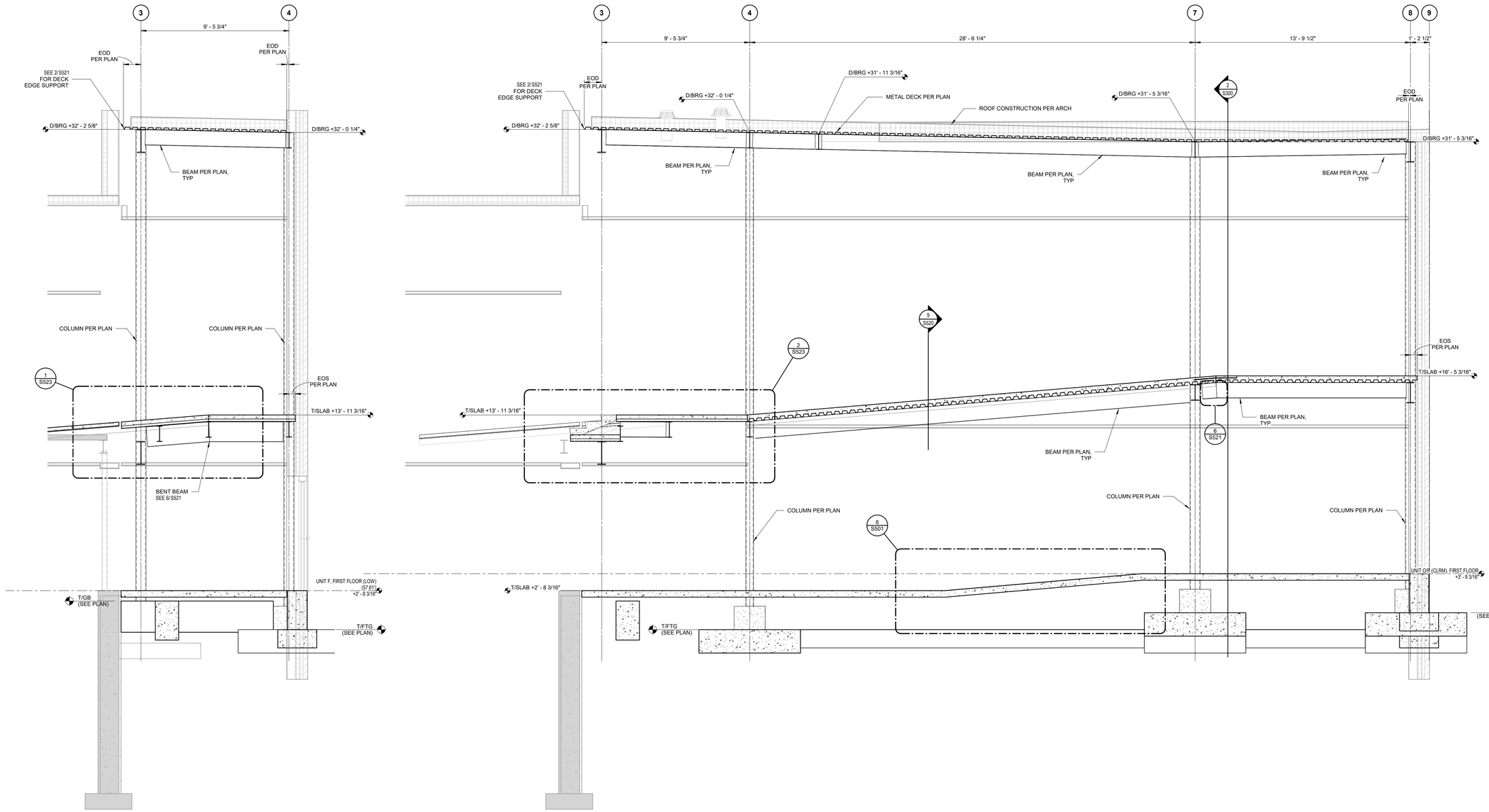
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

BUILDING SECTIONS

S300



2 WEST RAMP PARTIAL ELEVATION
2 / S301 SCALE: 3/8" = 1'-0"

1 WEST RAMP FULL ELEVATION
1 / S301 SCALE: 3/8" = 1'-0"

A1

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/31/2026 1:11:50:08 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

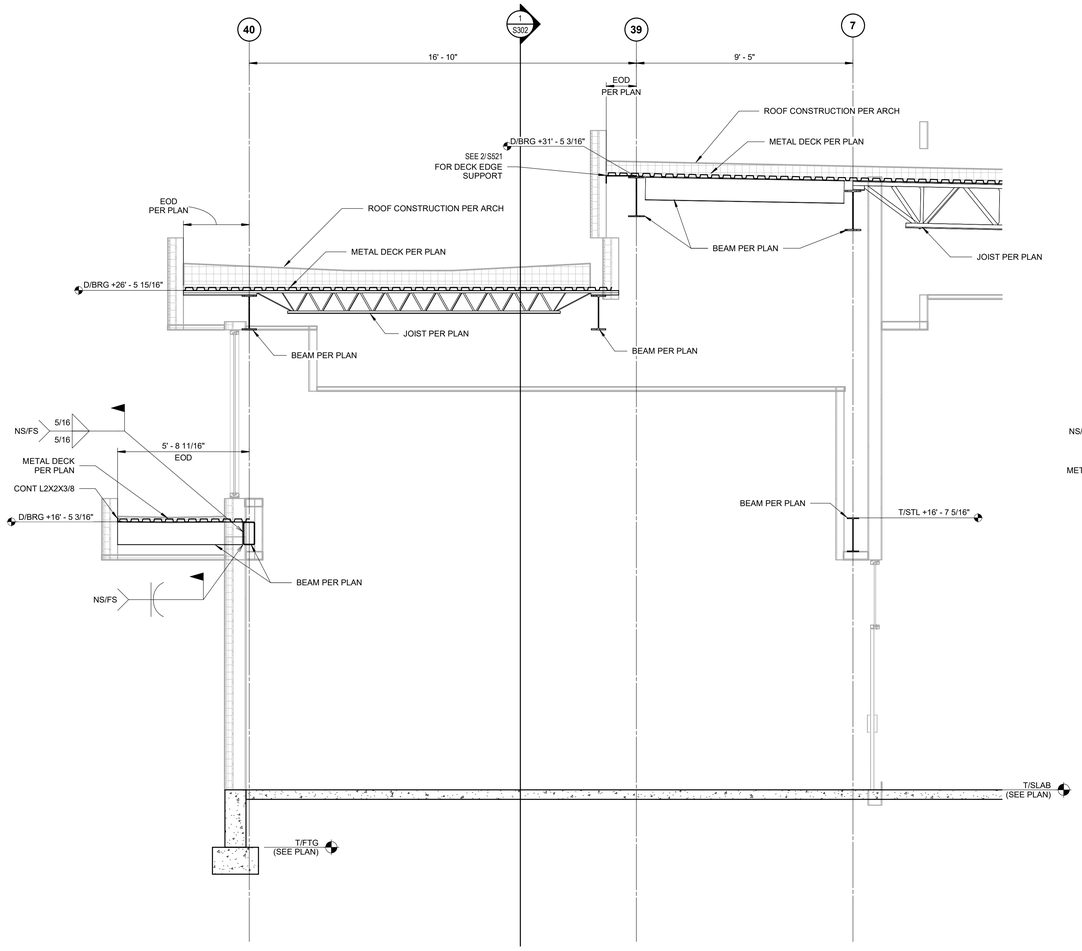
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A1	07.31.2026	Addendum 1

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DRAWN BY: DWM/CMM

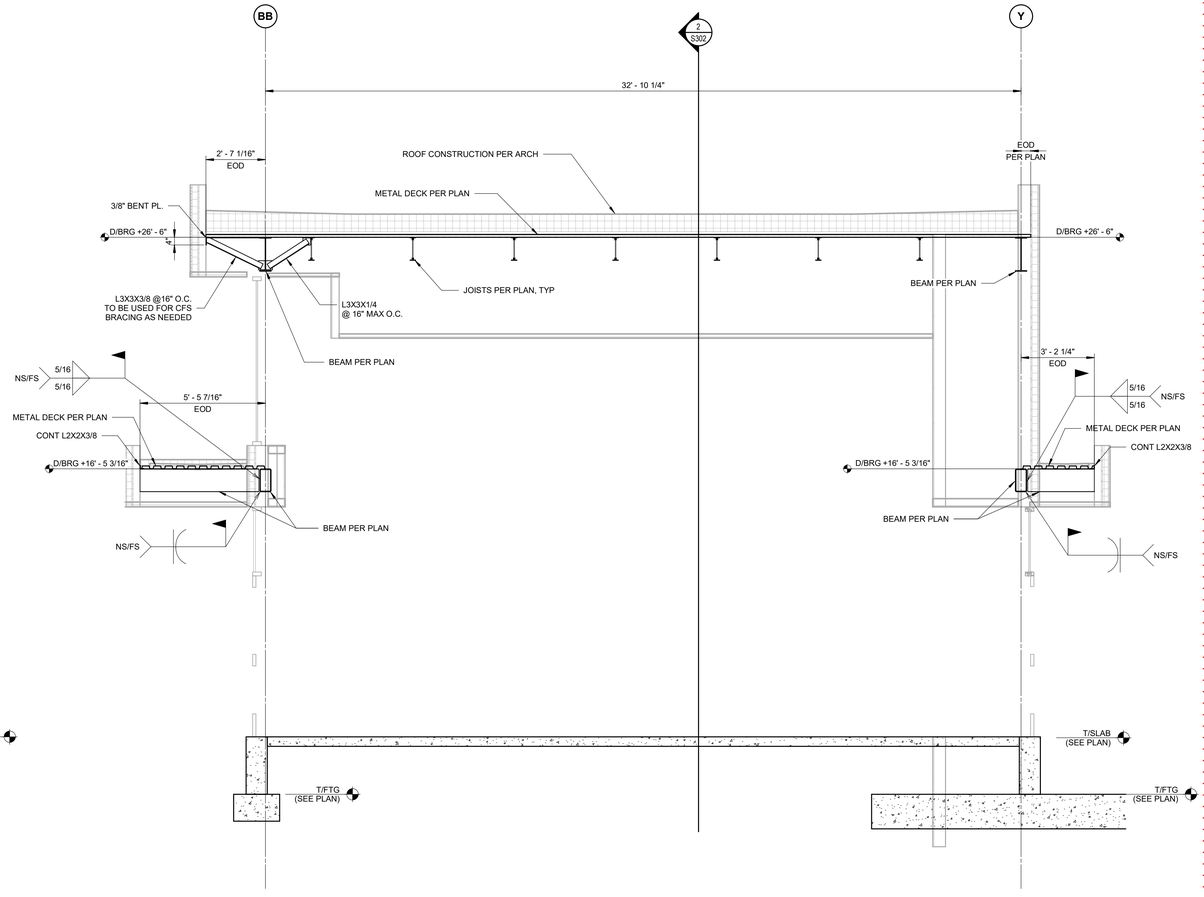
BUILDING SECTIONS

S301



2 S302 **NORTH VESTIBULE BUILDING SECTION**

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



1 S302 **NORTH LOBBY VESTIBULE SECTION**

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

SECTION NOTES:

1. ELEVATIONS ±. ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

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LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

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07.10.2026

REVISIONS:

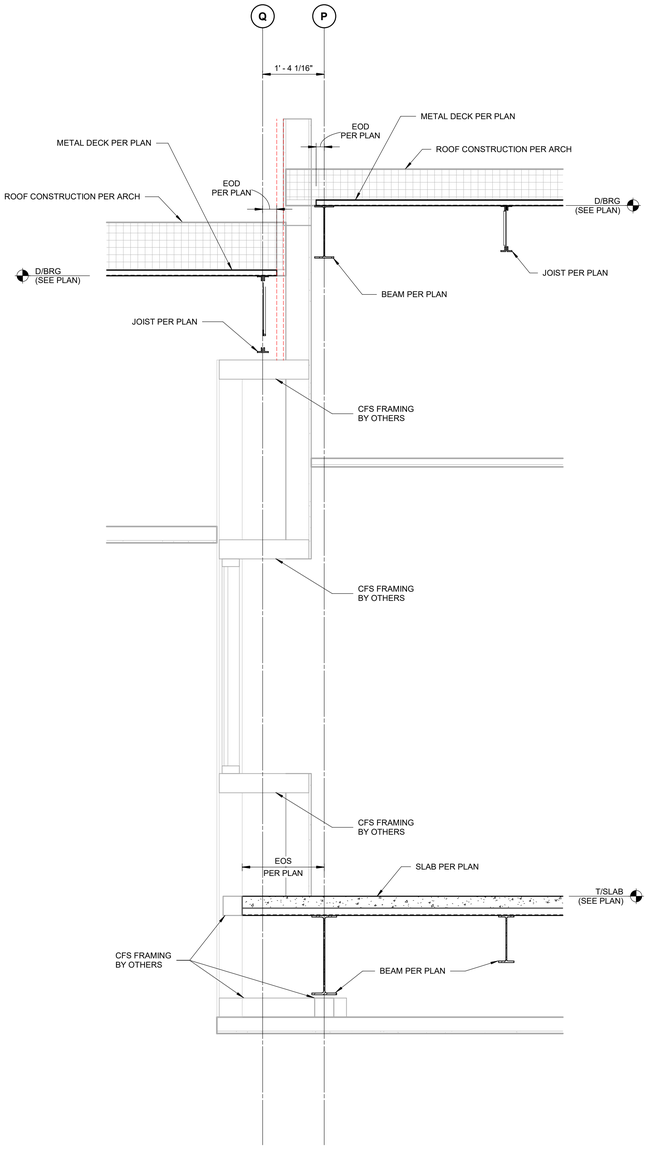
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
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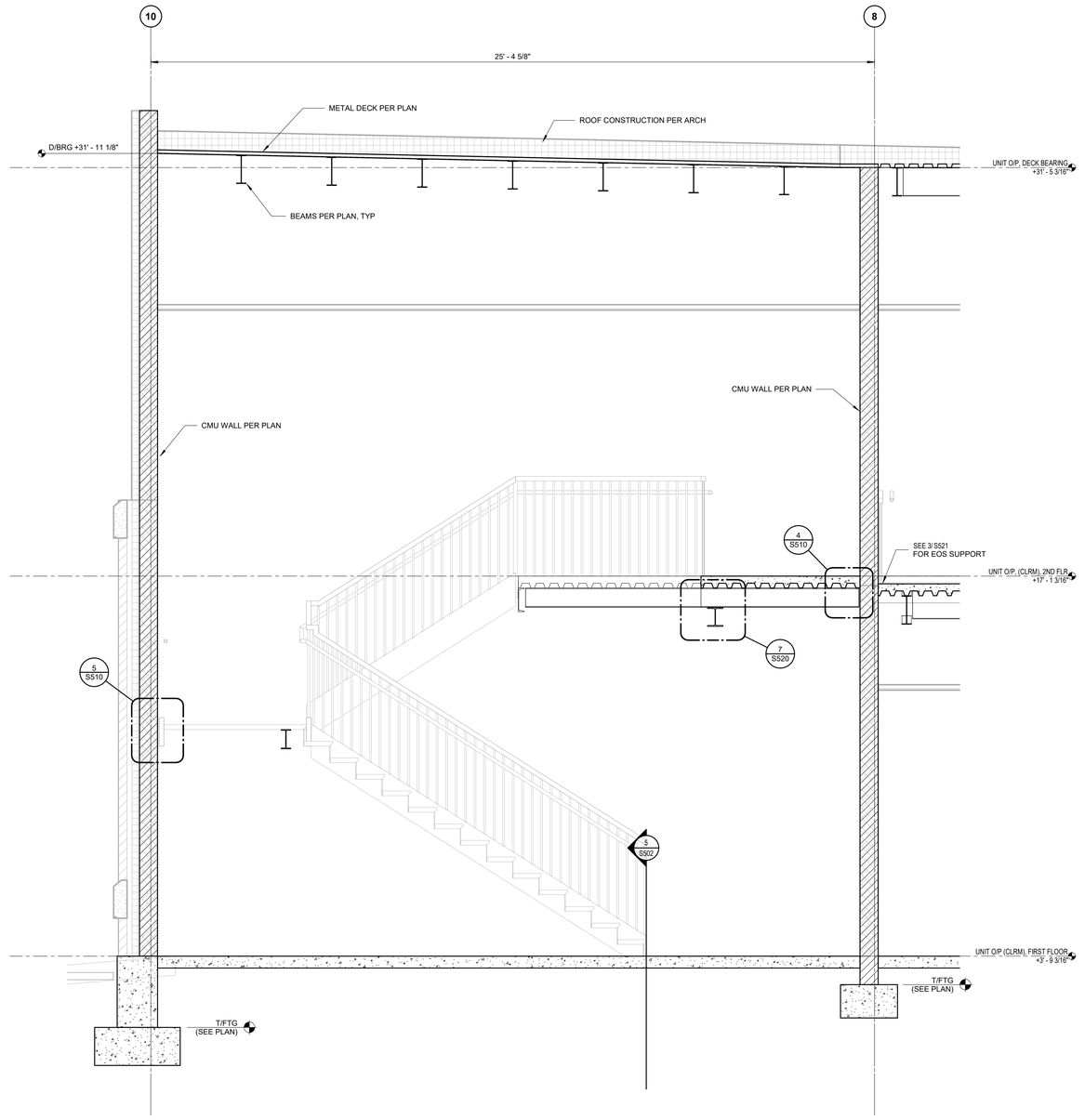
BUILDING SECTIONS

S302



2 S303 WEST LOBBY SECTION

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



1 S303 WEST STAIRWAY SECTION

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

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/31/2026 11:55:09 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

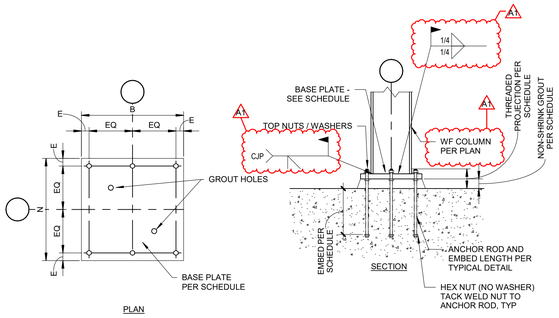
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

BUILDING SECTIONS

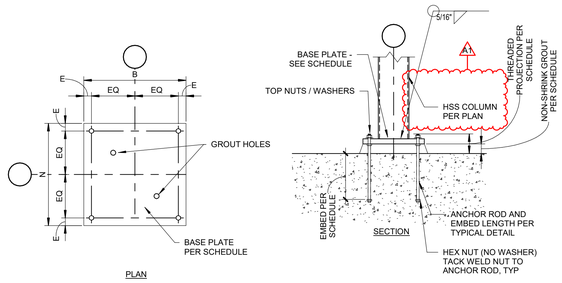
S303



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

3 S500 TYPICAL COLUMN BASE DETAIL - CASE 2

SCALE: 1" = 1'-0"

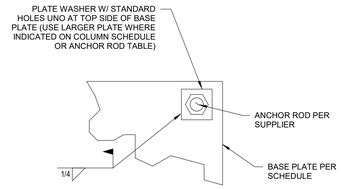


NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

2 S500 TYPICAL COLUMN BASE DETAIL - CASE 1

SCALE: 1" = 1'-0"

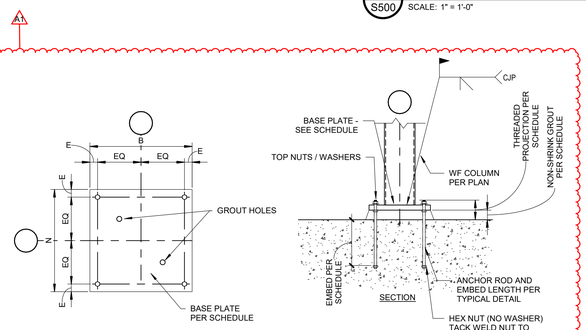
PLATE WASHER DIMENSIONS	
ANCHOR ROD DIA	REQD PLATE WASHER
≤ 3/4"	1/4x2-1/2x2-1/2
1"	3/8x3-1/2x3-1/2
> 1" TO 1.5"	1/2x3-1/2x3-1/2
> 1.5"	1/2x4x4



NOTES:
1. THIS DETAIL APPLIES AT ALL COLUMN ANCHOR RODS AT BRACED FRAMES AND MOMENT FRAMES UNO.

1 S500 TYPICAL WELDED PLATE WASHER DETAIL

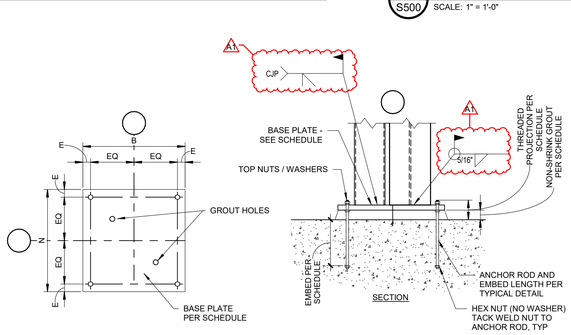
SCALE: 3/4" = 1'-0"



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

5 S500 TYPICAL COLUMN BASE DETAIL - CASE 4

SCALE: 1" = 1'-0"



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

4 S500 COMBINED COLUMN BASE DETAIL - CASE 3

SCALE: 1" = 1'-0"

PIER (P) SCHEDULE

Type Mark	Width	Length	Vert. Size	Vert. Qty.	Tie Size	Tie Spa.	Remarks
P1	2' - 0"	2' - 0"	#6	8	#3	1' - 0"	TYPE A
P2	3' - 0"	3' - 0"	#7	12	#3	1' - 0"	TYPE A
P3	3' - 4"	3' - 0"	#7	14	#3	1' - 0"	TYPE B
P4	4' - 0"	4' - 0"	#8	16	#3	1' - 0"	TYPE A
P5	4' - 0"	3' - 6"	#8	16	#3	1' - 0"	TYPE B

TYPES:



Pier Schedule Notes:
1. Provide 2 inch concrete cover over ties.
2. Space first tie 2" from top of footing, last tie 2" from top of pier.
3. Provide (3) ties in top of pier, spacing = 2 1/2" on center.
4. Provide CRSI typical bar bend T5 for all ties.
5. Provide CRSI typical bar bend T9 additional ties for all piers with more than four vertical bars.
6. Provide 90° Hook for all ties per CRSI detailing standards.

WALL FOOTING SCHEDULE

Mark	Dimensions		Bottom Reinf				Remarks
			Longitudinal Reinf		Transverse Reinf		
	Width	Thickness	No	Size	Size	Spa	
WF24	2' - 0"	1' - 2"	3	#5	#4	1' - 4"	
WF30	2' - 6"	1' - 2"	3	#5	#4	1' - 4"	
WF36	3' - 0"	1' - 4"	4	#5	#4	1' - 4"	

Wall Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"
2. Use concrete brick of CRSI Class 3, CHCP wire bar supports @ 36".

CONCRETE WALL SCHEDULE

Mark	Width	Horiz Reinf		Vert Reinf		Dowel Reinf		Reinf Location	Cover	Horz. Reinf. Location
		Size	Spa	Size	Spa	Size	Spa			
CW8	8"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Center	2"	IN
CW11	11"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT
CW15	1' - 3"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT
CW17	1' - 5"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT

Concrete Wall Schedule Notes:
1. Provide concrete cover to closest bar as indicated.
2. Provide wheel spacers or CRSI Typ. Bar Bend T5 at 36" each way to assure adequate concrete cover.
3. See sections for all bars not included in schedule.
4. Horizontal Bar Location: In = Horiz. bars inside of vertical bars, Out = Horiz. Bars outside of vert. bars.

SLAB ON GRADE SCHEDULE

Mark	Thickness	Reinforcing	Control Jt Depth	Reinf Clearance	Control Jt Spa	Vapor Retarder	Sub-Base Depth	Remarks
SOG04P	4"	6x6-W1.4xW1.4 WWF	1"	1 1/2"	13' - 0"	Plastic	6"	
SOG05P	5"	6x6-W2.1xW2.1 WWF	1 1/4"	1 1/2"	15' - 0"	Plastic	6"	
SOG08P	8"	6x6-W2.9xW2.9 WWF	2"	2 1/2"	20' - 0"	Plastic	6"	

Slab on Grade Schedule Notes:
1. Reinforcing clearance is from the top of slab.

COLUMN FOOTING SCHEDULE

Mark	Ftg Dimensions		Foundation Thickness	Bottom Reinforcing						Top Reinforcing						Remarks
				Short Direction			Long Direction			Short Direction			Long Direction			
	Width	Length		No	Size	Length	No	Size	Length	No	Size	Length	No	Size	Length	
F4.0	4' - 0"	4' - 0"	1' - 6"	5	#6	3' - 6"	5	#6	3' - 6"							
F5.0	5' - 0"	5' - 0"	1' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	
F6.5	6' - 6"	6' - 6"	1' - 6"	7	#6	6' - 0"	7	#6	6' - 0"	7	#6	6' - 0"	7	#6	6' - 0"	
F7.0	7' - 0"	7' - 0"	1' - 6"	8	#6	6' - 0"	8	#6	6' - 0"	8	#6	6' - 6"	8	#6	6' - 6"	
F7.5	7' - 6"	7' - 6"	1' - 6"	9	#6	7' - 0"	9	#6	7' - 0"	9	#6	7' - 0"	9	#6	7' - 0"	
F8.5	8' - 6"	8' - 6"	1' - 6"	10	#6	8' - 0"	10	#6	8' - 0"	10	#6	8' - 0"	10	#6	8' - 0"	
F9.0	9' - 0"	9' - 0"	1' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	
F11.5	11' - 6"	11' - 6"	1' - 6"	13	#6	11' - 0"	13	#6	11' - 0"	13	#6	11' - 0"	13	#6	11' - 0"	
F11.6	11' - 0"	6' - 0"	1' - 6"	12	#6	5' - 6"	7	#6	10' - 6"	12	#6	5' - 6"	7	#6	10' - 6"	
F12.5	12' - 6"	12' - 6"	1' - 6"	14	#7	12' - 0"	14	#7	12' - 0"	14	#7	12' - 0"	14	#7	12' - 0"	
F13.7	13' - 0"	7' - 0"	1' - 6"	14	#7	6' - 6"	8	#7	12' - 6"	14	#7	6' - 6"	8	#7	12' - 6"	
F14.12	14' - 0"	12' - 0"	1' - 6"	15	#7	11' - 6"	13	#7	13' - 6"	15	#7	11' - 6"	13	#7	13' - 6"	
F20.14	14' - 0"	20' - 0"	1' - 6"	21	#7	13' - 6"	15	#7	19' - 6"	21	#7	13' - 6"	15	#7	19' - 6"	

Column Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"
2. Use concrete brick of CRSI Class 3, CHCP wire bar supports @ 36".

SLAB ON GRADE FLATNESS/LEVELNESS SCHEDULE

CLASSIFICATION	OVERALL FF	OVERALL FL	MIN LOCAL FF	MIN LOCAL FL
CONVENTIONAL	20	15	15	10
MODERATELY FLAT	25	20	20	15
FLAT	35	25	25	15
VERY FLAT	45	35	30	25
SUPER FLAT	60	40	40	25

FLOOR TYPE/LOCATION	REQUIRED SLAB
EXPOSED WAREHOUSE, MANUFACTURING AREAS, UNO	FLAT
EXPOSED UTILITY/MECHANICAL AREAS, UNO	MODERATELY FLAT
FLOORS WITH CARPET, VCT FINISH, UNO	MODERATELY FLAT
FLOORS WITH POLISHED CONCRETE FINISH	FLAT
TILE UP TO 16" LONG DIMENSION, ≥ 1/4" GROUT JOINTS	FLAT
TILE UP TO 16" LONG DIMENSION, 3/16" GROUT JOINTS	VERY FLAT
TILE UP TO 16" LONG DIMENSION, 1/8" GROUT JOINTS	SUPER FLAT
TILE > 16" TO < 36" LONG DIMENSION, ≥ 1/4" GROUT JOINTS	VERY FLAT
TILE > 16" TO < 36" LONG DIMENSION, < 1/4" GROUT JOINTS	SUPER FLAT
TILE > 36" LONG DIMENSION	SUPER FLAT

NOTES:
1. GENERAL CONTRACTOR SHALL REVIEW ALL FLOOR FINISH REQUIREMENTS FOR THE PROJECT AND PROVIDE CONCRETE SLAB SURFACE FINISHES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIED FLOOR FINISH MATERIALS. WHERE TOLERANCES FOR THE FLOOR FINISH MATERIALS DIFFER FROM THIS SCHEDULE, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
2. GENERAL CONTRACTOR SHALL COORDINATE WITH THE FINISH FLOORING SUPPLIER TO PROVIDE ALL NECESSARY REPAIR, GRINDING, AND/OR LEVELING OF THE CONCRETE SLAB TO ACCOMMODATE ALL FLOOR FINISHES PRIOR TO INSTALLATION OF FINISH MATERIALS WITH NO ADDITIONAL COST TO THE PROJECT.

NON-COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

f'c = 3000 PSI

BAR SIZE	Ld	Ldt	Lt	Ltt
#3	17	23	23	29
#4	22	29	29	38
#5	28	37	37	48
#6	33	43	43	56
#7	48	63	63	82
#8	55	72	72	93
#9	62	81	81	105
#10	69	90	90	117
#11	76	99	99	129

f'c = 4000 PSI

BAR SIZE	Ld	Ldt	Lt	Ltt
#3	15	20	20	26
#4	19	25	25	33
#5	24	32	32	41
#6	29	38	38	50
#7	42	55	55	71
#8	48	63	63	82
#9	54	71	71	92
#10	60	78	78	102
#11	66	86	86	112

f'c = 5000 PSI

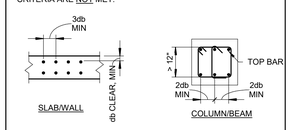
BAR SIZE	Ld	Ldt	Lt	Ltt
#3	13	17	17	22
#4	17	23	23	29
#5	22	29	29	38
#6	26	34	34	44
#7	38	50	50	65
#8	43	56	56	73
#9	48	63	63	82
#10	54	71	71	92
#11	59	77	77	100

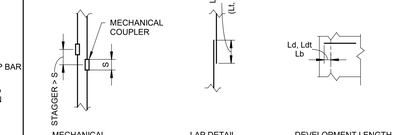
ALL CONCRETE STRENGTHS

BAR SIZE	Lb	Lc	Lcs
#3	9	12	12
#4	11	13	12
#5	14	16	15
#6	17	19	17
#7	20	22	20
#8	22	25	23
#9	25	29	26
#10	28	32	29
#11	31	35	31

NOTES:
1. db = NOMINAL BAR DIAMETER
   Ld = TENSION DEVELOPMENT LENGTH
   Ldt = DEVELOPMENT LENGTH OF TOP BARS IN TENSION
   Lt = TENSION LAP SPLICE STRENGTH
   Ltt = TENSION LAP SPLICE LENGTH OF TOP BARS
   Lb = COMPRESSION DEVELOPMENT LENGTH
   Lc = TIED COLUMN LAP SPLICE IN COMPRESSION
   Lcs = SPIRAL COLUMN LAP SPLICE IN COMPRESSION
2. REBAR DEVELOPMENT/SPLICE LENGTHS ARE BASED ON ACI 318. REINFORCEMENT YIELD STRENGTH, Fy = 60 KSI.
3. "TOP BARS" = HORIZONTAL BEAM, MAT, OR SLAB REINFORCING WITH MORE THAN 12" CAST BELOW.
4. ALL SPLICES SHALL BE TENSION SPLICES, UNO.
5. LARGER DIAMETER SPLICE LENGTH GOVERN AT BAR SIZE TRANSITIONS.
6. FOR LIGHTWEIGHT CONCRETE MULTIPLY TABLE VALUES BY 1.33, UNO

TABLE VALUES SHALL BE MULTIPLIED BY 1.5 IF THE FOLLOWING CRITERIA ARE NOT MET:





TYPICAL REINFORCING BAR DEVELOPMENT/SPLICE DETAILS

CONCRETE MIX SCHEDULE

CONCRETE USAGE	28-DAY COMPRESSIVE STRENGTH (PSI)	MAX CEMENT REPLACEMENT (NOTE 3)	MAXIMUM W/CM RATIO	AIR CONTENT (PERCENT)	MAX AGGREGATE SIZE (INCHES)	NOTES
FOOTINGS	4,000	20%	0.55	0-3	1.5	
PILE CAPS, MAT FOUNDATIONS	4,000	20%	0.50	0-3	1.5	
GRADE BEAMS, PIERS, FOUNDATION WALLS	4,000	20%	0.50	0-3	1	
EXTERIOR RETG WALLS, STOOPS AND PADS	4,000	20%	0.45	6 ± 1	1	
SLABS ON GRADE (6 INCHES OR LESS)	4,000	20%	0.48	0-3	1	
SLABS ON METAL DECK	4,000	20%	0.48	0-3	1	4.0 LBS/CYD MACRO-FIBER
INTERIOR TOPPING SLABS	4,000	20%	0.48	0-3	0.75	

NOTES:
1. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. ALL CONCRETE IS NORMAL WEIGHT AND CEMENT IS ASTM C150 TYPE 1 OR ASTM C595 TYPE 1L, UNO. DO NOT USE LIGHTWEIGHT CONCRETE UNLESS SPECIFICALLY INDICATED.
3. ACCEPTABLE CEMENT REPLACEMENT MATERIAL, WHERE PERMITTED, SHALL BE FLY ASH, ASTM C618 TYPE C OR F, UNO.
4. TARGET SLUMP SHALL BE DETERMINED BY THE CONTRACTOR AS NEEDED FOR PROPER PLACEMENT.
5. WHERE NOTED, BLENDED AGGREGATE WITH ZONE 2 COARSENESS PER ACI 302 IS MANDATORY.
6. COORDINATE OF LOCATIONS OF ALL POLISHED CONCRETE SLABS (WHEN USED) AND REVIEW THE CONCRETE MIX REQUIREMENTS WITH THE POLISHED CONCRETE CONTRACTOR PRIOR TO SUBMITTAL OF CONCRETE MIXES. IF THE POLISHED CONCRETE CONTRACTOR REQUESTS TO DEVIATE FROM THE REQUIREMENTS OF THIS SCHEDULE, CONTACT THE STRUCTURAL ENGINEER TO REVIEW THE REQUESTS PRIOR TO SUBMISSION OF THE POLISHED CONCRETE MIX(ES).

COLUMN BASE PLATE SCHEDULE

MARK	PLATE SIZE	ANCHOR RODS			SHEAR LUG			BASE PLATE TYPE	REMARKS
	B" X N" X T"	QTY	DIA	EMBED	LENGTH	DEPTH	THICKNESS		
BP1	14" X 14" X 3/4"	4	3/4"	12"	N/A	N/A	N/A	CASE 1	SEE 2/S500
BP2	14" X 14" X 3/4"	4	1"	12"	N/A	N/A	N/A	CASE 1	SEE 2/S500
BP3	14" X 14" X 1"	4	1 1/4"	12"	N/A	N/A	N/A	CASE 4	SEE 5/S500
BP4	16" X 16" X 1"	4	1 1/4"	12"	N/A	N/A	N/A	CASE 4	SEE 5/S500
BP5	20" X 28" X 1 1/2"	6	1 3/4"	12"	N/A	N/A	N/A	CASE 2	SEE 3/S500
BP6	32" X 32" X 3/4"	4	1"	12"	N/A	N/A	N/A	CASE 3	SEE 4/S500

NOTES:
1. 50 KSI SHEAR LUGS U.N.O.
2. SEE REMARKS FOR BASE PLATE TYPES.

ANCHOR ROD TABLE

ANCHOR ROD DIA	BASEPLATE HOLE DIA	MINIMUM WASHER SIZE	MINIMUM WASHER THICKNESS	MINIMUM PROJ ABOVE T/CONC	NON-SHRINK GROUT BED THK	MIN EDGE DISTANCE, E	REMARKS
3/4"	1 5/16"	2"	1/4"	8"	2"	1 1/2"	
1"	1 13/16"	3"	3/8"	8"	2"	2"	
1 1/4"	2 1/16"	3"	1/2"	10"	3"	2"	
1 3/4"	2 3/4"	4"	5/8"	10"	3"	3"	

NOTES:
1. ANCHOR RODS ARE ASTM F1554 GR. 36 UNO.
2. PROVIDE WELDED PLATE WASHERS IN ACCORDANCE WITH TYPICAL DETAIL AT ALL STEEL BRACED FRAMES AND MOMENT FRAMES, UNO.
3. AT CONTRACTOR'S OPTION, PROVIDE HEADED BOLT ASTM F1554 GR. 36 IN LIEU OF ANCHOR ROD.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY RARDIN
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

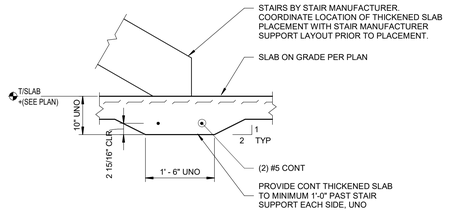
100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

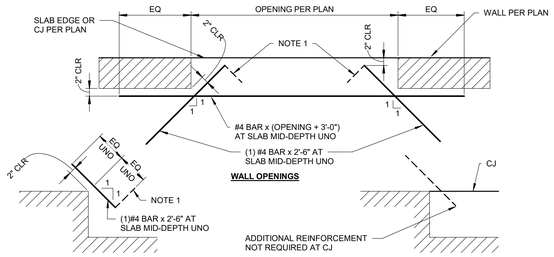
S500

PLOT DATE/TIME:7/31/2026 1:39:11 AM



4 S501 TYP THICKENED SLAB AT STAIRS

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

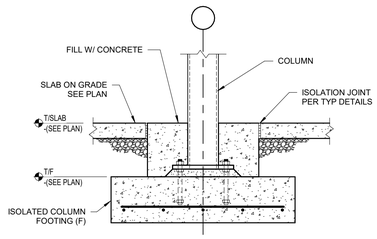


NOTES:

1. WHERE THERE IS INSUFFICIENT ROOM TO INSTALL A STRAIGHT BAR AS SHOWN CENTERED WITH EQUAL LENGTH EACH SIDE OF THE RE-ENTRANT CORNER, PROVIDE BAR WITH A 90- OR 180- DEGREE HOOK INSTALLED ON THE SIDE WITH SHORTER EMBEDMENT.
2. FOR SLABS WITH 2 LAYERS OF REINFORCEMENT, INSTALL ADDITIONAL REINFORCEMENT AT ELEVATION OF TOP LAYER ONLY.

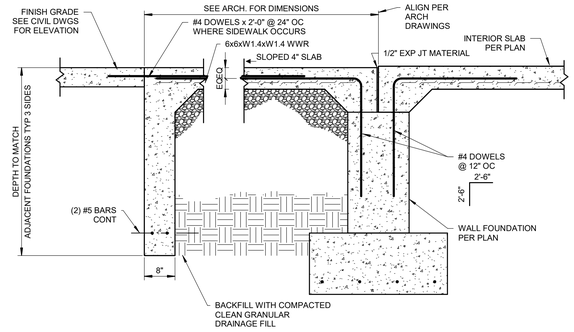
3 S501 TYPICAL ADDITIONAL SLAB ON GRADE REINFORCEMENT AT RE-ENTRANT CORNERS

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



2 S501 TYPICAL COLUMN BASE SECTION

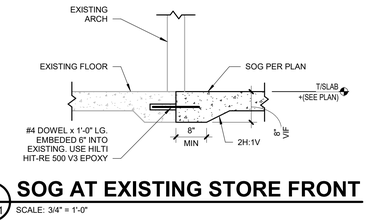
SCALE: 3/4" = 1'-0"



1 S501 EXTERIOR MANDOOR STOOP

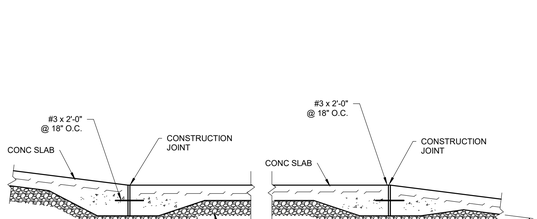
SCALE: 3/4" = 1'-0"

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12



7 S501 SOG AT EXISTING STORE FRONT

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



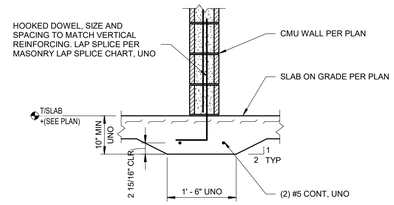
NOTES:

1. PROVIDE CONTROL JOINTS @ 5'-0" OC, UNO.
2. SEE ARCH AND/OR CIVIL DRAWINGS FOR RAILING REQUIREMENTS.

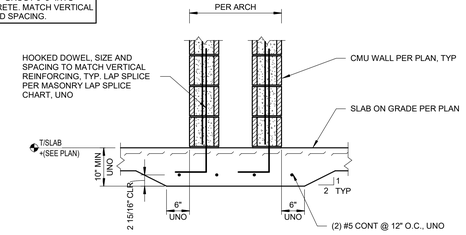
6 S501 TYPICAL CONCRETE RAMP DETAILS

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

AT CONTRACTORS OPTION:
PROVIDE STRAIGHT DOWELS IN LIEU OF HOOKED DOWELS. DRILL AND EXPOXY-GROUT 0'-6" INTO SLAB CONCRETE. MATCH VERTICAL BAR SIZE AND SPACING.



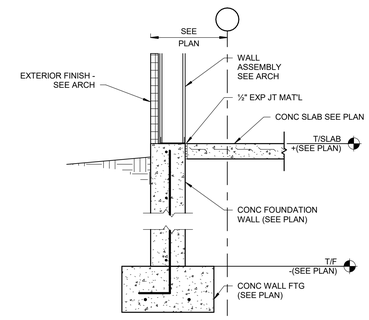
SINGLE CMU WALL CONDITION



DOUBLE CMU WALL CONDITION

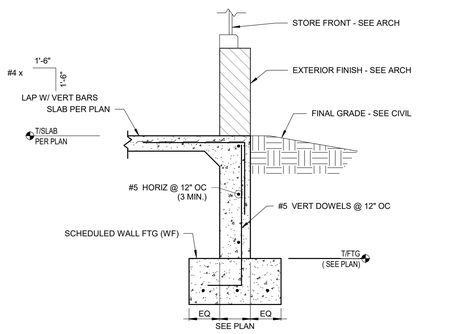
5 S501 TYPICAL THICKENED SLAB AT CMU WALL

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



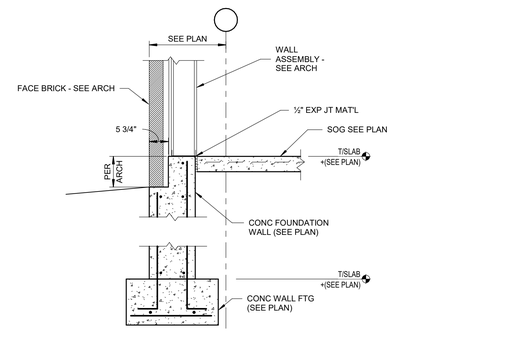
10 S501 FOUNDATION WALL AT EFIS

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



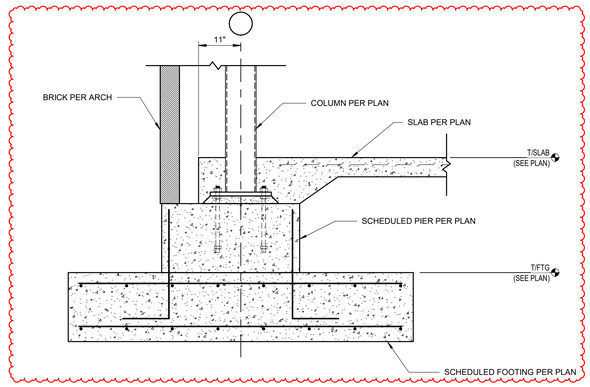
9 S501 TYPICAL SECTION AT STOREFRONT

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



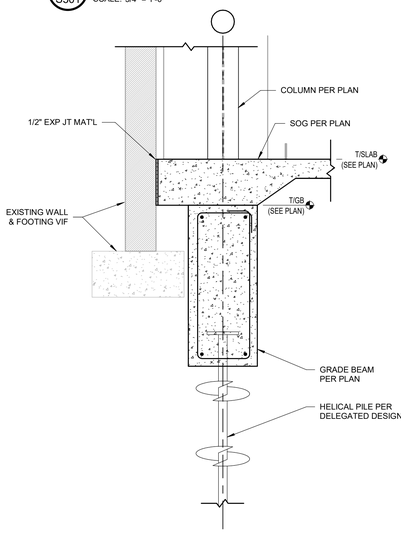
8 S501 FOUNDATION WALL AT BRICK

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



11 S501 WALL FOUNDATION AT OPENING

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

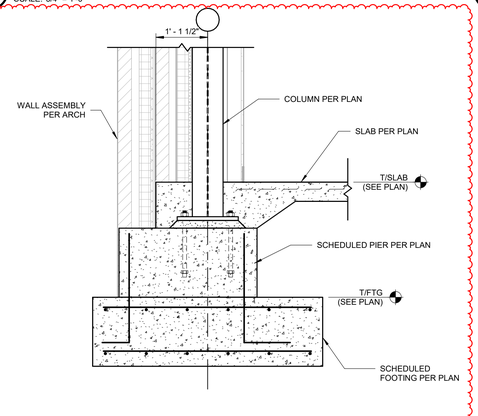


15 S501 TYP GRADE BEAM AT EXISTING

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

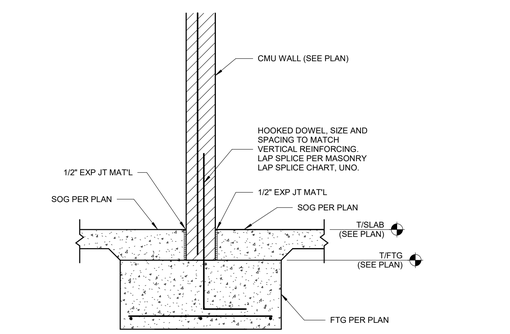
14 S501 TYP HSS COLUMN AT EXTERIOR BUMPOUT

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



13 S501 TYP WF COLUMN AT EXTERIOR BUMPOUT

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



12 S501 INTERIOR LOAD BEARING CMU WALL

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

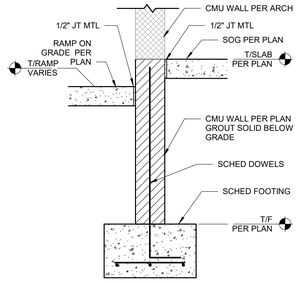
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

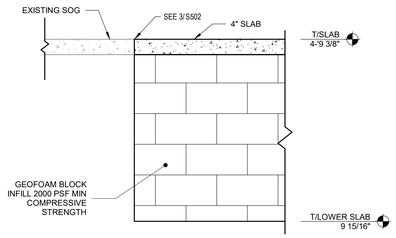
S501

PLOT DATE/TIME:7/31/2026 1:11:51 AM



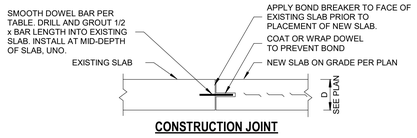
15/S502 CMU WALL FOUNDATION AT RAMPS

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



4/S502 SLAB INFILL AT EXISTING

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

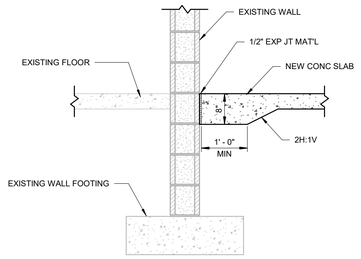


CONSTRUCTION JOINT

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12

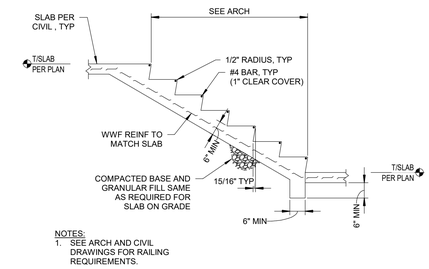
3/S502 TYPICAL NEW-TO-EXISTING SLAB ON GRADE JOINT

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



2/S502 NEW TO EXISTING CONCRETE SLAB

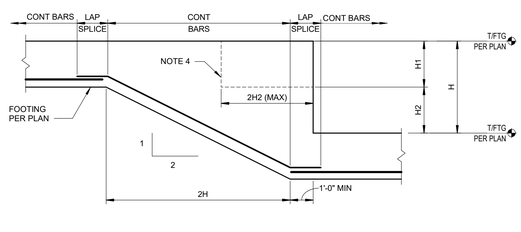
SCALE: 3/4" = 1'-0"



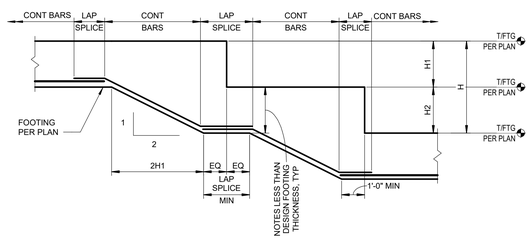
NOTES:
1. SEE ARCH AND CIVIL DRAWINGS FOR RAILING REQUIREMENTS.

1/S502 TYPICAL INTERIOR CONCRETE STAIR

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



UNIFORMLY SLOPED BASE

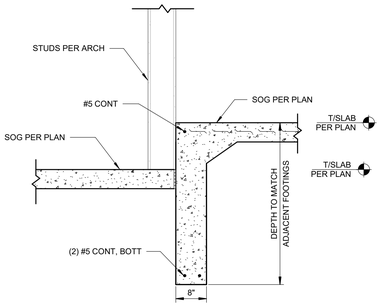


BENCHED BASE

NOTES:
1. SEE PLAN FOR STEP LOCATIONS AND ELEVATIONS.
2. MAXIMUM SINGLE STEP HEIGHT = 4'-0".
3. USED BENCHED BASE FOR MULTIPLE ADJACENT STEPS AND WHEN TOTAL ELEVATION CHANGE "H" EXCEEDS 4'-0".
4. AT CONTRACTOR'S OPTION, DOUBLE STEP MAY BE USED AS SHOWN WHEN SINGLE STEP HEIGHT INDICATED ON PLAN EXCEEDS 2'-0". COORDINATE IN ADVANCE WITH ALL AFFECTED TRADES.

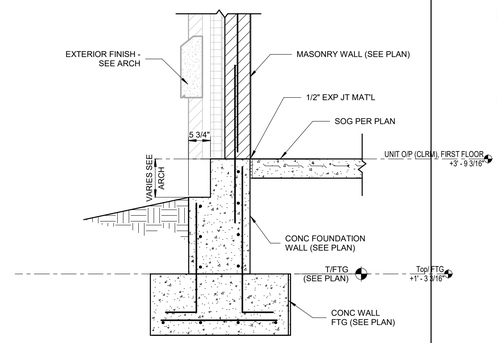
7/S502 TYP STEPPED FOOTING

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



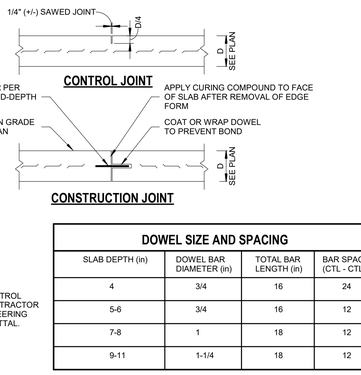
6/S502 SLAB TURNDOWN AT ELEVATION CHANGE

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



5/S502 PERIMETER WALL W/BRICK VENEER

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



CONTROL JOINT

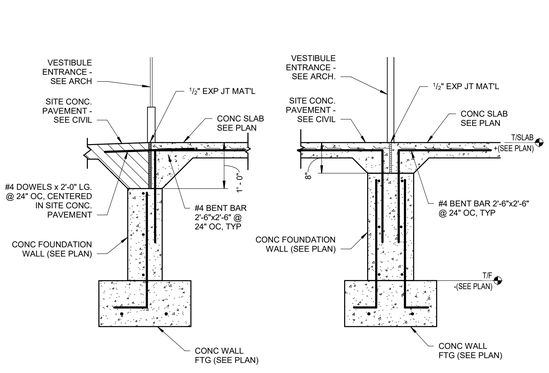
CONSTRUCTION JOINT

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12

NOTE:
IF NO CONSTRUCTION OR CONTROL JOINT PLAN IS PROVIDED, CONTRACTOR TO PROVIDE PLAN FOR ENGINEERING APPROVAL AS PART OF SUBMITTAL.

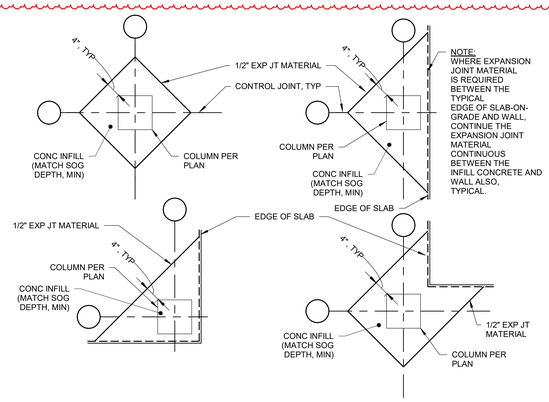
10/S502 TYPICAL SLAB ON GRADE JOINTS

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



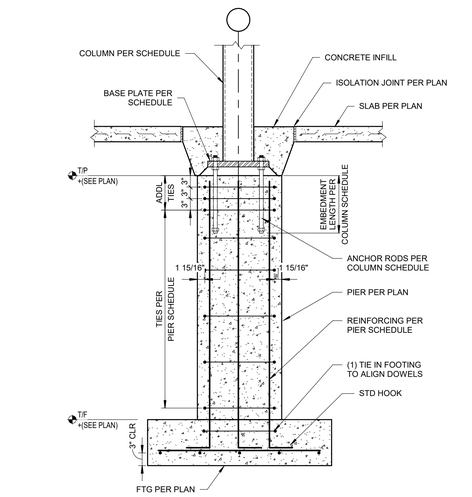
9/S502 VESTIBULE ENTRY FOUNDATION

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



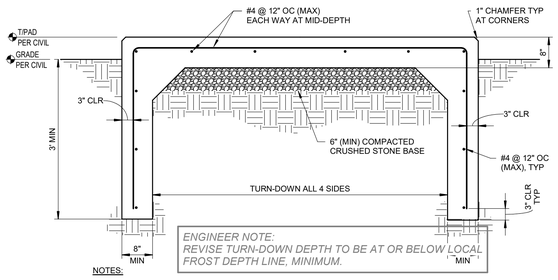
8/S502 TYPICAL CONCN COLUMN ISO JT DETAIL

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



11/S502 TYPICAL COLUMN ON PIER

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



NOTES:
1. CONCRETE 28-DAY COMPRESSIVE STRENGTH = 4000 PSI, MINIMUM.
   AIR ENTRAINMENT = 6" ± 1%
   MAX W/C RATIO = 0.45
   BROOM FINISH SURFACE.
2. PROVIDE SAW-CUT CONTROL JOINTS SPACED NOT MORE THAN 24 TIMES THE SLAB THICKNESS CENTER-TO-CENTER, UNO. SEAL JOINTS WITH WEATHER-RESISTANT SEALANT.
3. SEE PLANS FOR OVERALL PAD DIMENSIONS.
4. COORDINATE EXACT LOCATION WITH CIVIL AND MECHANICAL DRAWINGS, AND EQUIPMENT SUPPLIER.

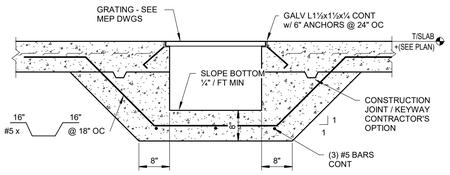
6/S502 SLAB TURNDOWN AT ELEVATION CHANGE

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

NOTES:
1. CONCRETE 28-DAY COMPRESSIVE STRENGTH = 4000 PSI, MINIMUM.
   AIR ENTRAINMENT = 6" ± 1%
   MAX W/C RATIO = 0.45
   BROOM FINISH SURFACE.
2. PROVIDE SAW-CUT CONTROL JOINTS SPACED NOT MORE THAN 24 TIMES THE SLAB THICKNESS CENTER-TO-CENTER, UNO. SEAL JOINTS WITH WEATHER-RESISTANT SEALANT.
3. SEE PLANS FOR OVERALL PAD DIMENSIONS.
4. COORDINATE EXACT LOCATION WITH CIVIL AND MECHANICAL DRAWINGS, AND EQUIPMENT SUPPLIER.

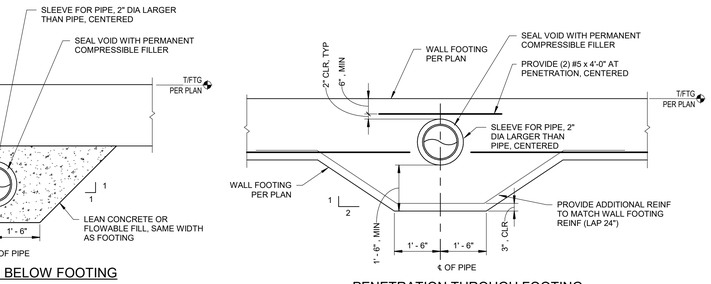
13/S502 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL

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



12/S502 SECTION THRU TRENCH DRAIN

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



PENETRATION BELOW FOOTING

PENETRATION THROUGH FOOTING

NOTES:
1. SEE PLUMBING DRAWINGS FOR LOCATIONS AND SIZE OF PENETRATIONS.
2. DETAIL SHOWN IS FOR MAXIMUM OF 12" DIA PIPE FOR LARGER SIZE, CONTACT STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

14/S502 TYPICAL WALL FOOTING DETAIL AT PIPE/CONDUIT PENETRATION

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

100% CONSTRUCTION DOCUMENTS

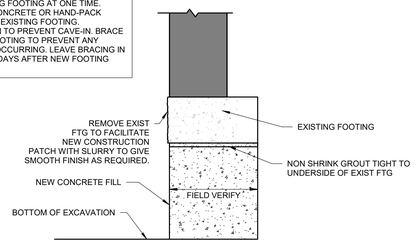
PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

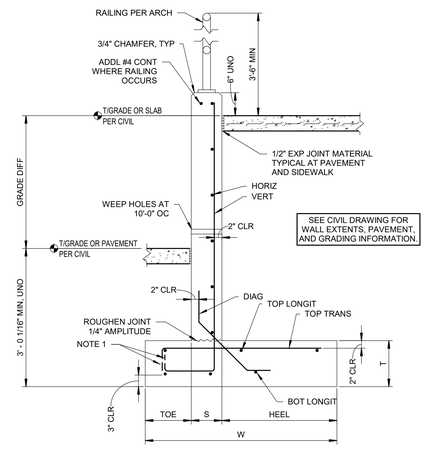
S502

PLOT DATE/TIME:7/31/2026 11:30:14 AM

UNDERPINNING NOTES:
1. ONLY EXCAVATE AND UNDERPIN A 4'-0" MAXIMUM LENGTH OF EXISTING FOOTING AT ONE TIME.
2. FORM AND POUR CONCRETE OR HAND-PACK GROUT UNDER THE EXISTING FOOTING.
3. BRACE EXCAVATION TO PREVENT CAVE-IN. BRACE EXIST WALL AND FOOTING TO PREVENT ANY MOVEMENT FROM OCCURRING. LEAVE BRACING IN PLACE FOR SEVEN DAYS AFTER NEW FOOTING HAS BEEN POURED.



2 S503 TYPICAL UNDERPINNING DETAIL
SCALE: 3/4" = 1'-0"



RETAINING WALL SCHEDULE

GEOMETRY

MARK	GRADE DIFF	W	HEEL	S	TOE	T
RW1	3'-9" MAX	3'-6"	1'-6"	12"	1'-0"	1'-6"
RW2	4'-3" MAX	4'-0"	2'-0"	12"	1'-0"	1'-6"

REINFORCEMENT

MARK	VERT	HORIZ	DIAG	TOP LONGIT	TOP TRANS	BOT LONGIT
RW1	#4 @ 12"	#5 @ 12"	#4 @ 12"	#4 @10" C/C	#6 @ 12"	(4) #4
RW2	#4 @ 12"	#5 @ 12"	#4 @ 12"	#4 @10" C/C	#6 @ 12"	(4) #4

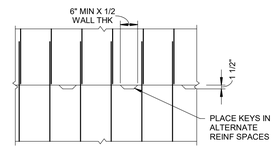
NOTES:
1. "H" IN REINF SCHEDULE INDICATES STANDARD HOOK REQUIRED AT END OF NOTED REINF AT TOE OF FOOTING.

1 S503 TYPICAL RETAINING WALL DETAIL
SCALE: 3/4" = 1'-0"

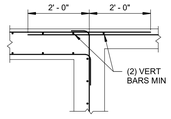
MINIMUM WALL REINFORCEMENT

WALL THICKNESS	HORIZ BARS	VERT BARS	LOCATION
6" AND UNDER	#4 @ 12"	#4 @ 12"	CENTERLINE
> 6" TO 8"	#5 @ 15"	#5 @ 15"	CENTERLINE
> 8" TO 10"	#5 @ 12"	#5 @ 12"	CENTERLINE
> 10" TO 12"	#4 @ 12"	#4 @ 12"	EACH FACE
> 12" TO 14"	#5 @ 18"	#5 @ 18"	EACH FACE
> 14" TO 16"	#5 @ 15"	#5 @ 15"	EACH FACE
> 16" TO 18"	#5 @ 14"	#5 @ 14"	EACH FACE

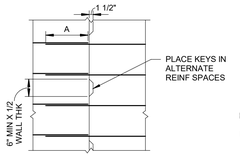
NOTES:
1. WALLS ARE TO BE REINFORCED WITH THE MINIMUM REINFORCEMENT INDICATED, UNO.
2. "A" INDICATES Lt LAP SPLICE, SEE TYPICAL LAP SPLICE TABLES.
3. PROVIDE KEYED HORIZONTAL JOINT AT SHEAR WALLS AND RETAINING WALLS.
4. PROVIDE KEYED VERTICAL JOINT AT SHEAR WALLS.
5. SMALL WALL SECTION DETAILS APPLY TO BOTH HORIZONTAL AND VERTICAL DIRECTIONS.



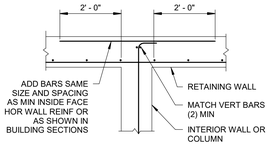
ELEVATION OF HORIZONTAL JOINT (SEE NOTE 3)



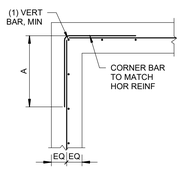
WALL INTERSECTION OF SINGLE AND DOUBLE LAYER REINFORCING



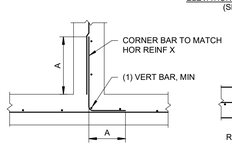
ELEVATION OF VERTICAL JOINT (SEE NOTE 4)



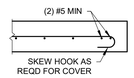
WALL INTERSECTION AT RETAINING WALL



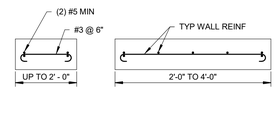
WALL CORNER (1 LAYER REINF)



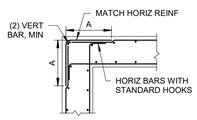
WALL INTERSECTION (1 LAYER REINF)



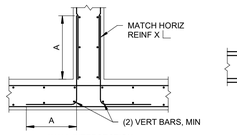
WALL ENDS SINGLE LAYER (1 LAYER REINF)



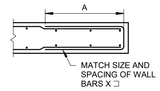
SMALL WALL SECTIONS (NOTE 5)



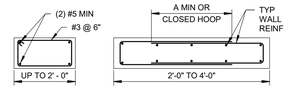
WALL CORNER (2 LAYER REINF)



WALL INTERSECTION (2 LAYER REINF)

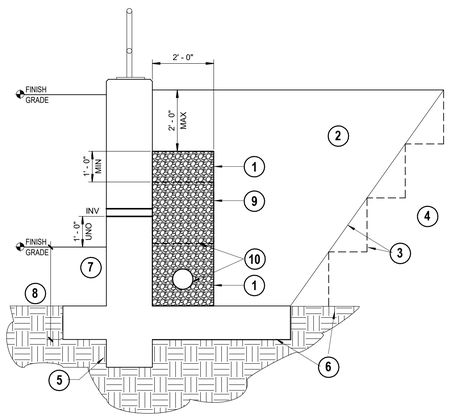


WALL ENDS DOUBLE LAYER (2 LAYER REINF)



SMALL WALL SECTIONS (NOTE 5)

4 S503 TYPICAL CONCRETE WALL REINFORCING DETAILS
SCALE: 1/2" = 1'-0"



TYPE A

DETAIL NOTES: (#)

1. ZONE OF COMPACTED GRANULAR FILL.
2. ZONE OF COMPACTED FILL AND FINISH GRADE MATERIALS. SEE CIVIL DRAWINGS.
3. LINE OF EXCAVATION AND/OR BENCHING AS DETERMINED BY THE CONTRACTOR FOR THE SITE SOIL CONDITIONS IN ACCORDANCE WITH RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT AND THE PROJECT GEOTECHNICAL TESTING AGENCY. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING SAFETY DURING ALL EARTH WORKS OPERATIONS.
4. EXISTING SOIL OR COMPACTED FILL.
5. KEY (WHERE REQUIRED). INSTALL IN SUITABLE EXISTING FIRM UNDISTURBED SOIL OR COMPACTED FILL.
6. INSTALL FOOTINGS ON AND WITHIN SUITABLE FIRM UNDISTURBED SOIL OR COMPACTED FILL.
7. ZONE OF COMPACTED FILL AND FINISH GRADE MATERIALS PER CIVIL DRAWINGS.
8. INSTALL FOOTINGS TO ELEVATIONS INDICATED ON THE DRAWINGS. IN NO CASE SHALL BOTTOMS OF FOOTINGS BE LESS THAN THE GREATER OF LOCAL FROST DEPTH OR 3'-0" BELOW LOWER FINISH GRADE ELEVATION. IF A DIMENSIONAL DISCREPANCY OCCURS THAT WOULD IMPLY PLACEMENT WITH LESS THAN REQUIRED SOIL COVER, NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY AND DO NOT INSTALL THE FOOTING WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.
9. WHERE WEEP HOLES ARE INDICATED ON STRUCTURAL DETAILS, INSTALL 2'-0" X 2'-0" CONTINUOUS BED OF COMPACTED GRANULAR FILL WRAPPED IN FILTER FABRIC, TIGHT TO WALL, CENTERED ON WEEP HOLE CENTERLINE ELEVATION. WHERE WEEP HOLES ARE INDICATED BUT NOT OTHERWISE SIZED, USE 2-INCH DIAMETER PVC PIPE SPACED AT A MAXIMUM OF 10'-0" OC, UNO.
10. WHERE FOOTING DRAINS ARE INDICATED ON STRUCTURAL DETAILS, INSTALL 2'-0" WIDE BED OF COMPACTED GRANULAR FILL WRAPPED IN FILTER FABRIC, FULL HEIGHT FROM TOP OF FOOTING TO TOP OF GRANULAR FILL LAYER. WHERE FOOTING DRAINS ARE INDICATED BUT NOT OTHERWISE SIZED, USE MINIMUM OF 6-INCH DIAMETER PERFORATED PVC PIPER, EXTENDED TO DRAINAGE OUTLET AS INDICATED ON THE CIVIL DRAWINGS.FULLY WRAP DRAINS WITH FILTER FABRIC PRIOR TO SETTING IN PLACE.

3 S503 TYPICAL RETAINING WALL BACKFILL DETAIL
SCALE: 1/2" = 1'-0"

RETAINING WALL BACKFILL DETAIL

GENERAL NOTES:

A. SEE RETAINING WALL STRUCTURAL DETAILS FOR REINFORCEMENT, DIMENSIONS, AND ADDITIONAL INFORMATION.
B. SEE CIVIL DRAWINGS FOR WALL LOCATIONS, LENGTHS, ELEVATIONS, GRADING AND ADDITIONAL INFORMATION.
C. ALL SOILS AND BACKFILL OPERATIONS SHALL BE INSPECTED AND APPROVED BY THE PROJECT GEOTECHNICAL TESTING AGENCY.
D. BACKFILL EQUALLY ON BOTH SIDES OF WALL UNTIL LOWER SIDE OF GRADE IS WITHIN 8 INCHES (MAX) OF FINAL GRADE BEFORE PLACING REMAINDER OF HIGH SIDE GRADE. USE HAND-OPERATED COMPACTION EQUIPMENT WITHIN 6 FEET OF WALL.
E. PLACE BACKFILL IN LIFTS AND COMPACT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
F. COMPACTED GRANULAR FILL SHALL CONSIST OF NATURALLY OR ARTIFICIAL GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D-2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2- INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE OR OTHER SUITABLE GRANULAR FILL APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
G. COMPACTED FILL SHALL BE SUITABLE CLEAN COMPACTABLE SOIL MATERIAL APPROVED BY THE PROJECT GEOTECHNICAL TESTING AGENCY.
H. FILTER FABRIC SHALL BE A LIGHTWEIGHT, NONWOVEN, 100% POLYPROPYLENE GEOTEXTILE WEIGHING NOT LESS THAN 3.5 OUNCES PER SQUARE YARD, MEETING ASTM D-4632 50% ELONGATION AT BREAK, WITH APPARENT OPENING SIZE EQUAL TO A #50 SIEVE AND FLOW RATE PER ASTM D-4491 OF NOT LESS THAN 150 GAL/MIN PER SFT.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

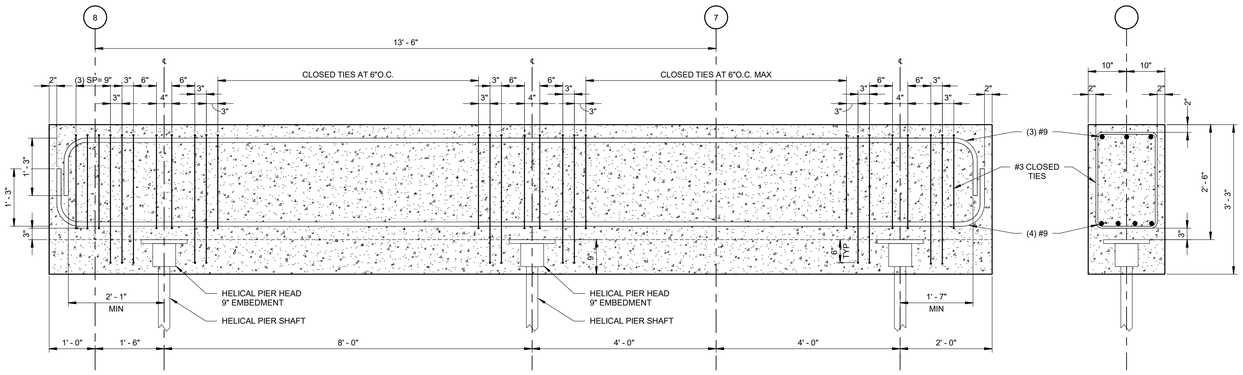
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

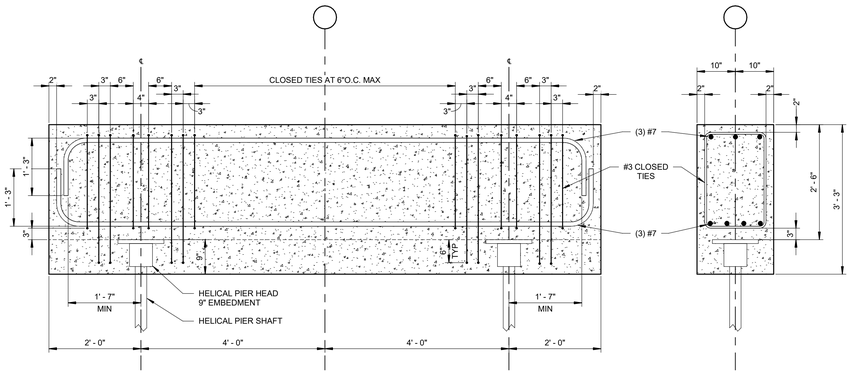
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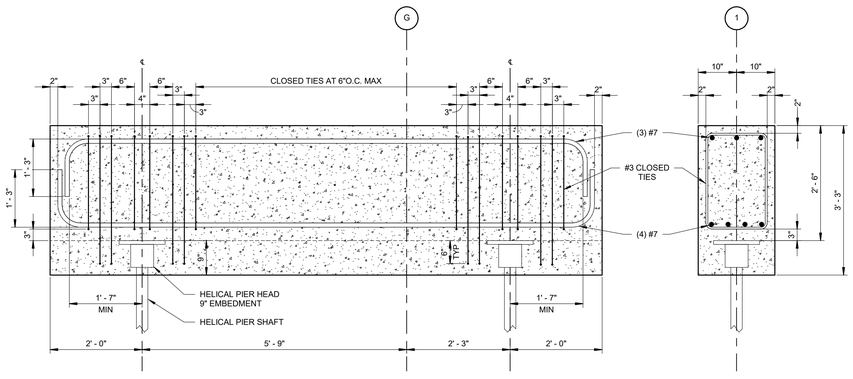
2 S504 GRADE BEAM GB2 DETAILING

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



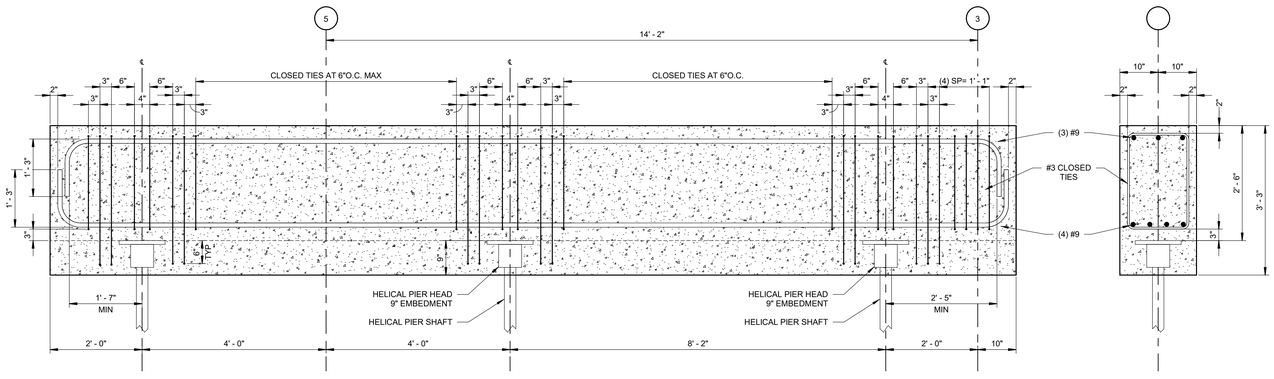
1 S504 GRADE BEAM GB1 DETAILING

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



4 S504 GRADE BEAM GB4 DETAILING

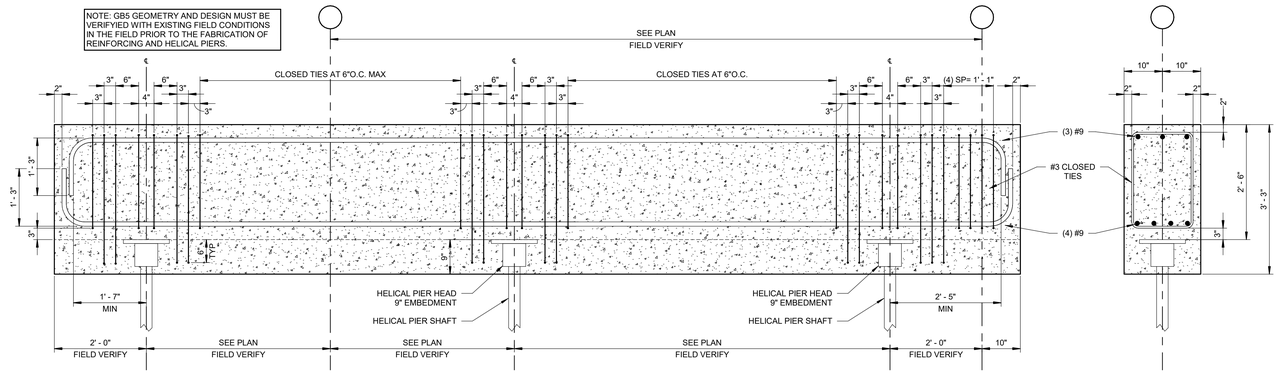
SCALE: 3/4" = 1'-0"



3 S504 GRADE BEAM GB3 DETAILING

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

NOTE: GB5 GEOMETRY AND DESIGN MUST BE VERIFYIED WITH EXISTING FIELD CONDITIONS IN THE FIELD PRIOR TO THE FABRICATION OF REINFORCING AND HELICAL PIERS.



5 S504 GRADE BEAM GB5 DETAILING

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
01/30/2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

GRADE BEAM DETAILS AND ELEVATIONS

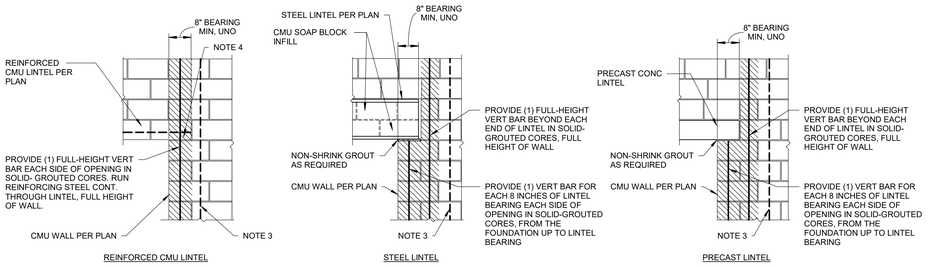
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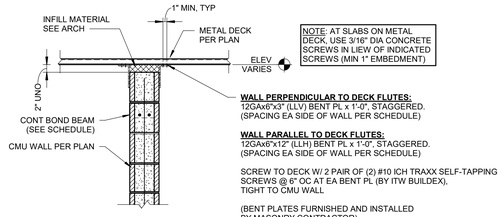


NOTES:

1. INSTALL LINTELS TO PROVIDE EQUAL BEARING LENGTH EACH SIDE OF OPENING, UNO.
2. VERTICAL BARS SHALL BE THE SAME SIZE AS TYPICAL VERTICAL WALL REINFORCEMENT, UNO.
3. FOR OPENINGS THAT INTERRUPT 2 OR MORE REGULARLY SPACED VERTICAL BARS, PROVIDE ONE ADDITIONAL FULL-HEIGHT BAR @ 8" OC ADJACENT TO EACH JAMB FOR EVERY 2 BARS INTERRUPTED BY THE OPENING.
4. AT CMU LINTEL BEARING, CUT OPENING THROUGH BOTTOM OF U-SHAPE LINTEL BLOCK AS REQUIRED TO ALLOW REINFORCEMENT AND GROUT PLACEMENT AT LINTEL BEARING.

3 S510 TYPICAL LINTEL BEARING DETAILS

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



NOTE: AT SLABS ON METAL DECK, USE 3/16" DIA CONCRETE SCREWS IN LIEW OF INDICATED SCREWS (MIN 1" EMBEDMENT)

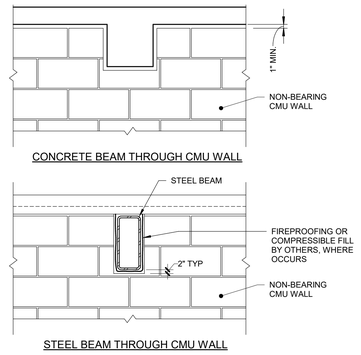
CMU PARTITION WALL BRACING SCHEDULE

CMU SIZE	*INTERSECTING WALL MAX SPACING	MAX BRIDGE SPACING	REMARKS
4"	10'-0"	4'-0"	
6"	15'-4"	6'-0"	
8"	18'-0"	6'-0"	

***NOTE**: PROVIDE BRACING AS SHOWN FOR ALL CMU PARTITION WALLS (WHICH ARE NOT OTHERWISE BRACED AT TOP) AT ALL LOCATIONS WHERE THE DISTANCE BETWEEN INTERSECTING WALLS EXCEEDS THE MAXIMUM SPACING SHOWN

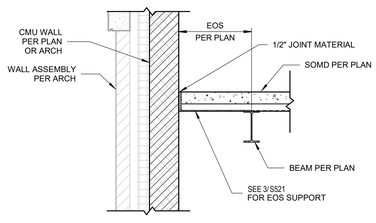
2 S510 TYP FULL-HEIGHT CMU PARTITION WALL BRACING (AT STEEL DECK)

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



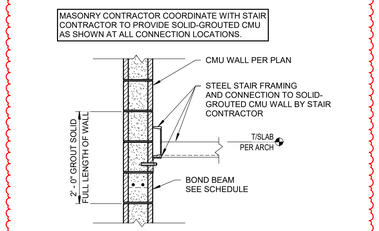
1 S510 TYPICAL CMU NON-BEARING WALL ISOLATION DETAILS

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



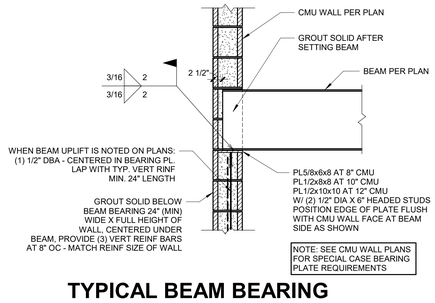
6 S510 SLAB EDGE AT CMU

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



5 S510 STAIR LANDING SUPPORT AT CMU WALL

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



NOTE: SEE CMU WALL PLANS FOR SPECIAL CASE BEARING PLATE REQUIREMENTS

4 S510 TYPICAL BEAM BEARING PERPENDICULAR TO CMU WALL

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

MASONRY REINFORCING STEEL LAP SPLICE CHART

BAR SPLICE LENGTHS

BAR	UNCOATED BARS		EPOXY-COATED BARS	
	TYPE 1.0LD	TYPE 1.5LD	TYPE 1.0LD	TYPE 1.5LD
#3	20"	36"	29"	54"
#4	26"	48"	39"	72"
#5	32"	60"	48"	90"
#6	39"	72"	58"	108"
#7	45"	84"	68"	126"
#8	52"	96"	77"	144"
#9	58"	109"	87"	164"

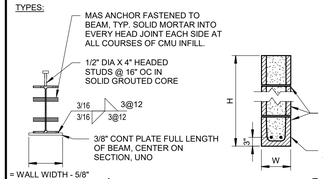
NOTES:

1. ALL SPLICES ARE TYPE 1.0LD, UNO.
2. BARS LARGER THAN #9 ARE REQUIRED TO BE SPLICED BY MECHANICAL CONNECTORS, UNO.
3. SPLICES BASED ON Fs = 32,000 PSI AND f'm ≥ 1500 PSI.
4. ALL BARS ARE UNCOATED, UNO.
5. USE EPOXY-COATED BARS ONLY IN PARKING STRUCTURE MASONRY WHERE SPECIFICALLY INDICATED, UNO.

LINTEL SCHEDULE

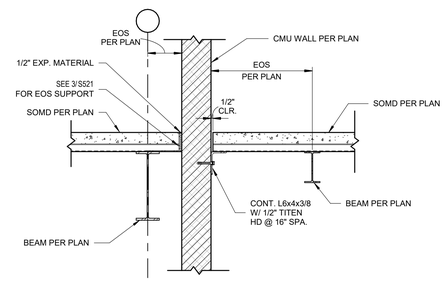
MARK	SECTION	CLEAR OPENING	TYPE	NOTES
L1	W8x15	PER ARCH	A	
L2	W16x31	PER ARCH	A	1/2" THICK CONT. PLATE
L3	W8x15	PER ARCH	A	1/2" THICK CONT. PLATE
L4	W x 16 H (NOMINAL) CMU	PER ARCH	B	

TYPES:



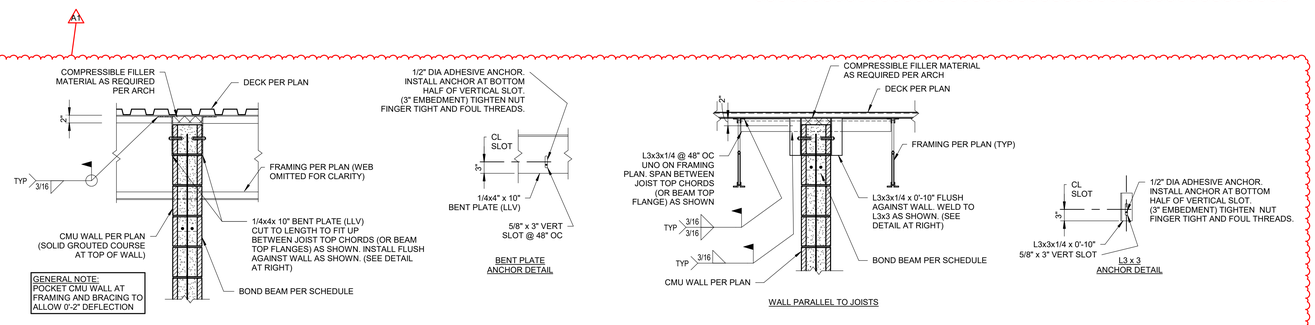
LINTEL SCHEDULE NOTES:

1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS AND SHELF ANGLES IN EXTERIOR WALLS SHALL BE GALVANIZED.
3. BOTTOM PLATES SHALL EXTEND THE FULL LENGTH OF THE LINTEL, INCLUDING BEARING LENGTH, UNO.
4. AT CMU INFILL (SOAPS) AT STEEL LINTELS, PROVIDE METAL ANCHORAGE AT EVERY COURSE @ 16" OC TO TIE CMU TO STEEL.



7 S510 SLAB EDGE AT INTERIOR CMU

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



9 S510 TYPICAL REINFORCING AT CMU WALLS

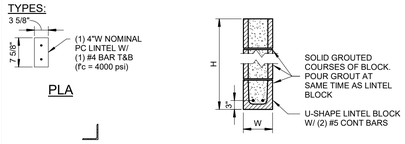
SCALE: 3/4" = 1'-0"

PRESCRIPTIVE LINTEL SCHEDULE

GENERAL NOTE: PROVIDE LINTELS IN THIS SCHEDULE FOR MASONRY OPENINGS WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED. WHERE A SPECIFIC LINTEL (L#) IS INDICATED FOR A PARTICULAR OPENING, PROVIDE THE SPECIFIC LINTEL (L#). FOR OPENINGS BEYOND THE LIMITS AND/OR MATERIALS IDENTIFIED IN THIS SCHEDULE WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED, CONTACT THE STRUCTURAL ENGINEER FOR REQUIRED LINTEL SIZE AND TYPE.

SECTION	CLEAR OPENING	TYPE	NOTES
W x 8 H (NOMINAL) CMU	UP TO 3'-4"	PLB	6", 8", 10", 12" CMU
W x 16 H (NOMINAL) CMU	>3'-4" UP TO 6'-4"	PLB	6", 8", 10", 12" CMU
W x 24 H (NOMINAL) CMU	>6'-4" UP TO 10'-4"	PLB	6", 8", 10", 12" CMU
L3 1/2 x 3 1/2 x 5/16	UP TO 4'-0"	PLC	4" MASONRY VENEER
L5 x 3 1/2 x 5/16 (LLV)	>4'-0" UP TO 6'-0"	PLC	4" MASONRY VENEER
L6 x 3 1/2 x 3/8 (LLV)	>6'-0" UP TO 8'-0"	PLC	4" MASONRY VENEER

TYPES:



PRESCRIPTIVE LINTEL SCHEDULE NOTES:

1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



REVISIONS:	#	Date	Desc.
	A1	07.31.2026	Addendum 1

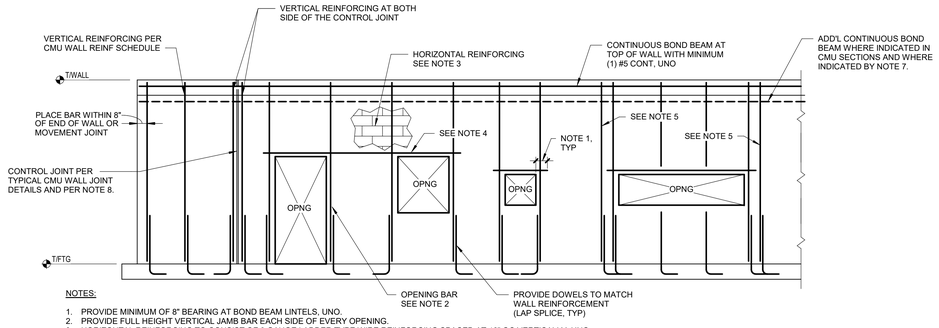
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

MASONRY SCHEDULES, SECTIONS, & DETAILS

S510

PLOT DATE/TIME:7/31/2026 11:55:15 AM

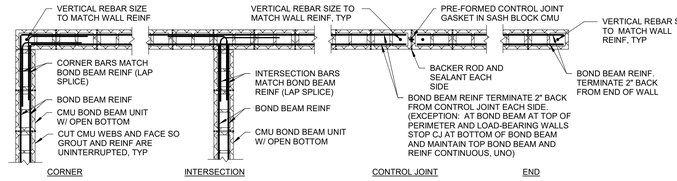


NOTES:

1. PROVIDE MINIMUM OF 8" BEARING AT BOND BEAM LINTELS, UNO.
2. PROVIDE FULL HEIGHT VERTICAL JAMB BAR EACH SIDE OF EVERY OPENING.
3. HORIZONTAL REINFORCING TO CONSIST OF 9 GAUGE LADDER TYPE WIRE REINFORCING SPACED AT 16" OC VERTICALLY, UNO.
4. PROVIDE CONTINUOUS BOND BEAM LINTELS OVER ADJACENT SAME-HEIGHT OPENINGS WITH LESS THAN 2'-8" OF MASONRY BETWEEN OPENINGS.
5. FOR OPENINGS THAT INTERRUPT 2 OR MORE REGULARLY SPACED VERTICAL BARS, PROVIDE ONE ADDITIONAL BAR AT 8" OC ADJACENT TO EACH JAMB FOR EVERY 2 BARS INTERRUPTED BY THE OPENING.
6. CONDITION SHOWN ON THIS DETAIL IS FOR BOND BEAM LINTELS. SEE LINTEL BEARING DETAILS FOR BAR PLACEMENT INFORMATION AT STEEL AND PRECAST LINTELS (WHEN PERMITTED).
7. FOR 6" TO 10" THICK WALLS, WHERE WALL IS GREATER THAN 14' TALL (MEASURED FROM TOP OF FOOTING) PROVIDE ADDITIONAL CONTINUOUS BOND BEAM AT 10'-0" ABOVE FINISH FLOOR AND AT 10'-0" OC MAX. FOR 12" THICK WALLS PROVIDE CONTINUOUS BOND BEAM AT 12'-0" OC MAX.
8. BOND BEAM REINFORCEMENT AT CONTROL JOINTS:
   A. FOR PERIMETER AND LOAD BEARING WALLS:
      a. EXTEND CJ FROM BOTTOM OF CMU WALL TO BOTTOM OF CONT BOND BEAM AT TOP OF WALL, UNO.
      b. EXTEND CJ FROM BOTTOM OF CMU WALL THROUGH BOND BEAM LOCATED NOT AT TOP OF WALL, UNO.
   B. FOR INTERIOR NON LOAD BEARING PARTITION WALLS: EXTEND CJ FULL HEIGHT OF WALL, UNO.

1 S511 TYPICAL REINFORCING AT CMU WALLS

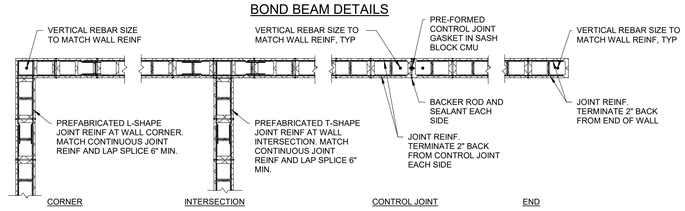
SCALE: 3/4" = 1'-0"



BOND BEAM DETAILS

NOTES:

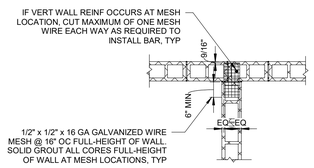
1. VERTICAL REINFORCEMENT INDICATED ON THIS DETAIL IS REQUIRED IN ADDITION TO SCHEDULED VERTICAL REINFORCEMENT, UNLESS SCHEDULED REINFORCEMENT ALREADY OCCURS AT THE INDICATED LOCATIONS.
2. PROVIDE LAPPED DOWELS INTO FOUNDATION AT ALL VERTICAL REINFORCEMENT.
3. PROVIDE HORIZONTAL JOINT REINFORCEMENT AND BOND BEAM REINFORCEMENT IN CMU WALLS IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.



JOINT REINFORCEMENT DETAILS

2 S511 TYPICAL CMU WALL JOINT DETAILS

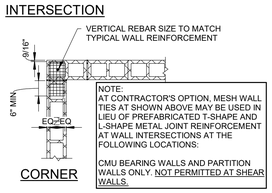
SCALE: 1/2" = 1'-0"



INTERSECTION

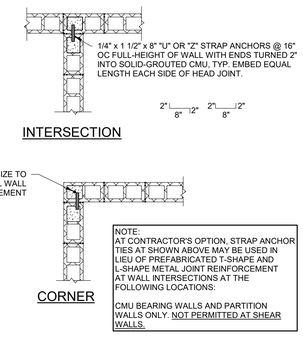
REQUIRED MESH SIZE:
4" CMU: 3" WIDE
6" CMU: 4" WIDE
8" CMU: 6" WIDE
10" CMU: 8" WIDE
12" CMU: 10" WIDE

MESH SHALL BE MWT WIRE MESH BY HOHMANN AND BARNARD OR EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER.



CORNER

ALTERNATE CMU WALL INTERSECTION TIE DETAIL (WIRE MESH)



INTERSECTION

CORNER

ALTERNATE CMU WALL INTERSECTION TIE DETAIL (STRAP ANCHOR)

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. PARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

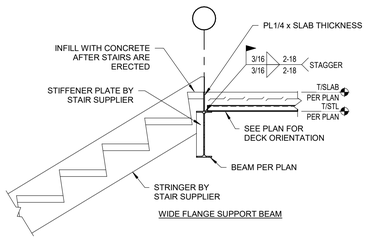
100% CONSTRUCTION DOCUMENTS

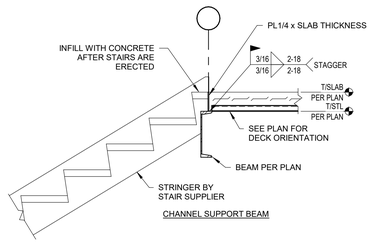
PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

MASONRY SCHEDULES, SECTIONS, & DETAILS

S511

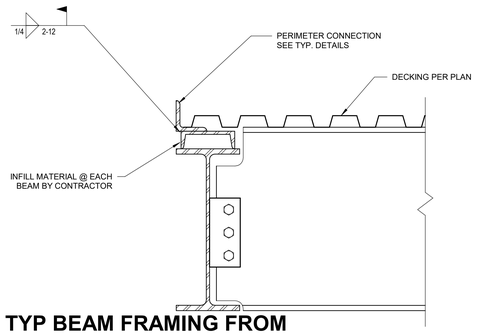
PLOT DATE/TIME: 7/31/2026 1:05:14 AM





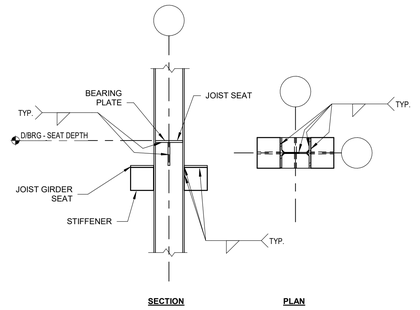
3 S520 STAIR ATTACHMENT DETAIL

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



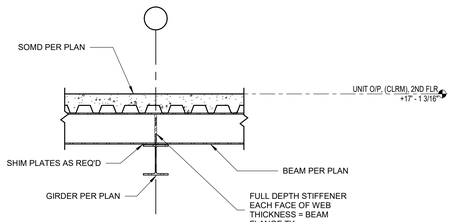
2 S520 TYP BEAM FRAMING FROM BEAM INLINE W/ JOISTS

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



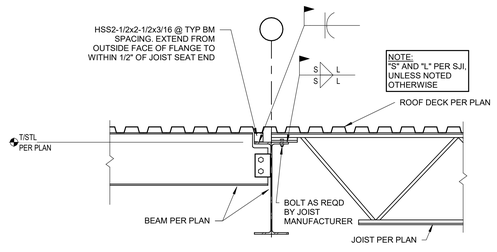
1 S520 TYPICAL COLUMN JOIST AND JOIST GIRDER SEATS

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



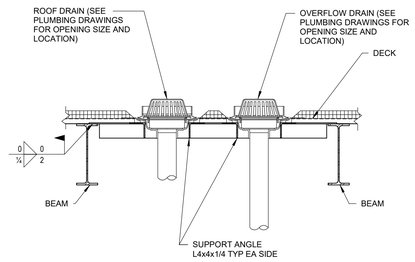
7 S520 BEAM BEARING ON BEAM

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



6 S520 JOIST TO BEAM BEARING ON BEAM

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



NOTES:

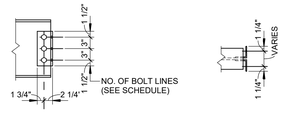
1. COORDINATE QUANTITY AND LOCATION OF ALL ROOF DRAINS WITH PLUMBING AND ARCHITECTURAL DRAWINGS.
2. COORDINATE ROOF DRAIN ASSEMBLIES WITH PLUMBING CONTRACTOR AND PROVIDE AND INSTALL ALL STEEL FRAMING (AND GALVANIZED METAL SUMP PANS IF REQUIRED) AS NECESSARY FOR COMPLETE SUPPORT OF ALL ROOF DRAIN ASSEMBLIES.

5 S520 SECTION @ ROOF DRAIN

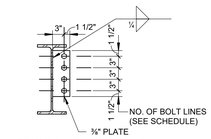
SCALE: 3/4" = 1'-0"

MINIMUM NUMBER OF BOLTS REQUIRED FOR SHEAR CONNECTION

BEAM DEPTH	REQUIRED # OF ROWS
W8 - W12	2
W14 - W18	3
W21-W24	4
W27 - W30	5
W33 - W40	6
W44	7



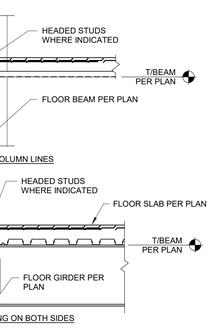
* BOLTS SHALL BE ¾"Ø A325 (UNO)
* SEE PLAN FOR END REACTIONS
* ALL ANGLES USED SHALL BE L4x3x5/16 (UNO)



* BOLTS SHALL BE ¾"Ø A325 (UNO)
* SEE PLAN FOR END REACTIONS
* ALL PLATES ARE ⅜" THICK (UNO)

4 S520 TYP STEEL BEAM CONNECTIONS

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

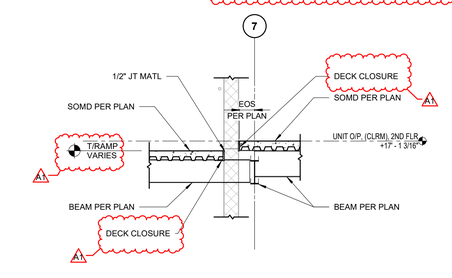


NOTES:

1. REINFORCEMENT SHOWN ON THIS DETAIL IS IN ADDITION TO ALL OTHER INDICATED REINFORCEMENT, UNO.
2. CONCRETE CONTRACTOR SHALL SECURELY CHAIR ALL REINFORCEMENT PRIOR TO CONCRETE PLACEMENT AND MAINTAIN PROPER REINFORCEMENT POSITIONING THROUGHOUT THE CONCRETE PLACEMENT.

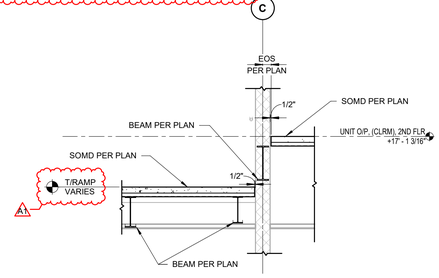
12 S520 TYPICAL SOMD REINFORCING OVER INTERIOR BEAMS AND GIRDERS AT COLUMN LINES

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



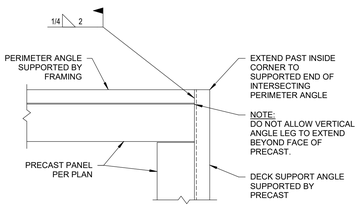
10 S520 SOMD ELEVATION SECTION

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

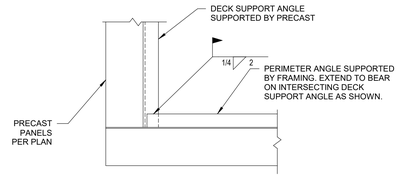


9 S520 SOMD ELEVATION CHANGE

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



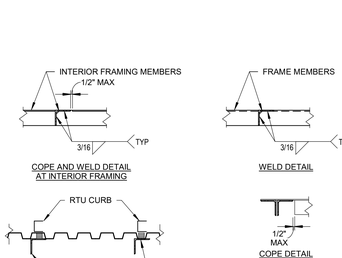
RE-ENTRANT CORNER



OUTSIDE CORNER

8 S520 TYPICAL DECK SUPPORT ANGLES AT CORNERS

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

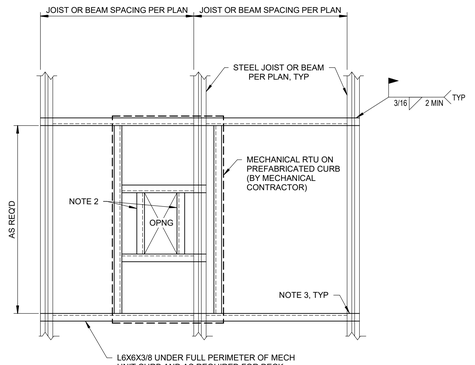


NOTES:

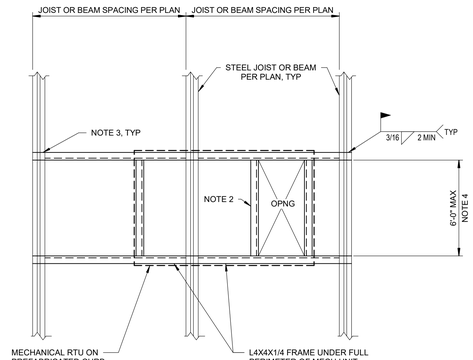
1. COORDINATE UNIT SIZE, LOCATION, AND REQUIRED OPENINGS WITH MECHANICAL CONTRACTOR PRIOR TO FABRICATION. FASTEN DECK TO OPENING FRAME @6" OC MAX AROUND UNIT PERIMETER AND AROUND PERIMETER OF ALL OPENINGS.
2. PROVIDE SUPPLEMENTAL DECK SUPPORT ANGLE AT OPENINGS(AS REQUIRED) IF DECK CANTILEVER SPAN EXCEEDS 1'-0".
3. FOR FRAME ANGLE BEARING LOCATIONS ON STEEL JOISTS THAT DO NOT OCCUR AT PANEL POINTS, SEE "TYPICAL JOIST REINFORCING DETAIL" FOR REINFORCING REQUIREMENTS.
4. PROVIDE INDICATED RTU SUPPORT FRAMING NOT TO EXCEED SPACING INDICATED SPANNING BETWEEN ADJACENT ROOF FRAMING MEMBERS.

11 S520 TYPICAL RTU SUPPORT

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



RTU WITH LONG DIRECTION PARALLEL TO FRAMING



RTU WITH LONG DIRECTION PERPENDICULAR TO FRAMING

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. AYRES
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

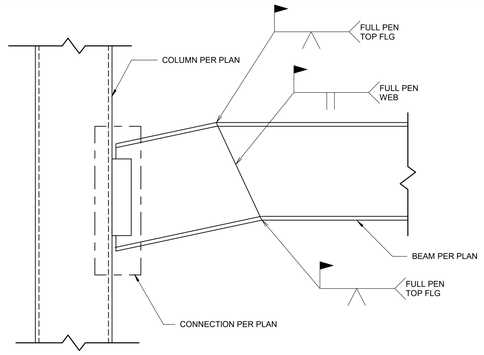
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

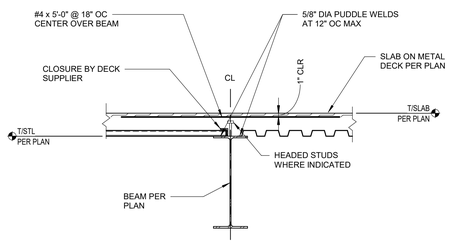
S520

PLOT DATE/TIME: 7/31/2026 11:06:17 AM



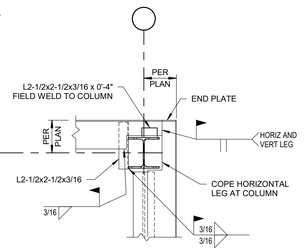
6 S521 TYPICAL BENT BEAM DETAIL

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

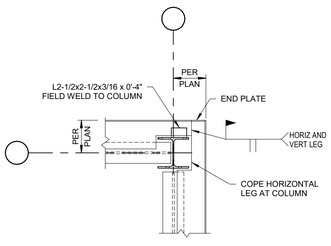


5 S521 CHANGE IN FLOOR DECK SPAN DIRECTION (BEAMS)

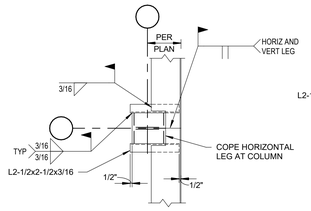
SCALE: 3/4" = 1'-0"



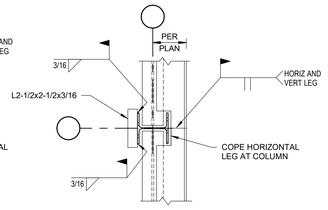
PLAN AT CORNER WITH JOIST SUPPORTED EDGE MEMBER



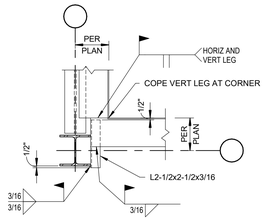
PLAN AT CORNER WITH BEAM SUPPORTED EDGE MEMBER



PLAN AT JOIST SUPPORTED EDGE MEMBER



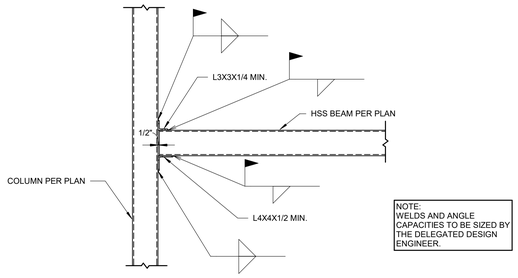
PLAN AT BEAM SUPPORTED EDGE MEMBER



PLAN AT INSIDE CORNER WITH JOIST SUPPORTED EDGE MEMBER

1 S521 TYPICAL EDGE ANGLE/BENT PLATE SUPPORT AT COLUMNS

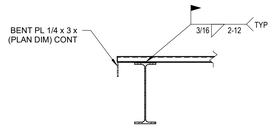
SCALE: 3/4" = 1'-0"



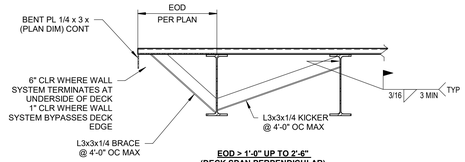
7 S521 TYPICAL HSS BEAM TO COLUMN SHEAR CONNECTION

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

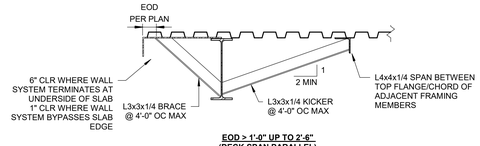
NOTES:
1. FOR EDGE OF DECK DISTANCES EXCEEDING LIMITS SHOWN, CONTACT STRUCTURAL ENGINEER FOR REVIEW AND DO NOT FABRICATE WITHOUT PRIOR REVIEW AND APPROVAL.



EOD ≤ 1'-0"



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PERPENDICULAR)



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PARALLEL)

STEEL SHEAR CONNECTION NOTES

STEEL SHEAR CONNECTION TYPICAL DETAIL GENERAL NOTES:

ALL CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR, UNO. DETAILS INDICATED ON THE STRUCTURAL DRAWINGS ARE PROVIDED TO SHOW CONNECTION CONCEPT ONLY AND ARE NOT TO BE CONSIDERED A FULL DESIGN. THE FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER SHALL DESIGN ALL CONNECTIONS AS REQUIRED TO SAFELY TRANSFER THE DESIGN FORCES AND ALLOW FOR FIELD FIT-UP AND ERECTION TOLERANCE ACCORDING TO THE 14TH EDITION AISC STEEL MANUAL AND THE FOLLOWING:

DOUBLE ANGLE CONNECTIONS:

1. ONLY SINGLE VERTICAL ROW OF BOLTS IS PERMITTED. THE NUMBER OF BOLTS IN THE CONNECTION, n, MUST BE BETWEEN 2 AND 12.
2. STANDARD HOLES (STD) OR SHORT-SLOTTED HOLES TRANSVERSE TO THE DIRECTION OF THE SUPPORTED MEMBER REACTION (SSLT) ARE PERMITTED.
3. WHERE SLOTTED HOLES ARE PARALLEL TO THE DIRECTION OF THE SUPPORTED MEMEBER REACTION, THE CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
4. THE OUTSTANDING LEGS MUST BE BOLTED TO THE SUPPORTING MEMBER WHERE AXIAL LOAD IS PRESENT.
5. THE VERTICAL EDGE DISTANCE, L_{ev}, AND HORIZONTAL EDGE DISTANCE, L_{eh}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS.

CONVENTIONAL SHEAR PLATE CONNECTION NOTES:

1. ONLY SINGLE VERTICAL ROW OF BOLTS IS PERMITTED. THE NUMBER OF BOLTS IN THE CONNECTION, n, MUST BE BETWEEN 2 AND 12.
2. THE WELD BETWEEN THE SINGLE PLATE AND THE SUPPORT SHOULD BE SIZED AS (5/8)L_k, WHICH WILL DEVELOP THE STRENGTH OF EITHER A 36 KSI OR 50 KSI PLATE. FOR SKEWED CONNECTIONS PROVIDE PREQUALIFIED WELDS SHOWN IN TABLE 10-14C OR CJP.
3. THE DISTANCE FROM BOLT LINE TO THE WELD LINE, a, MUST BE EQUAL TO OR LESS THAN 3 1/2".
4. BOLTS AND PLATE MUST BE CHECKED FOR REQUIRED SHEAR WITH AN ECCENTRICITY EQUAL TO e, AS GIVEN IN TABLE 10-9.
5. STANDARD HOLES (STD) OR SHORT-SLOTTED HOLES TRANSVERSE TO THE DIRECTION OF THE SUPPORTED MEMBER REACTION (SSLT) ARE PERMITTED TO BE USED AS NOTED IN TABLE 10-9.
6. THE VERTICAL EDGE DISTANCE, L_{ev}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS. THE HORIZONTAL EDGE DISTANCE, L_{eh}, SHOULD BE GREATER THAN OR EQUAL TO 2d, WHERE d IS THE BOLT DIAMETER.
7. EITHER THE PLATE THICKNESS, t_p, OR THE BEAM WEB THICKNESS, t_w, MUST SATISFY THE MAXIMUM THICKNESS REQUIREMENT GIVEN IN TABLE 10-9.
8. FOR CONNECTIONS TO HSS COLUMNS, THE PLATE THICKNESS, tp, SHALL BE PROPORTIONED TO PREVENT HSS PUNCHING SHEAR SO THAT: $t_p >= (F_v \times L_{ev})/F_{yp}$.
9. CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
10. CONNECTION MAY NOT BE FULLY WELDED UNLESS WRITTEN PERMISSION IS GRANTED BY THE ENGINEER-OF-RECORD.

EXTENDED SHEAR PLATE CONNECTION NOTES:

1. THE NUMBER OF BOLTS IN THE CONNECTION, n, IS UNLIMITED.
2. THE WELD BETWEEN THE SINGLE PLATE AND THE SUPPORT SHOULD BE SIZED AS (5/8)L_k, WHICH WILL DEVELOP THE STRENGTH OF EITHER A 36 KSI OR 50 KSI PLATE. FOR SKEWED CONNECTIONS PROVIDE PREQUALIFIED WELDS SHOWN IN TABLE 10-14c OR CJP.
3. THE DISTANCE FROM BOLT LINE TO WELD LINE, a, IS NOT LIMITED.
4. THE USED OF HOLES MUST SATISFY AISC SPECIFICATIONS SECTION J3.2 REQUIREMENTS.
5. THE HORIZONTAL AND VERTICAL EDGE DISTANCE, L_{eh} AND L_{ev}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS.
6. EITHER THE PLATE THICKNESS, t_p, OR THE BEAM WEB THICKNESS, tw, MUST SATISFY THE MAXIMUM THICKNESS REQUIREMENT GIVEN IN AISC MANUAL TO ENSURE PROPER ROTATIONAL DUCTILITY.
7. CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
8. CONNECTION MAY NOT BE FULLY WELDED UNLESS WRITTEN PERMISSION IS GRANTED BY THE ENGINEER-OF-RECORD.

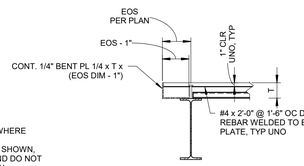
BEAM COPE GENERAL NOTES:

- "CLR" EQUALS DISTANCE FROM COPED BEAM WEB AND GIRDER FLANGE SHALL BE 1/2" MIN
- THETA EQUALS ANGLE OF SKEW FROM PERP

1. COPE LENGTH SHALL BE BASED ON THE GIRDER DIMS AND SHALL BE THE GREATER OF (NEAREST 1/16"):
   A. [(b$_r$ - t$_s$)/2 + CLR]/cos(THETA) + 0.0624"
   B. > A; BASED ON ENGINEERING JUDGMENT
2. COPE DEPTH SHALL BE BASED ON THE BEAM AND GIRDER DIMS AND SHALL BE THE GREATER OF (NEAREST 1/16"):
   A. t$_f$ + 1/2" + 0.0624" +/- ELEV DIFF FROM T/STL OF GIRDER
   B. k$_{det}$ + 0.0624" +/- ELEV DIFF FROM T/STL OF GIRDER

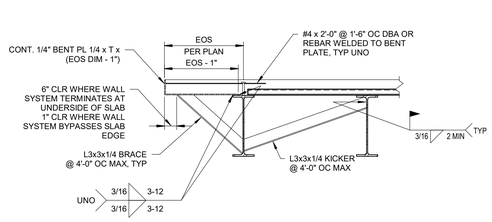
2 S521 PERIMETER EDGE OF DECK SUPPORT

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

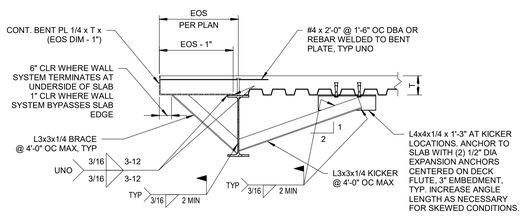


NOTES:
1. DBA / REBAR AS INDICATED IS REQUIRED EXCEPT WHERE SPECIFICALLY NOTED "NO DBA".
2. FOR EDGE OF SLAB DISTANCES EXCEEDING LIMITS SHOWN, CONTACT STRUCTURAL ENGINEER FOR REVIEW AND DO NOT FABRICATE WITHOUT PRIOR REVIEW AND APPROVAL.

EOD ≤ 1'-0"



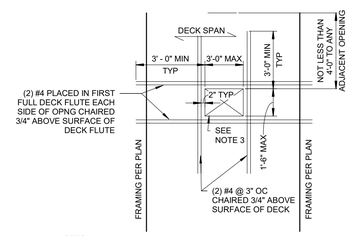
EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PERPENDICULAR)



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PARALLEL)

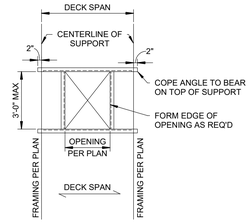
3 S521 PERIMETER EDGE OF SLAB SUPPORT

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



NOTES:
1. WHERE ANY CONDITION DOES NOT CONFORM TO THE LIMITS SHOWN USE A PERMISSIBLE ANGLE-FRAMED OR BEAM-FRAMED OPENING.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED ITS 28-DAY STRENGTH.
3. NOT MORE THAN ONE SUCH OPENING PARALLEL TO DECK SPAN IN ANY SINGLE FRAMING SPACE.

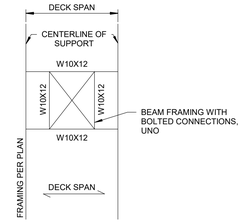
REINFORCED OPENINGS



WELDED ANGLE FRAME
FOR DECK SPAN UP TO 6'-0", USE L4X4X1/4
FOR DECK SPAN >6'-0" UP TO 10'-0", USE L6X4X5/16 (LLV)

NOTES:
1. WHERE ANY CONDITION DOES NOT CONFORM TO THE LIMITS SHOWN USE A PERMISSIBLE ANGLE-FRAMED OR BEAM-FRAMED OPENING.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED A MINIMUM OF 75% OF ITS 28-DAY STRENGTH OR DECK SUPPLIER PROVIDE GAUGE METAL POUR STOP AROUND ENTIRE PERIMETER OF OPENING.

ANGLE-FRAME OPENINGS



NOTES:
1. WHERE CONDITIONS EXCEED THE LIMITATIONS FOR UNREINFORCED, REINFORCED AND ANGLE-FRAME OPENINGS, PROVIDE BEAM-FRAMED OPENING AS SHOWN, UNO.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED A MINIMUM OF 75% OF ITS 28-DAY STRENGTH OR DECK SUPPLIER PROVIDE GAUGE METAL POUR STOP AROUND ENTIRE PERIMETER OF OPENING.

BEAM-FRAME OPENINGS

4 S521 TYPICAL SLAB ON METAL DECK OPENING DETAILS

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

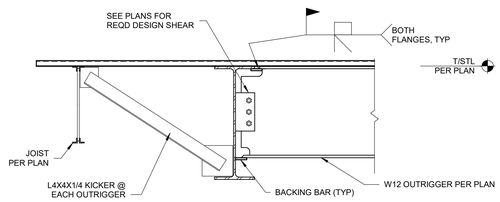
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
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FRAMING SCHEDULES, SECTIONS, & DETAILS

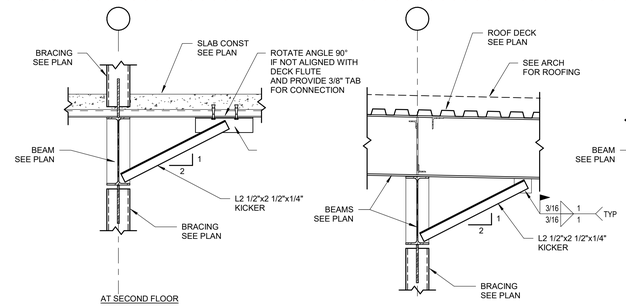
S521

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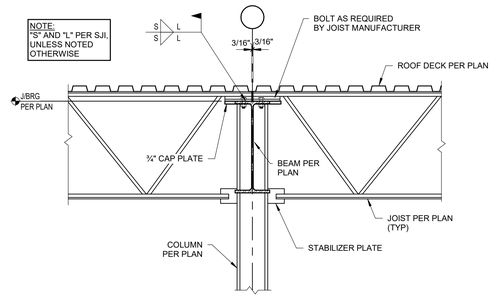
TYP STEEL BEAM MOMENT CONNECTION AT UNEQUAL DEPTH GIRDER

3 / S522 SCALE: 3/4" = 1'-0"



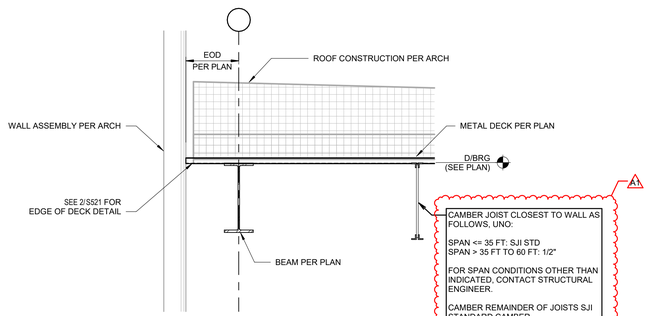
LATERAL BRACING AT BRACE CONNECTIONS

2 / S522 SCALE: 3/4" = 1'-0"



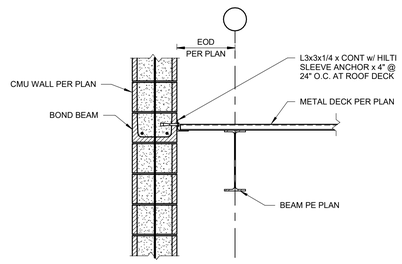
JOIST TO COLUMN DETAIL

1 / S522 SCALE: 3/4" = 1'-0"



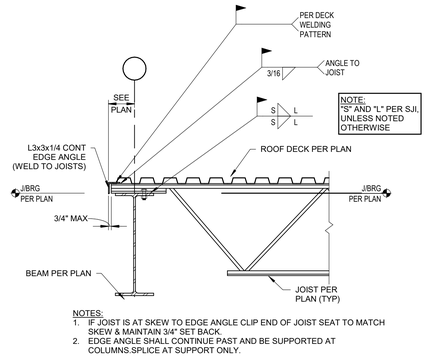
BEAM ELEVATION PARALLEL TO JOIST

7 / S522 SCALE: 3/4" = 1'-0"



DECK BEARING PARALLEL TO JOISTS

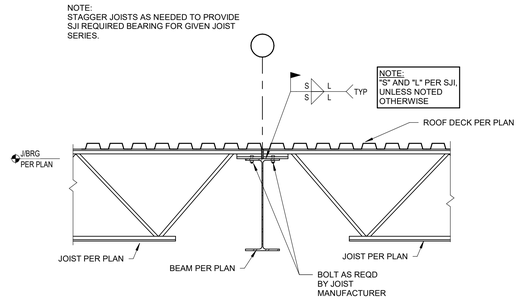
6 / S522 SCALE: 3/4" = 1'-0"



NOTES:
1. IF JOIST IS AT SKEW TO EDGE ANGLE CLIP END OF JOIST SEAT TO MATCH SKEW & MAINTAIN 3/4" SET BACK.
2. EDGE ANGLE SHALL CONTINUE PAST AND BE SUPPORTED AT COLUMNS.SPLICE AT SUPPORT ONLY.

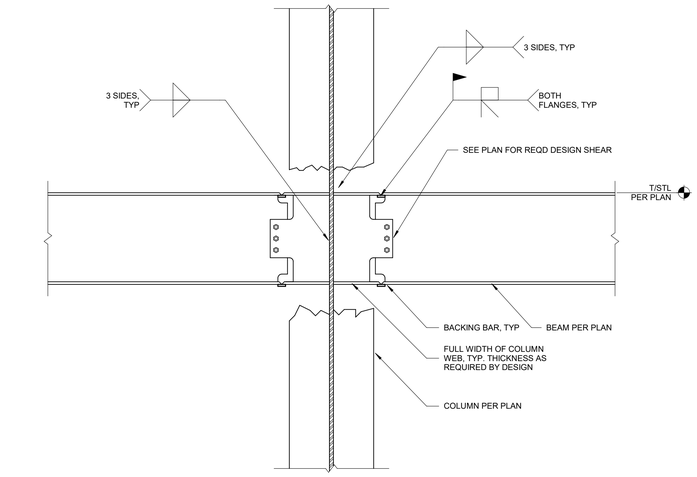
TYPICAL JOIST BEARING AT PERIMETER BEAM

5 / S522 SCALE: 3/4" = 1'-0"



TYPICAL JOIST BEARING AT BEAM

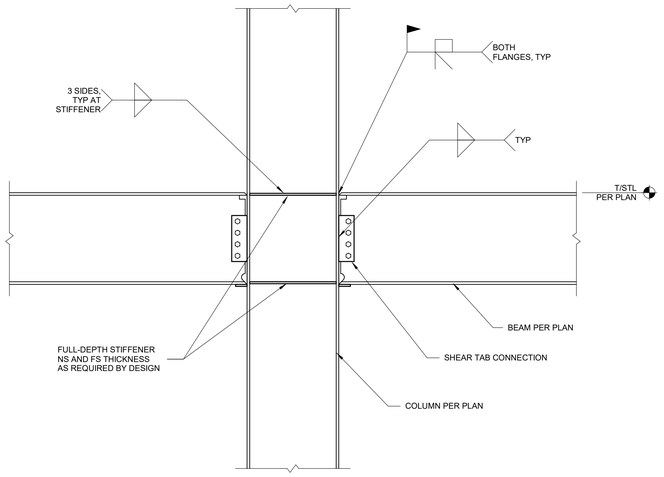
4 / S522 SCALE: 3/4" = 1'-0"



NOTE: STIFFENER PLATES SHALL BE ASTM A572 GRADE 50

TYPICAL BEAM MOMENT CONNECTION TO COLUMN WEB

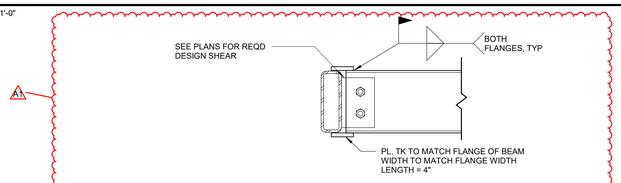
11 / S522 SCALE: 3/4" = 1'-0"



NOTE: STIFFENER PLATES SHALL BE ASTM A572 GRADE 50

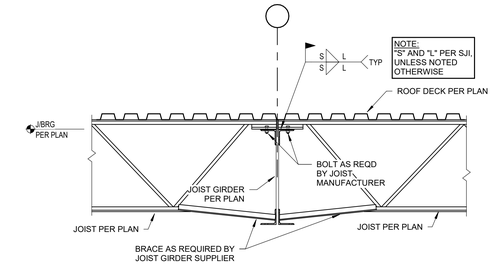
TYPICAL BEAM MOMENT CONNECTION TO COLUMN FLANGE

10 / S522 SCALE: 3/4" = 1'-0"



TYPICAL STEEL BEAM MOMENT CONNECTION AT EQUAL DEPTH GIRDER

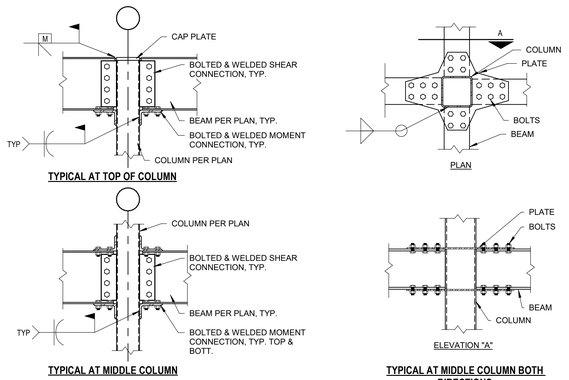
12 / S522 SCALE: 1" = 1'-0"



TYPICAL JOIST BEARING AT JOIST GIRDER

8 / S522 SCALE: 3/4" = 1'-0"

NOTES:
1. CONNECTION DESIGN, INCLUDING WELD SIZES, PER DELEGATED DESIGN ENGINEER.
2. FLOOR AND ROOF DECK NOT SHOWN FOR CLARITY.



TYP HSS COL MOMENT CONN

9 / S522 SCALE: 3/4" = 1'-0"

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LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. PARSONS
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

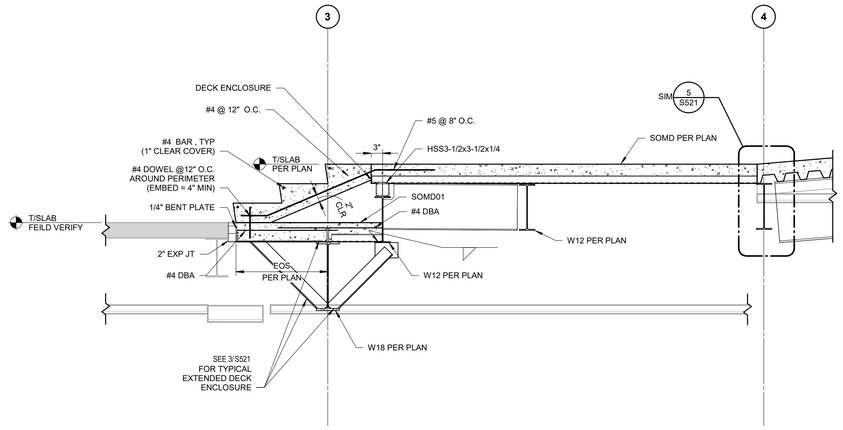
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

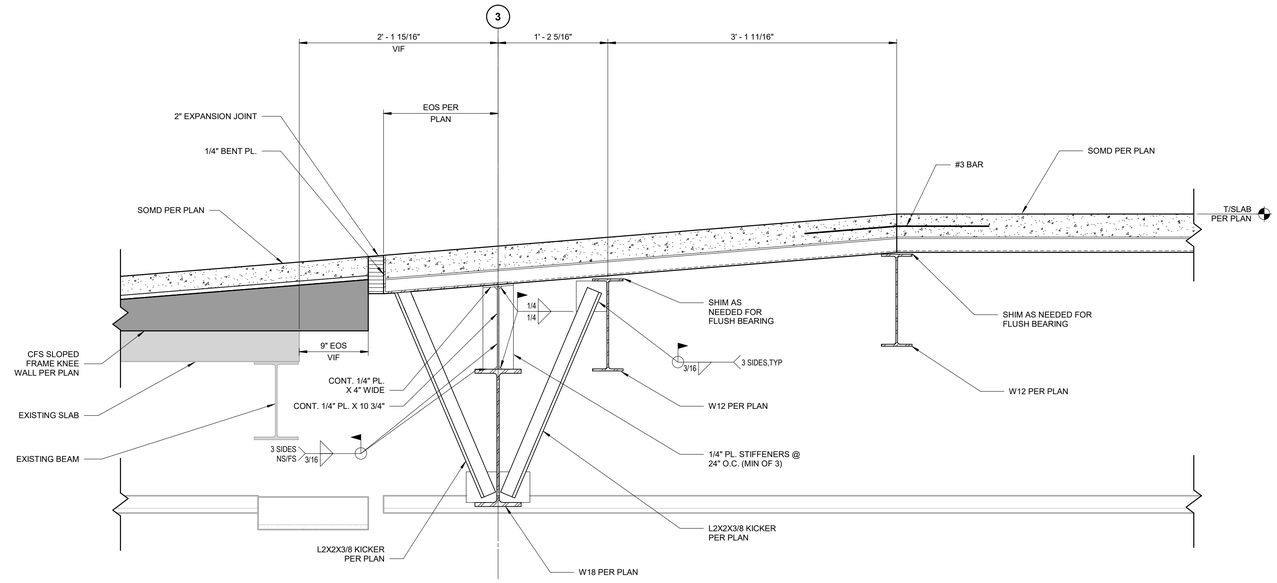
PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

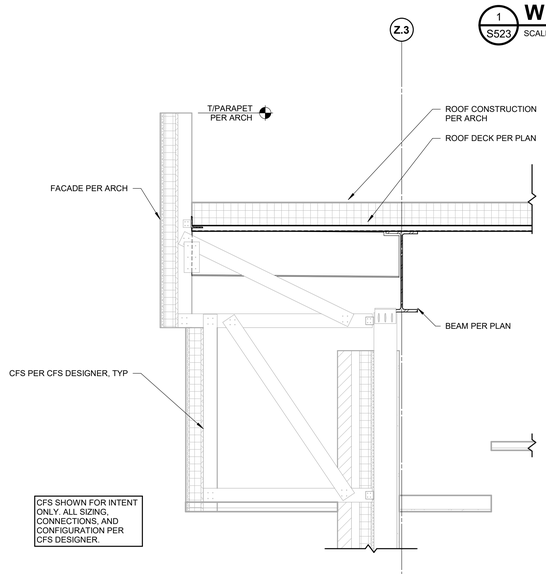
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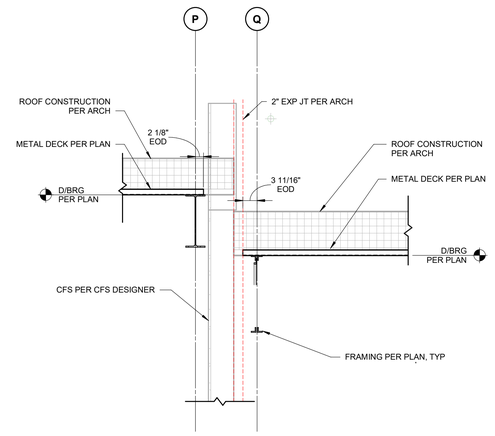
2 WEST RAMP AT STAIR
S523 SCALE: 3/4" = 1'-0"



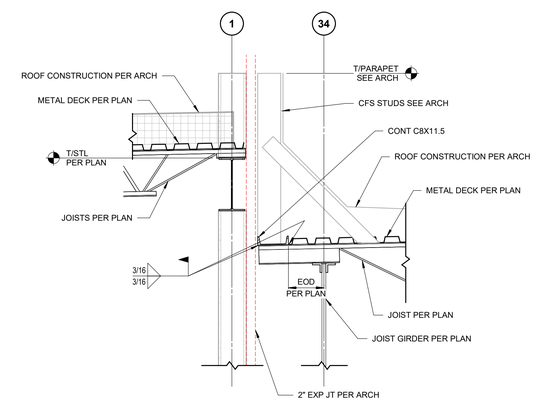
1 WEST RAMP AT EXISTING
S523 SCALE: 1 1/2" = 1'-0"



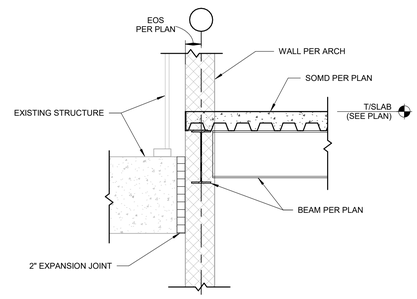
5 EDGE OF DECK AT EAST LOBBY
S523 SCALE: 3/4" = 1'-0"



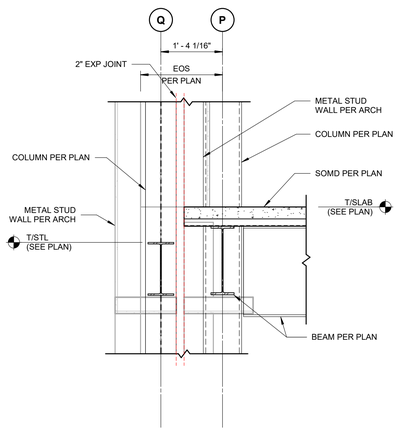
4 EDGE OF DECK AT WEST LOBBY
S523 SCALE: 3/4" = 1'-0"



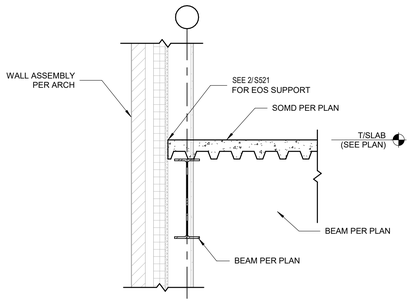
3 EDGE OF DECK AT LOBBY SOUTH
S523 SCALE: 3/4" = 1'-0"



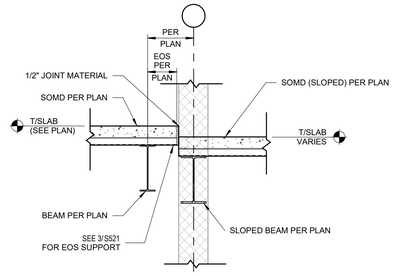
9 SLAB EDGE AT EXISTING PERIMETER
S523 SCALE: 3/4" = 1'-0"



8 EDGE OF SLAB AT WEST LOBBY
S523 SCALE: 3/4" = 1'-0"



7 PERIMETER SLAB EDGE
S523 SCALE: 3/4" = 1'-0"



6 NORTH RAMP SLAB EDGE
S523 SCALE: 3/4" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:		
#	Date	Desc.
A1	07.31.2026	Addendum 1

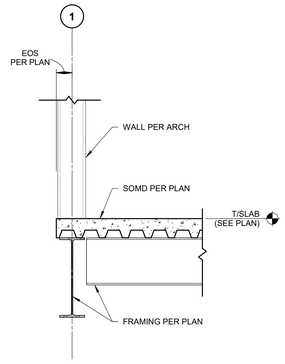
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PROJECT:	#24173S
DATE:	07/10/2026
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FRAMING SCHEDULES, SECTIONS, & DETAILS

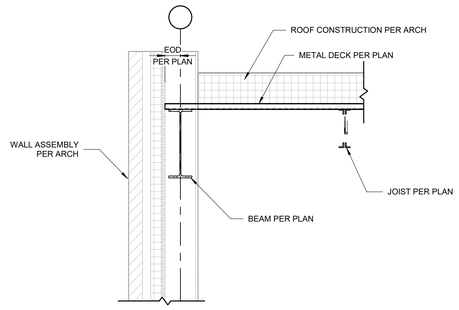
S523

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2 S524 EDGE OF SLAB AT EAST LOBBY

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

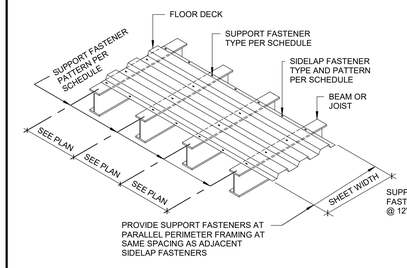


1 S524 ROOF JOIST PARALLEL TO BEAM

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

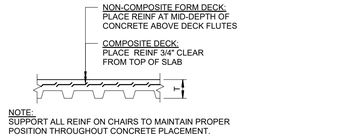
SLAB ON METAL DECK SCHEDULE

MARK	DECK HEIGHT	GAUGE	YIELD STRENGTH Fy	TYPE	FINISH	SLAB T	SLAB REINFORCING	SUPPORT FASTENER TYPE	SUPPORT FASTENER PATTERN	SIDELAP FASTENER TYPE	SIDELAP FASTENER PATTERN	BASIS OF DESIGN DECK (NOTE 6)	NOTES
SOMD01	2"	20 GA	50 KSI	COMPOSITE	PAINTED	5"	6x6-W1.4xW1.4 WWR	5/8" PUDDLE	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 2VLI-36	
SOMD02	0.6"	24 GA	60 KSI	NON-COMPOSITE	PAINTED	3"	6x6-W1.4xW1.4 WWR	#12 TEK	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 0.6C-35	

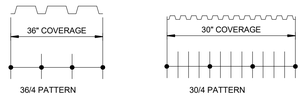


FASTENER PATTERN DIAGRAM

PERIMETER EDGE FASTENING



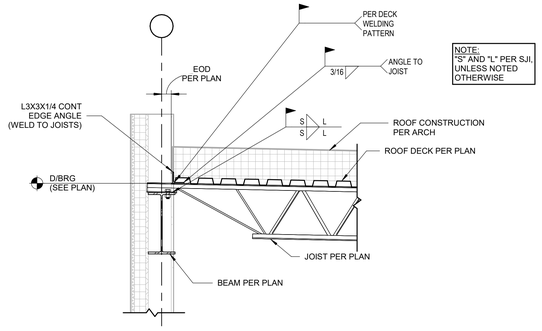
SLAB THICKNESS DEFINITION AND REINF PLACEMENT



SUPPORT FASTENER PATTERN DEFINITION

NOTES:

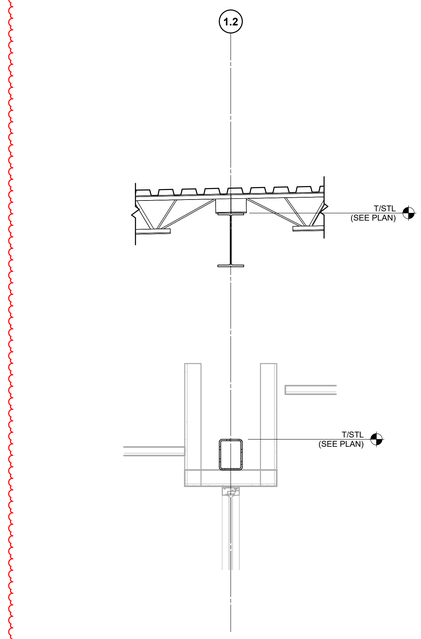
1. CONCRETE TO BE NORMAL WEIGHT, UNO.
2. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
3. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
4. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
5. FOR DECK SPANS 5'-0" OR LESS, PROVIDE ONE SIDELAP FASTENER AT MID-SPAN OF EACH JOIST OR BEAM SPACE. FOR DECK SPANS EXCEEDING 5'-0", PROVIDE SIDELAP FASTENERS AT 3'-0" OC, MAX. USE DECK MANUFACTURER'S RECOMMENDED PUNCHED SIDELAPS FOR COMPOSITE DECK AND NON-NESTING FORM DECK,UNO. USE #10 TEK SCREWS AT DECK WITH NESTED SIDELAPS, UNO.
6. PROVIDE DECK WITH ALL PROPERTIES MEETING OR EXCEEDING THE INDICATED BASIS OF DESIGN DECK.



NOTES:
1. IF JOIST IS AT SKEW TO EDGE ANGLE CLIP END OF JOIST SEAT TO MATCH SKEW & MAINTAIN 3/4" SET BACK.
2. EDGE ANGLE SHALL CONTINUE PAST AND BE SUPPORTED AT COLUMNS.SPLICE AT SUPPORT ONLY.

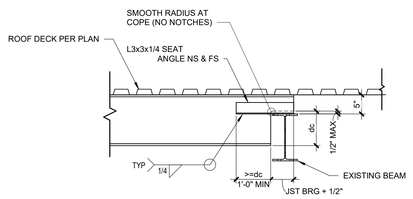
4 S524 JOIST BEARING AT PERIMETER BEAM AT CFS

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



3 S524 STOREFRONT SUPPORT

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



NOTE: FIELD WELD SEAT TO SUPPORTING STEEL WITH 1/4" FILLET WELD x 2" LONG AT EACH SIDE.

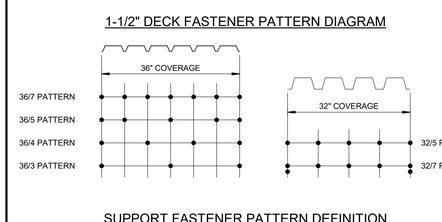
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5 S524 BEAM SEAT SECTION

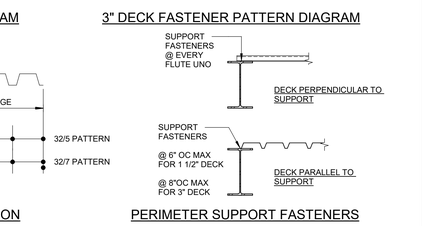
SCALE: 3/4" = 1'-0"

ROOF DECK SCHEDULE

Type Mark	Thickness	Deck Gauge	Deck Type	Deck Finish	Support Fastener Type	Perimeter Support Fastener Pattern	Interior Support Fastener Pattern	Sidelap Fastener Pattern	Sidelap Fastener Type	Remarks
RD01	1 1/2"	22	TYPE B, WR	Painted	5/8" DIA PUDDLE WELDS	SEE BELOW	36/5	#10 TEK SCREWS	5 PER SPAN	



1-1/2" DECK FASTENER PATTERN DIAGRAM



3" DECK FASTENER PATTERN DIAGRAM

SUPPORT FASTENER PATTERN DEFINITION

PERIMETER SUPPORT FASTENERS

NOTES:

1. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
2. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
3. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
4. PROVIDE 36/7 FASTENER PATTERN AT ALL BRACED FRAMES AND MOMENT FRAMES.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARSON
REGISTERED
No. PE11800818
STATE OF
INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

S524

PLOT DATE/TIME:7/31/2026 11:30:23 AM

SPECIAL INSPECTION SERVICES SCHEDULE - STEEL CONSTRUCTION

REFER TO IBC 2012 CHAPTER 17 AND AISC 360-10

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	PERFORM OR OBSERVE	REFERENCE
WELDED MEMBERS				
PRIOR TO WELDING:				
WELDING PROCEDURE SPECIFICATIONS	VERIFY CONTRACTOR MAINTAINS WELDING PROCEDURE SPECIFICATIONS READILY AVAILABLE FOR ALL WELDERS FOR ALL TYPES OF WELDS PERFORMED ON THE PROJECT	Y	PERFORM	AISC 360 TABLE N5.4-1
WELD MATERIAL CERTIFICATIONS	VERIFY MATERIAL CERTIFICATIONS ARE AVAILABLE FOR ALL CONSUMABLE WELDING MATERIALS	Y	PERFORM	AISC 360 TABLE N5.4-1
WELD MATERIAL IDENTIFICATION	VERIFY ALL WELD MATERIALS ARE PROPERLY MARKED WITH VALID TYPE/GRADE IDENTIFICATION	Y	OBSERVE	AISC 360 TABLE N5.4-1
WELDER IDENTIFICATION SYSTEM	VERIFY FABRICATOR/ERECTOR AS APPLICABLE MAINTAINS RECORDS OF WHO WELDED EVERY JOINT	Y	OBSERVE	AISC 360 TABLE N5.4-1
FIT-UP OF GROOVE WELDS	INSPECT FOR PROPER FIT-UP INCLUDING JOINT PREPARATION, DIMENSIONS, CLEANLINESS, TACKING, AND BACKING (WHERE BACKING IS APPLICABLE)	N	OBSERVE	AISC 360 TABLE N5.4-1
ACCESS HOLES	INSPECT FOR CONFIGURATION AND FINISH OF ACCESS HOLES	Y	OBSERVE	AISC 360 TABLE N5.4-1
FIT-UP OF FILLET WELDS	INSPECT FOR PROPER FIT-UP INCLUDING DIMENSIONS, CLEANLINESS, AND TACKING	Y	OBSERVE	AISC 360 TABLE N5.4-1
DURING WELDING:				
QUALIFIED WELDERS	VERIFY USE OF QUALIFIED WELDERS	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING CONSUMABLES	INSPECT FOR PROPER PACKAGING, STORAGE AND PROTECTION	Y	OBSERVE	AISC 360 TABLE N5.4-2
TACK WELDS	VERIFY NO WELDING OCCURS OVER CRACKED TACK WELDS	Y	OBSERVE	AISC 360 TABLE N5.4-2
FIELD CONDITIONS	VERIFY WIND SPEED WITHIN LIMITS AND PROPER PROTECTION/PREPARATION FOR PRECIPITATION AND TEMPERATURE	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING PROCEDURE SPECIFICATION (NOTE 2 - SEE AISC 360)	VERIFY WELDING PROCEDURE SPECIFICATIONS ARE FOLLOWED	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING TECHNIQUES	VERIFY EACH PASS MEETS PROFILE LIMITATIONS AND QUALITY REQUIREMENTS, INTERPASS AND FINAL CLEANING	Y	OBSERVE	AISC 360 TABLE N5.4-2
COMPOSITE BEAM HEADED STUD ANCHORS	INSPECT FOR PROPER PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	N	OBSERVE	
AFTER WELDING:				
WELDS CLEANED	VERIFY PROPER CLEANING OF COMPLETED WELDS	Y	OBSERVE	AISC 360 TABLE N5.4-3
SIZE, LENGTH, LOCATION, AND VISUAL ACCEPTANCE CRITERIA (NOTE 3 - SEE AISC 360)	INSPECT WELDS TO CONFIRM PROPER SIZE, LENGTH, LOCATION AND VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT POROSITY) AS FOLLOWS:			AISC 360 TABLE N5.4-3
	VISUALLY INSPECT AND VERIFY ULTRASONIC TESTING IS PERFORMED FOR 100% OF ALL CJP WELDS	N	PERFORM	
	VISUALLY INSPECT 100% OF ALL CJP WELDS	N	PERFORM	
	VISUALLY INSPECT 100% OF WELDS IN LATERAL LOAD RESISTING MOMENT FRAMES AND BRACED FRAMES	N	PERFORM	
	VISUALLY INSPECT 20% OF ALL FILLET WELDS NOT IN LATERAL LOAD RESISTING MOMENT FRAMES AND BRACED FRAMES	Y	PERFORM	
ARC STRIKES	VISUALLY INSPECT TO CONFIRM NO ARC STRIKES	Y	PERFORM	AISC 360 TABLE N5.4-3
"K"-AREA WELDING	VISUALLY INSPECT ALL DOUBLER PLATES, CONTINUITY PLATES AND STIFFENER PLATES WHERE WELDING OCCURS WITHIN THE k-AREA OF THE STEEL SECTION TO CONFIRM NO CRACKS IN THE MEMBER WEB	N	PERFORM	AISC 360 TABLE N5.4-3
BACKING AND WELD TABS REMOVED	VISUALLY INSPECT TO CONFIRM PROPER REMOVAL OF ALL BACKING REMOVED. VERIFY ALL WELD TABS REMOVED (IF REQUIRED)	N	PERFORM	AISC 360 TABLE N5.4-3
REPAIRS	VERIFY APPROVED REPAIRS OF NON-CONFORMING ITEMS (WHEN REQUIRED) ARE PROPERLY COMPLETED	Y	PERFORM	AISC 360 TABLE N5.4-3
DOCUMENTATION	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED CONNECTIONS	Y	PERFORM	AISC 360 TABLE N5.4-3
BOLTED MEMBERS				
PRIOR TO BOLTING:				
MATERIAL CERTIFICATIONS	VERIFY MANUFACTURER'S CERTIFICATIONS ARE AVAILABLE FOR FASTENER MATERIALS	Y	PERFORM	AISC 360 TABLE N5.6-1
FASTENER MARKINGS	VERIFY FASTENERS ARE MARKED PER ASTM STANDARDS	Y	OBSERVE	AISC 360 TABLE N5.6-1
FASTENER SELECTIONS	VERIFY CORRECT GRADE, TYPE, AND SUFFICIENT LENGTH FOR THREADS EXCLUDED FROM THE SHEAR PLANE (ONLY WHERE SPECIFICALLY INDICATED)	Y	OBSERVE	AISC 360 TABLE N5.6-1
BOLTING PROCEDURE	VERIFY PROPER BOLTING PROCEDURE FOR THE JOINT	Y	OBSERVE	AISC 360 TABLE N5.6-1
CONNECTING ELEMENTS	VERIFY CONNECTING ELEMENTS, INCLUDING FAYING SURFACES AND HOLE PREPARATION (IF SPECIFIED) MEET APPLICABLE REQUIREMENTS	Y	OBSERVE	AISC 360 TABLE N5.6-1
PRE-INSTALLATION VERIFICATION	VERIFY PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL IS OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	Y	OBSERVE	AISC 360 TABLE N5.6-1
PROPER STORAGE	VERIFY PROPER STORAGE OF BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	Y	OBSERVE	AISC 360 TABLE N5.6-1
DURING BOLTING:				
PROPER POSITIONING	VERIFY ALL FASTENING ELEMENTS ARE PROPERLY POSITIONED IN THE JOINT PRIOR TO TIGHTENING	Y	OBSERVE	AISC 360 TABLE N5.6-2
BOLT TIGHTENING	VERIFY COMPONENT NOT TURNED BY THE WRENCH IS PREVENTED FROM ROTATING DURING TIGHTENING	Y	OBSERVE	AISC 360 TABLE N5.6-2
PRETENSIONED BOLTS SNUG TIGHTENED	VERIFY ALL BOLTS AT A CONNECTION TO BE PRETENSIONED ARE FIRST BROUGHT INTO SNUG-TIGHT CONDITION PRIOR TO START OF PRE-TENSIONING	N	OBSERVE	AISC 360 TABLE N5.6-2
PRETENSIONED BOLTS TIGHTENING	VERIFY FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS	N	OBSERVE	AISC 360 TABLE N5.6-2
AFTER BOLTING:				
DOCUMENTATION	DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	Y	PERFORM	AISC 360 TABLE N5.6-3
STEEL FRAMING (GENERAL)				
COLUMN BASES	INSPECT INSTALLATION OF ALL BASE PLATES FOR PROPER ANCHORAGE (INCLUDING WELDED PLATE WASHERS WHERE INDICATED) AND GROUTING BENEATH BASE PLATE	Y	PERFORM	
COLUMN SPLICES	INSPECT ALL COLUMN SPLICES TO CONFIRM THAT GAPS BETWEEN BEARING ELEMENTS DO NOT EXCEED 1/16-INCH	N	PERFORM	
BEAM, GIRDER AND COLUMN MEMBERS	INSPECT FOR CONFORMANCE WITH REQUIRED SIZE, SPACING AND CONNECTION REQUIREMENTS	Y	PERFORM	
ROOF AND FLOOR DECK/SLAB EDGE SUPPORTS	INSPECT SUPPORT MATERIALS FOR PROPER SIZE, POSITIONING AND CONNECTIONS	Y	PERFORM	
BRACED FRAMES AND MOMENT FRAMES	INSPECT INSTALLATION OF ALL MEMBERS AND CONNECTIONS IN BRACED FRAMES AND MOMENT FRAMES FOR PROPER SIZE, POSITIONING AND CONNECTIONS	Y	PERFORM	
COMPOSITE STEEL FRAMING	INSPECT COMPOSITE STEEL FRAMING PRIOR TO PLACEMENT OF CONCRETE AS FOLLOWS:			
	VERIFY PROPER PLACEMENT AND INSTALLATION OF STEEL DECK	N	PERFORM	AISC 360 TABLE N6.1
	INSPECT DIAMETER, LENGTH, QUANTITY AND POSITIONING OF STEEL HEADED STUD ANCHORS	N	PERFORM	AISC 360 TABLE N6.1
	RING TEST 100% OF HEADED STUD ANCHORS WITH A 3 LB HAMMER	N	PERFORM	
	BEND TEST QUESTIONABLE HEADED STUD ANCHORS TO 15 DEGREES	N	PERFORM	
	DOCUMENT ACCEPTANCE OR REJECTION OF COMPOSITE STEEL FRAMING ELEMENTS	N	PERFORM	
STEEL GRATING	INSPECT STEEL GRATING AS FOLLOWS:			
	VERIFY PROPER SIZE, TYPE AND FINISH	N	PERFORM	
	VERIFY PROPER ATTACHMENTS TO SUPPORTING STRUCTURE(S)	N	PERFORM	

NOTES:

1. SEE CONTRACT DOCUMENTS FOR WELDING REQUIREMENTS. SEE AISC 360 FOR ADDITIONAL INFORMATION.
2. SEE AISC 360 FOR SPECIFIC REQUIRED ELEMENTS OF WELD PROCEDURE SPECIFICATION.
3. SEE AISC 360 FOR SPECIFIC REQUIRED VISUAL ACCEPTANCE CRITERIA.
4. "OBSERVE" REQUIRES OBSERVATION ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
5. "PERFORM" REQUIRES TASKS TO BE PERFORMED FOR EACH OPERATION, JOINT OR MEMBER AS APPLICABLE.

SPECIAL INSPECTION SERVICES SCHEDULE - OPEN WEB STEEL JOISTS/ JOIST GIRDERS

REFER TO IBC 2015 CHAPTER 17

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
END CONNECTIONS - WELDED OR BOLTED	VERIFY CONNECTIONS ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS	Y	PERIODIC	IBC TABLE 1705.2.3
HORIZONTAL AND DIAGONAL BRIDGING	VERIFY BRIDGING IS INSTALLED IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS	Y	PERIODIC	IBC TABLE 1705.2.3

SPECIAL INSPECTION SERVICES SCHEDULE - COLD-FORMED STEEL DECK

REFER TO IBC 2012, CHAPTER 17

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
PRIOR TO DECK PLACEMENT:				
MATERIAL COMPLIANCE	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES AND BASE METAL THICKNESS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
MATERIAL ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	Y	PERIODIC	
AFTER DECK PLACEMENT:				
STEEL DECK INSTALLATION	VERIFY PROPER INSTALLATION OF STEEL DECK AND ACCESSORIES	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
MATERIAL MILL CERTIFICATIONS	VERIFY DECK MATERIALS ARE REPRESENTED BY APPROPRIATE MILL CERTIFICATIONS	Y	PERIODIC	
INSTALLATION ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES INSTALLATION	Y	PERIODIC	
PRIOR TO WELDING:				
WELDING PROCEDURE SPECIFICATION(S)	VERIFY WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING CONSUMABLES MANUFACTURER CERTIFICATIONS	VERIFY MANUFACTURER'S CERTIFICATIONS ARE AVAILABLE FOR WELDING CONSUMABLES	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING MATERIAL TYPE/GRADE	VERIFY WELDING MATERIAL TYPE/GRADE	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING EQUIPMENT	VERIFY WELDING EQUIPMENT IN GOOD WORKING ORDER	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
DURING WELDING:				
QUALIFIED WELDERS	VERIFY USE OF QUALIFIED WELDERS	Y	PERIODIC	AWS D1.3
WELDING CONSUMABLES	VERIFY PROPER CONTROL AND HANDLING OF WELDING CONSUMABLES	Y	PERIODIC	AWS D1.3
ENVIRONMENTAL CONDITIONS	DOCUMENT ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE) ARE ACCEPTABLE	Y	PERIODIC	AWS D1.3
WPS FOLLOWED	VERIFY PROPER WPS IS FOLLOWED DURING WELDING	Y	PERIODIC	AWS D1.3
AFTER WELDING:				
FIELD WELDING	INSPECT FIELD WELDS FOR PROPER SIZE, LOCATION, PATTERN, AND SPACING FOR ALL WELDS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
VISUAL ACCEPTANCE	VERIFY WELDS MEET VISUAL ACCEPTANCE CRITERIA	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
REPAIR ACTIVITIES	VERIFY DEFICIENT WELDS ARE PROPERLY REPAIRED	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELD ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
PRIOR TO MECHANICAL FASTENING:				
MANUFACTURER INSTRUCTIONS	VERIFY MANUFACTURER INSTALLATION INSTRUCTIONS ARE AVAILABLE FOR MECHANICAL FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
PROPER TOOLS	VERIFY PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
FASTENER STORAGE	VERIFY PROPER STORAGE FOR MECHANICAL FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
DURING MECHANICAL FASTENING:				
POSITIONING	VERIFY FASTENERS ARE POSITIONED AS REQUIRED (INCLUDING PROPER PATTERN, SPACING, ETC.)	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
INSTALLATION	VERIFY FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
AFTER MECHANICAL FASTENING:				
SUPPORT FASTENERS	VERIFY PROPER PATTERN, SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
PERIMETER FASTENERS	VERIFY PROPER PATTERN, SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
SIDELAP FASTENERS	VERIFY PROPER SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
REPAIR ACTIVITIES	VERIFY DEFICIENT FASTENERS ARE PROPERLY REPAIRED	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
FASTENER ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)

NOTES:

1. "PERIODIC" REQUIRES OBSERVATION ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
2. "CONTINUOUS" REQUIRES TASKS TO BE CONTINUOUSLY PERFORMED FOR EACH OPERATION, CONNECTION OR MEMBER AS APPLICABLE.
3. INSPECT FOR CONFORMANCE WITH CONSTRUCTION DOCUMENTS, INSTALLATION DRAWINGS, SHOP DRAWINGS, DESIGN DOCUMENTS, MANUFACTURER'S INSTRUCTIONS, AND APPLICABLE REFERENCED STANDARDS.

SPECIAL INSPECTIONS BASIC SERVICES - CONCRETE CONSTRUCTION

REFER TO IBC 2012 CHAPTER 17 TABLE 1705.3 AND ACI 318-11

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
REINFORCEMENT	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS (WHERE APPLICABLE) AND VERIFY CORRECT PLACEMENT	Y	PERIODIC	ACI 318 SECTIONS 3.5 AND 7.1 THROUGH 7.7; IBC 1910.4
REINFORCING BAR WELDING	VERIFY WELDABILITY OF BARS OTHER THAN ASTM A706	N	PERIODIC	AWS D1.4, ACI 318 SECTION 3.5.2
ANCHORS AND EMBEDDED ITEMS CAST IN CONCRETE	INSPECT ALL ANCHORS AND EMBEDDED ITEMS FOR PROPER SIZE, TYPE, QUANTITY, LOCATION, POSITION, PROJECTION AND EMBEDMENT	Y	PERIODIC	ACI 318 SECTIONS 3.8.6, 8.1.3, 21.2.8; IBC 1908.5, 1909.1
ANCHORS POST-INSTALLED IN HARDENED CONCRETE	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	Y	PERIODIC	ACI 318 SECTIONS 3.8.6, 8.1.3, 21.2.8; IBC \1909.1
CONCRETE MIX	VERIFY USE OF REQUIRED CONCRETE MIX AT EACH APPLICATION	Y	PERIODIC	ACI 318 CHAPTER 4, SECTIONS 5.2 THROUGH 5.4; IBC 1904.2, 1910.2, 1910.3
CONCRETE TESTING	VERIFY THAT CONCRETE SAMPLING AND TESTING IS PERFORMED IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS	Y	CONTINUOUS	ASTM C172, ASTM C31, ACI 318 5.6, 5.8; IBC 1910.10
CONCRETE PLACEMENT	INSPECT FOR PROPER PLACEMENT TECHNIQUES	Y	CONTINUOUS	ACI 318 SECTIONS 5.9, 5.10; IBC 1910.6, 1910.7, 1910.8
SHOTCRETE PLACEMENT	INSPECT FOR PROPER APPLICATION TECHNIQUES	N	CONTINUOUS	ACI 318 SECTIONS 5.9, 5.10; IBC 1910.6, 1910.7, 1910.8
CONCRETE CURING	VERIFY MAINTENANCE OF PROPER CONCRETE TEMPERATURE AND CURING TECHNIQUES	Y	PERIODIC	ACI 318 SECTIONS 5.11 THROUGH 5.13; IBC 1910.9
PRESTRESSED CONCRETE	INSPECT FOR PROPER APPLICATION OF PRESTRESSING FORCES	N	CONTINUOUS	ACI 318 SECTION 18.20
PRESTRESSED CONCRETE	INSPECT FOR PROPER GROUTING OF BONDED PRESTRESSING TENDONS	N	CONTINUOUS	ACI 318 SECTION 18.18.4
ERECTION OF PRECAST CONCRETE MEMBERS	VERIFY WELDING PROCEDURE SPECIFICATIONS ARE FOLLOWED	N	PERIODIC	ACI CHAPTER 16
ERECTION OF PRECAST CONCRETE MEMBERS	INSPECT ALL CONNECTIONS OF THE PRECAST ELEMENTS TO THE FOUNDATIONS FOR CONFORMANCE TO THE CONTRACT DOCUMENTS	N	PERIODIC	ACI CHAPTER 16
ERECTION OF PRECAST CONCRETE MEMBERS	INSPECT ALL CONNECTIONS OF THE PRECAST ELEMENTS TO THE STRUCTURAL FRAMING FOR CONFORMANCE TO THE CONTRACT DOCUMENTS	N	PERIODIC	ACI CHAPTER 16
IN-SITU CONCRETE STRENGTH - PRE-STRESSING	VERIFY IN-PLACE CONCRETE STRENGTH PRIOR TO STRESSING TENDONS IN POST-TENSIONED CONCRETE	Y	PERIODIC	ACI 318 SECTION 6.2
IN-SITU CONCRETE STRENGTH - FORMS AND SHORES	VERIFY IN-PLACE CONCRETE STRENGTH PRIOR TO REMOVAL OF FORMS AND SHORES FROM BEAMS AND STRUCTURAL SLABS	Y	PERIODIC	ACI 318 SECTION 6.2
FORMWORK	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	Y	PERIODIC	ACI 318 SECTION 6.1.1
WATER STOPS	VERIFY ALL WATER STOPS ARE PROPERLY INSTALLED AND ANCHORED INTO POSITION PRIOR TO PLACEMENT OF CONCRETE	Y	PERIODIC	

SPECIAL INSPECTIONS BASIC SERVICES - SOILS AND EARTHWORK

REFER TO IBC 2012 CHAPTER 17 TABLE 1705.6

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
BEARING SOILS FOR SHALLOW FOUNDATIONS	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	Y	PERIODIC	
EXCAVATIONS	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	Y	PERIODIC	
FILL MATERIALS	VERIFY CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS IS PERFORMED	Y	PERIODIC	
FILL MATERIAL PLACEMENT	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	Y	CONTINUOUS	
SUBGRADE PREPARATION	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	Y	PERIODIC	
BACKFILL AT BELOW-GRADE WALLS	VERIFY THAT BELOW-GRADE WALLS WITH UNEVEN BACKFILL CONDITIONS ARE NOT BACKFILLED UNTIL FLOOR CONSTRUCTION AT TOPS OF WALLS (OR OTHER PERMANENT BRACING WHERE APPLICABLE) IS COMPLETE OR TEMPORARY BRACING IS PROVIDED	Y	PERIODIC	

SPECIAL INSPECTION SERVICES SCHEDULE - MASONRY CONSTRUCTION LEVEL B INSPECTION

REFER TO IBC 2012 CHAPTER 17 AND ACI 530.1-11 TABLE 4

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE (ACI 530-11)	REFERENCE (ACI 530.1-11)
GENERAL COMPLIANCE	VERIFY MASONRY UNITS AND MATERIALS COMPLY WITH APPROVED SUBMITTALS	Y	PERIODIC		ARTICLE 1.5
TESTING OF SELF-CONSOLIDATING GROUT	VERIFY THAT SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) TESTS ARE PROVIDED FOR SELF-CONSOLIDATING GROUT	Y	PERIODIC		ARTICLE 1.5B.1.b.3
TESTING OF GROUT COMPRESSIVE STRENGTH	WHEN REQUIRED f'm EXCEEDS 2,000 PSI, VERIFY A PRISM STRENGTH TEST OF GROUT IS PERFORMED FOR EACH 5,000 SFT OR LESS OF WALL AREA	N	PERIODIC		ARTICLE 1.4B
AT START OF MASONRY CONSTRUCTION:					
SITE-PREPARED MORTAR	VERIFY PROPORTIONS OF SITE-PREPARED MORTAR ARE IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	Y	PERIODIC		ARTICLES 2.1, 2.6A
MORTAR JOINTS	VERIFY PROPER MORTAR JOINT CONSTRUCTION	Y	PERIODIC		ARTICLE 3.3B
REINFORCEMENT AND CONNECTORS	VERIFY LOCATION OF REINFORCEMENT AND CONNECTORS	Y	PERIODIC		ARTICLE 3.4
PRESTRESSING TENDONS	VERIFY GRADE, TYPE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLE 2.4
PRESTRESSING TENDONS	VERIFY LOCATION OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLES 3.4, 3.6A
PRESTRESSING TECHNIQUE	VERIFY PRESTRESSING TECHNIQUE AND MONITORING IS IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	N	PERIODIC		ARTICLE 3.6B
PRIOR TO GROUTING:					
GROUT SPACE	VERIFY GROUT SPACES ARE PREPARED AND CLEARED PRIOR TO GROUT PLACEMENT	Y	PERIODIC		ARTICLE 3.2D, 3.2F
REINFORCEMENT AND ANCHOR MATERIALS	VERIFY PROPER GRADE, SIZE, AND TYPE OF REINFORCEMENT, ANCHOR BOLTS AND EMBEDDED ITEMS	Y	PERIODIC	SECTION 1.16	ARTICLE 2.4, 3.4
REINFORCEMENT AND ANCHOR PLACEMENT	VERIFY LOCATION, SIZE, QUANTITY, TYPE AND SUPPORT FOR ALL REINFORCEMENT, ANCHOR BOLTS AND EMBEDDED ITEMS	Y	PERIODIC	SECTION 1.16	ARTICLES 3.2E, 3.4
SITE-PREPARED GROUT	VERIFY PROPORTIONS OF SITE-PREPARED GROUT	Y	PERIODIC		ARTICLE 2.6B
MORTAR JOINTS	VERIFY PROPER MORTAR JOINT CONSTRUCTION WITHOUT OBSTRUCTIONS THAT WOULD DETRIMENTALLY AFFECT GROUT PLACEMENT	Y	PERIODIC		ARTICLE 3.3B
PRESTRESSING TENDONS	VERIFY GRADE, TYPE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLE 2.4
PRESTRESSING TENDONS	VERIFY LOCATION OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLES 3.4, 3.6A
GROUT FOR BONDED TENDONS	VERIFY PROPORTIONS OF PRE-STRESSING GROUT FOR BONDED TENDONS	N	PERIODIC		ARTICLE 2.4 G.1.b
DURING CONSTRUCTION:					
STRUCTURAL ELEMENTS	VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS	Y	PERIODIC		ARTICLE 3.3F
ANCHORAGES	VERIFY TYPE, SIZE AND LOCATION OF ANCHORS INCLUDING DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES AND OTHER CONSTRUCTION	Y	PERIODIC	SECTIONS 1.16.4.3, 1.17.1	
WELDING OF REINFORCEMENT	WHERE SPECIFICALLY PERMITTED, VERIFY WELDING OF REINFORCEMENT CONFORMS TO INDICATED STANDARDS	N	CONTINUOUS	SECTIONS 2.1.7.7.2, 3.3.3.4 (c), 8.3.3.4 (b)	
COLD WEATHER / HOT WEATHER	VERIFY PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40F) AND HOT WEATHER (TEMPERATURE ABOVE 90F)	Y	PERIODIC		ARTICLES 1.8C, 1.8D
PLACEMENT OF GROUT	VERIFY PROPER PLACEMENT AND CONSOLIDATION OF GROUT	Y	CONTINUOUS		ARTICLE 3.5
TEST SPECIMENS	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	Y	PERIODIC		ARTICLES 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4
PRESTRESSING FORCE APPLICATION	VERIFY APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE IS IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	N	CONTINUOUS		ARTICLE 3.6B
PRESTRESSING GROUT PLACEMENT	VERIFY PLACEMENT OF GROUT FOR BONDED PRESTRESSING TENDONS CONFORMS TO INDICATED REQUIREMENTS	N	CONTINUOUS		ARTICLE 3.6C
AUTOCLAVED AERATED CONCRETE (AAC) MASONRY:					
COMPRESSIVE STRENGTH TEST	VERIFY AAC FAAC PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SFT OF WALL	N	PERIODIC		ARTICLE 1.4B
AAC THIN-BED MORTAR	VERIFY PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	N	NOTE 2		ARTICLE 2.1C
AAC PLACEMENT	VERIFY PROPER PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	N	NOTE 2		ARTICLE 3.3B.8

NOTES:

1. INSPECTION REQUIREMENTS PER THIS TABLE APPLY TO ENGINEERED MASONRY IN RISK CATEGORIES I, II AND III, UNO.
2. FOR AAC MASONRY, INSPECT CONTINUOUS FOR FIRST 5,000 SFT OF AREA, PERIODIC FOR REMAINDER.

SPECIAL INSPECTION

THE OWNER OR OWNER'S AGENT SHALL EMPLOY INDEPENDENT AGENCY(IES) OR INDIVIDUAL(S) TO PROVIDE SPECIAL INSPECTION FOR ITEMS AS INDICATED ON THE DRAWINGS.

SPECIAL INSPECTION IS A MANDATORY REQUIREMENT FOR VERIFYING CONFORMANCE OF THE INDICATED CONSTRUCTION. SPECIAL INSPECTION IS REQUIRED IN ADDITION TO ALL MATERIAL TESTS AND INSPECTIONS IDENTIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON, WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER, FOR INSPECTION OF EACH PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

"PERIODIC" SPECIAL INSPECTION IS DEFINED AS "THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK."

"CONTINUOUS" SPECIAL INSPECTION IS DEFINED AS "THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED."

SUBMIT TO THE STRUCTURAL ENGINEER FOR REVIEW A MINIMUM OF 14 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OF ELEMENTS REQUIRING SPECIAL INSPECTION THE FOLLOWING:

1. NAME(S), ADDRESS(ES), TELEPHONE NUMBER(S), EMAIL ADDRESS(ES), AND STATEMENT(S) OF QUALIFICATIONS OF ALL SPECIAL INSPECTOR(S) TO BE ENGAGED ON THE PROJECT.
2. A LISTING OF ALL ITEMS TO RECEIVE SPECIAL INSPECTION, DESIGNATION WHETHER INSPECTIONS WILL BE CONTINUOUS OR PERIODIC AND THE NAME OF THE INDIVIDUAL THAT WILL BE PERFORMING INSPECTION FOR EACH ITEM.

THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR SU

LIGHTING CONTACTORS SCHEDULE

LABEL	EQUIPMENT RATINGS					COIL CIRCUIT			CONTROL	CIRCUIT(S) CONTROLLED	REMARKS
	VOLTAGE	AMPERAGE	POLES	NEMA ENCL	ACCESSORIES	VOLTAGE	PANEL	CIRCUIT			
LC-1	600 V	30 A	2	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	120 V	1LN25	2	TEMPERATURE CONTROL SYSTEM	1LN25-51	
LC-2	600 V	30 A	4	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	120 V	2LN14	1	TEMPERATURE CONTROL SYSTEM	2HN7-17 2HN7-19,21	

ENCLOSED SWITCHES & CIRCUIT BREAKERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS						ACCESSORIES		REMARKS
		VOLTAGE	POLES	AMPERAGE	FUSED	FUSE SIZE	NEMA ENCL	AUX. CONTACTS	SOLID NEUTRAL	
DISC-CU-O1	CU-O1	240 V	2	30 A	Yes	30A	3R	(1) N.O. / N.C.	Yes	
DISC-CU-O2	CU-O2	240 V	2	30 A	Yes	30A	3R	(1) N.O. / N.C.	Yes	
DISC-E12	DISHWASHER - E12	600 V	3	30 A	No	N/A	4X	(1) N.O. / N.C.	Yes	
DISC-SIGN	EXTERIOR SIGN	120	1	30 A	Yes	20A	3R	(1) N.O. / N.C.	Yes	

ENCLOSED & VARIABLE-FREQUENCY MOTOR CONTROLLERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS					STARTER		DISCONNECT SWITCH		REMOTE CAPACITOR	REMARKS
		VOLTAGE	PHASE	HP	FLA	NEMA ENCL	TYPE	NEMA SIZE	TYPE	FUSE SIZE		
MS-AHU-K2-SF1	AHU-K2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-K2-SF2	AHU-K2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-L2	AHU-L2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-L3	AHU-L3	480 V	3	1	2.1 A	1	FVNR	1	FUSIBLE	4	-	
MS-EF-K1	EF-K1	120 V	1	3/4	13.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L1	EF-L1	120 V	1	1/4	5.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L2	EF-L2	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L3	EF-L3	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-O1	EF-O1	120 V	1	1/6	4.4 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-O2	EF-O2	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-P-K1	P-K1	120 V	1	3/4	13.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-P-L1	P-L1	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
VFD-AHU-E1-RF	AHU-E1	480 V	3	15	21.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-E1-SF1	AHU-E1	480 V	3	20	27.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-E1-SF2	AHU-E1	480 V	3	20	27.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-F2	AHU-F2	480 V	3	40	52.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-1	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-2	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-3	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-4	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-1	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-2	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-3	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-4	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-K1	AHU-K1	480 V	3	5	7.6 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-L1	AHU-L1	480 V	3	3	4.8 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.

GENERAL LIGHT FIXTURE SCHEDULE NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE VIBRATION DAMPERS FOR ALL ALUMINUM AND STEEL POLES 10'-0" AND ABOVE.

C PROVIDE SELF-DIAGNOSTICS AND SELF-TESTING FOR ALL LIFE SAFETY FIXTURES (EXIT FIXTURES, WALL PACKS, INVERTERS BALLASTS, ETC.)

D PROVIDE 0-10V ELECTRONIC DIMMING DRIVER DOWN TO 10% UNLESS OTHERWISE NOTED.

E PROVIDE A MINIMUM OF ONE CLIP PER SIDE UP TO 4' AND CABLE SUPPORTS FOR EACH LIGHT FIXTURE.

F REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE.

G SUBMIT LIGHTING PER APPROPRIATE SPECIFICATION SECTION.

INTERIOR/EXTERIOR/EMERGENCY & EXIT LIGHT FIXTURES SCHEDULE

LABEL	DESCRIPTION	VOLTAGE	SOURCE				MOUNTING	LENS/REFLECTOR	CERTIFICATIONS	ACCEPTABLE MANUFACTURERS	LABEL
			TYPE	LUMENS	WATTS	CCT					
A	2X4 LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	5,000 LM	40 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA CFP24 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	A
A-E	2X4 LED FLAT PANEL. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	5,000 LM	40 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA CFP24 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	A-E
B	2X2 LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	2,500 LM	20 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA CFP22 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	B
B-E	2X2 LED FLAT PANEL. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	2,500 LM	20 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA CFP22 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	B-E
C	4' VANDAL RESISTANT LED STAIRWELL FIXTURE. INTEGRAL OCCUPANCY SENSOR. INTEGRAL BATTERY INVERTER.	120/277 V	LED	4,000 LM	36 W	4000 K, 80 CRI	SURFACE/WALL	OPAL POLYCARBONATE	DLC	COLUMBIA ESL LITHONIA BLWP METALUX SNX DAY-BRITE FLUXSTREAM FSS	C
D	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING.	120/277 V	LED	2,000 LM	22 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	D
D-E	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	2,000 LM	22 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	D-E
E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	5,400 LM	45 W	4000 K, 80 CRI	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED LENS	N/A	METALUX SNLED COLUMBIA MPS LITHONIA ZL1D DAY-BRITE FLUXSTREAM FSS	E
E-X	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH. INTEGRAL BATTERY INVERTER.	120/277 V	LED	5,400 LM	45 W	4000 K, 80 CRI	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED LENS	N/A	METALUX SNLED COLUMBIA MPS LITHONIA ZL1D DAY-BRITE FLUXSTREAM FSS	E-X
EM1	LED EMERGENCY WALL LIGHT. DIE-CAST ALUMINUM HOUSING. NORMALLY OFF WITH INTEGRAL BATTERY. PROVIDE BATTERY HEATER FOR -22 DEGREE F OPERATION. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	635 LM	11 W	4000 K, 80 CRI	WALL MOUNTED	WIDE THROW	DLC	LITHONIA AFF DUALLITE PG EVENLITE WEATHERLITE EXITRONIX NFT	EM1
F	LED WALL LIGHT. DIE-CAST ALUMINUM HOUSING. HINGED DOOR FRAME. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	5,300 LM	59 W	4000 K, 80 CRI	WALL MOUNTED	TYPE III DISTRIBUTION	N/A	RAB WFLED LUMECON BLS-UTWP RAYON SWPK LITHONIA WPR2 ENVOY EWPT-LKFS	F
G	4"X4' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	3,000 LM	32 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	G
H	4"X6' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	4,500 LM	46 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	H
I	4"X8' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	6,000 LM	62 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	I
I-E	4"X8' EXTRUDED ALUMINUM LED. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	6,000 LM	62 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	I-E
J	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. 0-10V DIMMING.	120/277 V	LED	3,000 LM	30 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE WILLIAMS 6DS	J
J-E	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	3,000 LM	30 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE WILLIAMS 6DS	J-E
K	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING.	120/277 V	LED	1,000 LM	11 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	K
SL1	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	20,300 LM	167 W	4000 K, 80 CRI	20' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE II DISTRIBUTION	N/A	McGRAW-EDISON GLEON LED BEACON VPS LITHONIA DSX1 LED GARDCO OPF-M	SL1
SL2	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	20,500 LM	167 W	4000 K, 80 CRI	20' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	McGRAW-EDISON GLEON LED BEACON VPS LITHONIA DSX1 LED GARDCO OPF-M	SL2
SL3	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. POST TOP MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	12,600 LM	123 W	4000 K, 80 CRI	15' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	INVUE ARBOR POST TOP KIM OURO LUMINAIRE LUSSO LARGE VERSALED PT6-Q	SL3
SLFP	FLAG POLE LED LIGHT, WET-LOCATION RATED. LENSED, DIE-CAST ALUMINUM HOUSING. ROTATIONAL YOKE. TENON ADAPTER. 6 INCH TALL TENON POLE BRACKET.	120/277 V	LED	2,700 LM	28 W	4000 K, 80 CRI	VERTICAL SURFACE	NARROW SPOT 10 DEGREE THROW	N/A	LUMENBEAM MEDIUM LBM MODEL 1057 COMMERCIAL GARDCO CSFS INSIGHT LIGHTING PROSPOT 9 KIM KFL1	SLFP
X1	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF-POWERED. NICKEL-CADMIUM BATTERY. SELF-DIAGNOSTIC/SELF-TESTING MODULE.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE EXITRONIX 400EX	X1
X2	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF-POWERED. NICKEL-CADMIUM BATTERY. SELF-DIAGNOSTIC/SELF-TESTING MODULE.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE EXITRONIX 400EX	X2

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

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DAVID L. JONES III
REGISTERED
NO.
PE12100175
STATE OF
INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL EQUIPMENT SCHEDULES

E-601

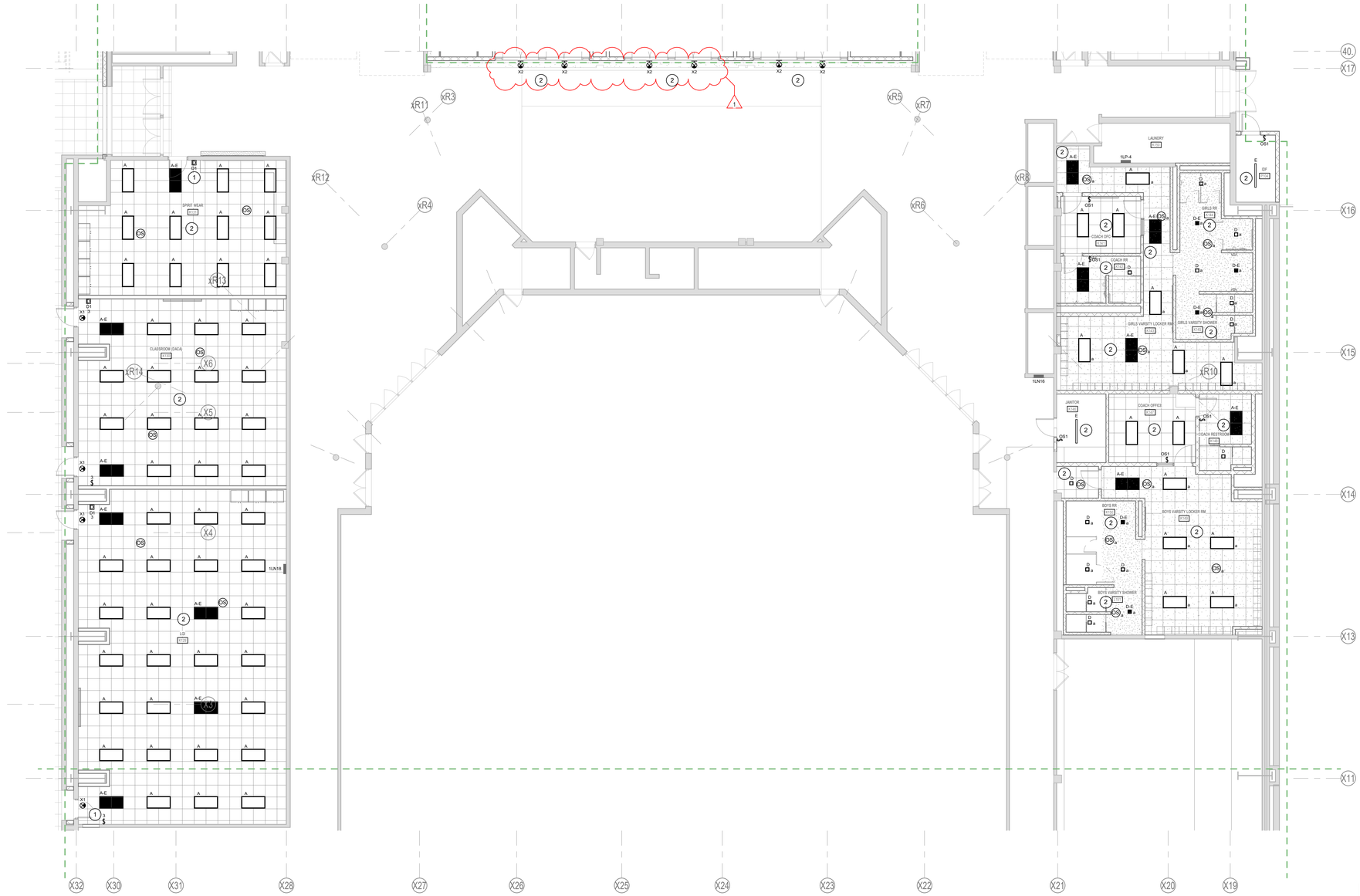
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GENERAL LIGHTING NOTES

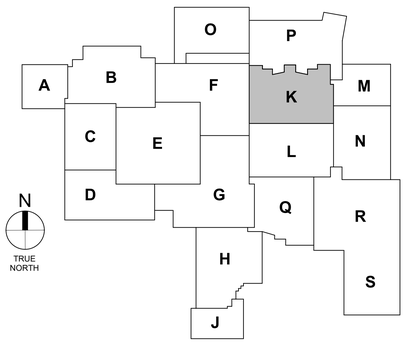
A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.
B COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT AND INTERIOR DESIGNER.
C PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT.
D NOT ALL PLAN NOTES ARE USED ON THIS SHEET.

◯ LIGHTING PLAN NOTES

1 PROVIDE NEW LIGHT SWITCH IN EXISTING BOX.
2 CONNECT LIGHT FIXTURES TO LIGHTING CIRCUIT THAT WAS MAINTAINED DURING DEMOLITION.
3 MOUNT STAIRWELL LIGHT FIXTURE +8'-0" ABOVE APPLICABLE, FLOOR, LANDING, OR STAIR TREAD.
4 PROVIDE NEW LIGHT SWITCH IN NEW BOX AT THIS NEW LOCATION.
5 PROVIDE (2) 3/4" CONDUITS WITH PULLSTRINGS FROM DISPLAY CASE LIGHTING CAVITY TO ABOVE LOBBY CEILING FOR FUTURE POWER AND CONTROL WIRING.
6 CONNECT NEW LIGHT SWITCH TO EXISTING LIGHTING IN THIS SPACE.



1 **ELECTRICAL LIGHTING FIRST FLOOR PLAN - UNIT K**
1/8" = 1'-0"



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DAVID L. JONES, III
REGISTERED
NO. PE12100175
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	AMN

ELECTRICAL LIGHTING FIRST FLOOR PLAN - UNIT K

EL101

PLOT DATE/TIME: 7/29/2026 2:57:48 PM

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.

C COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT AND INTERIOR DESIGNER.

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E NOT ALL PLAN NOTES ARE USED ON THIS SHEET.

POWER PLAN NOTES

1 PROVIDE NEW RECEPTACLE IN EXISTING BOX.

2 PROVIDE DUAL CHANNEL RACEWAY FOR RECEPTACLES SHOWN. REFER TO TECHNOLOGY DRAWINGS FOR REQUIRED DATA LOCATIONS.

3 CONNECT DOOR POWER SUPPLY TO CIRCUIT INDICATED.

4 CONNECT AUTO DOOR OPERATOR POWER SUPPLY TO CIRCUIT INDICATED AND PROVIDE WIRING AND PUSHBUTTONS FOR OPERATION AS INDICATED.

5 CONNECT RECEPTACLE TO CIRCUIT MAINTAINED DURING DEMOLITION.

6 PROVIDE GROUNDING BUSBAR, CABLES, AND CONNECTIONS PER TECHNOLOGY DRAWINGS. CONNECT GROUNDING BUSBAR TO NEAREST PANELBOARD.

7 PROVIDE RECEPTACLE IN SHARED DATA BOX FOR GAME CLOCK. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.

8 PROVIDE (2) 1-1/4" CONDUITS PIPED TO ABOVE CEILING FOR DATA AND A/V CABLING.

9 PROVIDE (2) SINGLE GANG BOXES WITH 3/4" CONDUIT STUBBED ABOVE WALL FOR FUTURE RACK RECEPTACLES.

10 REFER TO TECHNOLOGY PLANS FOR REQUIRED VIDEO BOARD POWER LOCATION. PROVIDE RECEPTACLE IN FSR BOX AND CONNECT TO CIRCUIT INDICATED.

11 REFER TO TECHNOLOGY PLANS FOR REQUIRED HARDWIRED CONNECTION TO FSR BOX.

12 CONNECT EXHAUST FAN TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

13 MOUNT EXHAUST FAN MOTOR STARTER ADJACENT TO THE EXHAUST FAN.

14 PROVIDE NEW RECEPTACLE IN SURFACE RACEWAY.

15 EXTEND EXISTING CIRCUIT FOR AHU-K1 FROM PANEL 1HN8 TO VFD LOCATION.

16 CONNECT BOTH AHU-K2 MOTOR STARTERS TO EXISTING CIRCUIT FOR AHU-K2 FROM PANEL 1HN8. MOUNT MOTOR STARTERS ON WALL ABOVE CEILING.

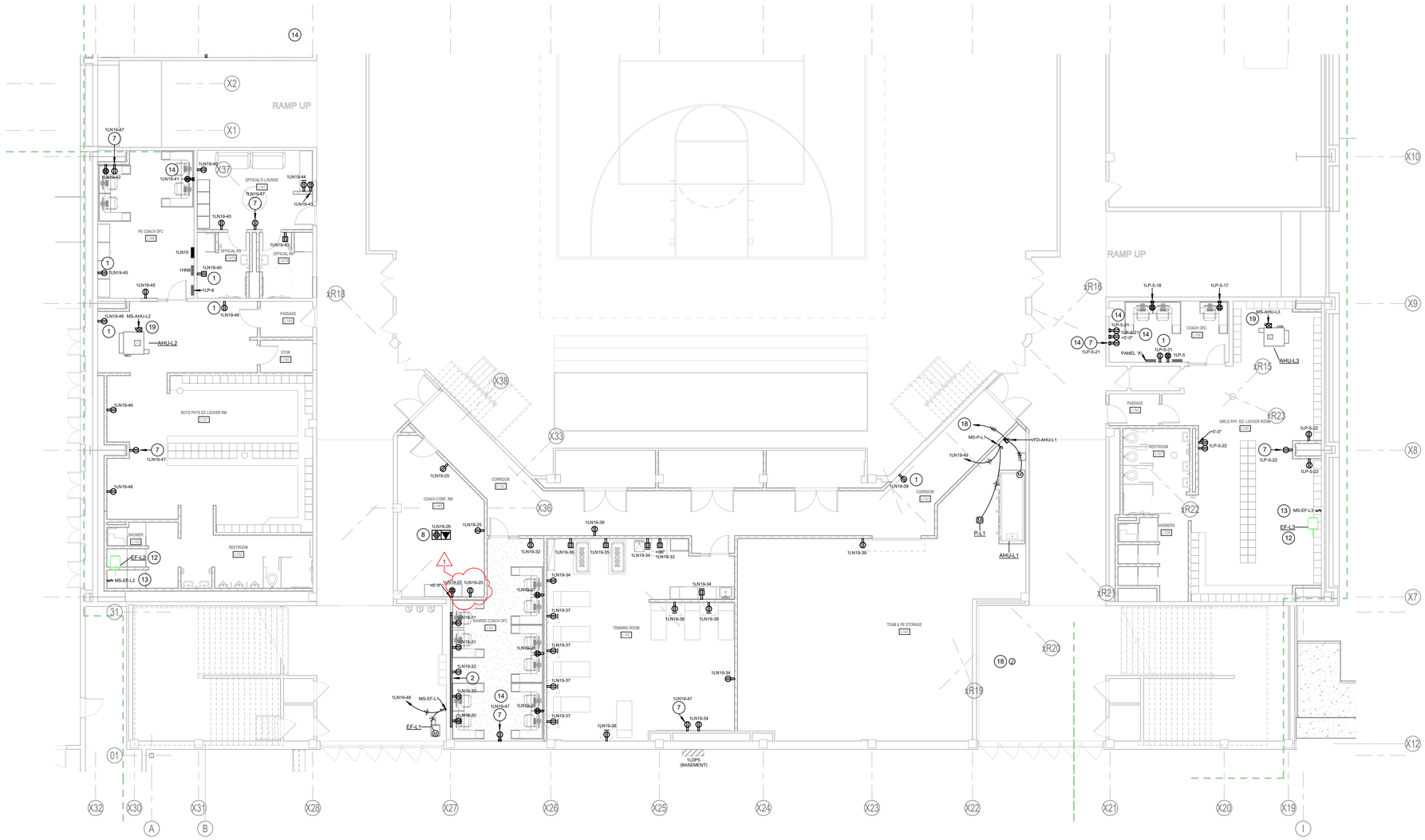
17 MOUNT PUMP STARTER ABOVE CEILING ON OR NEAR PUMP.

18 EXTEND EXISTING CIRCUIT FOR AHU-L1 FROM PANEL 1HN8 TO VFD LOCATION.

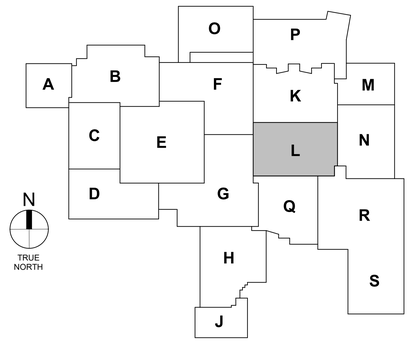
19 CONNECT AHU TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

20 CONNECT HOOD ANSUL SYSTEM TO CONVECTION OVEN SHUNT TRIP BREAKERS IN PANEL 1HN13.

21 INDOOR SPLIT SYSTEM UNIT IS POWERED BY THE ASSOCIATED CONDENSING UNIT (CU) ON THE ROOF. PROVIDE ALL NECESSARY WIRING AND CONNECTIONS TO THE INDOOR UNIT.



1 **ELECTRICAL POWER FIRST FLOOR PLAN - UNIT L**
1/8" = 1'-0"



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DAVID L. JONES III
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PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	AMN

ELECTRICAL POWER FIRST FLOOR PLAN - UNIT L

EP102

PLOT DATE/TIME: 7/30/2026 3:57:50 PM

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.

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◯ POWER PLAN NOTES

1 PROVIDE NEW RECEPTACLE IN EXISTING BOX.

2 PROVIDE DUAL CHANNEL RACEWAY FOR RECEPTACLES SHOWN. REFER TO TECHNOLOGY DRAWINGS FOR REQUIRED DATA LOCATIONS.

3 CONNECT DOOR POWER SUPPLY TO CIRCUIT INDICATED.

4 CONNECT AUTO DOOR OPERATOR POWER SUPPLY TO CIRCUIT INDICATED AND PROVIDE WIRING AND PUSHBUTTONS FOR OPERATION AS INDICATED.

5 CONNECT RECEPTACLE TO CIRCUIT MAINTAINED DURING DEMOLITION.

6 PROVIDE GROUNDING BUSBAR, CABLES, AND CONNECTIONS PER TECHNOLOGY DRAWINGS. CONNECT GROUNDING BUSBAR TO NEAREST PANELBOARD.

7 PROVIDE RECEPTACLE IN SHARED DATA BOX FOR GAME CLOCK. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.

8 PROVIDE (2) 1-1/4" CONDUITS PIPED TO ABOVE CEILING FOR DATA AND A/V CABLING.

9 PROVIDE (2) SINGLE GANG BOXES WITH 3/4" CONDUIT STUBBED ABOVE WALL FOR FUTURE RACK RECEPTACLES.

10 REFER TO TECHNOLOGY PLANS FOR REQUIRED VIDEO BOARD POWER LOCATION. PROVIDE RECEPTACLE IN FSR BOX AND CONNECT TO CIRCUIT INDICATED.

11 REFER TO TECHNOLOGY PLANS FOR REQUIRED HARDWIRED CONNECTION TO FSR BOX.

12 CONNECT EXHAUST FAN TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

13 MOUNT EXHAUST FAN MOTOR STARTER ADJACENT TO THE EXHAUST FAN.

14 PROVIDE NEW RECEPTACLE IN SURFACE RACEWAY.

15 EXTEND EXISTING CIRCUIT FOR AHUK-1 FROM PANEL 1HN8 TO VFD LOCATION.

16 CONNECT BOTH AHU-K2 MOTOR STARTERS TO EXISTING CIRCUIT FOR AHU-K2 FROM PANEL 1HN8. MOUNT MOTOR STARTERS ON WALL ABOVE CEILING.

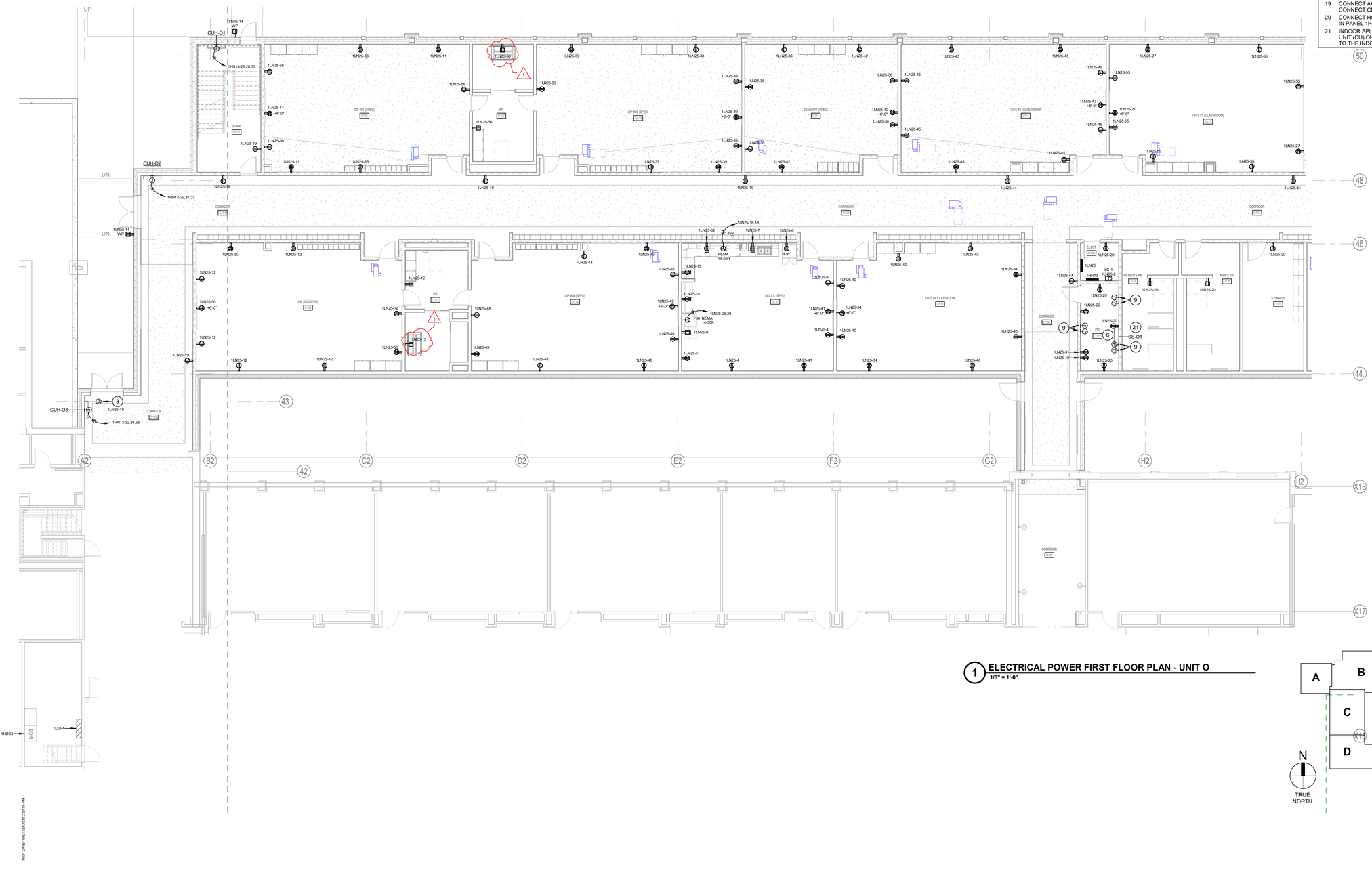
17 MOUNT PUMP STARTER ABOVE CEILING ON OR NEAR PUMP.

18 EXTEND EXISTING CIRCUIT FOR AHUL-1 FROM PANEL 1HN8 TO VFD LOCATION.

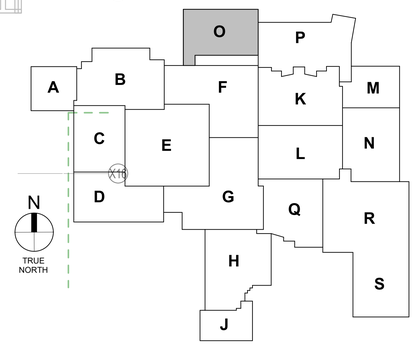
19 CONNECT AHU TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

20 CONNECT HOOD ANSUL SYSTEM TO CONVECTION OVEN SHUNT TRIP BREAKERS IN PANEL 1HN13.

21 INDOOR SPLIT SYSTEM UNIT IS POWERED BY THE ASSOCIATED CONDENSING UNIT (CU) ON THE ROOF. PROVIDE ALL NECESSARY WIRING AND CONNECTIONS TO THE INDOOR UNIT.



1 **ELECTRICAL POWER FIRST FLOOR PLAN - UNIT O**
1/8" = 1'-0"



PLOT DATE/TIME: 7/29/2026 2:57:59 PM

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DAVID L. JONES II REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL POWER FIRST FLOOR PLAN - UNIT O

EP103

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.

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6 PROVIDE GROUNDING BUSBAR, CABLES, AND CONNECTIONS PER TECHNOLOGY DRAWINGS. CONNECT GROUNDING BUSBAR TO NEAREST PANELBOARD.

7 PROVIDE RECEPTACLE IN SHARED DATA BOX FOR GAME CLOCK. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.

8 PROVIDE (2) 1-1/4" CONDUITS PIPED TO ABOVE CEILING FOR DATA AND A/V CABLING.

9 PROVIDE (2) SINGLE GANG BOXES WITH 3/4" CONDUIT STUBBED ABOVE WALL FOR FUTURE RACK RECEPTACLES.

10 REFER TO TECHNOLOGY PLANS FOR REQUIRED VIDEO BOARD POWER LOCATION. PROVIDE RECEPTACLE IN FSR BOX AND CONNECT TO CIRCUIT INDICATED.

11 REFER TO TECHNOLOGY PLANS FOR REQUIRED HARDWIRED CONNECTION TO FSR BOX.

12 CONNECT EXHAUST FAN TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

13 MOUNT EXHAUST FAN MOTOR STARTER ADJACENT TO THE EXHAUST FAN.

14 PROVIDE NEW RECEPTACLE IN SURFACE RACEWAY.

15 EXTEND EXISTING CIRCUIT FOR AHUK-K1 FROM PANEL 1HN8 TO VFD LOCATION.

16 CONNECT BOTH AHU-K2 MOTOR STARTERS TO EXISTING CIRCUIT FOR AHU-K2 FROM PANEL 1HN8. MOUNT MOTOR STARTERS ON WALL ABOVE CEILING.

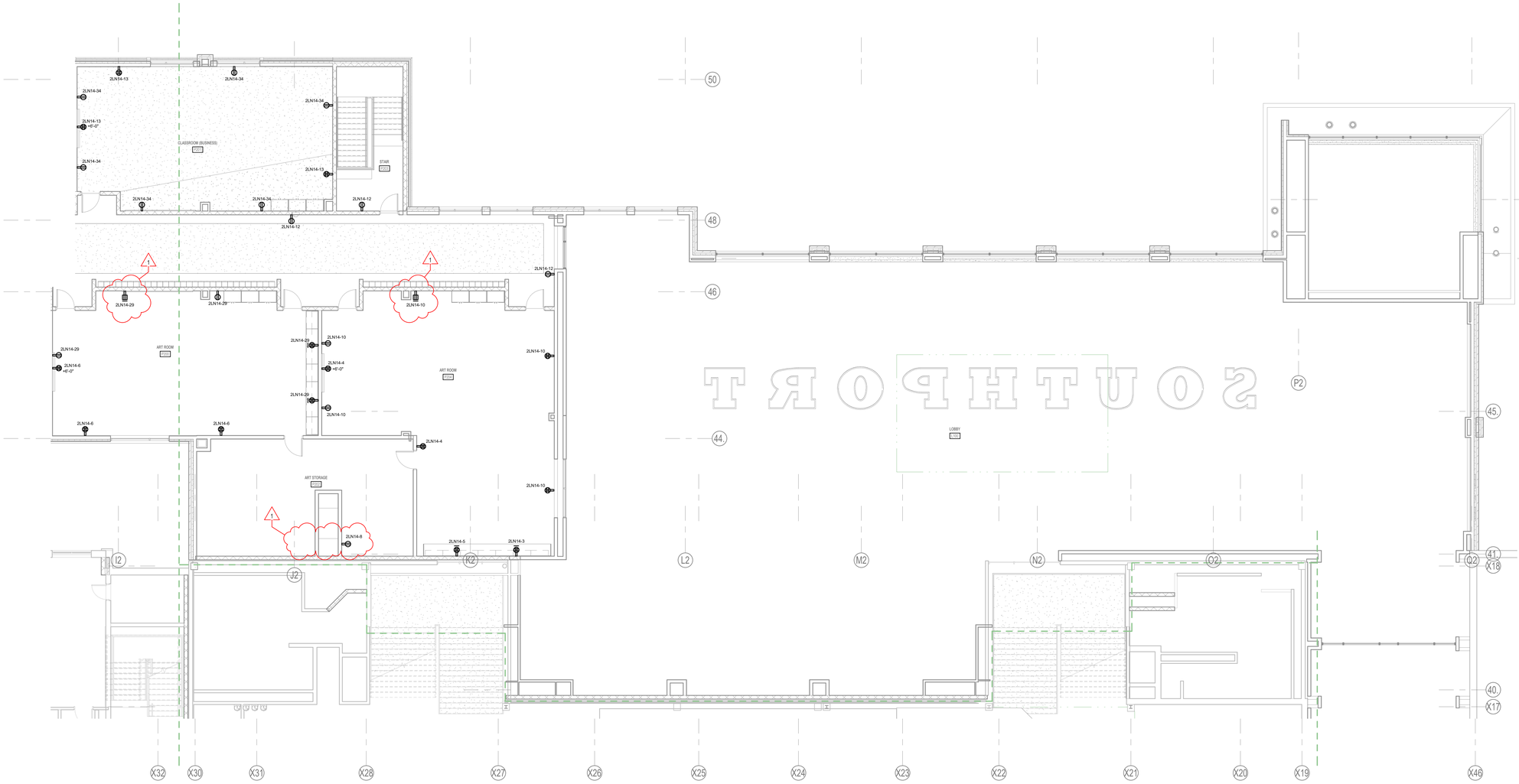
17 MOUNT PUMP STARTER ABOVE CEILING ON OR NEAR PUMP.

18 EXTEND EXISTING CIRCUIT FOR AHU-L1 FROM PANEL 1HN8 TO VFD LOCATION.

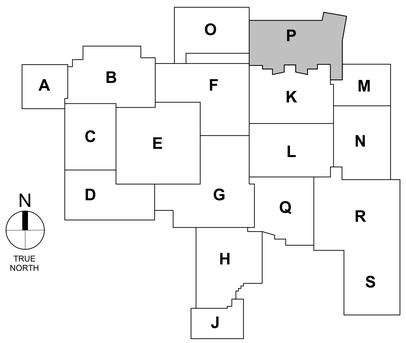
19 CONNECT AHU TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

20 CONNECT HOOD ANSUL SYSTEM TO CONVECTION OVEN SHUNT TRIP BREAKERS IN PANEL 1HN13.

21 INDOOR SPLIT SYSTEM UNIT IS POWERED BY THE ASSOCIATED CONDENSING UNIT (CU) ON THE ROOF. PROVIDE ALL NECESSARY WIRING AND CONNECTIONS TO THE INDOOR UNIT.



1 **ELECTRICAL POWER SECOND FLOOR PLAN - UNIT P**
1/8" = 1'-0"



PLOT DATE/TIME: 7/29/2026 2:57:58 PM

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DAVID L. JONES II REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL POWER SECOND FLOOR PLAN - UNIT P

EP106

GENERAL SITE NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

C PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT.

SITE PLAN NOTES

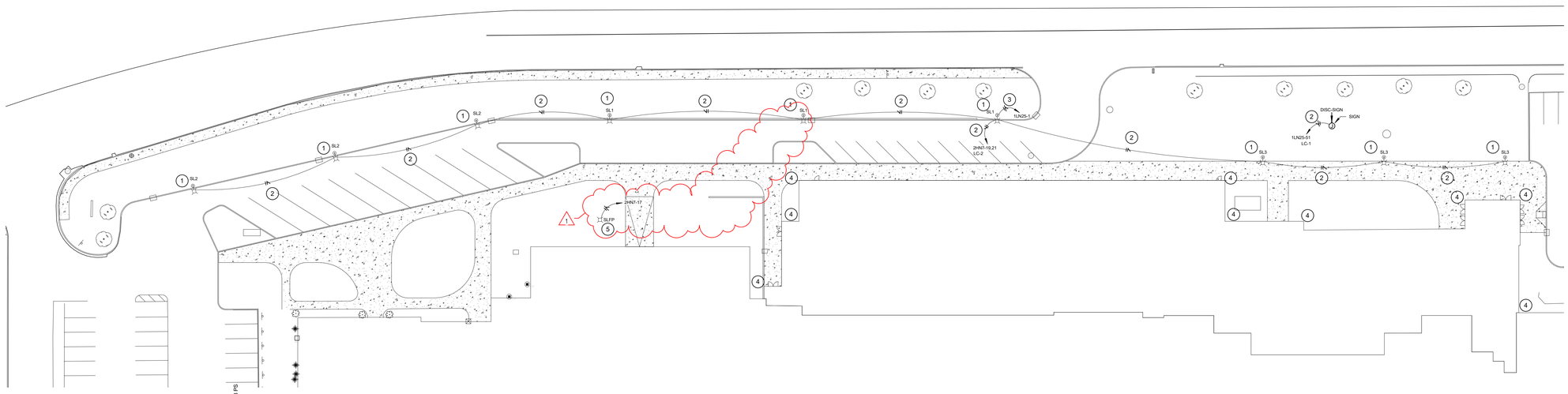
1 REFER TO DETAILS 9 AND 10 ON SHEET E-502 FOR POLE BASE INSTALLATION INFORMATION.

2 PROVIDE SITE LIGHTING CIRCUIT IN 1" CONDUIT.

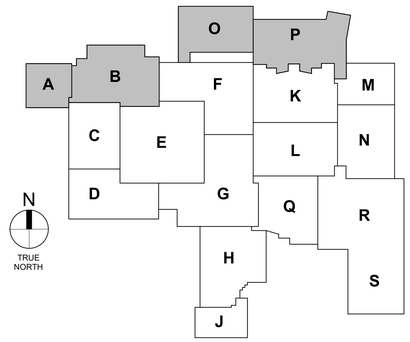
3 PROVISION SITE LIGHT POLE FOR LICENSE PLATE READER. PROVIDE CIRCUIT SHOWN IN 1" CONDUIT AND REFER TO TECHNOLOGY PLANS FOR DATA CABLING REQUIREMENTS FOR LICENSE PLATE READER.

4 GROUND BUILDING STEEL PER DETAIL 3 ON SHEET E-503.

5 MOUNT FLAGPOLE LIGHT TO POLE BY OTHERS. PROVIDE FLAGPOLE BASE WITH REQUIRED CIRCUIT FOR FLAGPOLE LIGHT.



1 ELECTRICAL SITE PLAN
1" = 30'-0"



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100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL SITE PLAN

ES101

PLOT DATE/TIME: 7/29/2026 3:33:19 PM

SEQUENCE OF OPERATION

AHU-G1 AND AHU-G2 ARE A SINGLE ZONE VARIABLE AIR VOLUME UME (VAV), CUSTOM AIR HANDLING UNIT (AHU) WITH MIXING BOX WITH RA AND OA DAMPER, RELEIF DAMPER, FILTRATION, HYDRONIC PREHEAT COIL, HYDRONIC COOLING COIL, HYDRONIC REHEAT COIL, AND RETURN FAN FOR ZONE TEMPERATURE AND HUMIDITY CONTROL.

OCCUPIED COOLING MODE: SUPPLY FAN SHALL START (SF-C) AT FULL COOLING DEMAND WITH OUTDOOR AIR DAMPER AT MINIMUM POSITION (UNLESS ECONOMIZER IS ENABLED) AND FAN (SF-O) AT 100% SPPED. DECREASES IN COOLING DEMAN SHALL DECREASE FAN SPEED FROM FULL SPEED DOWN TO MINIMUM SPEED (50% OF FULL SPEED). FURTHER DECREASES IN COOLING DEMAND SHALL BE WITH THE FAN SPEED AT MINIMUM AND THE CHILLED WATER CONTROL VALVE (CLG-VLV) POSITION MODULATING IN RESPONSE TO THE ZONE SET POINT (ZN-T). OCCUPIED COOLING SETPOINT SHALL BE 74F (ADJ).

UNOCCUPIED COOLING MODE: SUPPLY FAN SHALL START AT 60% SPEED WITH THE OUTSIDE AIR DAMPERS CLOSED (UNLESS ECONOMIZER IS ENABLED). DECREASES IN COOLING DEMAND SHALL DECREASE FAN SPEED FROM 60% DOWN TO MINIMUM SPEED (50% OF FULL SPEED). FURTHER DECREASES IN COOLING DEMAND SHALL BE WITH THE FAN SPEED AT MINIMUM AND THE CHILLED WATER CONTROL VALVE (CLG-VLV) POSITION MODULATING IN RESPONSE TO THE ZONE SETPOINT. UNOCCUPIED COOLING SETPOINT SHALL BE 78F(ADJ)

OCCUPIED HEATING MODE: SUPPLY FAN SHALL START AT FULL HEATING DEMAND WITH OUTDOOR AIR DAMPER OPEN AT MINIMUM POSITION AND FAN AT 100% SPEED. DECREASES INN HEATING DEMAND SHALL BE WITH THE FAN AT 100% SPEED AND THE PREHEAT COIL (PH-VLV/PH-F&B) MODULATING IN RESPONSE TO THE ZONE SETPOINT. DISCHARGE AIR TEMPERATURE SHALL NOT EXCEED 95F. OCCUPIED HEATING SETPOINT SHALL BE 70F (ADJ).

UNOCCUPIED HEATING MODE: SUPPLY FAN SHALL START AT 60% SPEED WITH OUTSIDE AIR DAMPERS CLOSED. DECREASES IN HEATING DEMAND SHALL BE WITH THE FAN SPEED AT 60% AND THE PREHEAT COIL MODULATING IN THE SAME MANNER AS IN OCCUPIED HEATING MODE. UNOCCUPIED HEATING SETPOINT SHALL BE 64F (ADJ).

RETURN FAN START/STOP: WHEN THE SUPPLY FAN IS ENERGIZED, THE RETURN FAN (RF-C) WILL BE ENABLED. IF THE RETURN FAN STATUS (RF-S) DOES NOT MATCH THE COMMANDED VALUE, AN ALARM WILL BE GENERATED AT THE USER INTERFACE.

RETURN FAN SPEED CONTROL: THE RETURN FAN SPEED (RF-O) WILL MODULATE VIA VFD TO MAINTAIN RETURN AIR DUCT STATIC PRESSURE SET POINT OF 0.5" WG (ADJ), AS SENSED BY RETURN AIR DUCT PRESSURE SENSOR (RA-SP). RETURN AIR DUCT STATIC PRESSURE SETPOINT WILL BE DETERMINED AT THE TIME OF SYSTEM BALANCING. SETPOINT WILL BE DETERMINED AT FULL ECONOMIZER MODE WITH RELIEF AIR DAMPER (RLF-DPR) FULLY OPEN. ADJUST SET POINT AS NECESSARY UNTIL THE BUILDING STATIC PRESSURE SETPOINT IS REACHED.

ECONOMIZER CONTROL (DRY BULB): WHEN THE OUTSIDE AIR TEMPERATURE (OA-T) IS BELOW 55F, THE ECONOMIZER MODE WILL BE ENABLED. WHEN ECONOMIZER MODE IS ENABLED, THE OUTDOOR AIR DAMPER (OA-DPR) AND RETURN AIR DAMPER (RA-DPR) WILL MODULATE IN SEQUENCE TO MAINTAIN SUPPLY AIR TEMPERATURE (SA-T) SETPOINT.

BUILDING PRESSURE CONTROL: RELIEF AIR DAMPERS (RLF-DPn - QTY (9)) WILL MODULATE TO MAINTAIN BUILDING STATIC PRESSURE SETPOINT OF 0.05" WG (ADJ), WITH RESPECT TO OUTDOOR AMBIENT CONDITIONS, AS SENSED BY DIFFERENTIAL PRESSURE TRANSMITTER (PLE-SP).

RETURN AIR HUMIDITY CONTROL: IF THE RETURN AIR HUMIDITY (RA-H) RISES ABOVE 55% RH, THE COOLING COIL CONTROL VALVE (CC-VLV) WILL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE OF 52F (ADJ). WHEN THE RETURN AIR HUMIDITY (RA-H) FALLS BELOW 53% RH (ADJ), THE RETURN AIR HUMIDITY CONTROL CYCLE WILL BE DISABLED AND SUPPLY AIR TEMPERATURE CONTROL WILL BE ENABLED.

SYSTEM SAFETIES: SYSTEM SAFETIES WILL BE MANUALLY RESET PRIOR TO RESTARTING THE SYSTEM. UPON ACTIVATION OF ANY SYSTEM SAFETIES, THE SYSTEM WILL SHUTDOWN AND AN ALARM WILL BE INITIATED AT THE USER INTERFACE. THE FOLLOWING SYSTEM SAFETIES WILL BE INCLUDED.
-SMOKE DETECTION DEVICE (SA-SD, RA-SD), THE SUPPLY AND RETURN FANS SHALL BE DE-ENERGIZED VIA HARD-WIRED CONNECTION
-TEMPERATURE LOW LIMIT SWITCH (LT-ALM)

SYSTEM SHUTDOWN: WHEN THE UNIT IS SHUTDOWN VIA MANUAL STOP COMMAND OR SYSTEM SAFETY STATUS, THE UNIT WILL BE SET AS FOLLOWS:

SUPPLY FAN IS DE-ENERGIZED
RETURN FAN IS DE-ENERGIZED
OUTSIDE AIR DAMPER IS CLOSED
RETURN AIR DAMPER IS OPEN
COOLING COIL CONTROL VALVE IS CLOSED
PREHEAT COIL CONTROL VALVE IS OPEN

POINTS LIST: THE FOLLOWING REPRESENTS THE MINIMUM POINTS TO BE PROVIDED AND DISPLAYED AT THE USER INTERFACE SYSTEM GRAPHICS. PROVIDE, AND DISPLAY AT THE USER INTERFACE, ANY ADDITIONAL POINTS NECESSARY TO ACHIEVE THE SEQUENCE OF OPERATION OF THE SYSTEM.

BINARY INPUTS

SUPPLY FAN STATUS (SF-S)
SMOKE DETECTORS (SA-SD, RA-SD)

BINARY OUTPUTS

SUPPLY FAN START/STOP (SF-C)

ANALOG INPUTS

OUTSIDE AIR TEMPERATURE (OA-T)
OUTSIDE AIR HUMIDITY (OA-H)
MIXED AIR TEMPERATURE (MA-T)
RETURN AIR TEMPERATURE (RA-T)
RETURN AIR HUMIDITY (RA-H)
SUPPLY AIR TEMPERATURE (SA-T)
COOLING COIL DISCHARGE TEMPERATURE (CC-T)
PREHEAT COIL DISCHARGE TEMPERATURE (PH-T)
STATIC PRESSURE (PLE-SP)

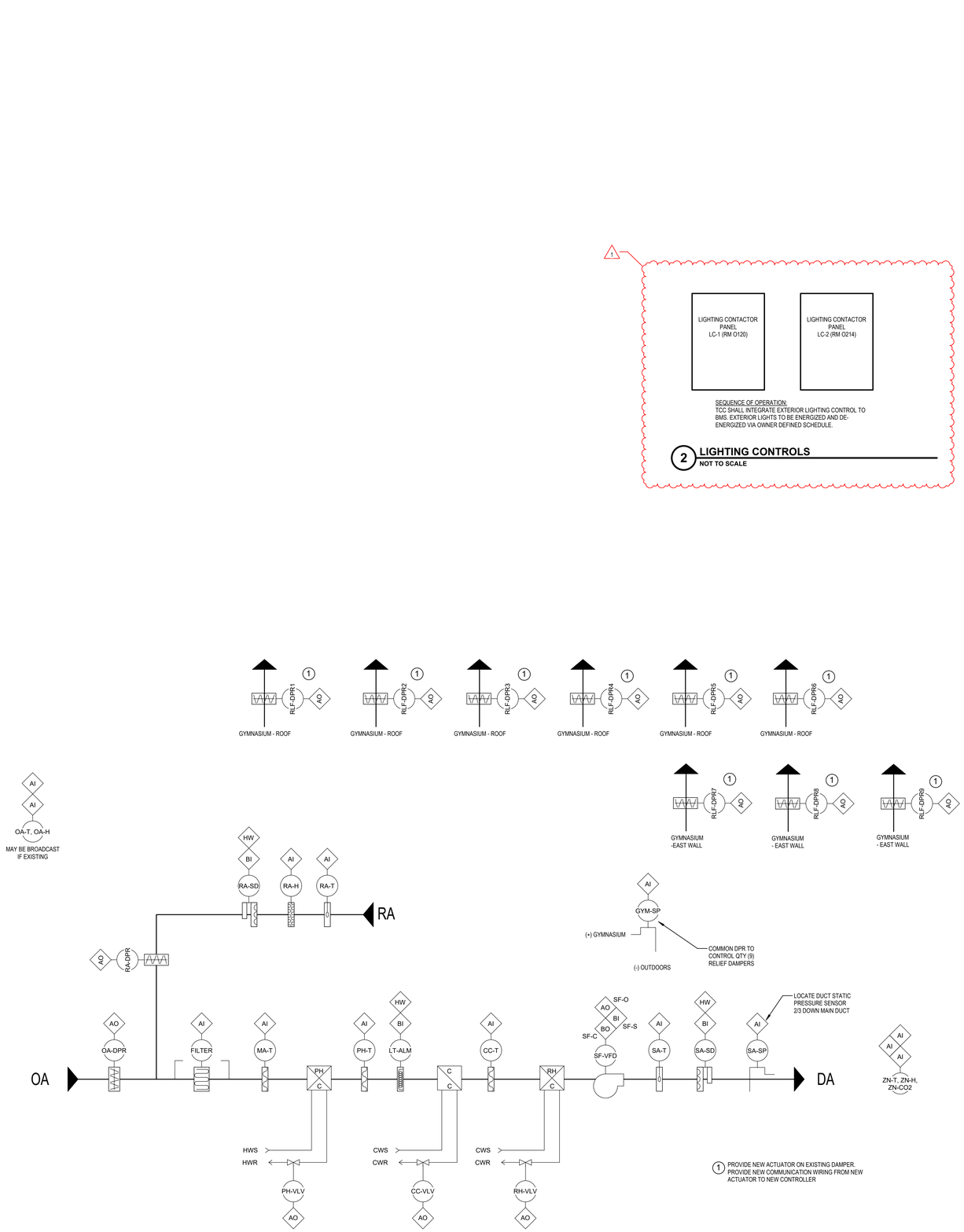
ANALOG OUTPUTS

SUPPLY FAN SPEED (SF-O)
OUTDOOR AIR DAMPER POSITION (OA-DPR, LINKED WITH RA-DPR)
PREHEAT COIL VALVE POSITION (PH-VLV)
COOLING COIL VALVE POSITION (CC-VLV)
REHEAT COIL VALVE POSITION (RH-VLV)

ANALOG/MULTI-STATE VALUES:

OCCUPIED COOLING SETPOINT
UNOCCUPIED COOLING SETPOINT
OCCUPIED HEATING SETPOINT
UNOCCUPIED HEATING SETPOINT
RETURN AIR HUMIDITY SETPOINT
ALARM VALUE
OCCUPANCY MODE

2 **LIGHTING CONTROLS**
NOT TO SCALE



1 **VARIABLE AIR VOLUME AHU - AHU-G1, AHU-G2**
NOT TO SCALE

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TEMPERATURE CONTROLS SCHEMATICS

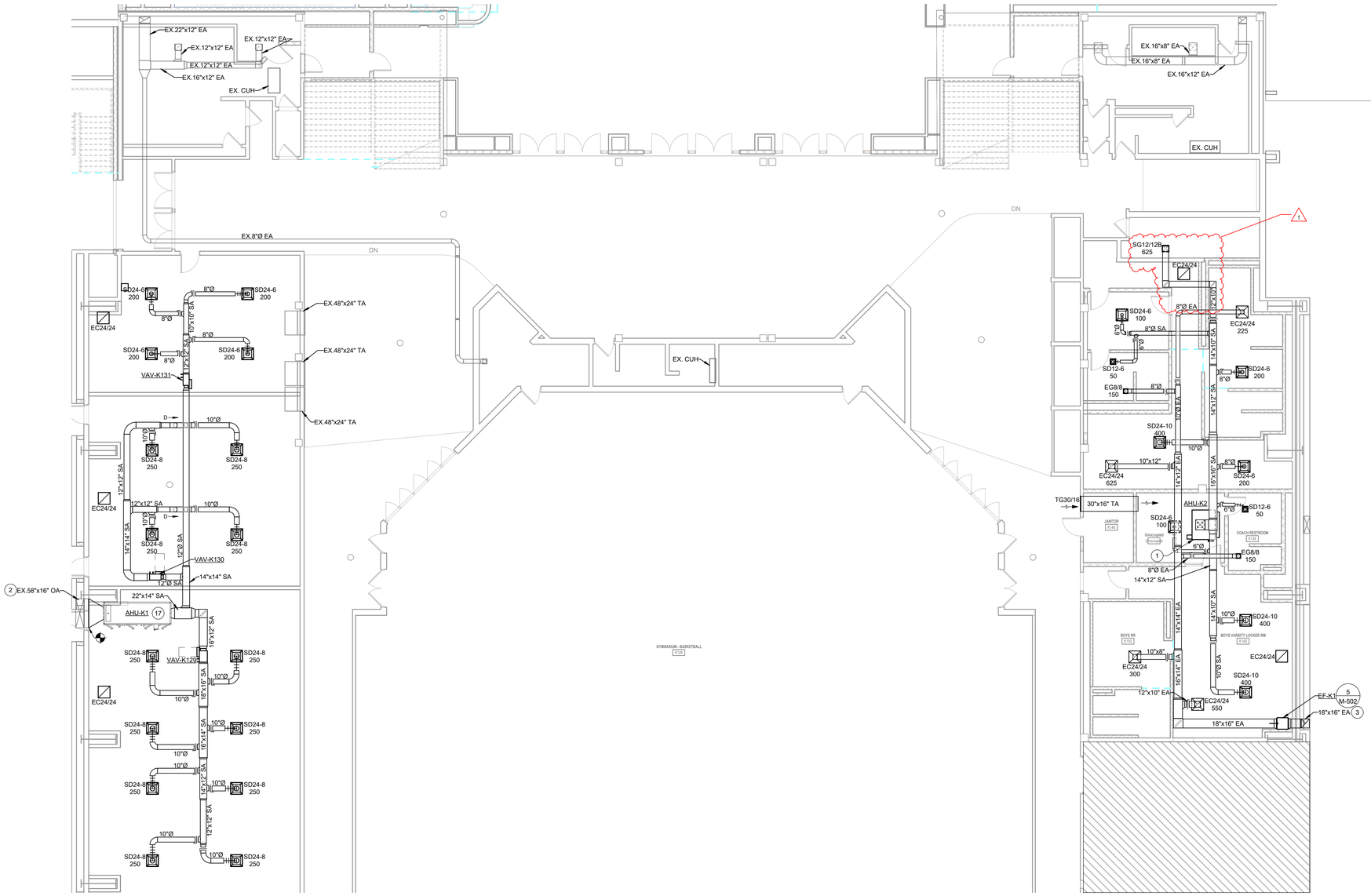
M-704

GENERAL MECHANICAL NOTES

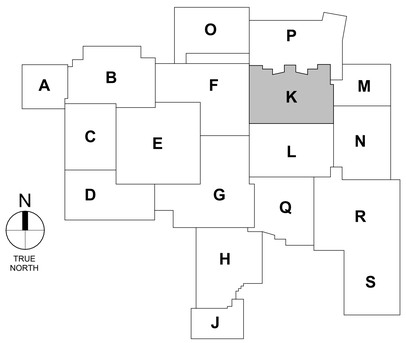
A DARK LINES INDICATE NEW WORK.
B LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.

MECHANICAL HVAC PLAN NOTES

1 AIR HANDLING UNIT SUSPENDED FROM CEILING. SEE DETAIL '15/M502'.
2 CONNECT OUTSIDE AIR INTAKE TO EXISTING DUCT ROUTED THROUGH CHASE TO ROOF.
3 ROUTE DUCT THROUGH EXISTING CHASE AND ROOF PENETRATION ON ROOF.
3 ROUTE DUCT THROUGH EXISTING CHASE AND ROOF PENETRATION ON ROOF. GOOSENECK DUCT ON ROOF, SEE DETAIL ON 'M-502'.
4 ROUTE DUCT UP AND OVER PIPING AND CABLE TRAYS. DROP DUCT BEFORE ENTERING ROOM UNDER BEAM.
5 ROUTE DUCT UP AND OVER 14"X10" SUPPLY DUCT.
6 DUCT ROUTED BETWEEN JOIST.
7 DUCT ROUTED UP THROUGH CHASE TO ROOF.
8 TRANSFER GRILL INSTALLED IN WALL, ABOVE DOORS.
9 DUCT ROUTED UP TO RTU ON ROOF.
10 INSTALL LOUVER HIGH ENOUGHT THAT ITS ABOVE CEILING IN ROOMS WITH CEILING.
11 PROVIDE DAMPER IN VERTICAL DUCT.
12 CONNECT SUPPLY AIR DUCT FROM BOTTOM OF 26"x16" MAIN.
13 CONNECT EXHAUST DUCTS TO DRYERS.
14 INSTALL RETURN GRILLE AT AN ELEVATION OF 9' 6".
15 PROVIDE 4" WALL VENT WITH BIRD SCREEN. DO NOT PROVIDE WITH BACKDRAFT DAMPER.
16 PROVIDE NEW ACTUATOR DAMPERS. SEE M-704 FOR CONTROLS SEQUENCE.
17 SUPPORT AIR HANDLER FROM EXISTING STRUCTURE.
18 PROVIDE BMS INTERFACE FOR CONTROL OF LIGHTING CONNECTORS.



1 **MECHANICAL HVAC FIRST FLOOR PLAN - UNIT K**
1/8" = 1'-0"



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MECHANICAL HVAC FIRST FLOOR PLAN - UNIT K

MH101

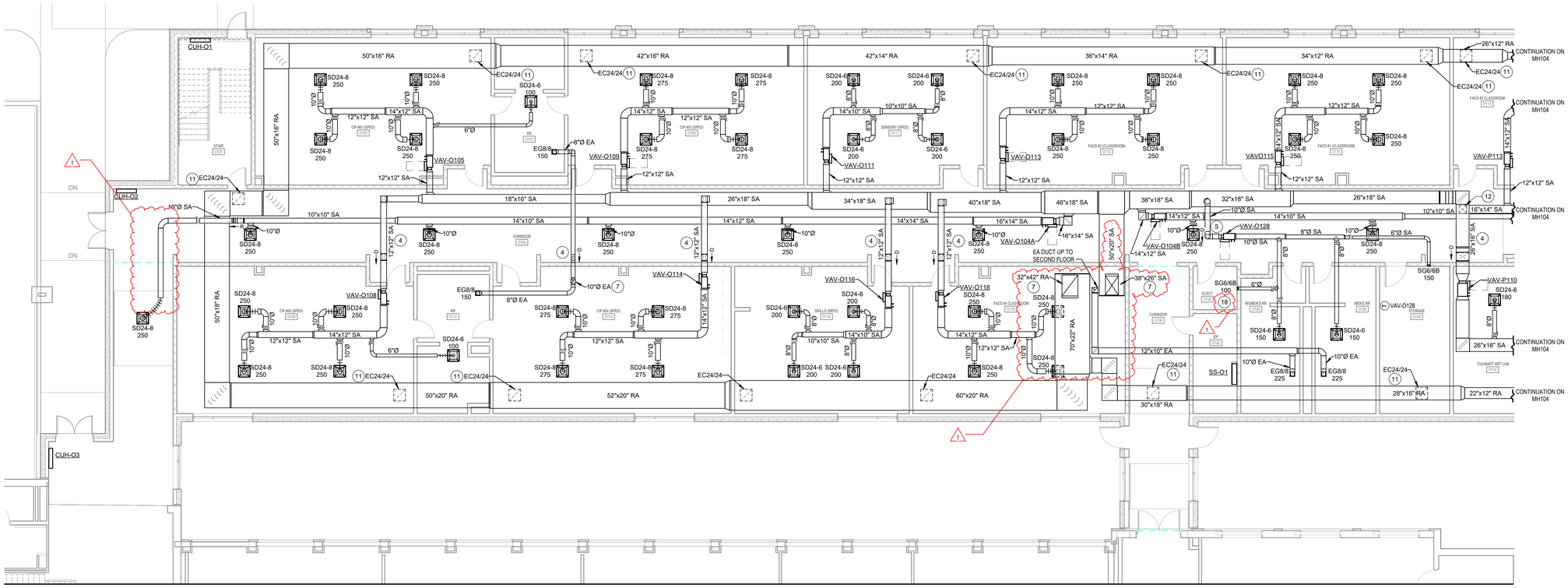
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GENERAL MECHANICAL NOTES

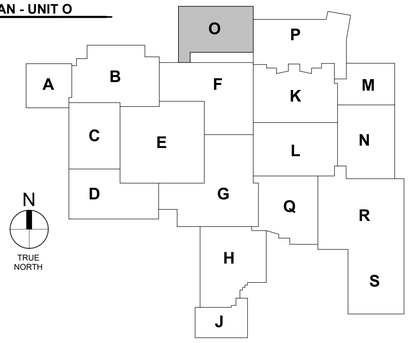
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1 **MECHANICAL HVAC FIRST FLOOR PLAN - UNIT O**
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MECHANICAL HVAC FIRST FLOOR PLAN - UNIT O

MH103

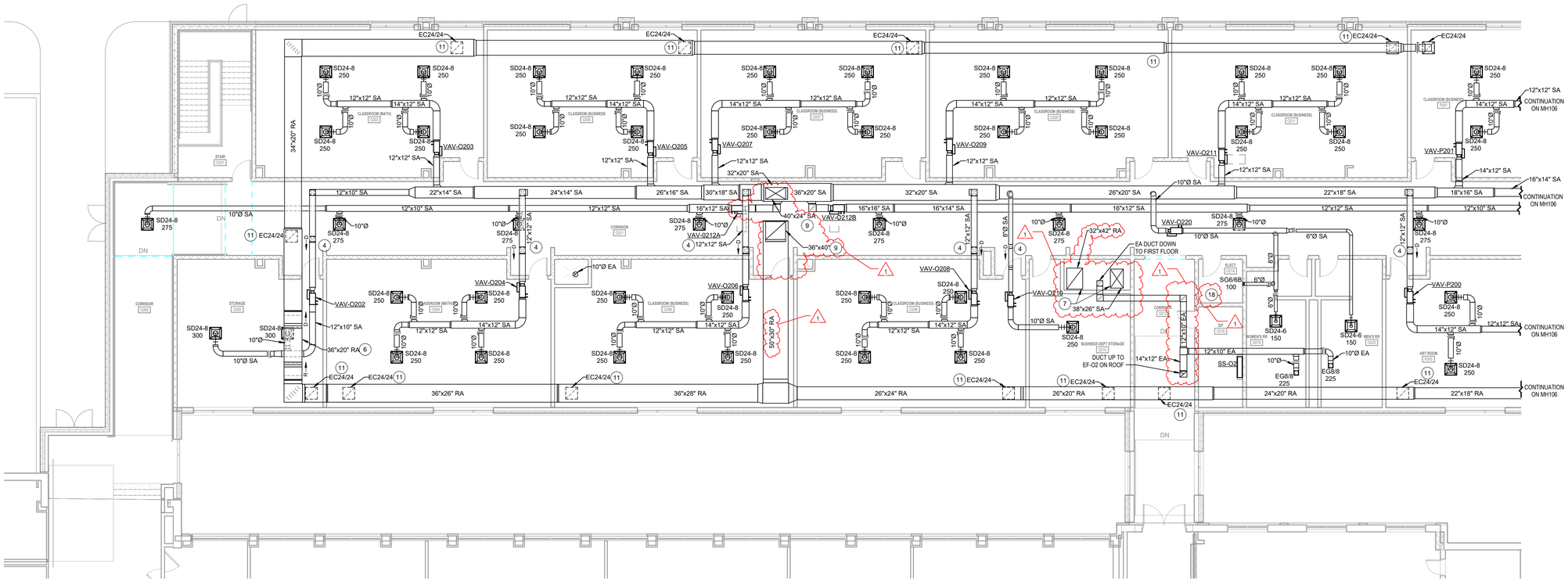
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GENERAL MECHANICAL NOTES

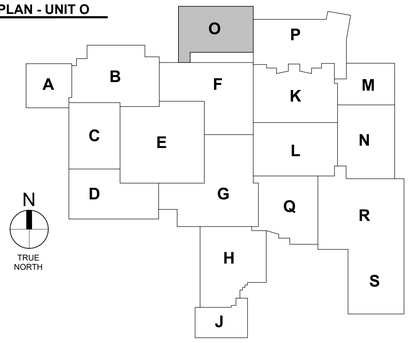
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18 PROVIDE BMS INTERFACE FOR CONTROL OF LIGHTING CONNECTORS.



1 **MECHANICAL HVAC SECOND FLOOR PLAN - UNIT O**
1/8" = 1'-0"



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MECHANICAL HVAC SECOND FLOOR PLAN - UNIT O

MH107

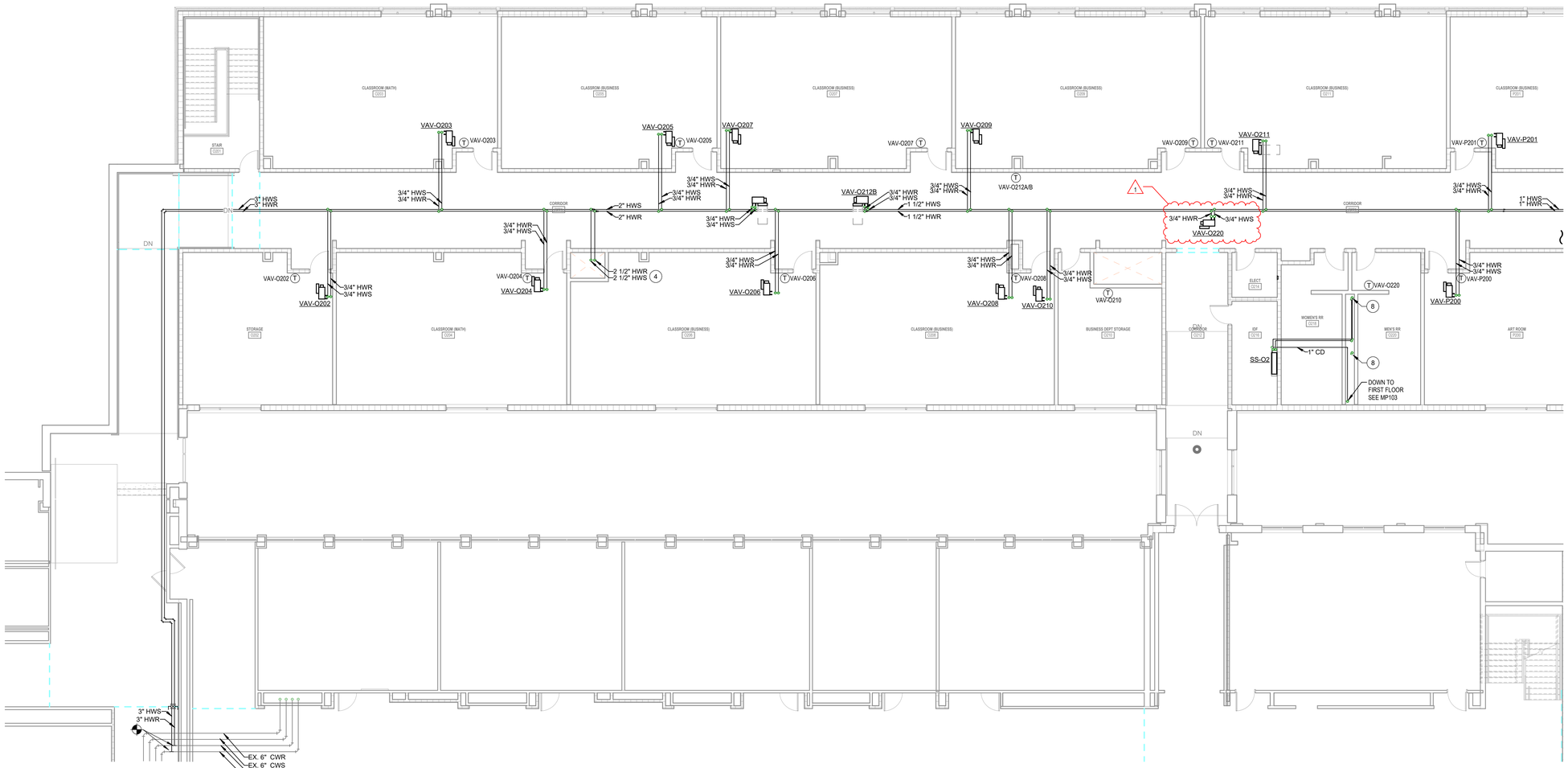
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GENERAL PIPING NOTES

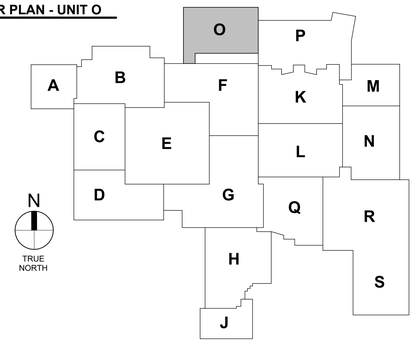
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C PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.
D NEW SHUTOFF VALVES SHALL BE INSTALLED FOR ALL NEW HYDRONIC EQUIPMENT.

MECHANICAL PIPING PLAN NOTES

1 ROUTE PIPING UP TO AHU-G2 ON ROOF. 6" CWR/CWS PIPING TEES VERTICALLY TO UNIT.
2 ROUTE PIPING DOWN TO LOWER LEVEL OF GYM, INTO BOYS PE LOCKER ROOM.
3 ROUTE PIPING ALONG CEILING OF STORADE ROOM, DROP AS REQUIRED.
4 HWS/R PIPING DOWN TO FIRST FLOOR. REFER TO DRAWING MP103 FOR CONTINUATION.
5 ROUTE PIPING HIGH ENOUGH FOR CIRCULATION PUMP ISTALLATION ABOVE CHILLED WATER PIPES.
6 PIPING CONTINUES UP TO SECOND FLOOR UNIT G. SEE SHEET MP107.
7 REINSTALL JACE PANEL AT THIS LOCATION. RE-CONNECT ALL CONTROL WIRING AND ENSURE INTEGRATION OF AL POINTS INTO BUILDING AUTOMATION SYSTEM AS BEFORE.
8 REFRIGERANT PIPING UP TO CONDENSING UNIT ON ROOF.
9 CONDENSATE DRAIN PIPING UP TO SS-O2 ON SECOND FLOOR.
10 ROUTE CONDENSATE PIPING TO MOP BASIN.
11 ROUTE CONDENSATE PIPING TO FLOOR DRAIN.



1 **MECHANICAL PIPING SECOND FLOOR PLAN - UNIT O**
1/8" = 1'-0"



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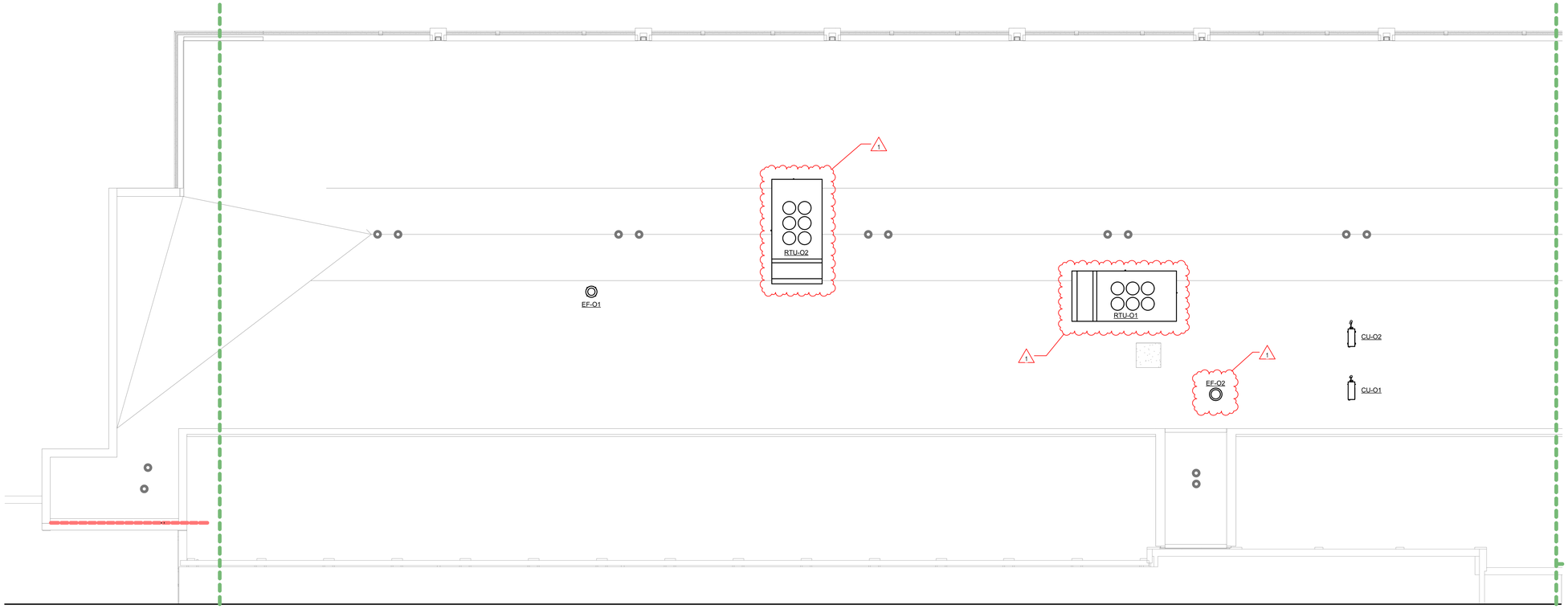
MECHANICAL PIPING SECOND FLOOR PLAN - UNIT O

MP105

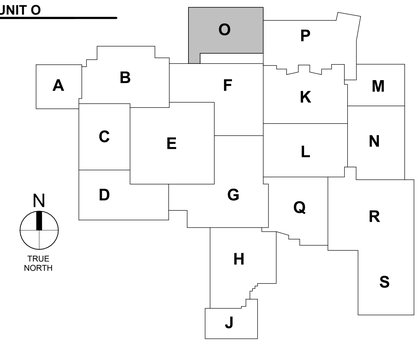
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MECHANICAL ROOF PLAN NOTES

1. CONNECT TO EXISTING ABOVE ROOF.
2. PROVIDE 2" FIBERGLASS BOARD INSULATION WITH FIELD APPLIED JACKET PER SPECIFICATIONS. RE-INSULATE ALL DUCT ON ROOF INCLUDING EXISTING DUCT THATS BEING CONNECTED TO.
3. PROVIDE SEPERATE, FACE PLATE TYPE, SPACE TEMPERATURE, SPACE HUMIDITY, AND SPACE CO2 SENSORS IN AUDITORIUM IN SAME LOCATION AS EXISTING. FEILD VERIFY EXISTING LOCATION.
4. VFD FOR EACH FAN AND TCP IN UNIT VESITUBLE FURNISHED BY TCC, INSATLLED BY DIVISION 26.
5. PROVIDE 2kW ELECTRIC HEATER, FURNISHED BY TCC, INSTALLED BY DIV 26.
6. 36"x36"x5'-0" LONG SOUND ATTENUATOR FOR RETURN DUCT 11,600 CFM. MAXIMUM PRESSURE DROP OF .08" WITH MINIMUM INSERTION LOSS OF 24 DB AT 3RD OCTAVE BAND AT FACE VELOCITY OF 2,000 FPM.
7. 36"x36"x5'-0" LONG SOUND ATTENUATOR FOR SUPPLY DUCT 12,800 CFM. MAXIMUM PRESSURE DROP OF .72" WITH MINIMUM INSERTION LOSS OF 23 DB AT 3RD OCTAVE BAND AT FACE VELOCITY OF 2,000 FPM.
8. PLACE UNIT ON EXISTING STRUCTURE.
9. PROVIDE A NEW SUPPORT STRUCTURE FOR UNIT.



1 **MECHANICAL ROOF PLAN - UNIT O**
1/8" = 1'-0"



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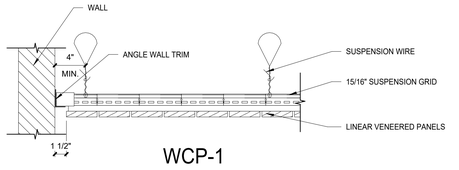
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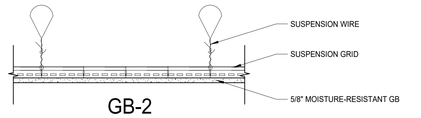
MECHANICAL ROOF PLAN - UNIT O

MR104

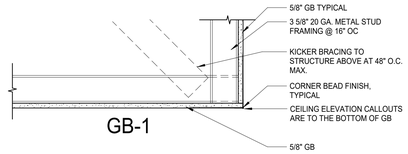
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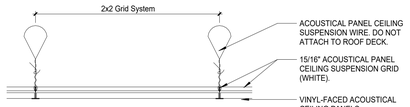
WCP-1



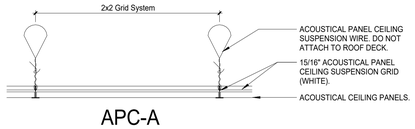
GB-2



GB-1



APC-B



APC-A

1 CEILING TYPES

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

INTERIOR WALL NAMING CONVENTION

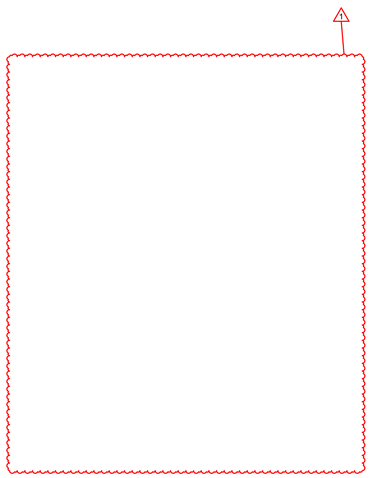
A 4 .1 A

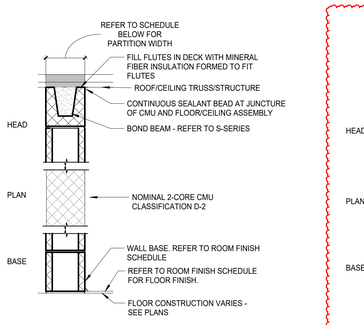
WALL CORE MATERIAL
A - NON-STRUCTURAL METAL STUDS
B - CONCRETE MASONRY UNITS
D - SHAFT WALL (CH STUDS)
F - FURRING WALL
W - WOOD STUDS

THICKNESS OF WALL CORE
NOMINAL DIMENSION OF WALL CORE

WALL CHARACTERISTIC MODIFIER (OPTIONAL)
REF. SHEET A002 FOR ADDITIONAL INFORMATION

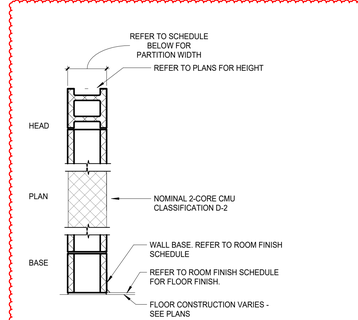
WALL TYPE MODIFIER (OPTIONAL)
.1 - ONE SIDED GYP. WALLBOARD
.2 - WALL STOPS 6" MIN. ABOVE CEIILING
.3 - BOTH LINE ITEMS .1 AND .2
.4 - DOUBLE LAYER OF GYP. BOTH SIDES
.5 - "PONY" WALL, REF. PLANS FOR HEIGHT





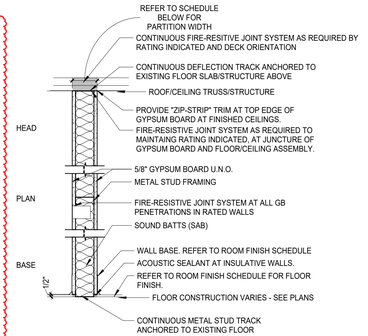
'Bx'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
B6	5 5/8"	5 5/8"				
B8	7 5/8"	7 5/8"		ULC-U905		



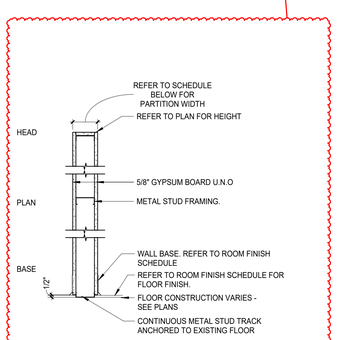
'Bx.5'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
B6.5	5 5/8"	5 5/8"				



'Ax'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
A3	3 3/4"	2 1/2"				
A4	4 7/8"	3 5/8"				
A6	7 1/4"	6"				



'Ax.5'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
A4.5	9 3/8"	3 5/8"				
A6.5	7 1/4"	6"				

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

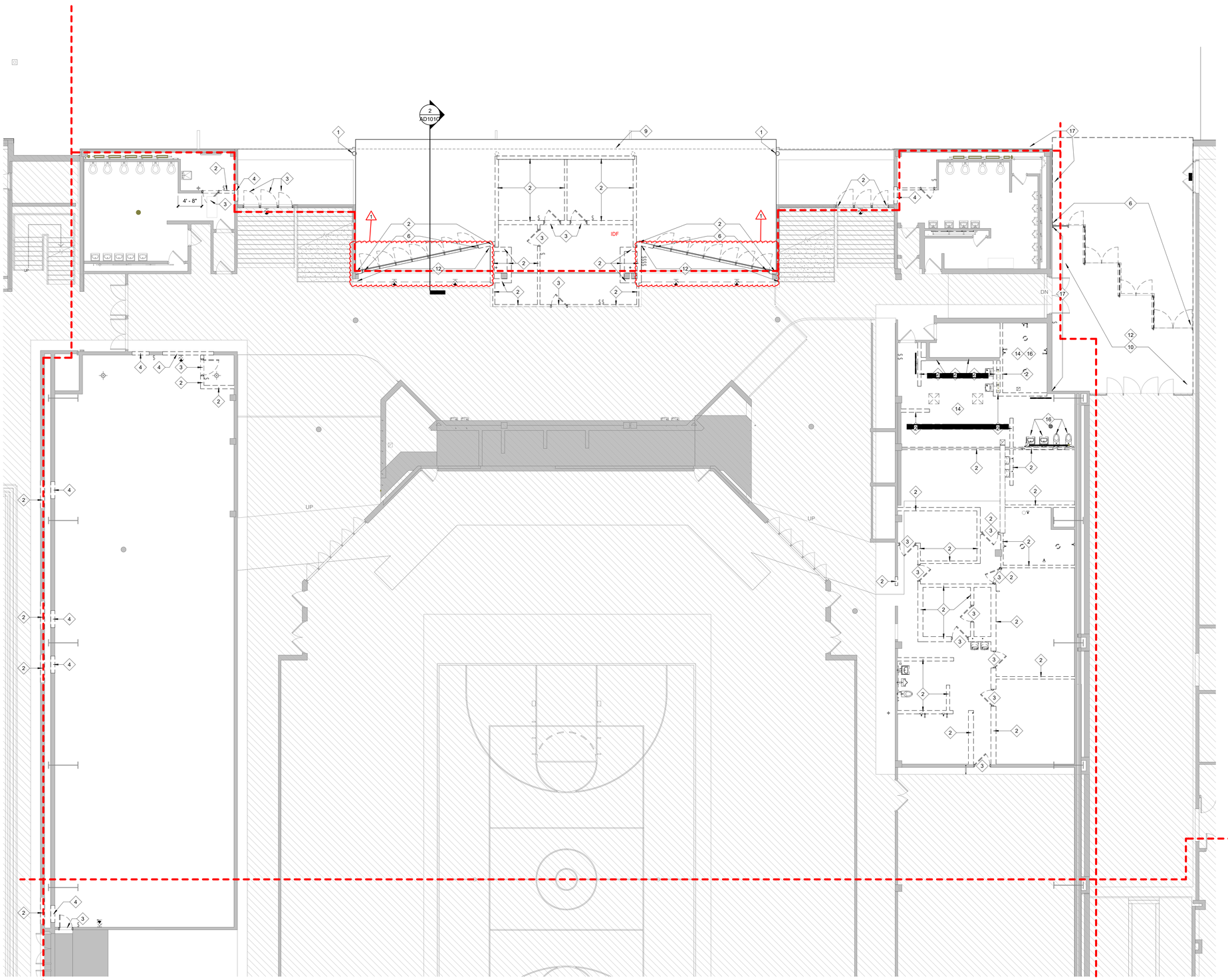
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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: BJZ

INTERIOR TYPES

A002

PLOT DATE/TIME:7/31/2026 11:58:29 AM



1 DEMOLITION PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. DEMOLITION IS TO FOLLOW ESTABLISHED CONSTRUCTION SEQUENCE. CONTRACTOR IS TO VERIFY THEIR WORK IN THE FIELD WITH THE DEMOLITION DRAWINGS, NEW CONSTRUCTION DRAWINGS, AND THE EXISTING IN-FIELD.

B. WALLS TO BE REMOVED SHALL BE REMOVED TO A POINT (2 " MIN) BELOW THE EXISTING FLOOR SLAB UNLESS NOTED OTHERWISE.

C. "FLOORING" DENOTES FLOOR COVERING MATERIALS INCLUDING BACKINGS, ADHESIVE BASES, DOWN TO BUT EXCLUSIVE OF FLOOR SLABS AND STRUCTURAL MATERIALS, UNLESS NOTED OTHERWISE.

D. "CEILING" DENOTES CEILING MATERIALS INCLUDING SUSPENSION SYSTEMS, ADHESIVE, MOLDINGS, UP TO BUT EXCLUSIVE OF STRUCTURAL MATERIALS.

E. AFTER THE DEMOLITION OF MATERIALS, THE RESULTING EXPOSED SURFACE SHALL BE SMOOTH AND FLUSH WITH EXISTING CONDITIONS.

F. COORDINATE THIS WORK WITH DEMOLITION AND NEW WORK ON CIVIL, STRUCTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND TECHNOLOGY SHEETS.

G. MATERIALS OF DEMOLITION SHALL BE DISPOSED OF OFF-SITE UNLESS OTHERWISE DIRECTED BY OWNER. THE OWNER SHALL RESERVE RIGHT TO CLAIM ANY MATERIALS THAT ARE BEING DEMOLISHED PRIOR TO THE CONTRACTOR DISPOSING OF THEM OFF-SITE.

H. "TURNED OVER TO THE OWNER" DENOTES 1) TAG AND IDENTIFY ITEMS; 2) STORE IN AN ORDERLY FASHION IN A LOCATION DESIGNATED BY THE OWNER.

I. OWNER TO REMOVE EXISTING FURNITURE AND MISCELLANEOUS ITEMS NOT SHOWN AND NOT TO BE DEMOLISHED. CONTRACTOR TO NOTIFY OWNER IN ADVANCE WHEN ITEMS NEED TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR OTHER ITEMS TO BE REMOVED.

J. ITEMS TO BE PATCHED: REMOVE ALL LOOSE OR DAMAGED MATERIAL. REFINISH TO LIKE NEW CONDITION, OR IF CONDITION WARRANTS REPLACE IN ENTIRETY.

K. CLEAN, PATCH AND PREP SURFCAES FOR NEW WORK AFTER DEMOLITION

L. PROTECT AREAS ADJACENT TO AREAS OF DEMOLITION. CONTRACTOR IS RESPONIBLE TO REPAIR ADJACENT SURFACES THAT DAMAGED.

OUT OF SCOPE

PLAN NOTES - DEMOLITION

1	EXISTING TO REMAIN.
2	REMOVE WALL COMPLETE OR TO EXTENT OTHERWISE INDICATED.
3	REMOVE DOOR, FRAME AND HARDWARE COMPLETE.
4	CUT NEW DOOR OPENING.
6	REMOVE STOREFRONT/CURTAIN WALL COMPLETE.
8	REMOVE MILLWORK/CASEWORK COMPLETE.
9	REMOVE CEILING COMPLETE.
10	DEMO FLOOR SLAB TO GRADE
11	EXISTING TO REMAIN METAL PANEL
12	REMOVE FLOOR FINISH COMPLETE. PREPARE SLAB TO ACCEPT NEW FINISHES.
13	REMOVE COLUMN. SEE STRUCTURAL.
14	REMOVE ELECTRICAL LIGHTING. SEE ELECTRICAL.
15	REMOVE MECHANICAL EQUIPMENT. SEE MECHANICAL.
16	REMOVE PLUMBING FIXTURE COMPLETE. SEE PLUMBING DWGS.
17	REMOVE METAL SOFFIT AND FASCIA - PANELS AND FRAMING . PATCH, PREP., AND PRIME SURFACE FOR NEW FINISH.
18	REMOVE ROOF COMPLETE

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

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1	07/31/2026	Addendum #01

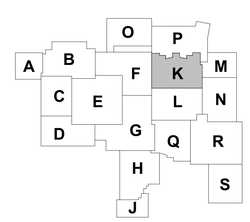
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

DEMOLITION PLAN - FIRST FLOOR - UNIT K

AD101K

TRUE NORTH



PLOT DATE/TIME: 7/31/2026 11:18:29 AM

GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

G. FOR ALL RESTROOM FACILITIES WITH GYPSUM WALL FINISH REPLACE 5/8" TYPE "X" GYPSUM BOARD WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD, SEE SPECS FOR DETAILS

H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE

PLAN NOTES - FLOOR PLAN

1 SIDEWALK, SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP, SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
5 ADA ACCESS PADDLE. SEE SPECFICIATIONS FOR ADDITIONAL INFORMATION.
6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
8 FACTORY FINISHED RAMP HANDRAIL. SEE DETAIL ON A402.
9 NEW CASEWORK
10 WALL MOUNTED SMART TV
11 WALL MOUNTED VIEWBOARD
12 NEW HOLLOW METAL DOOR AND FRAME CUT INTO EXISTING WALL.
13 OVERHEAD BULKHEAD
14 SEMI-RECESSED FIRE EXTINGUISHER CABINET.
15 ALIGN BOTTOM OF RAMP WITH FACE OF WALL
16 WEAPON DETECTION AREA
17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
19 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS.
20 NEW 12' MARKERBOARD
21 NEW 8' MARKERBOARD
22 INTERNAL ROOF DRAIN, COORDINATE WORK WITH ROOF PLAN AND PLUMBING DWGS.
23 MOP BASIN
24 SERVICE SINK
25 ICE MACHINE
26 HYDRO THERAPY TUB
27 RESIDENTIAL WASHER AND DRYER ON 4" HIGH CONCRETE HOUSEKEEPING PAD
28 REFRIGERATOR
29 ADA SINK WITH CASEWORK
30 ADA COOKTOP WITH CASEWORK
31 12"X12" TWO TIER METAL LOCKER. PROVIDE METAL FILLERS AS NECESSARY. REF. TO INTERIOR ELEVATION 11/A751.
32 GALVANIZED STEEL HANDRAIL, SHOP PRIMED, FIELD PAINTED, COLOR TBD. SEE DETAIL 9 ON A402
33 MOTORIZED WINDOW SHADES, TEX-1.
34 SEMI-RECESS FIRE EXTINGUISHER AND CABINET
35 15"X15"X 60" TWO TIER HDPE PLASTIC LOCKER WITH SLOPED TOP WITH CONCRETE BENCH
36 15"X15" TWO TIER ADA APPROACH HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE CURB
37 6" DIAMTER STEEL BOLLARD, PAINTED, COLOR TBD. 42" TALL.
38 15"X15"X 60" SINGLE TIER HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE BENCH
39 15"X15" SINGLE TIER ADA APPROACH HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE CURB.

1 FLOOR PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME: 7/31/2026 11:58:39 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

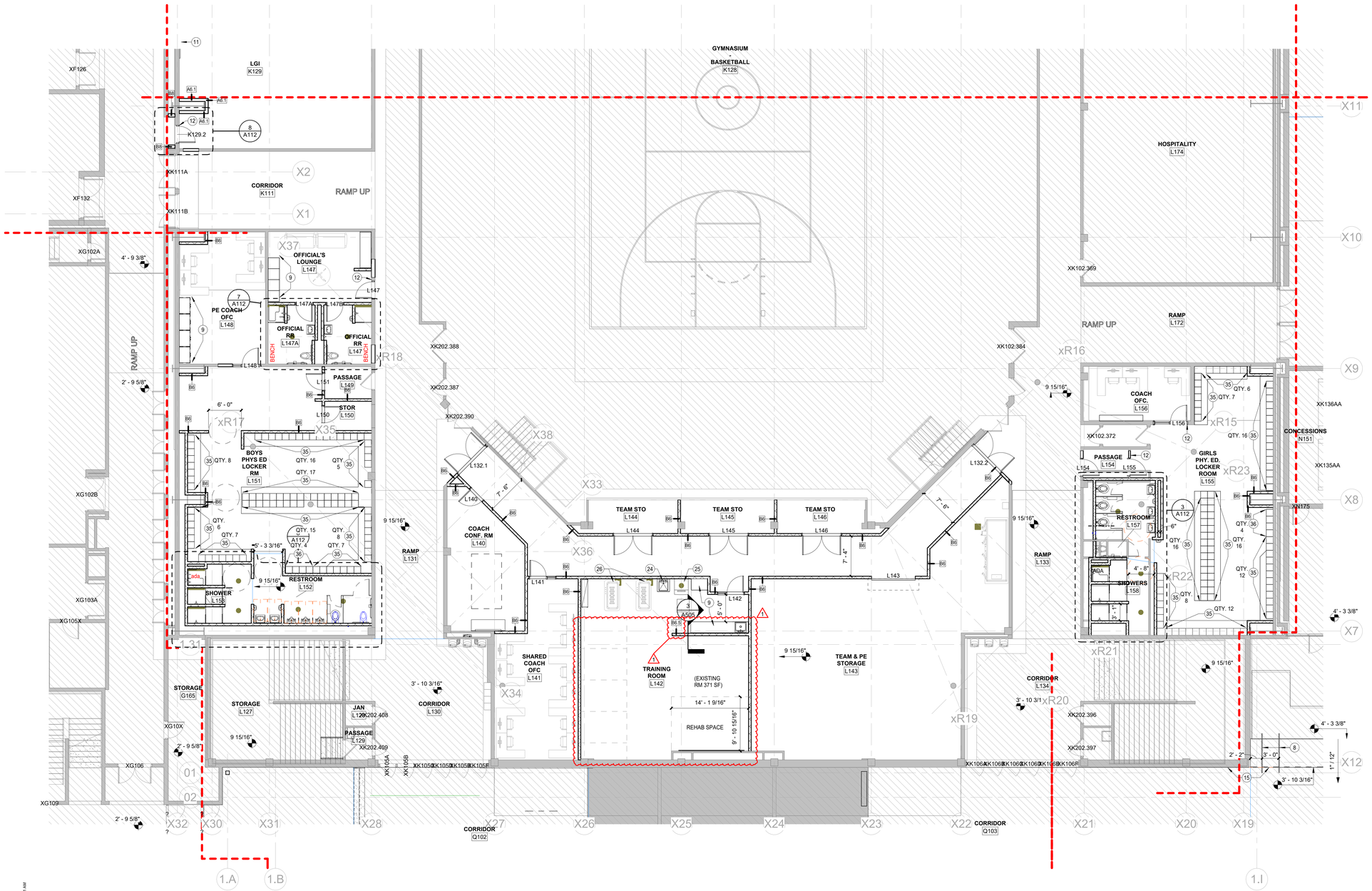
#	Date	Desc.
1	07/31/2026	Addendum #01

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PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

FLOOR PLAN - FIRST FLOOR - UNIT K

A101K



GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

G. FOR ALL RESTROOM FACILITIES WITH GYPSUM WALL FINISH REPLACE 5/8" TYPE "X" GYPSUM BOARD WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD, SEE SPECS FOR DETAILS

H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE

PLAN NOTES - FLOOR PLAN

1 SIDEWALK, SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP, SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
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6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
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17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
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24 SERVICE SINK
25 ICE MACHINE
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30 ADA COOKTOP WITH CASEWORK
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N
TRUE NORTH

A B C D E F G H J K L M N O P Q R S

1 FLOOR PLAN - FIRST FLOOR - UNIT L
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME: 7/31/2026 11:58:41 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

FLOOR PLAN - FIRST FLOOR - UNIT L

A101L

PLAN NOTES - FLOOR PLAN

1 SIDEWALK. SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP. SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
5 ADA ACCESS PADDLE. SEE SPECFICIATIONS FOR ADDITIONAL INFORMATION.
6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
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17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
19 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS
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30 ADA COOKTOP WITH CASEWORK
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GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

G. FOR ALL RESTROOM FACILITIES WITH GYPSUM WALL FINISH REPLACE 5/8" TYPE "X" GYPSUM BOARD WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD, SEE SPECS FOR DETAILS

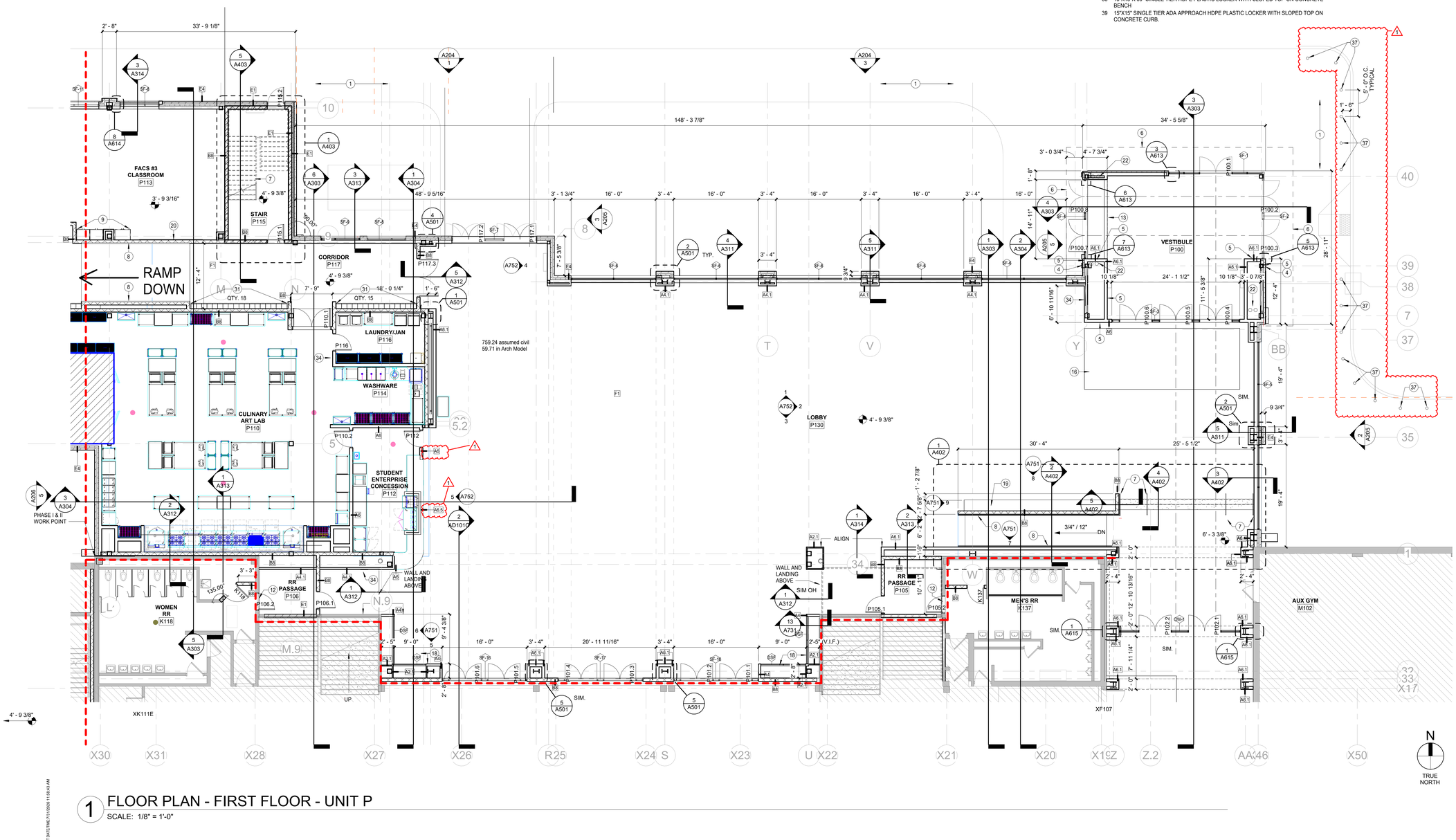
H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE



1 FLOOR PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME:7/31/2026 11:58:43 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. CRIPE REGISTERED No. 880033 STATE OF INDIANA

REVISIONS:			
#	Date	Desc.	
1	07/31/2026	Addendum #01	

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

FLOOR PLAN - FIRST FLOOR - UNIT P

A101P

TYPICAL CEILING TYPES

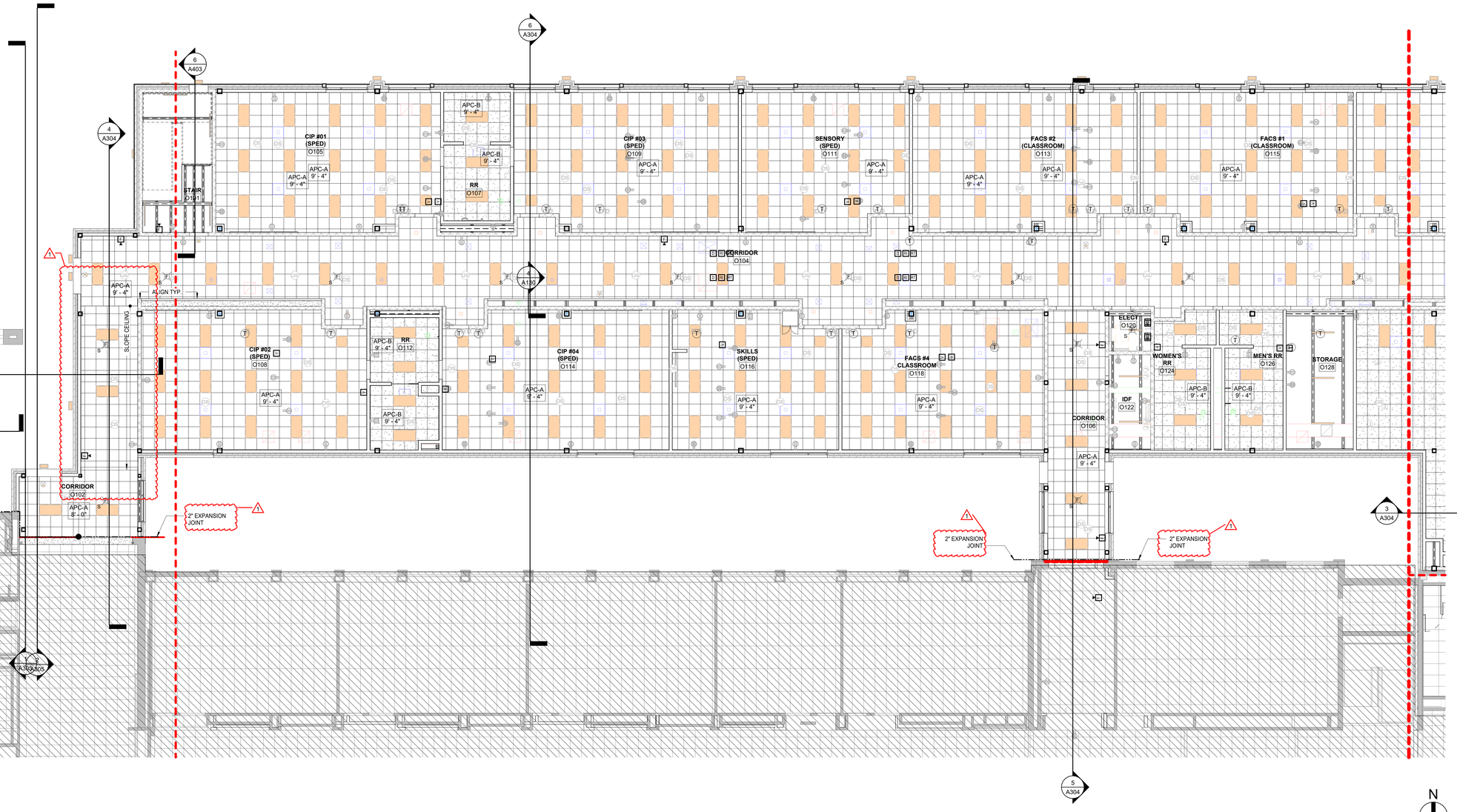
- 2x2 ACOUSTICAL CEILING TILE TYPE A (APC-A)
- 2x2 ACOUSTICAL CEILING TILE TYPE B (APC-B)
- GYPSUM BOARD CEILING
- METAL SOFFIT
- EXPOSED STRUCTURE, PAINT EXPOSED STRUCTURE WHERE INDICATED
- OUT OF SCOPE

GENERAL NOTES

1. ALL INTERIOR CEILINGS AT 9'-4" UNLESS NOTED OTHERWISE.
2. PATCH AND REPAIR WALLS AROUND PIPE PENETRATIONS.

PLAN NOTES - RCP

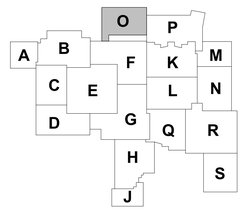
1 GYPSUM BULKHEAD
2 PROVIDE LID TO ROOM WITH 3/4" DECKING ON 6" COLD FORMED METAL FRAMING. PAINT DECKING.
3 LINE OF WALL ABOVE. SEE SECTION.
4 PAINT EXPOSED DECK, STRUCTURAL AND MECHANICAL ELEMENTS, PT-1.
5 PAINT EXPOSED DECK, STRUCTURAL AND MECHANICAL ELEMENTS, PT-3.
6 SUSPENDED ANODIZED ALUMINUM 3D LETTERING. CUSTOM RAL COLOR PAINTED. LETTERS TO BE 5'-4" W X 7'-0" H. PLAN SOUTH END OF LETTERS TO BE DROPPED 5 DEGREES FROM NORTH END OF LETTERS.
7 WOOD VENEERED CEILING PANEL, WCP-1. REFER TO FINISH LEGEND.
8 INFILL ACOUSTIC CEILING TILE AND GRID AS NEEDED. KEEP EXISTING CEILING AS IS.
9 PAINT HORIZONTAL AND VERTICAL SURFACES OF GYPSUM BOARD ACCENT PAINT PT-2. REFER TO FINISH LEGEND.



1 REFLECTED CEILING PLAN - FIRST FLOOR - UNIT O

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

N
TRUE NORTH



PLOT DATE/TIME: 7/31/2026 11:08:47 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#2417SS
DATE:	07/10/2026
DRAWN BY:	Author

REFLECTED CEILING PLAN - FIRST FLOOR - UNIT O

A121O

TYPICAL CEILING TYPES

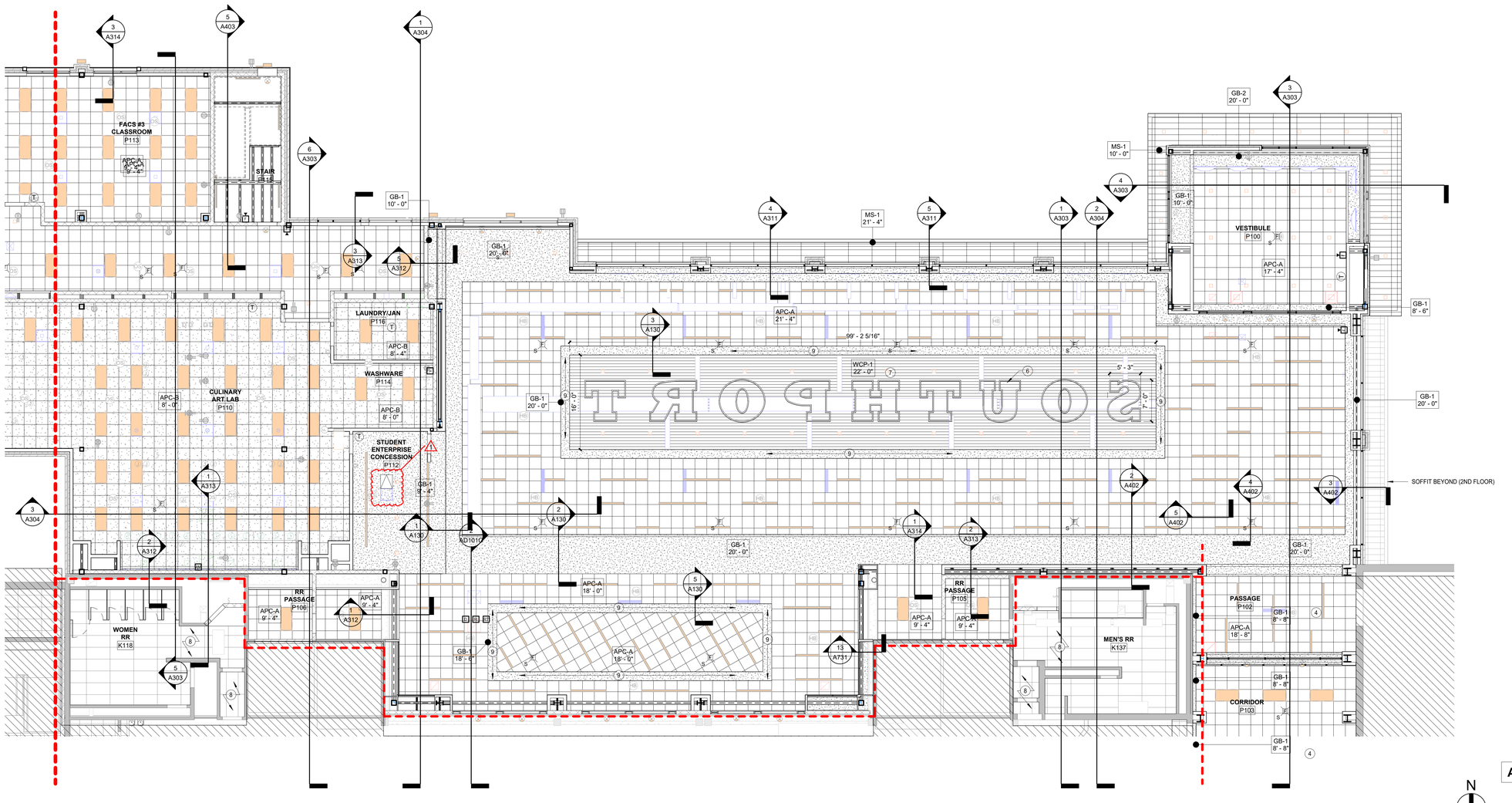
- 2x2 ACOUSTICAL CEILING TILE TYPE A (APC-A)
- 2x2 ACOUSTICAL CEILING TILE TYPE B (APC-B)
- GYPSUM BOARD CEILING
- METAL SOFFIT
- EXPOSED STRUCTURE, PAINT EXPOSED STRUCTURE WHERE INDICATED
- OUT OF SCOPE

GENERAL NOTES

1. ALL INTERIOR CEILINGS AT 9'-4" UNLESS NOTED OTHERWISE.
2. PATCH AND REPAIR WALLS AROUND PIPE PENETRATIONS.

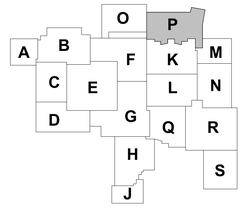
PLAN NOTES - RCP

1 GYPSUM BULKHEAD
2 PROVIDE LID TO ROOM WITH 3/4" DECKING ON 6" COLD FORMED METAL FRAMING. PAINT DECKING.
3 LINE OF WALL ABOVE. SEE SECTION.
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7 WOOD VENEERED CEILING PANEL, WCP-1. REFER TO FINISH LEGEND.
8 INFILL ACOUSTIC CEILING TILE AND GRID AS NEEDED. KEEP EXISTING CEILING AS IS.
9 PAINT HORIZONTAL AND VERTICAL SURFACES OF GYPSUM BOARD ACCENT PAINT PT-2. REFER TO FINISH LEGEND.



1 REFLECTED CEILING PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"

N
TRUE NORTH



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

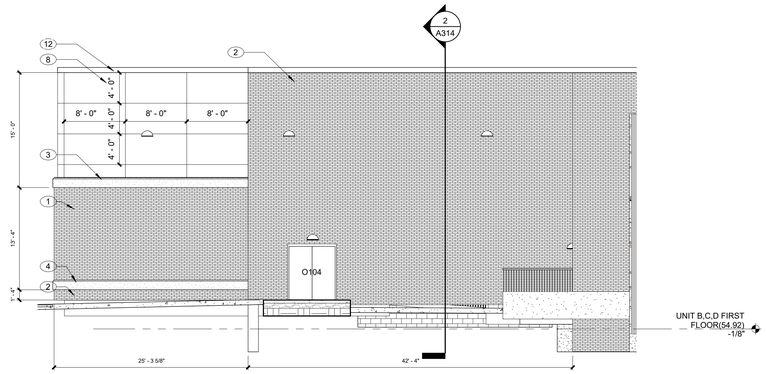
REFLECTED CEILING PLAN - FIRST FLOOR - UNIT P

A121P

PLOT DATE/TIME:7/31/2026 11:58:51 AM

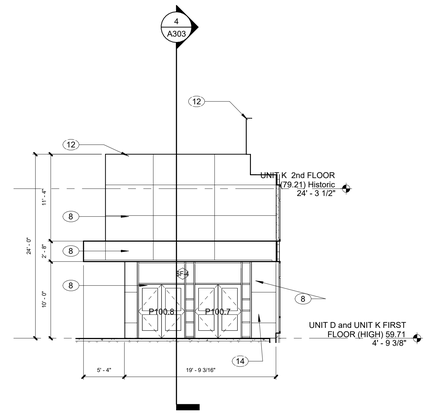
ELEVATION NOTES - EXTERIOR

1	BRICK A. MODULAR BRICK. SEE SPECIFICATIONS.
2	BRICK B. MODULAR BRICK. SEE SPECIFICATIONS.
3	INDIANA LIMESTONE TRIM PROFILE A. SMOOTH CUT, BUFF COLOR
4	INDIANA LIMESTONE TRIM PROFILE B. SMOOTH CUT, BUFF COLOR
6	BRICK CONTROL JOINT
7	MECHANICAL UNIT - SEE MECHANICAL
8	PREFINISHED METAL PANEL - COLOR 'GRAY'
9	PREFINISHED METAL PANEL - COLOR 'BLACK'
10	PREFINISHED METAL PANEL - COLOR 'RED'
12	PREFINISHED ROOF EDGE
14	ACCESS CONTROL
17	PREFINISHED METAL LETTERS 30" TALL. ARIAL FONT. SECURE TO FACE OF BUILDING.
18	BACKLIT METAL SIGN WITH SCHOOL LOGO.
20	FINISHED GRADE, SEE CIVIL.
21	6" CONCRETE RETAINING WALL.
22	CONCRETE SIDEWALK - SEE CIVIL
23	SITE TBD
27	STEEL HANDRAIL WITH VERTICAL POST AT MAX 4'-0". SHOP PRIMED AND FIELD PAINTED.
29	2" BUILDING EXPANSION JOINT



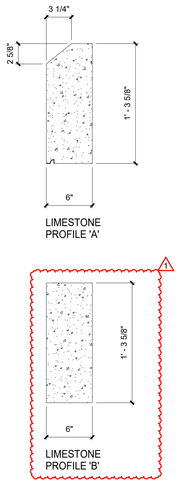
6 Elevation Ph2 West

SCALE: 1/8" = 1'-0" REF. 1 / A101O



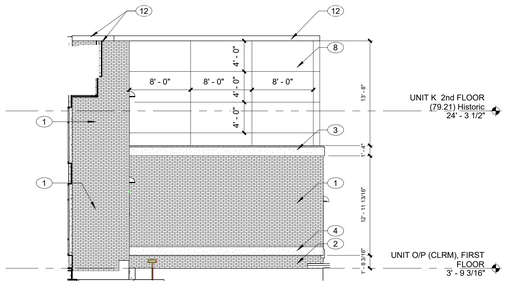
5 Elevation Ph2 West Entry Cube1

SCALE: 1/8" = 1'-0" REF. 1 / A101P



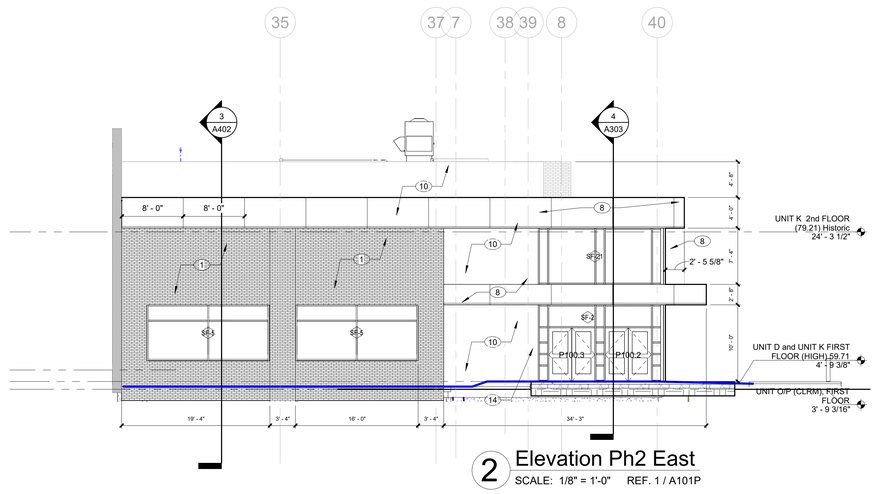
4 LIMESTONE PROFILES.

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



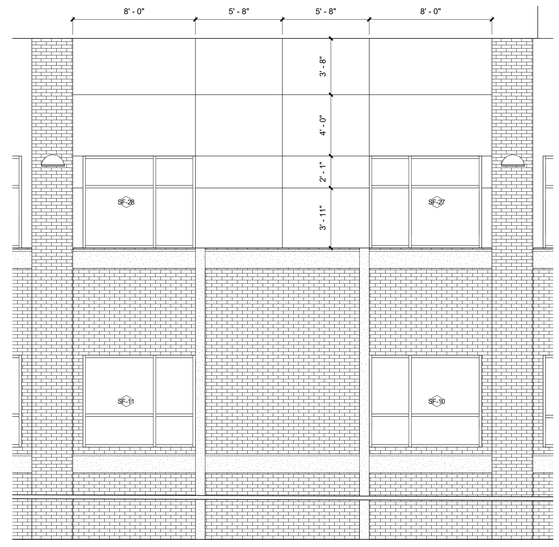
3 Elevation Ph2 East - Partial

SCALE: 1/8" = 1'-0" REF. 1 / A101P



2 Elevation Ph2 East

SCALE: 1/8" = 1'-0" REF. 1 / A101P



1 ENLARGED METAL PANEL ELEVATION

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

BRIAN J. ZIMMERMAN
REGISTERED
NO 80003391
STATE OF
INDIANA
REGISTERED ARCHITECT

REVISIONS:			
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1	07/31/2026	Addendum #01	

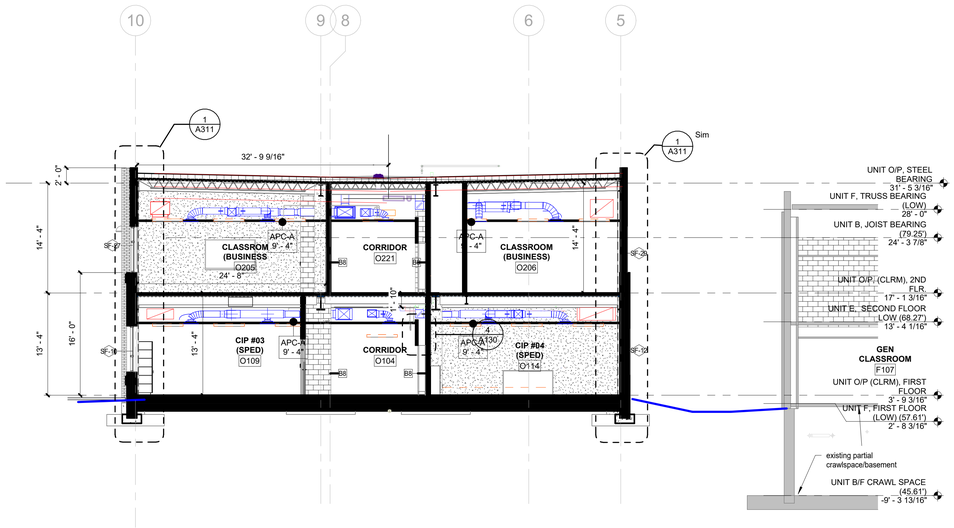
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DATE:	07/10/2026
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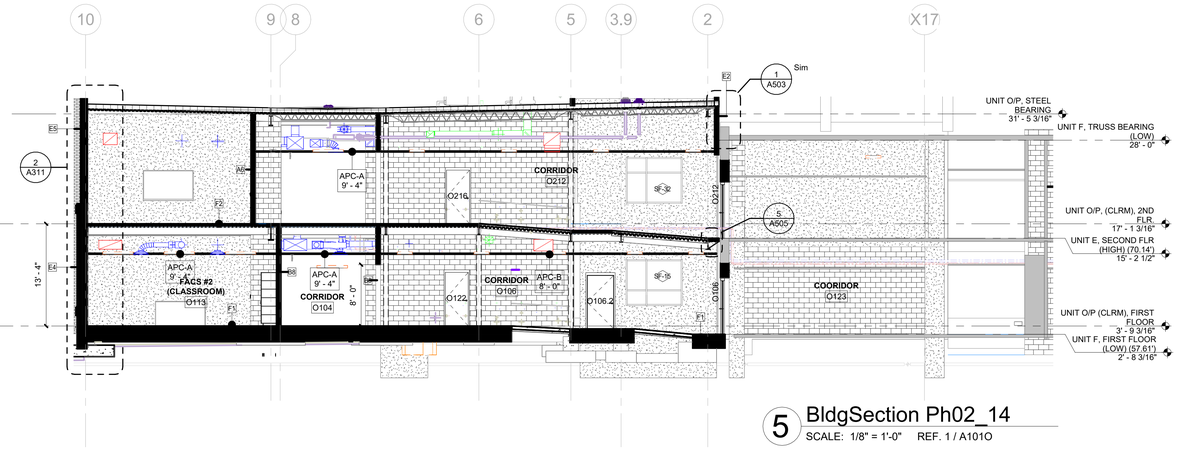
EXTERIOR ELEVATIONS

A205

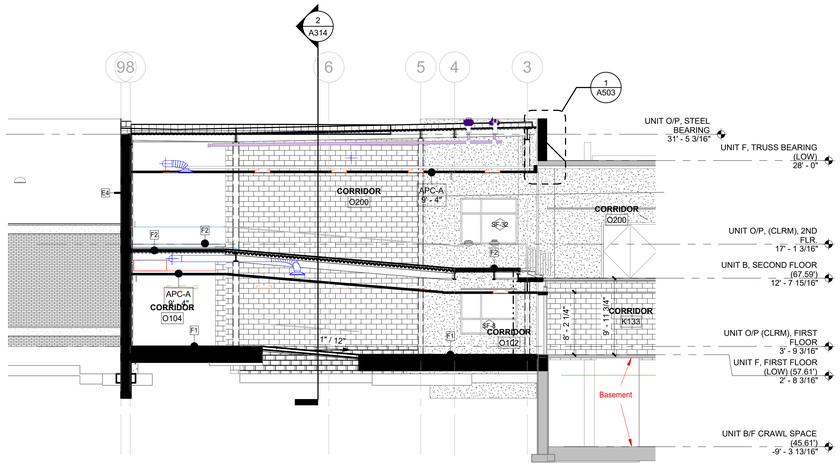
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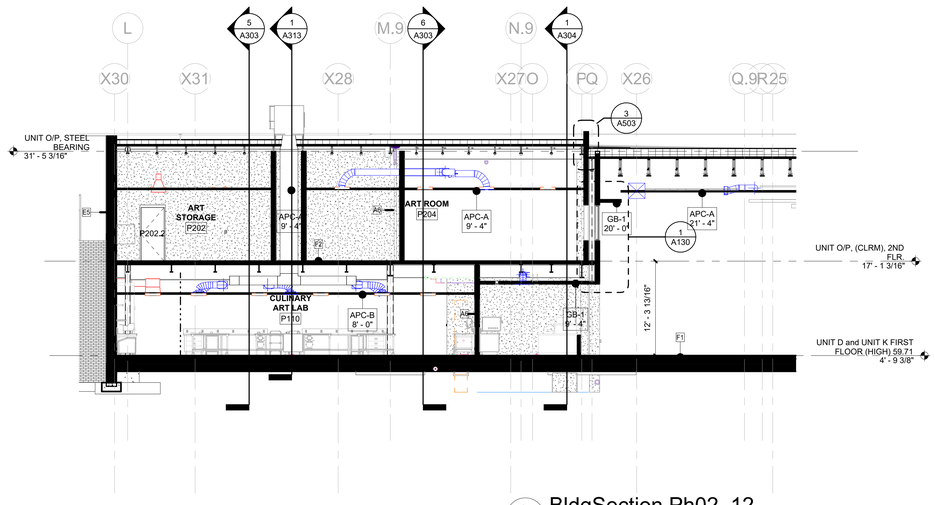
6 BldgSection Ph02_08
SCALE: 1/8" = 1'-0" REF. 1 / A101O



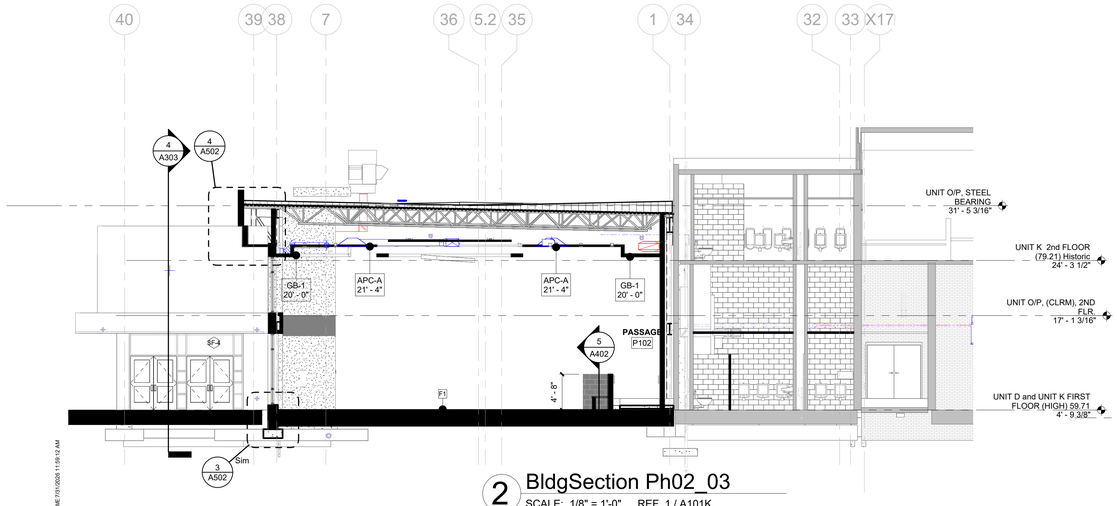
5 BldgSection Ph02_14
SCALE: 1/8" = 1'-0" REF. 1 / A101O



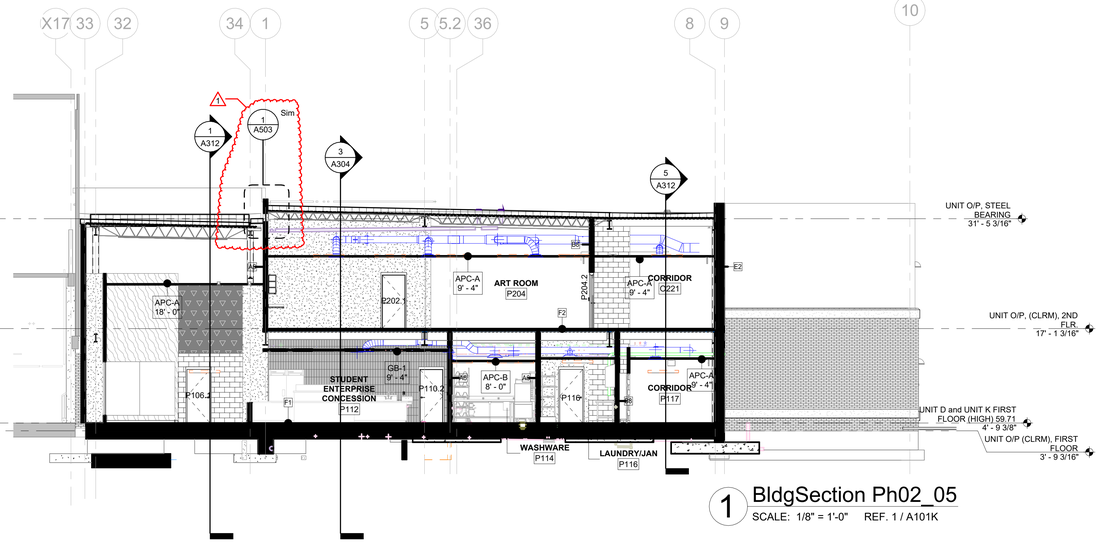
4 BldgSection Ph02_09
SCALE: 1/8" = 1'-0" REF. 1 / A101O



3 BldgSection Ph02_12
SCALE: 1/8" = 1'-0" REF. 1 / A101K



2 BldgSection Ph02_03
SCALE: 1/8" = 1'-0" REF. 1 / A101K



1 BldgSection Ph02_05
SCALE: 1/8" = 1'-0" REF. 1 / A101K

PLOT DATE/TIME:7/31/2026 11:55:12 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



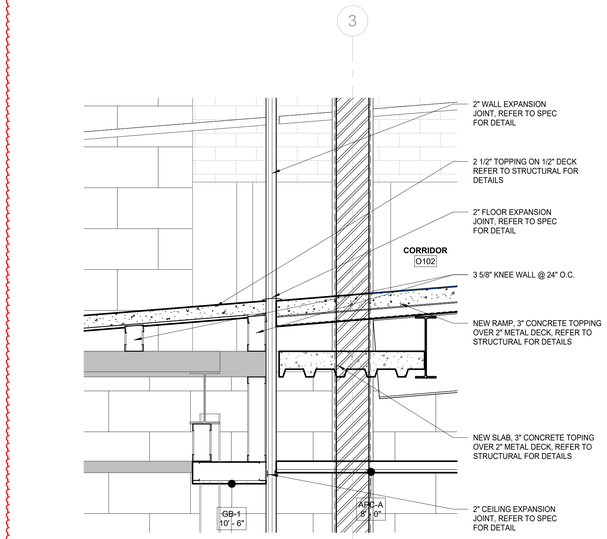
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1	07/31/2026	Addendum #01	

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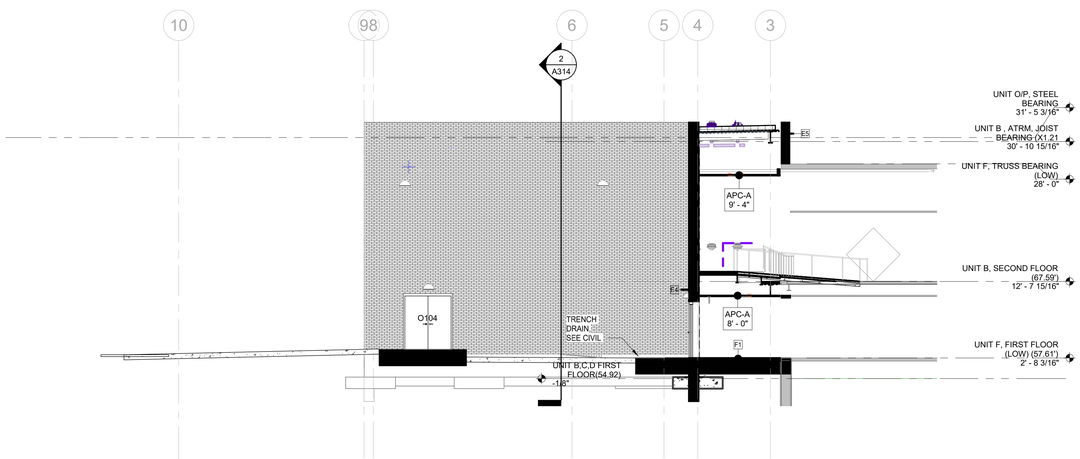
BUILDING SECTIONS

A304



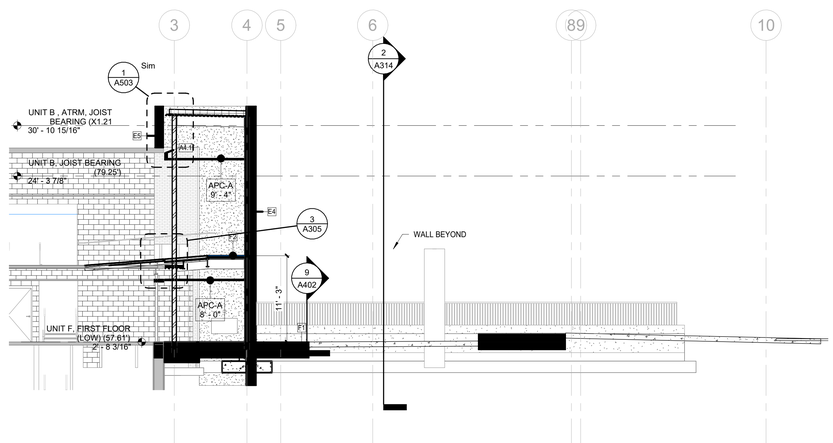
3 DETAIL - RAMP FLOOR EXPANSION JOINT

SCALE: 1" = 1'-0" REF. 1 / A305



2 BldgSection Ph02_16

SCALE: 1/8" = 1'-0" REF. 1 / A101O



1 BldgSection Ph02_18

SCALE: 1/8" = 1'-0" REF. 1 / A101O

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. CRIPPEN REGISTERED No 880033 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

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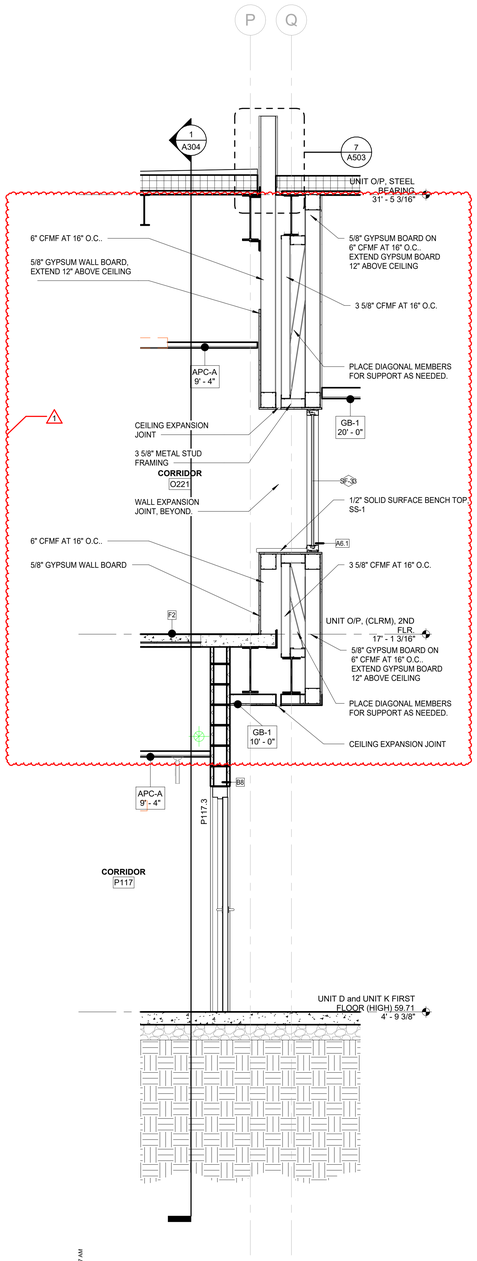
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BUILDING SECTIONS

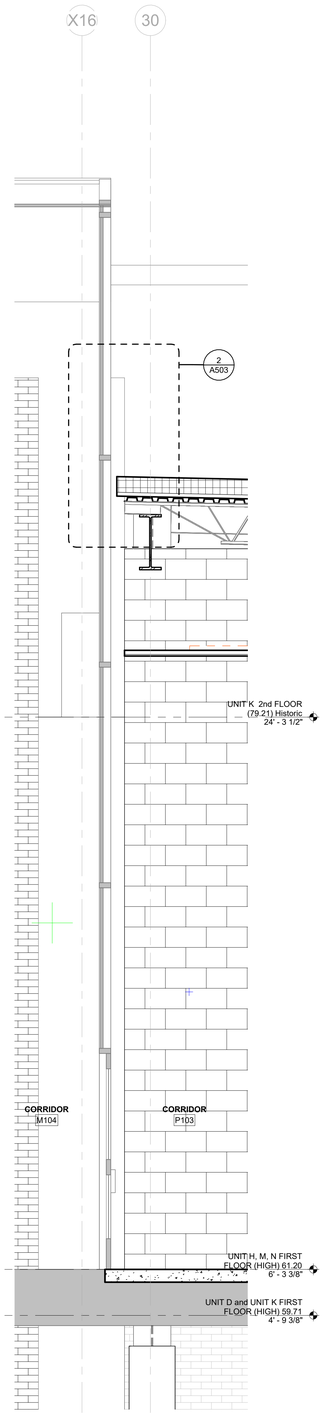
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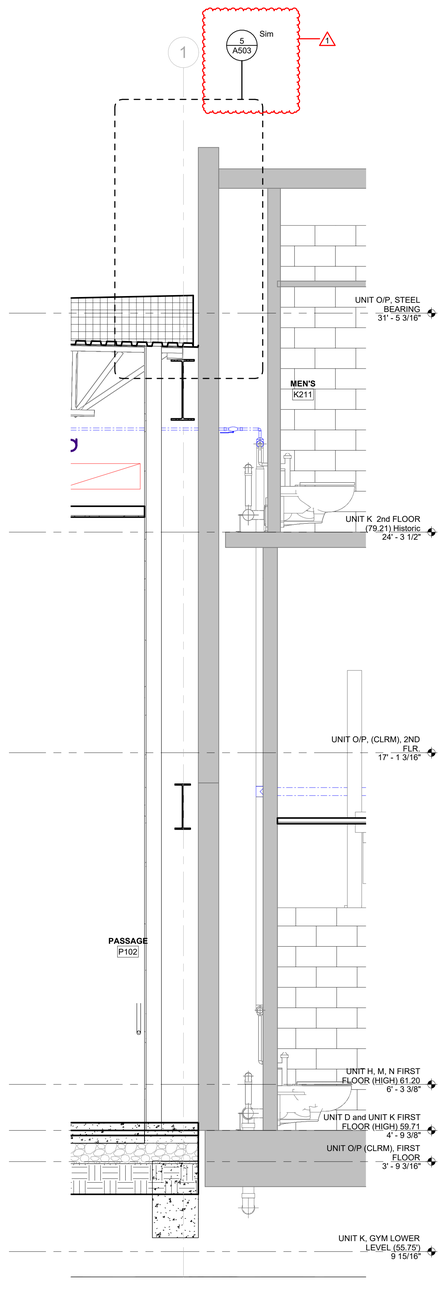
5 WALL SECTION - N CORRIDOR

SCALE: 1/2" = 1'-0" REF. 1 / A101P



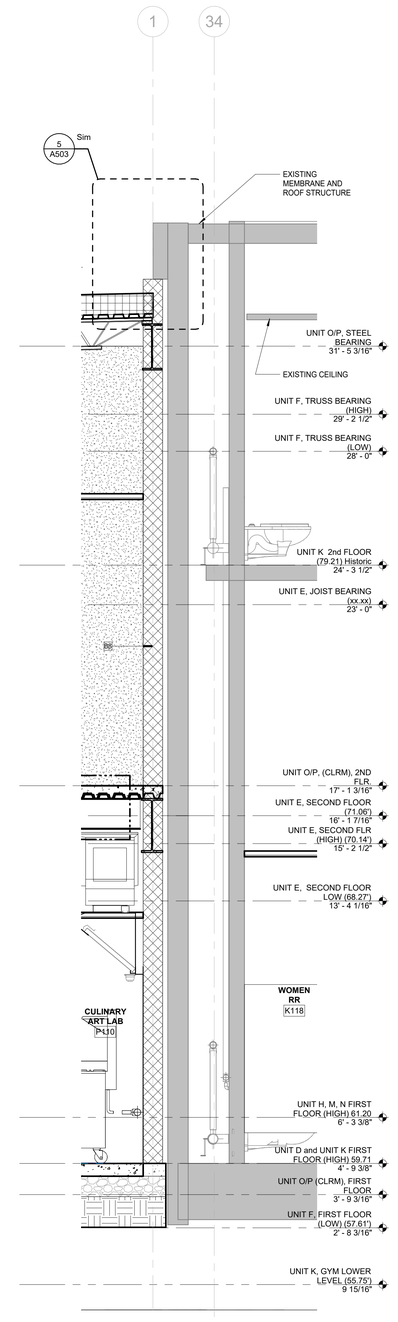
4 WallSection Ph02_09

SCALE: 1/2" = 1'-0" REF. 3 / A303



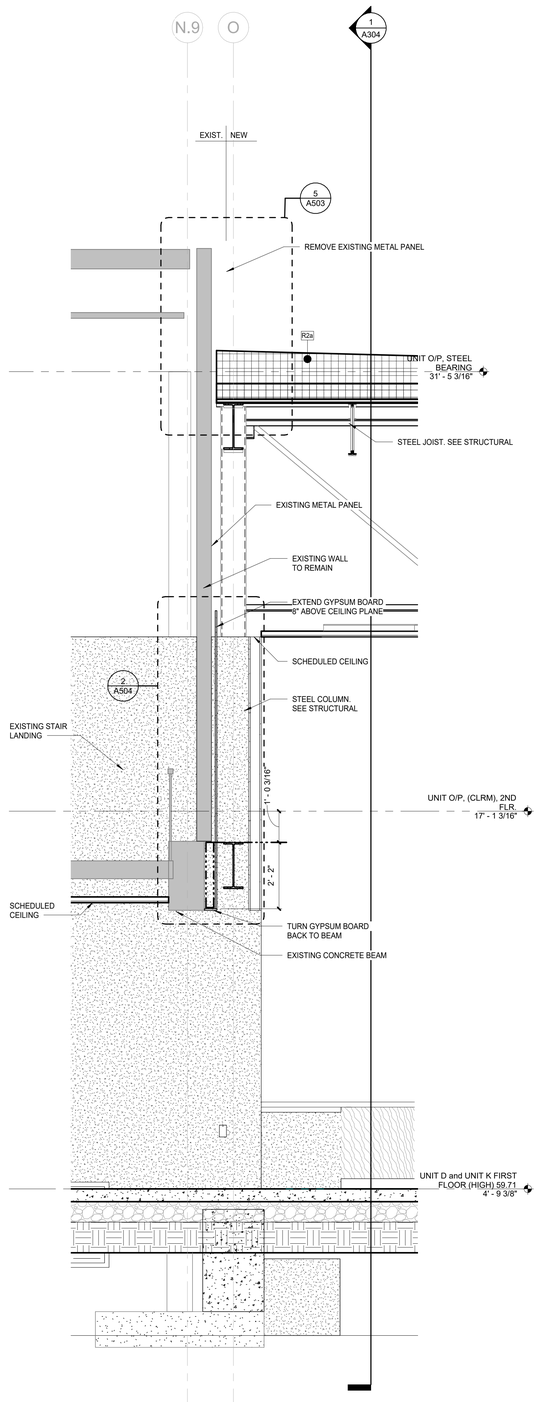
3 WallSection Ph02_06

SCALE: 1/2" = 1'-0" REF. 1 / A303



2 WallSection Ph02_03

SCALE: 1/2" = 1'-0" REF. 1 / A101K



1 WALL SECTION - Exist Fieldhouse STAIR

SCALE: 1/2" = 1'-0" REF. 1 / A101K

PLOT DATE/TIME:7/31/2026 11:59:17 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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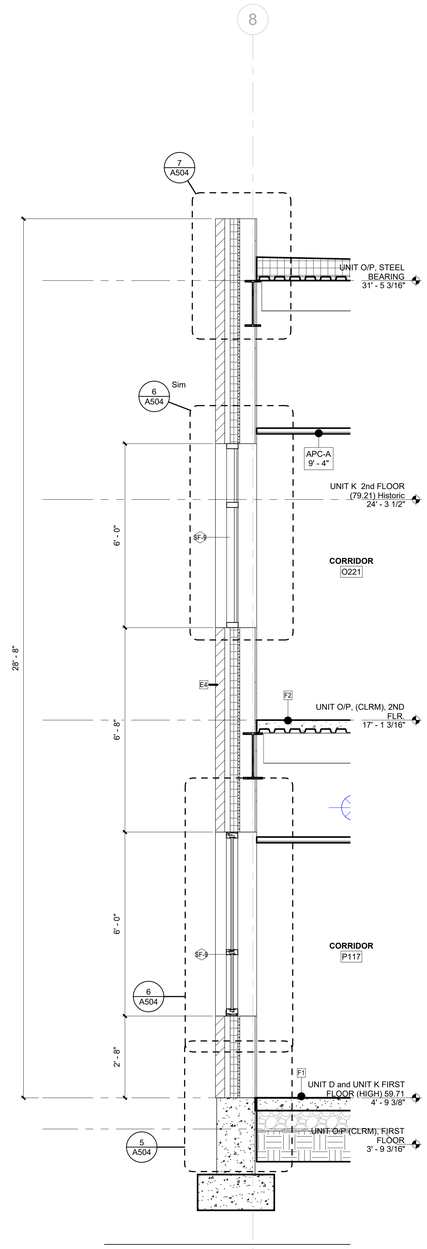
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1	07/31/2026	Addendum #01

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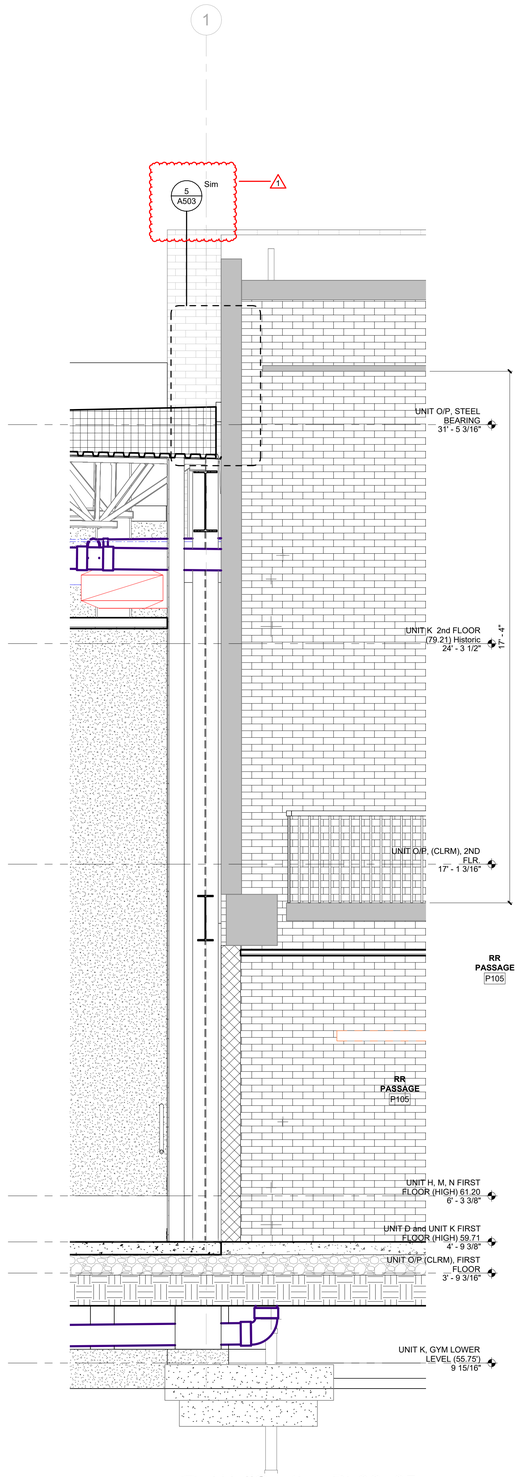
WALL SECTIONS

A312



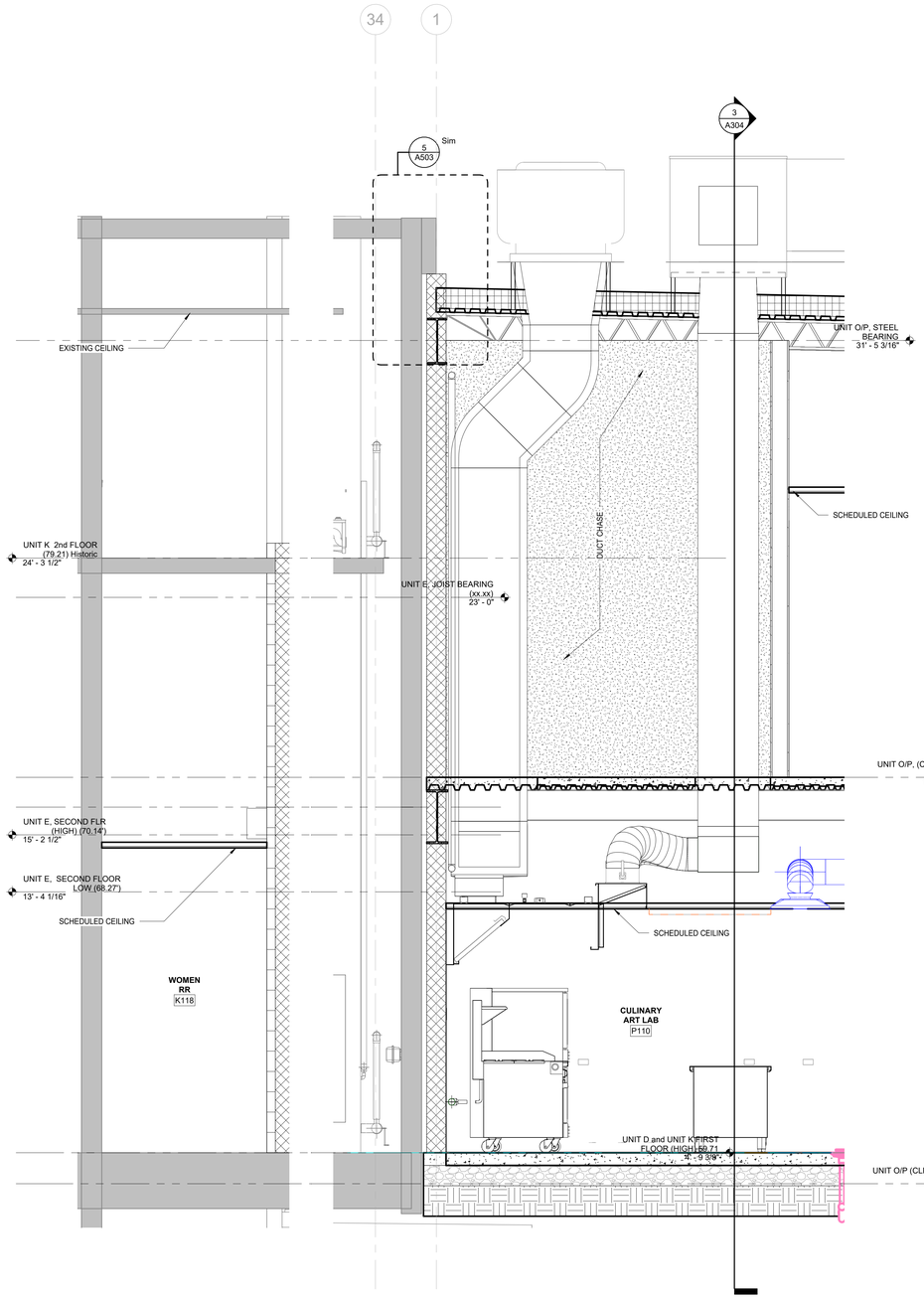
3 BRICK ON MTL STUD WALL SECTION

SCALE: 1/2" = 1'-0" REF. 1 / A101P



2 WallSection Ph02_05

SCALE: 1/2" = 1'-0" REF. 1 / A101K



1 WallSection Ph02_07

SCALE: 1/2" = 1'-0" REF. 1 / A101K

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L CRIPE
REGISTERED
NO.
8800139
STATE OF
INDIANA

REVISIONS:		
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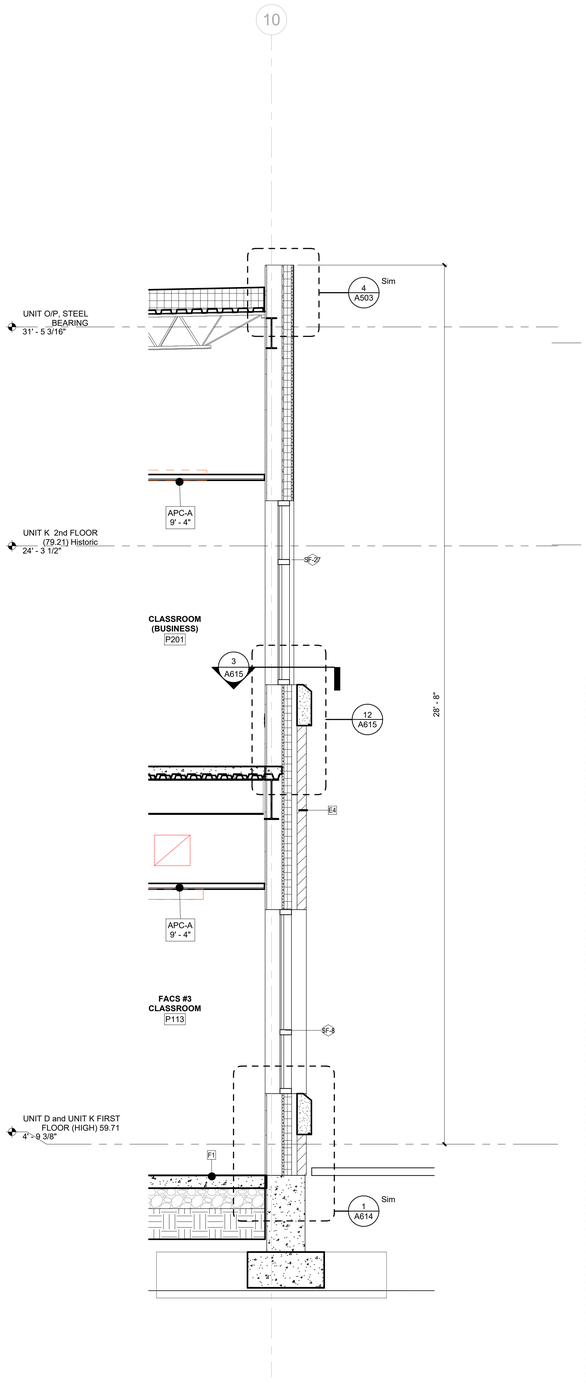
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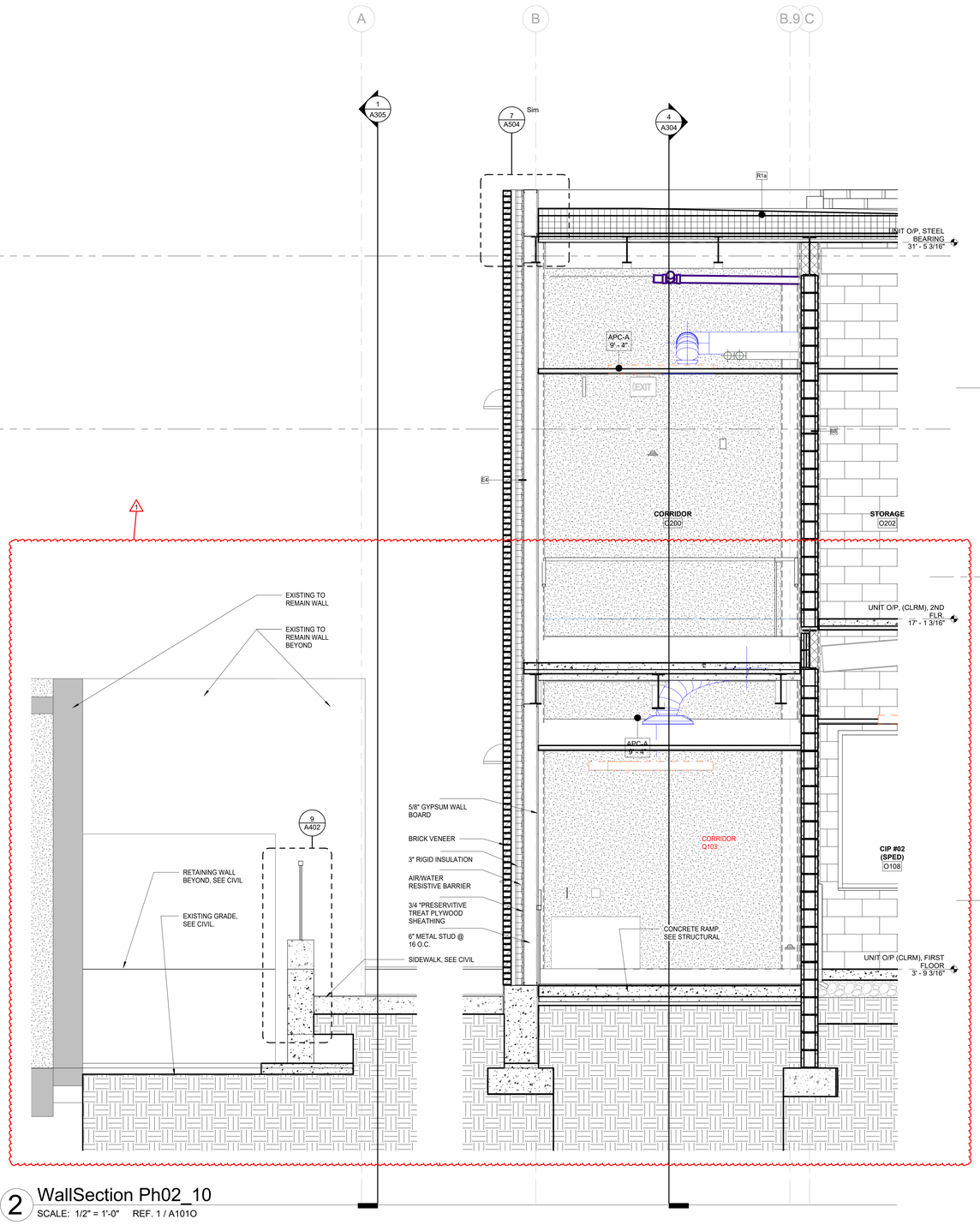
WALL SECTIONS

A313

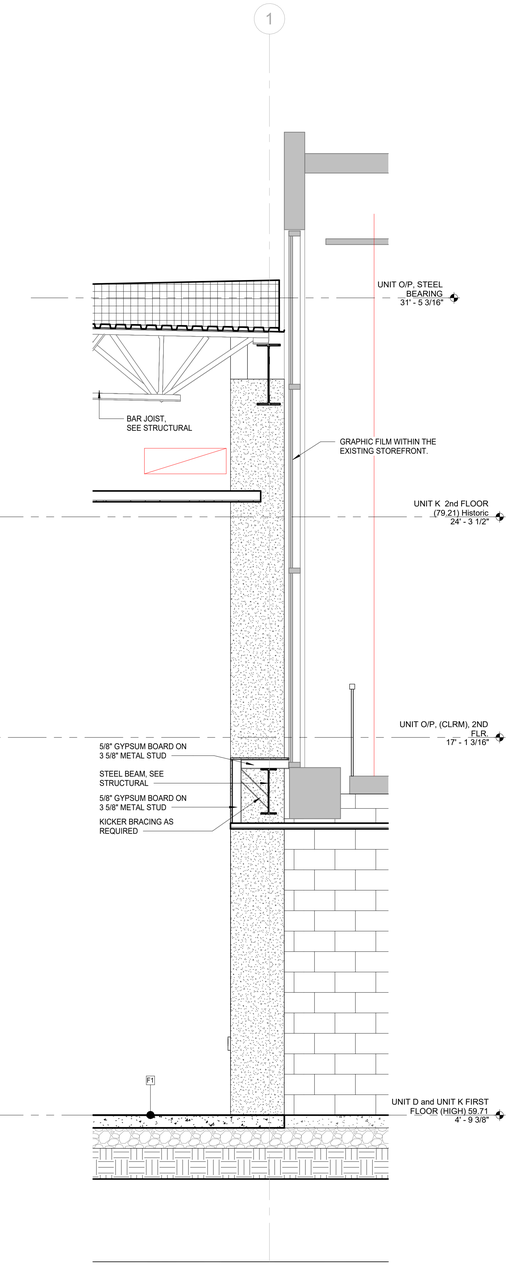
PLOT DATE/TIME:7/31/2026 11:59:21 AM



3 Section 7
SCALE: 1/2" = 1'-0" REF. 1 / A101O



2 WallSection Ph02_10
SCALE: 1/2" = 1'-0" REF. 1 / A101O



1 WallSection Ph02_11
SCALE: 1/2" = 1'-0" REF. 1 / A101K

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERY L. CRIPE
REGISTERED
NO
8800139
STATE OF
INDIANA

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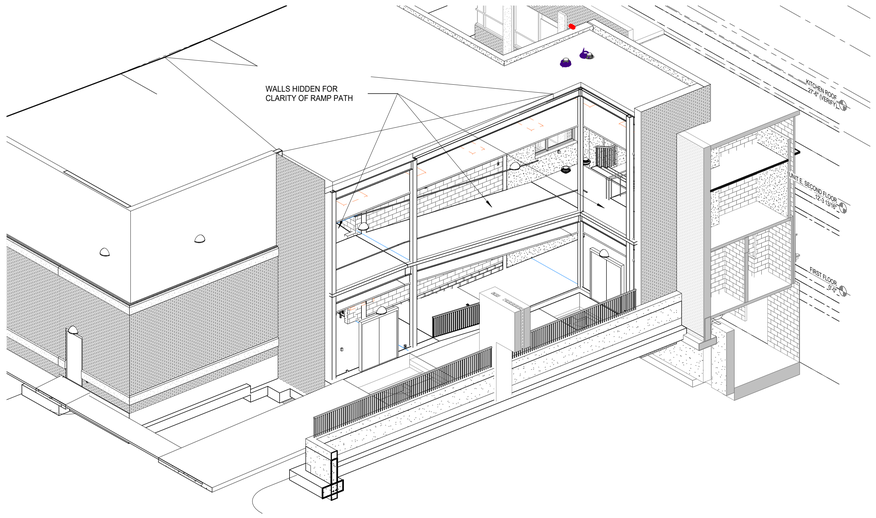
WALL SECTIONS

A314

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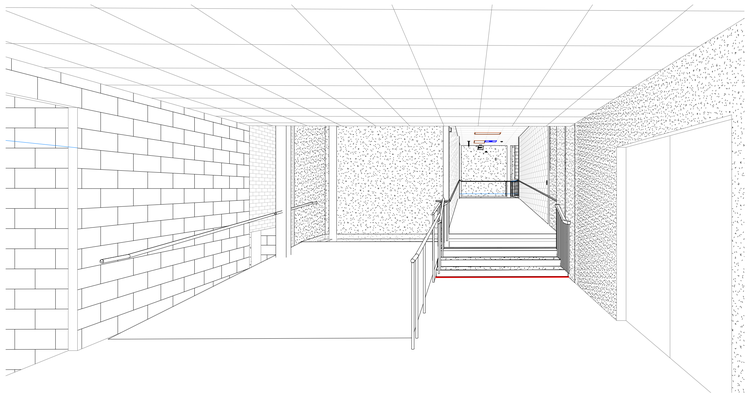
GENERAL NOTES

A. ALL STAIR STRINGERS AND HANDRAILS ARE TO BE PAINTED



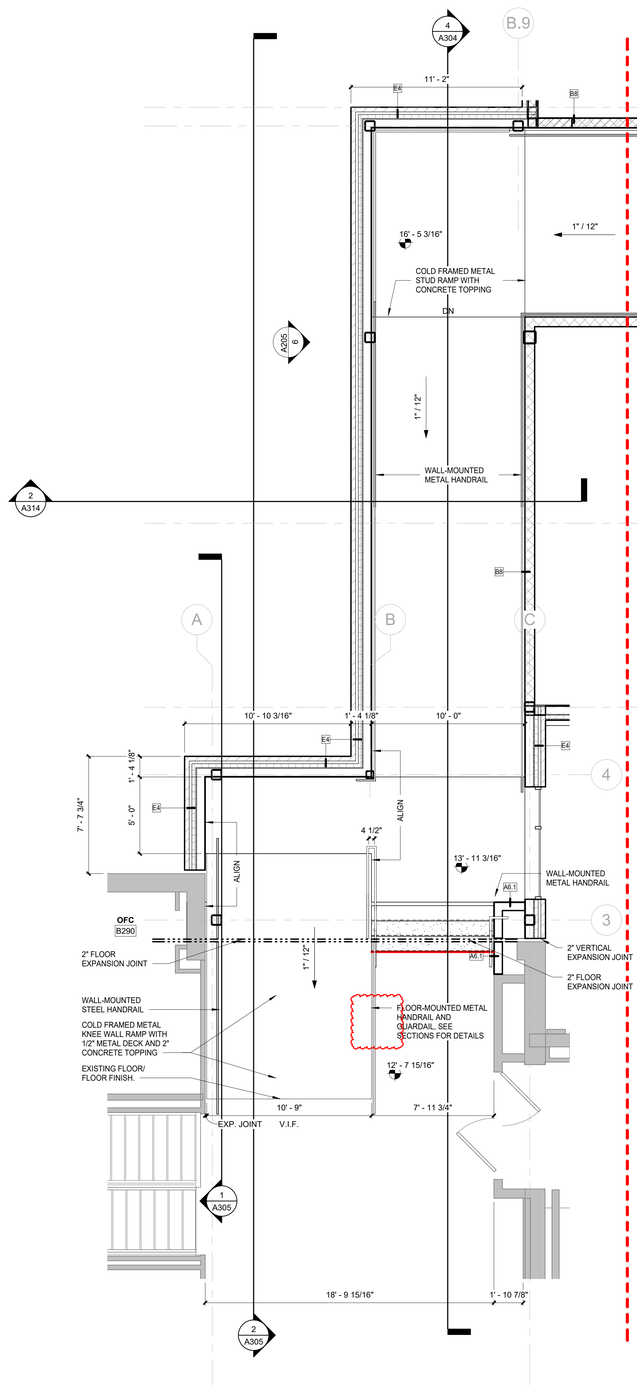
6 WEST RAMP 3D VIEW

SCALE:



2 CORRIDOR O200 PERSPECTIVE

SCALE:



1 ENLG FLR PLAN - RAMP/STAIR O200

SCALE: 1/4" = 1'-0" REF. 1 / A102O

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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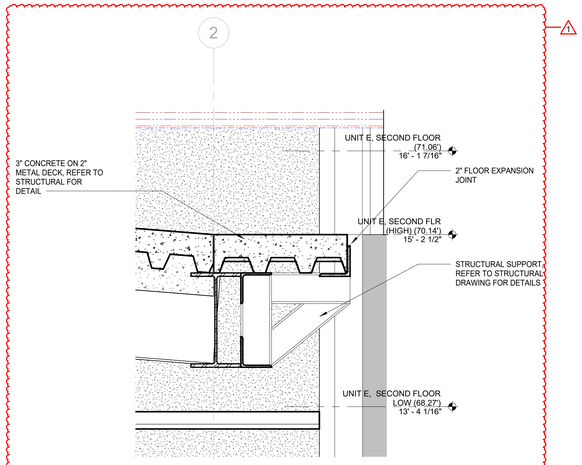
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VERTICAL CIRCULATION

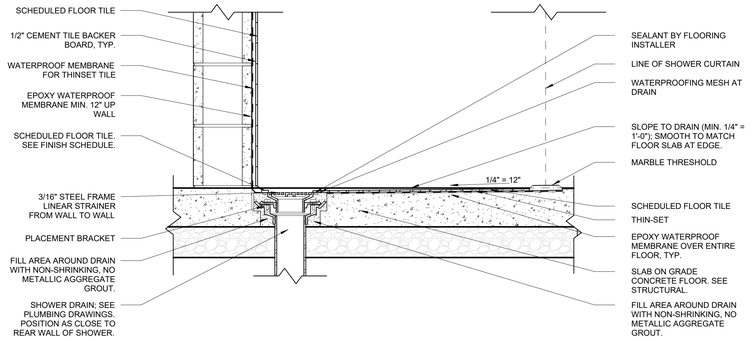
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PLOT DATE/TIME: 7/31/2026 1:11:29 AM



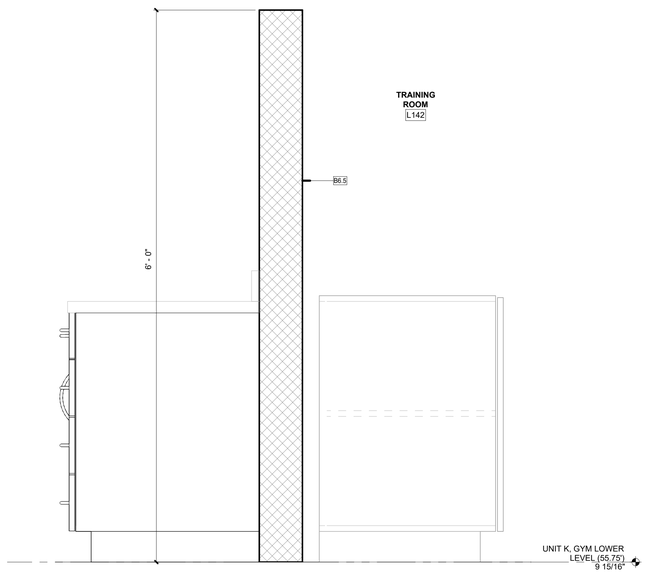
5 EXPANSION JOINT @ RAMP

SCALE: 1 1/2" = 1'-0" REF. 5 / A304



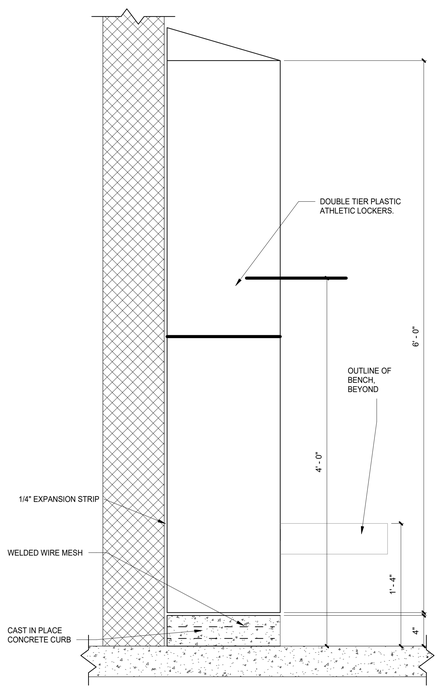
4 TYP. SHOWER DRAIN SLAB ON GRADE

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



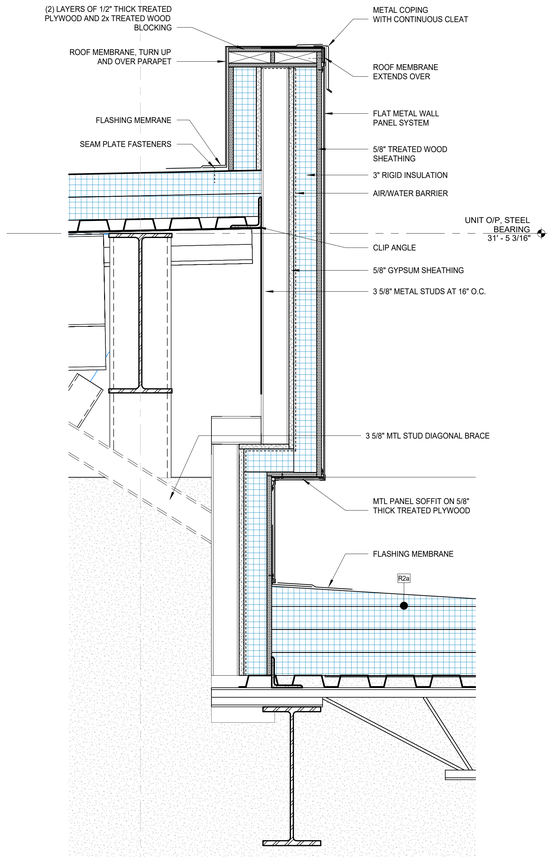
3 TRAINING ROOM DIVIDING WALL

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



2 LOCKER BENCH ADA

SCALE: 1 1/2" = 1'-0" REF. 1 / A113



1 ROOF DETAIL - VESTIBULE P100

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

LANCER ASSOCIATES ARCHITECTURE
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PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

SECTION DETAILS

A505

PLOT DATE/TIME:7/31/2026 1:11:50 AM

GENERAL FINISH PLAN NOTES

A. PRIOR TO INSTALLATION OF NEW FINISHES CONTRACTOR SHALL INSPECT ALL SUBSTRATES. IF A SUBSTRATE IS DEEMED UNACCEPTABLE, THE CONTRACTOR SHALL REPAIR AS NECESSARY FOR SUBSTRATE TO ACCEPT NEW MATERIALS.

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F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

H. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

J. REFER TO FINISH LEGEND FOR INTERIOR FINISH INFORMATION.

K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

L. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

M. REFER TO INTERIOR TRANSITION DETALS SHEET A731 FOR TRANSITION STRIP PRODUCT DETAILS.

N. ALL MECHANICAL CLOSETS TO HAVE A SEALED CONCRETE FLOOR FINISH. PROVIDE RESILIENT REDUCER TO MATCH RB-1 UNDER CENTER OF DOORWAY.

O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

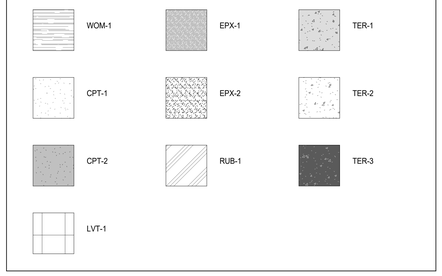
S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.

FLOOR FINISH HATCH LEGEND



FINISH LEGEND

NOTES

ETR EXISTING TO REMAIN

FLOOR COVERING

CARPET TILE

WOM-1: MFG: TARKETT
TYPE: 24" X 24" MODULAR WALK-OFF
PATTERN: ABRASIVE ACTION II
COLOR: CHARCOAL
INSTALL: PER MANF.
LOCATION: VESTIBULES
CONTACT: DOUG EDWARDS, 317-443-9579

CPT-1: MFG: TARKETT
TYPE: 18" X 36" MODULAR CARPET PLANK
PATTERN: AFTERMATH III SD
COLOR: BRINDLE 23522
INSTALL: ASHLAR, REF. PLAN FOR DIRECTION
LOCATION: CORRIDORS, CLASSROOMS
CONTACT: DOUG EDWARDS, 317-443-9579

CPT-2: MFG: TARKETT
TYPE: 18" X 36" MODULAR CARPET PLANK
PATTERN: AFTERMATH III SD
COLOR: RED RINGER 23523
INSTALL: ASHLAR, REF. PLAN FOR DIRECTION
LOCATION: CORRIDORS, CLASSROOMS
CONTACT: DOUG EDWARDS, 317-443-9579

RESINOUS FLOORING

EPX-1: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MACKERAL - 1/4" FLAKE
INSTALL: MONOLITHIC, 4" INTEGRAL COVE BASE REF. SPECS
LOCATION: RESTROOMS
CONTACT: HANK MEINKING, 314-281-7485

EPX-2: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: CUSTOM MIX - 1/4" FLAKE
F1410 GRANITE - 19%
F9959 ANTIQUE WHITE - 19%
F1050 BLACK - 19%
F5114 EBONY - 19%
F1820 WHITE - 19%
F9978 TOMATO - 5%
INSTALL: MONOLITHIC, 4" INTEGRAL COVE BASE REF. SPECS
LOCATION: LOCKER ROOMS
REMARKS: SUBMIT PHYSICAL COLOR SAMPLES FOR DESIGNER APPROVAL. MIX COLORS ARE SUBJECT TO CHANGE.
CONTACT: HANK MEINKING, 314-281-7485

RESILIENT FLOOR

RUB-1: MFG: NORA
TYPE: INTEGRAL RUBBER STAIR TREAD AND RISER; RUBBER TILE
PATTERN: NORAMENT 926 SATURA HAMMERED
COLOR: ARCTURUS 5116
INSTALL: DIRECTIONAL
LOCATION: STAIRS, REF. FINISH PLAN
CONTACT: ROB GROM 317-764-9025
REMARKS: TARKETT ADDITIONAL APPROVED MANUFACTURER RUBBER FLOORING TO BE USED AT LANDINGS.

LVT-1: MFG: TARKETT
TYPE: 18" X 18" MODULAR VINYL TILE
PATTERN: COLOR + LIGHT
COLOR: CHROMA DUST 12179
INSTALL: QUARTER-TURN
LOCATION: REF. FINISH PLAN
CONTACT: DOUG EDWARDS, 317-443-9579

TERRAZZO

TER-1: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: LUNGREN NEUTRAL (MATRIX), 10% BLENDED TAN #2 40% GEORGIA WHITE #2 25% GEORGIA WHITE #1 10% MONTGOMERY WHITE #2 15% MONTGOMERY WHITE #1
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: LOBBY - REF. FINISH PLANS

TER-2: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: LANTERN WHITE (MATRIX), 25% GEORGIA WHITE #1 45% GEORGIA WHITE #2 10% BLENDED TAN #2 10% MONTGOMERY WHITE #2 10% MONTGOMERY WHITE #1
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: LOBBY - REF. FINISH PLANS

TER-3: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: RED 186 (MATRIX), 30% CLEAR GLASS #0 50% CLEAR GLASS #1 20% CLEAR GLASS #2
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: RED ACCENT - LOBBY- REF. FINISH PLAN

CONCRETE

S-CON: TYPE: SEALED CONCRETE, REF. SPECS

SS-CON: TYPE: STAINED AND SEALED CONCRETE, REF. SPECS
STAIN: TBD

SP-CON: TYPE: SEALED AND POLISHED CONCRETE REF. SPECS
REMARKS: EXISTING SLAB TO BE PREPPED

WALL BASE

RESILIENT BASE

RB-1: MFG: TARKETT JOHNSONITE
TYPE: 4" H COVE RESILIENT WALL BASE
COLOR: 40 BLACK
LOCATION: TYPICAL UNLESS NOTED OTHERWISE, USED WITH **ALL** CASEWORK LOCATIONS

EPOXY BASE

EB-1: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MATCH EPX-1 MIX
INSTALL: MONOLITHIC, 4" H INTEGRAL COVE BASE, REF. SPECS
LOCATION: REF. TO ROOM FINISH TAG ON PLANS
CONTACT: HANK MEINKING, 314-281-7485

EB-2: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MATCH EPX-2 MIX
INSTALL: MONOLITHIC, 4" H INTEGRAL COVE BASE, REF. SPECS
LOCATION: REF. TO ROOM FINISH TAG ON PLANS
CONTACT: HANK MEINKING, 314-281-7485

TERRAZZO BASE

TERB-1: MFG: TERROXY, OR SIMILAR
TYPE: 4" INTEGRAL WALL BASE, VITRIFIED EPOXY TERRAZZO
COLOR: MATCH TER-1 MIX
INSTALL: REF. SPECS
LOCATION: LOBBY

PAINT/WALL FINISH

PAINT

PT-1: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH STANDARD WALL
LOCATION: TYPICAL
REMARKS: EPOXY PAINT TO BE USED IN LOCKER ROOM AND RESTROOMS WALLS - REFER TO FINISH PLAN KEYNOTES

PT-2: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH SCHOOL LOGO RED
LOCATION: ACCENT - REF. FINISH PLANS

PT-3: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH SW GRIZZLE GRAY
LOCATION: HM DOORS AND FRAMES (UNLESS NOTED OTHERWISE); ACCENT

PT-4: MFG: PPG
TYPE: REF. SPECS
COLOR: BLACK - MATCH SCHOOL STANDARD
LOCATION: ACCENT

WALL COVERING

WC-1: TYPE: TYPE II VINYL WALL COVERING
PATTERN: CUSTOM GRAPHIC
LOCATION: REF. FINISH PLAN AND/OR INTERIOR ELEVATIONS
REMARKS: GRAPHIC DESIGN TO BE COORDINATED DIRECTLY WITH OWNER

WALL TILE

WT-1: MFG: DALTILE
TYPE: 4"X12" GLAZED CERAMIC WALL TILE
PATTERN: COLOR WHEEL - LINEAR
COLOR: CURRENT - GLOSSY
GROUT: TBD
INSTALL: VERTICAL STACKED
LOCATION: RESTROOMS - REF. FINISH PLAN
REMARKS: RUN DIRECTLY TO TOP OF EPOXY BASE. USE SCHLUTER PIECE TO TRANSITION TO ADJACENT SURFACES
CONTACT: ROBIN BRADFORD 317-946-0823

WT-2: MFG: DALTILE
TYPE: 4"X12" GLAZED CERAMIC WALL TILE
PATTERN: COLOR WHEEL - LINEAR
COLOR: ARTIC WHITE - MATTE
GROUT: TBD
INSTALL: VERTICAL STACKED
LOCATION: RESTROOMS - REF. FINISH PLAN
REMARKS: RUN DIRECTLY TO TOP OF EPOXY BASE. USE SCHLUTER PIECE TO TRANSITION TO ADJACENT SURFACES
CONTACT: ROBIN BRADFORD 317-946-0823

PLASTIC LAMINATE/SOLID SURFACE

PLASTIC LAMINATE

PL-1: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: MANITOBA MAPLE 7911-60
INSTALL: MONOLITHIC
LOCATION: TYPICAL UNLESS NOTED OTHERWISE

PL-2: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: GRAPHITE
INSTALL: MONOLITHIC
LOCATION: ATHLETIC AREAS

PL-3: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: NATURAL RECON
INSTALL: MONOLITHIC
LOCATION: LOBBY

SOLID SURFACE

SS-1: MFG: WILSONART
TYPE: 1/2 " SOLID SURFACE
COLOR: FROSTY WHITE MIRAGE
INSTALL: MONOLITHIC
LOCATION: COUNTERTOP, WINDOW SILLS (TYP.)
REMARKS: EASED EDGE & MITERED

SS-2: MFG: REF. SPECS
TYPE: EPOXY SOLID SURFACE, REF. SPECS
COLOR: BLACK
INSTALL: MONOLITHIC
LOCATION: ART ROOM COUNTERTOPS

MISCELLANEOUS

CORNER GUARDS

CG-1: MFG: CS ACROVYN OR SIMILAR
TYPE: SSM 20N OR SIMILAR
COLOR: MATCH PT-1 (TYPICAL)
INSTALL: FROM TOP OF WALL BASE TO 7'-4" A.F.F.
LOCATION: PROVIDE AT ALL OUTSIDE DRYWALL CORNERS (TYPICAL, INCLUDING ALL INSTANCES NOT SPECIFICALLY NOTED)
CONTACT: AMY FEHRIBACH 317-407-2534

ACOUSTICAL PANEL

AWP-1: MFG: TURF
TYPE: PET ACOUSTICAL WALL PANEL, OR SIMILAR
PRODUCT: TORRENT WALL TILE
SIZE: 30"W X 30"H
COLOR: DAMASCUS 09
LOCATION: LOBBY, REF. INTERIOR ELEV. FOR SPECIFIC TILE ORDERING AND LAYOUT
REMARKS: Z-CLIP INSTALL. REF. MANF. INSTALL GUIDE

CEILING

WCP-1: MFG: ARMSTRONG
TYPE: WOOD VENEER CEILING PANEL - WOODWORKS LINEAR
SIZE: 24"W X 96"L X 3/4"H - 4" WIDE PLANKS
FINISH: PLAIN SLICE WHITE OAK (NOK)
LOCATION: LOBBY - CEILING ACCENT
CONTACT: MEGAN FOULKE 765-891-3672

LOCKERS

LR-1: MFG: ASI OR SIMILAR
TYPE: HDPE PLASTIC 1 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: FULL LATTICE MESH
COLOR: BLACK (STANDARD - CLASS A FIRE RATED)
TOP: SLOPE TOP
LOCK: PADLOCK
LOCATION: VARISTY LOCKER ROOMS

LR-2: MFG: ASI OR SIMILAR
TYPE: HDPE PLASTIC 2 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: FULL LATTICE MESH
COLOR: RED (STANDARD - CLASS A FIRE RATED)
TOP: SLOPE TOP
LOCK: PADLOCK
LOCATION: PE LOCKER ROOMS

LR-3: MFG: ASI
TYPE: METAL 2 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: STANDARD SLOT
COLOR: BLACK
TOP: FLAT TOP
LOCK: COMBINATION
LOCATION: CORRIDORS

TEXTILES

TEX-1: MFG: SWF CONTRACT OR SIMILAR
TYPE: MANUAL/AUTOMATED ROLLER SHADES - 3% OPENNESS
PATTERN: CROSSHATCH R
COLOR: DESIGNER TO SELECT COLOR FROM MANF. STANDARD
LOCATION: ALL NEW WINDOWS WITHIN SCOPE OF WORK, REF. ARCH FLOOR PLAN FOR TYPE

TEX-2: MFG: DUVALTEX, GUILFORD OF MAINE
TYPE: TACKABLE FABRIC
PATTERN: FR701
COLOR: FLANNEL 795
LOCATION: DISPLAY CASES

TOILET PARTITIONS

TP-1 MFG: BOBRICK OR SIMILAR
TYPE: CL PHENOLIC
PRODUCT: DURALINE SERIES
COLOR: BLACK 909-58, DESIGNER TO APPROVE
LOCATION: RESTROOMS, LOCKER ROOMS
CONTACT: AMY FEHRIBACH 317-407-2534

WOOD DOORS

WD-1 TYPE: WOOD DOORS
SPECIES: MAPLE
FINISH: CUSTOM STAIN TO MATCH EXISTING SCHOOL STANDARD - DESIGNER TO APPROVE

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L. CRIPE REGISTERED No 800133 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

FINISH LEGEND

A720

PLOT DATE/TIME: 7/31/2026 11:39:24 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

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K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

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N. ALL MECHANICAL CLOSETS TO HAVE A SEALED CONCRETE FLOOR FINISH. PROVIDE RESILIENT REDUCER TO MATCH RB-1 UNDER CENTER OF DOORWAY.

O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

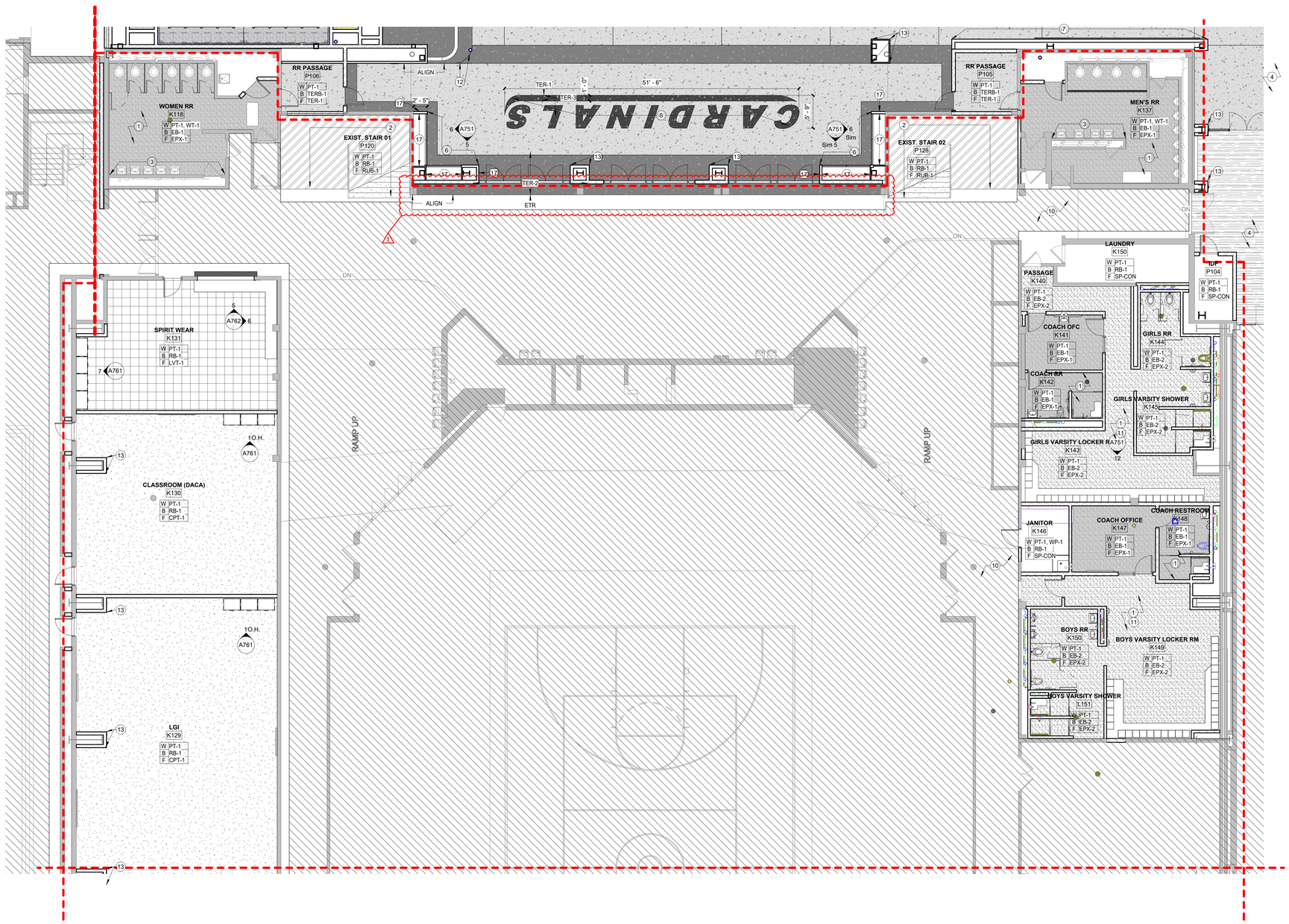
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S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.

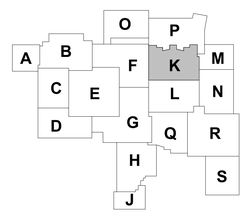


PLAN NOTES - FINISH PLAN

1 EPOXY PAINT ON ALL WALLS
2 RUBBER STAIRTREAD/RISER RUB-2
3 WALL TILE WT-1 AT THIS LOCATION. INSTALL FROM TOP OF WALL BASE TO CEILING.
4 EXISTING AND/OR NEW BRICK MASONRY FINISH DOES NOT RECEIVE PAINT
5 TERRAZZO PRE-CAST STAIRTREADS/RISERS, TER-1, INCLUDE VISIBILITY STRIP WITH GRIT.
6 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS ELEVATIONS.
7 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1. REFER TO FINISH LEGEND AND INTERIOR ELEVATION.
8 CUSTOM TERRAZZO DESIGN, TER-3. FINAL DESIGN TO BE APPROVED WITH OWNER BEFORE INSTALL.
9 FLOORING DIRECTION CHANGE. FLOOR TILES TO BE AT A 45 DEGREE ANGLE. INSTALLER TO COORDINATE ANGLE WITH DESIGNER ON SITE BEFORE INSTALL.
10 PATCH PAINT AS NEEDED IN COORDINATION WITH NEWLY CONSTRUCTED AREAS.
11 LOCKER ROOMS TO HAVE ACCENT PAINT PT-2 AND PT-4 PAINTED ON WALLS. REFER TO TYPICAL INTERIOR ELEVATION 12/A751.
12 PROVIDE METAL STRIP FOR TERRAZZO FOR DESIGN INTENT AS NOTED ON FINISH PLANS. ALSO, INCLUDE TYPICAL METAL STRIPS FOR CONSTRUCTABILITY AS LISTED IN SPECS.
13 PROVIDE CORNER GUARD AT THIS LOCATION, CG-1. REFER TO FINISH LEGEND.
14 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
15 CORRIDOR CARPET TO BE MITER CUT AT WALL'S CORNER. FOLLOW FLOORING DIRECTIONAL ARROW AND INSTALL METHOD AS INDICATED.
16 WALL TILE WT-2 AT THIS LOCATION. REFER TO INTERIOR ELEVATIONS FOR HEIGHT.
17 PLASTIC LAMINATE, PL-3 FINISHED WALL. REFER TO FINISH LEGEND.
18 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

1 INTERIOR FINISH PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

N
TRUE NORTH



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L CRITES
REGISTERED
NO 880033
STATE OF INDIANA

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - FIRST FLOOR - UNIT K

A721K

PLOT DATE/TIME:7/31/2026 11:59:37 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

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F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

H. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

J. REFER TO FINISH LEGEND FOR INTERIOR FINISH INFORMATION.

K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

L. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

M. REFER TO INTERIOR TRANSITION DETALS SHEET A731 FOR TRANSITION STRIP PRODUCT DETAILS.

N. ALL MECHANICAL CLOSETS TO HAVE A SEALED CONCRETE FLOOR FINISH. PROVIDE RESILIENT REDUCER TO MATCH RB-1 UNDER CENTER OF DOORWAY.

O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

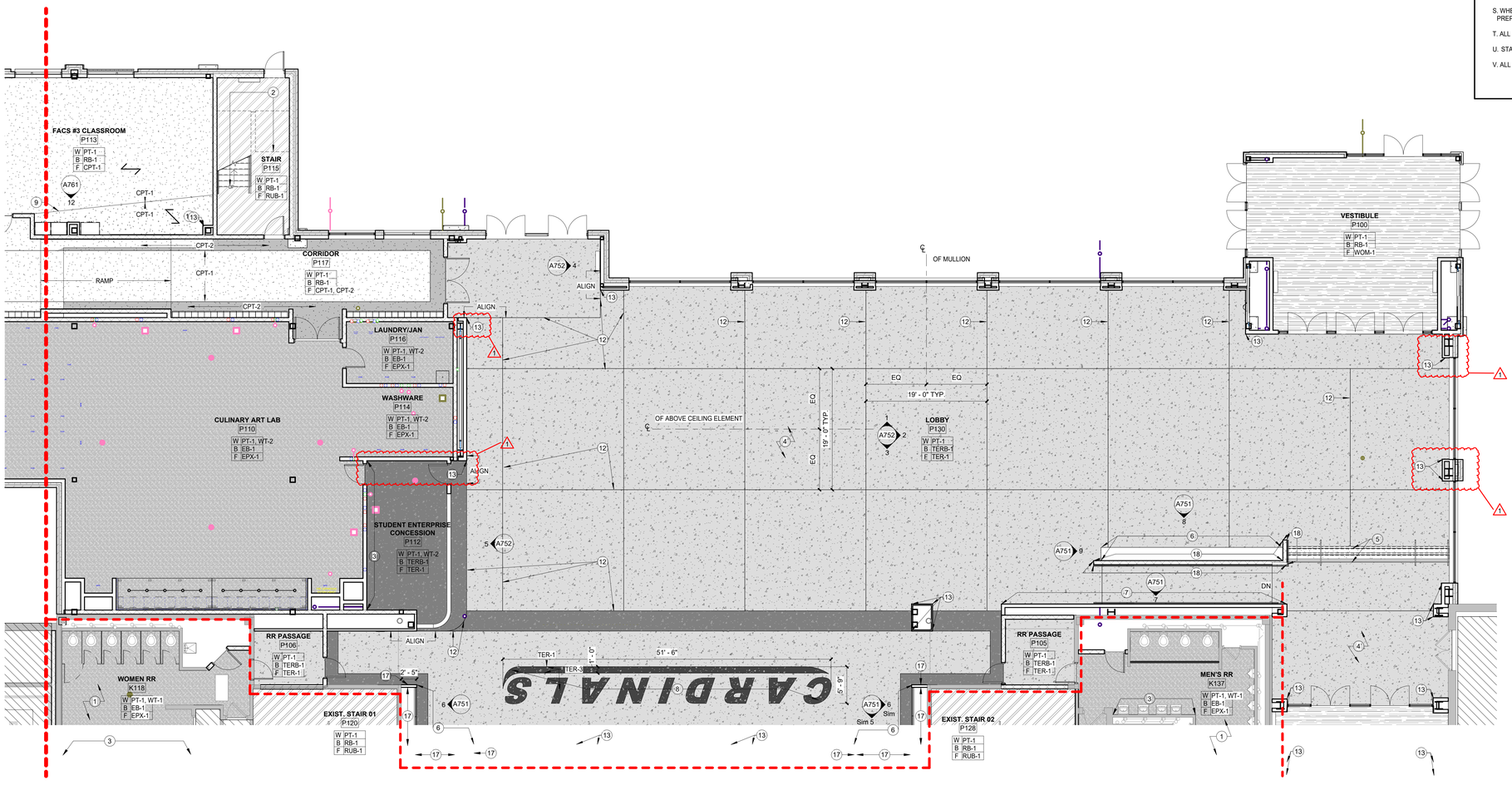
R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

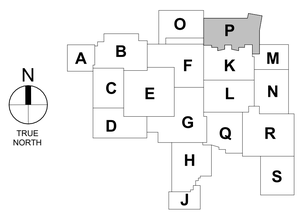
T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.



1 INTERIOR FINISH PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"



N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - FIRST FLOOR - UNIT P

A721P

PLOT DATE/TIME:7/31/2026 11:59:42 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

PLAN NOTES - FINISH PLAN

1 EPOXY PAINT ON ALL WALLS
2 RUBBER STAIRTREAD/RISER RUB-2
3 WALL TILE WT-1 AT THIS LOCATION. INSTALL FROM TOP OF WALL BASE TO CEILING.
4 EXISTING AND/OR NEW BRICK MASONRY FINISH DOES NOT RECEIVE PAINT
5 TERRAZZO PRE-CAST STAIRTREADS/RISERS, TER-1. INCLUDE VISIBILITY STRIP WITH GRIT.
6 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS ELEVATIONS.
7 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1. REFER TO FINISH LEGEND AND INTERIOR ELEVATION.
8 CUSTOM TERRAZZO DESIGN, TER-3. FINAL DESIGN TO BE APPROVED WITH OWNER BEFORE INSTALL.
9 FLOORING DIRECTION CHANGE. FLOOR TILES TO BE AT A 45 DEGREE ANGLE. INSTALLER TO COORDINATE ANGLE WITH DESIGNER ON SITE BEFORE INSTALL.
10 PATCH PAINT AS NEEDED IN COORDINATION WITH NEWLY CONSTRUCTED AREAS.
11 LOCKER ROOMS TO HAVE ACCENT PAINT PT-2 AND PT-4 PAINTED ON WALLS. REFER TO TYPICAL INTERIOR ELEVATION 12/A751.
12 PROVIDE METAL STRIP FOR TERRAZZO FOR DESIGN INTENT AS NOTED ON FINISH PLANS. ALSO, INCLUDE TYPICAL METAL STRIPS FOR CONSTRUCTABILITY AS LISTED IN SPECS.
13 PROVIDE CORNER GUARD AT THIS LOCATION, CG-1. REFER TO FINISH LEGEND.
14 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
15 CORRIDOR CARPET TO BE MITER CUT AT WALLS CORNER. FOLLOW FLOORING DIRECTIONAL ARROW AND INSTALL METHOD AS INDICATED.
16 WALL TILE WT-2 AT THIS LOCATION. REFER TO INTERIOR ELEVATIONS FOR HEIGHT.
17 PLASTIC LAMINATE, PL-3 FINISHED WALL. REFER TO FINISH LEGEND.
18 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

GENERAL FINISH PLAN NOTES

A. PRIOR TO INSTALLATION OF NEW FINISHES CONTRACTOR SHALL INSPECT ALL SUBSTRATES. IF A SUBSTRATE IS DEEMED UNACCEPTABLE, THE CONTRACTOR SHALL REPAIR AS NECESSARY FOR SUBSTRATE TO ACCEPT NEW MATERIALS.

B. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND REPAIR ALL EXISTING WALLS, SLAB, AND CEILINGS TO A CONDITION SUITABLE FOR ACCEPTING NEW FINISHES AS PER MANUFACTURER'S RECOMMENDED INSTALLATION METHODS. MINIMUM LEVEL 4 FINISH ON EXISTING AND NEW WALLS, UNLESS NOTED OTHERWISE.

C. ALL FLOORING TRANSITIONS TO COMPLY WITH ADA GUIDELINES AND TO OCCUR UNDER CENTOR OF DOORWAYS, AND OR AT CENTERLINE OF WALL. UNLESS INDICATED DIFFERENTLY ON FINISH PLANS.

D. CONTRACTOR TO PROVIDE PROTECTION AS NEEDED DURING CONSTRUCTION, IF ANY TO PRESERVE NEW FINISHES WHILE COMPLETING CONSTRUCTION.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFACTION OF DIMENSIONS AND JOB CONDITIONS. ANY DEVIATION FROM WHAT IS INDICATED ON THE FINISH PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS AND DESIGNERS.

F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

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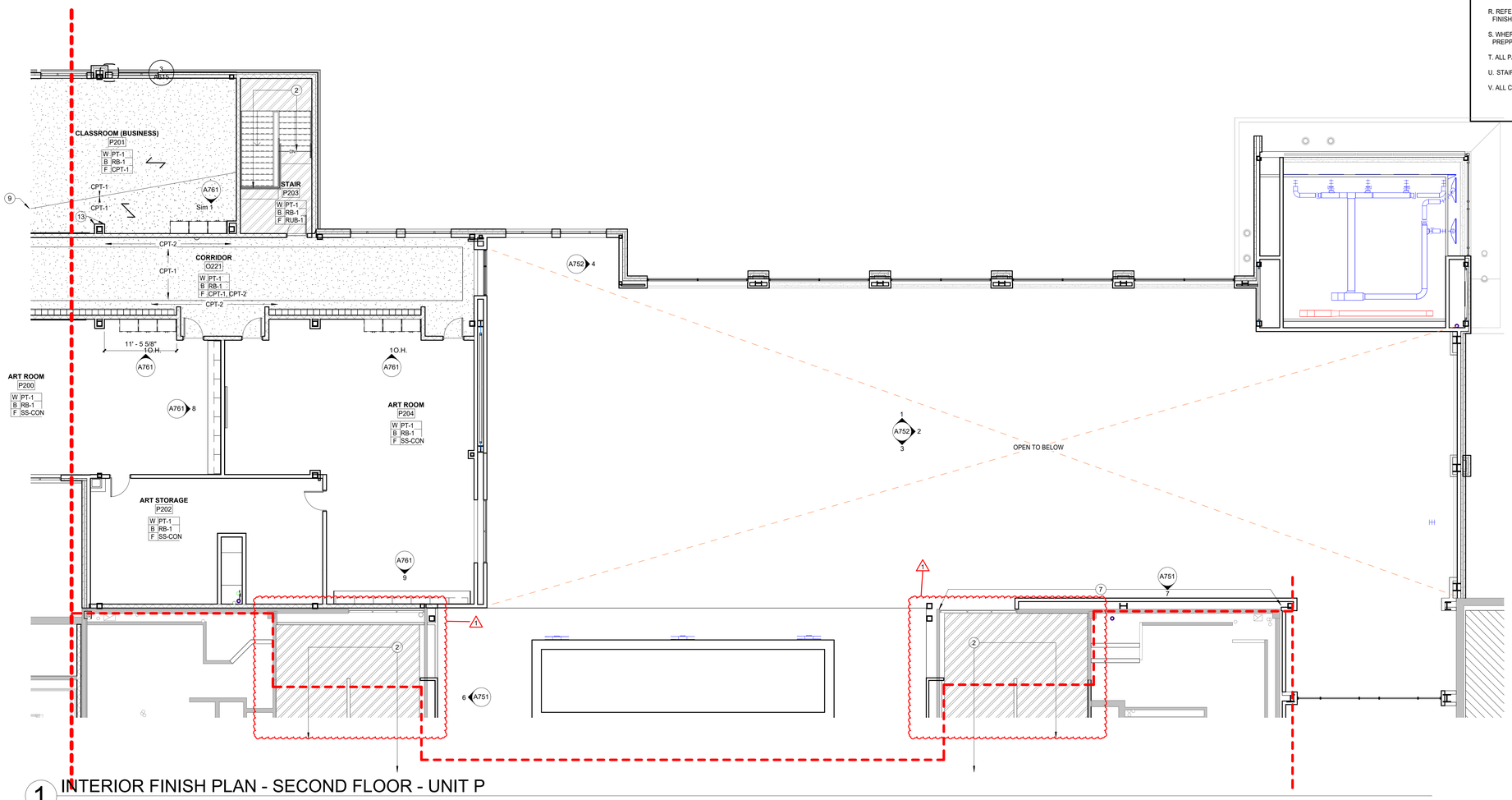
R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

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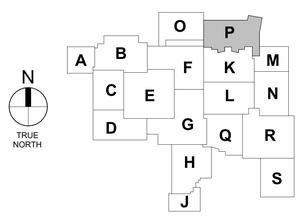
T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.



1 INTERIOR FINISH PLAN - SECOND FLOOR - UNIT P
SCALE: 1/8" = 1'-0"



N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
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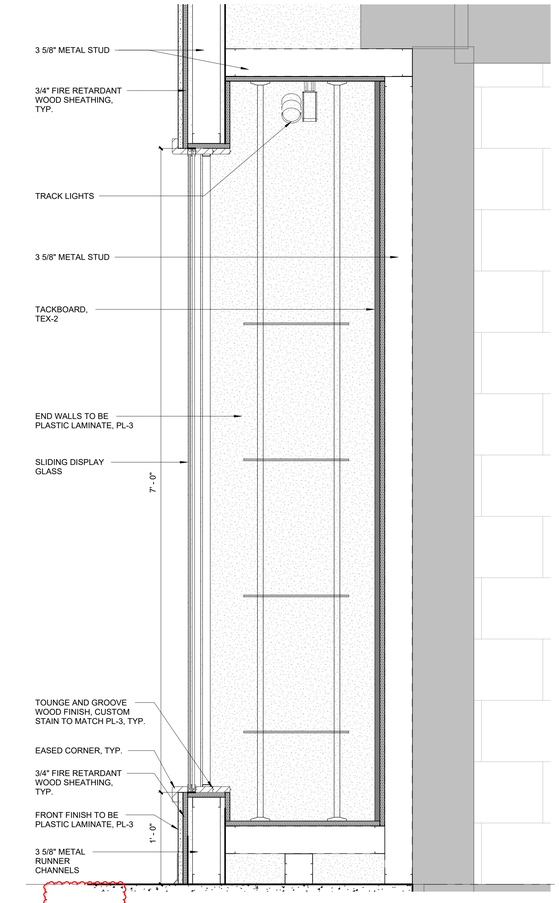
100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - SECOND FLOOR - UNIT P

A722P

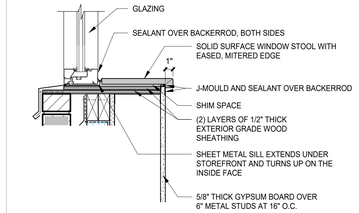
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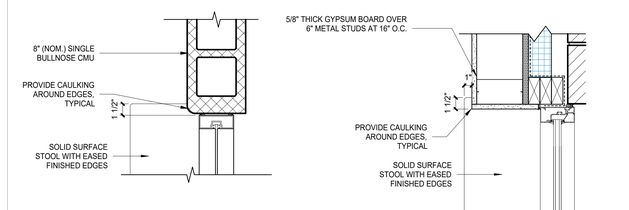
13 DISPLAY CASE SECTION

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

SECTION VIEW

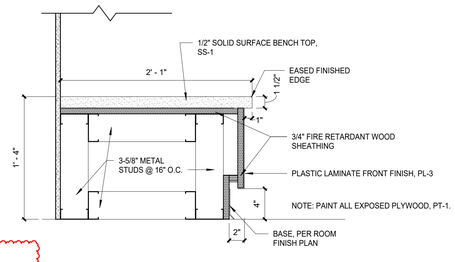


PLAN VIEW



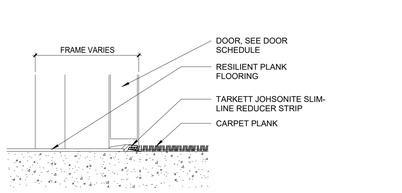
14 INTERIOR WINDOW SILL DETAIL TYPICAL

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



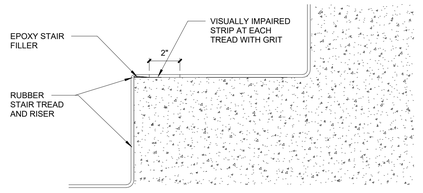
12 INTERIOR BENCH DETAIL

SCALE: 1 1/2" = 1'-0" REF. 2 / A402



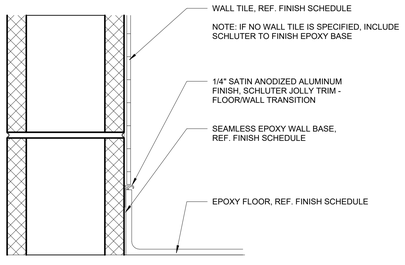
11 DETAIL-RESILIENT FLOOR TO CARPET

SCALE: 3" = 1'-0"



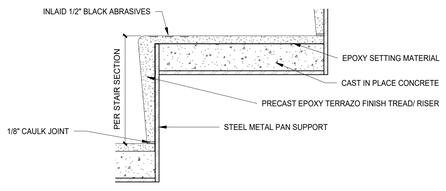
10 DETAIL - TYPICAL RUBBER STAIRS

SCALE: 3" = 1'-0"



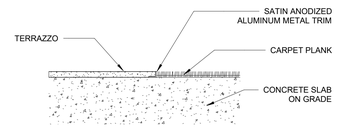
9 DETAIL - EPOXY BASE TO WALL TILE

SCALE: 3" = 1'-0"



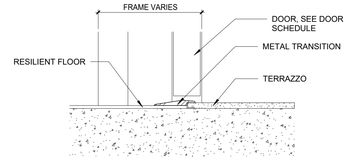
8 PRECAST TERRAZZO STAIR TREADS

SCALE: 3" = 1'-0"



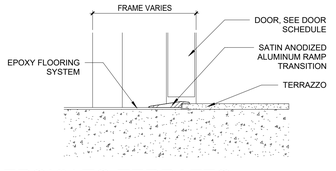
7 TERRAZZO TO CARPET

SCALE: 3" = 1'-0"



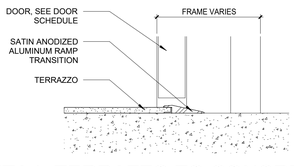
6 DETAIL- RESILIENT TO TERRAZZO

SCALE: 3" = 1'-0"



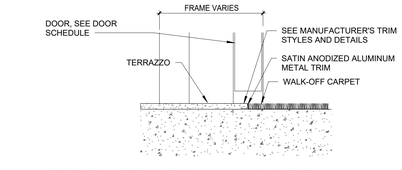
5 EPOXY TO TERRAZZO

SCALE: 3" = 1'-0"



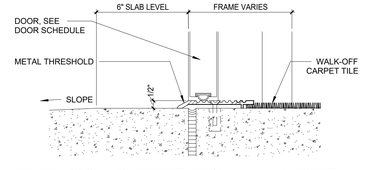
4 DETAIL-TERRAZZO TO CONCRETE

SCALE: 3" = 1'-0"



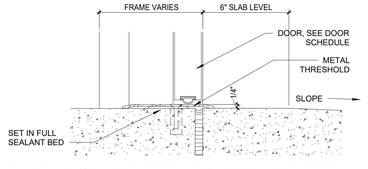
3 TERRAZZO TO WALK OFF

SCALE: 3" = 1'-0"



2 EXT. CONCRETE TO WALK-OFF

SCALE: 3" = 1'-0"



1 EXT. CONCRETE TO CONCRETE

SCALE: 3" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
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INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

INTERIOR DETAILS

A731

PLOT DATE/TIME:7/31/2026 11:09:48 AM

GENERAL NOTES

A. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS. REFER TO FINISH MATERIAL LEGEND AND INTERIOR ELEVATIONS FOR FURTHER DETAILS. LS

B. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

C. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

E. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

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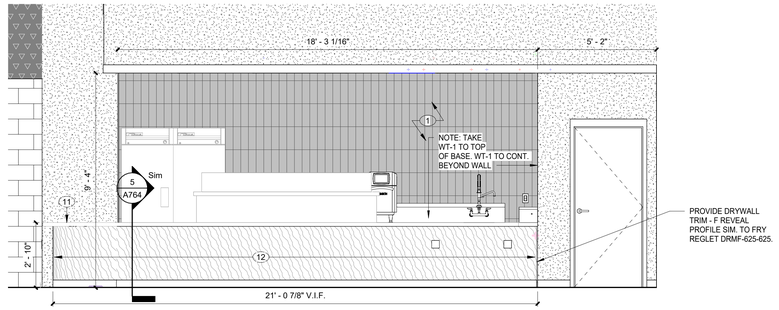
G. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

H. ALL EXPOSED METAL SURFACES, SUCH AS GRILLES, FIRE EXTINGUISHER CABINETS, ETC., THAT ARE NOTED TO BE PAINTED ARE TO BE PAINTED MATCH WALL COLOR.

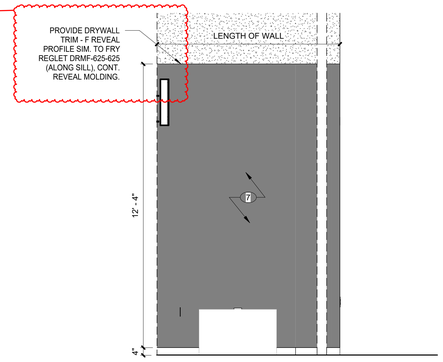
I. ALL WALLS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

ELEVATION NOTES - INTERIOR

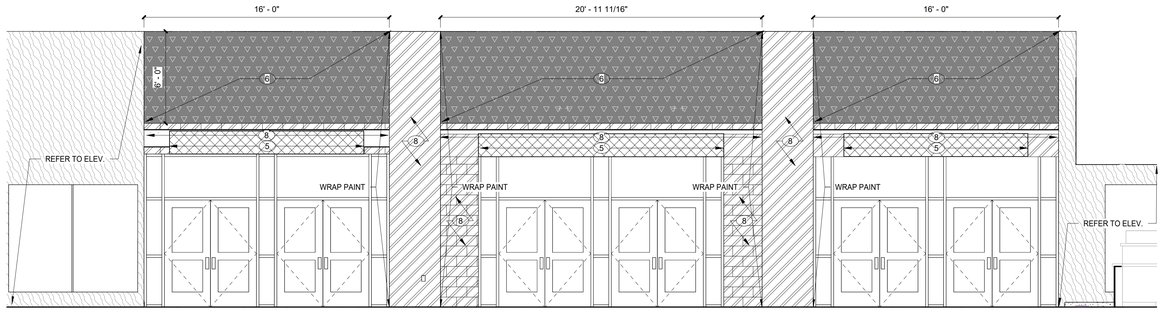
1 WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2 DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3 SOLID SURFACE SS-1 TOP
4 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1, AWP-2, & AWP-3.
5 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6 CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9 WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10 PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
11 SOLID SURFACE, SS-1 COUNTERTOP (REF. ELEV. FOR BACKSPLASH) AT THIS LOCATION. REFER TO FINISH LEGEND.
12 PLASTIC LAMINATE, PL-3. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AS NEEDED.
13 ACOUSTICAL WALL PANEL, AWP-1. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AND INSTALL GUIDE. DESIGNER TO BE ON-SITE DURING INSTALL.
14 PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.



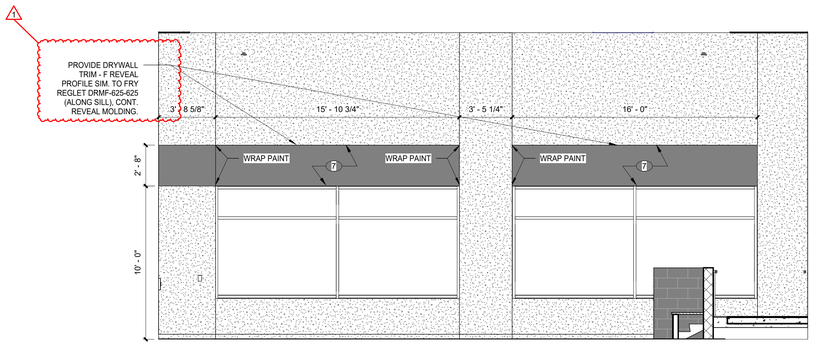
5 INT. ELEV. - STUDENT ENTERPRISE OUTSIDE WALL
SCALE: 3/8" = 1'-0" REF. 1 / A101K



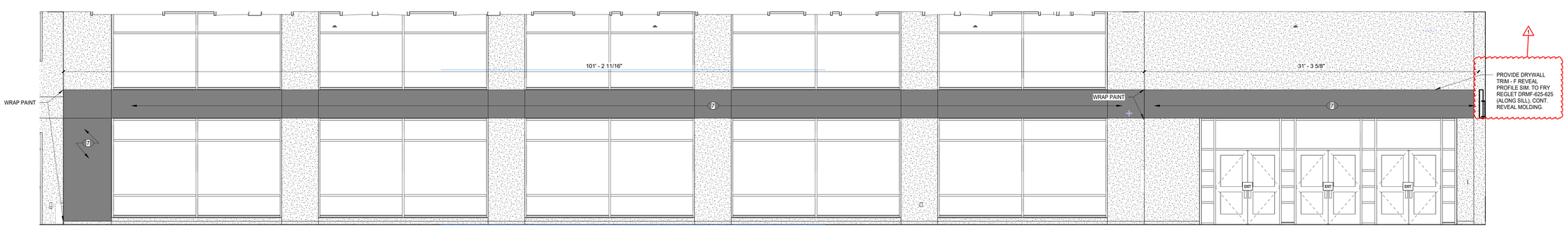
4 INT. ELEV. - LOBBY P130 E 2
SCALE: 3/8" = 1'-0" REF. 1 / A101P



3 INT. ELEV. - P101 LOBBY S
SCALE: 1/4" = 1'-0" REF. 1 / A101K



2 INT. ELEV. - P101 LOBBY E
SCALE: 1/4" = 1'-0" REF. 1 / A101K



1 INT. ELEV. - P101 LOBBY N
SCALE: 1/4" = 1'-0" REF. 1 / A101P

PLOT DATE/TIME:7/31/2026 11:59:5 AM

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JERRY L. CRIPPEN REGISTERED No. 880033 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
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100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR ELEVATIONS

A752

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

2. PROVIDE ALL NECESSARY FURRING AND GROUNDS FOR WOODWORK AND FINISH ITEMS. COORDINATE LOCATION OF BLOCKING WITHIN FRAMED WALLS AS NECESSARY FOR ITEMS TO BE SECURED TO SURFACE. ALL FASTENERS SHALL BE CONCEALED.

3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

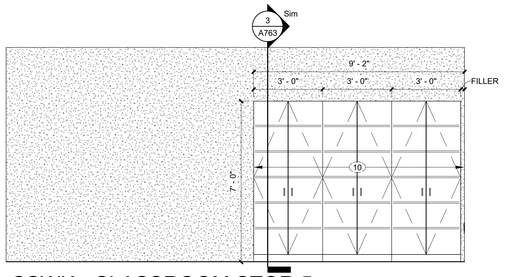
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

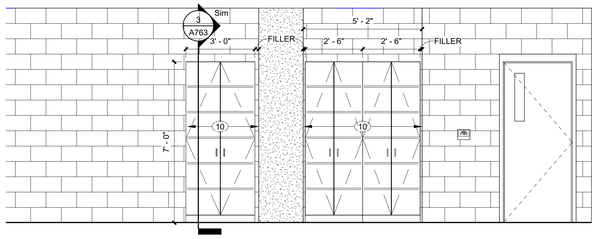
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.

ELEVATION NOTES - INTERIOR

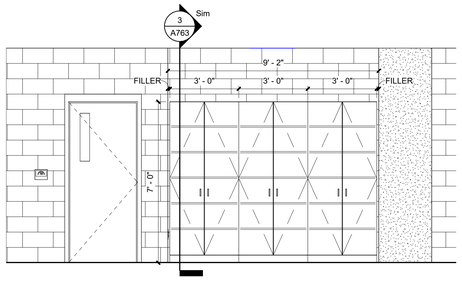
1 WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2 DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3 SOLID SURFACE SS-1 TOP
4 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1, AWP-2, & AWP-3.
5 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6 CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9 WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10 PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
11 SOLID SURFACE, SS-1 COUNTERTOP (REF. ELEV. FOR BACKSPLASH) AT THIS LOCATION. REFER TO FINISH LEGEND.
12 PLASTIC LAMINATE, PL-3. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AS NEEDED.
13 ACOUSTICAL WALL PANEL, AWP-1. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AND INSTALL GUIDE. DESIGNER TO BE ON-SITE DURING INSTALL.
14 PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.



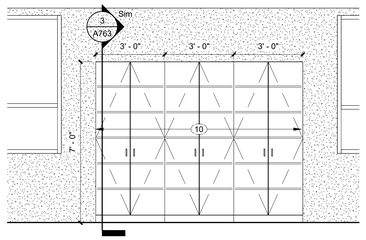
13 CSWK - CLASSROOM STOR 5
SCALE: 3/8" = 1'-0" REF. 1 / A722O



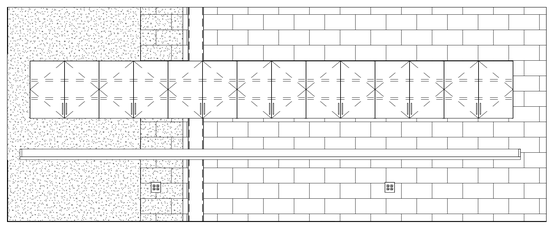
12 CSWK - CLASSROOM STOR 4
SCALE: 3/8" = 1'-0" REF. 1 / A721K



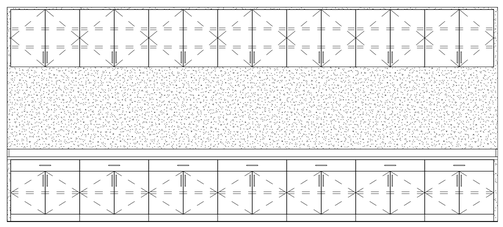
11 CSWK - CLASSROOM STOR 3
SCALE: 3/8" = 1'-0" REF. 1 / A721K



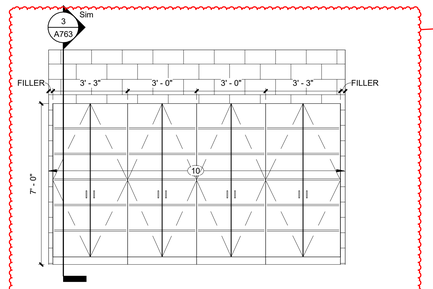
10 CSWK - CLASSROOM STOR 2
SCALE: 3/8" = 1'-0" REF. 1 / A721K



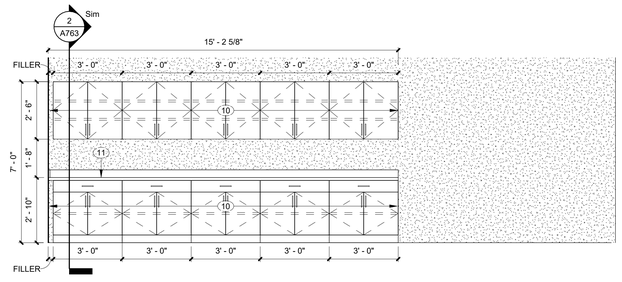
9 CSWK - ART ROOM P204 S
SCALE: 3/8" = 1'-0" REF. 1 / A722P



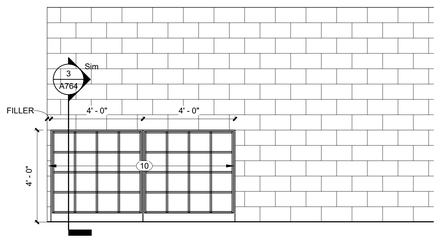
8 CSWK - ART ROOM P200 E
SCALE: 3/8" = 1'-0" REF. 1 / A722P



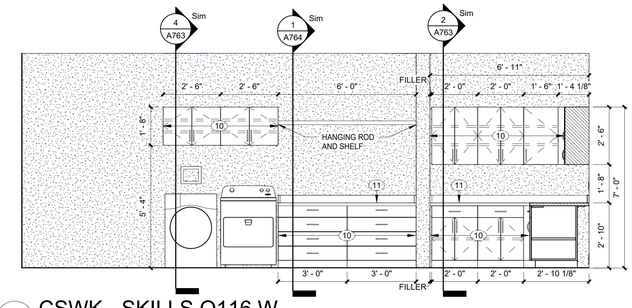
7 CSWK - SPIRIT WEAR K131 W
SCALE: 3/8" = 1'-0" REF. 1 / A721K



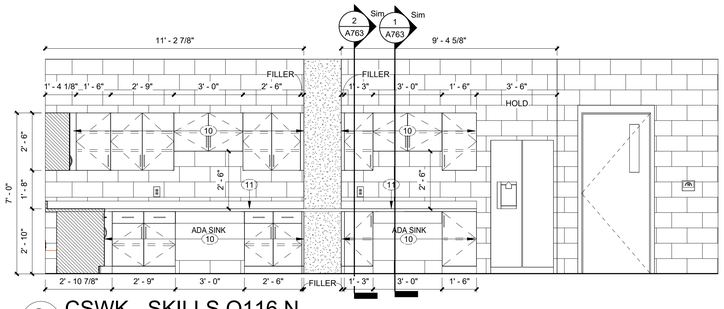
6 CSWK - WORKROOM STORAGE
SCALE: 3/8" = 1'-0" REF. 1 / A721O



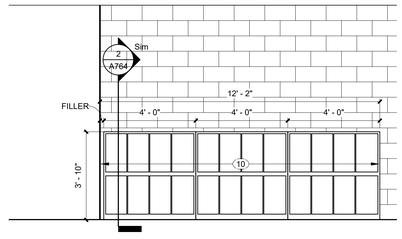
5 CSWK - SENSORY STOR
SCALE: 3/8" = 1'-0" REF. 1 / A721O



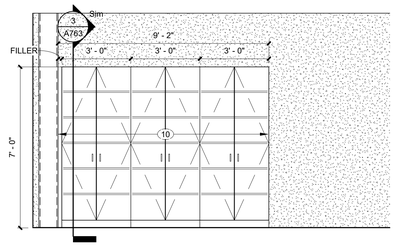
4 CSWK - SKILLS O116 W
SCALE: 3/8" = 1'-0" REF. 1 / A721O



3 CSWK - SKILLS O116 N
SCALE: 3/8" = 1'-0" REF. 1 / A721O



2 CSWK - SPED TYP. STOR
SCALE: 3/8" = 1'-0" REF. 1 / A721K



1 CSWK - CLASSROOM STOR 1
SCALE: 3/8" = 1'-0" REF. 3 / A403

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. KRIEG
REGISTERED
NO
88003.33
STATE OF
INDIANA
ARCHITECT

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

CASEWORK ELEVATIONS

A761

PLOT DATE/TIME:7/31/2026 12:00:00 PM

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

2. PROVIDE ALL NECESSARY FURRING AND GROUNDS FOR WOODWORK AND FINISH ITEMS. COORDINATE LOCATION OF BLOCKING WITHIN FRAMED WALLS AS NECESSARY FOR ITEMS TO BE SECURED TO SURFACE. ALL FASTENERS SHALL BE CONCEALED.

3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

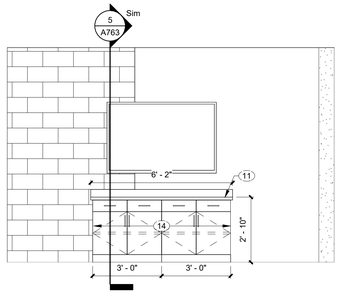
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

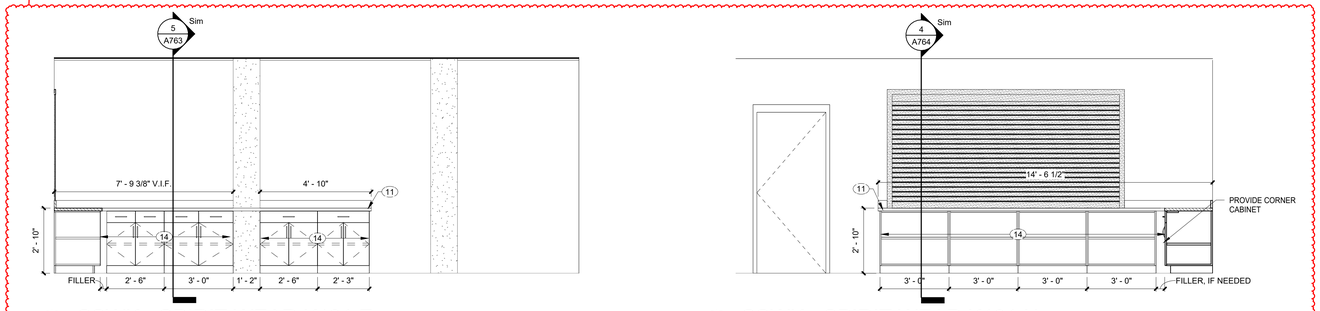
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.

ELEVATION NOTES - INTERIOR

1. WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2. DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3. SOLID SURFACE SS-1 TOP
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5. 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6. CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7. ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8. ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9. WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10. PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
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14. PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

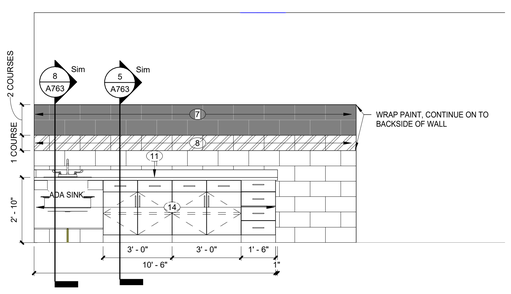


7 CSWK - CONF. ROOM L140 S
SCALE: 3/8" = 1'-0" REF. 1 / A721L

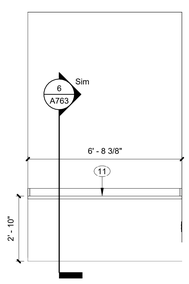


6 CSWK - SPIRIT WEAR K131 E
SCALE: 3/8" = 1'-0" REF. 1 / A721K

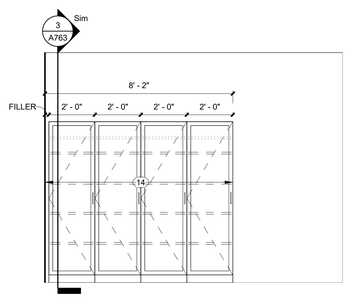
5 CSWK - SPIRIT WEAR K131 N
SCALE: 3/8" = 1'-0" REF. 1 / A721K



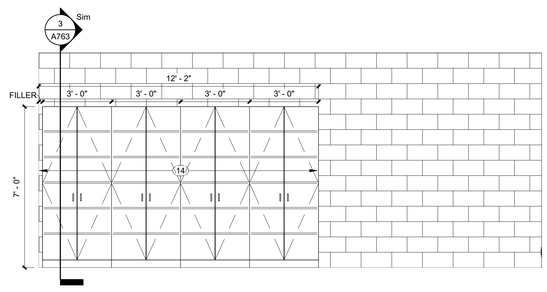
4 CSWK - TRAINING L142 S
SCALE: 3/8" = 1'-0" REF. 1 / A721L



3 CSWK - OFF. LOUNGE L147 E
SCALE: 3/8" = 1'-0" REF. 1 / A721L



2 CSWK - OFFICIAL'S LOUNGE L147 W
SCALE: 3/8" = 1'-0" REF. 1 / A721L



1 CSWK - PE COACH L148 W
SCALE: 3/8" = 1'-0" REF. 1 / A721L

PLOT DATE/TIME:7/31/2026 1:12:03 PM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L CRIDER REGISTERED NO. 880133 STATE OF INDIANA

REVISIONS:		
#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

CASEWORK ELEVATIONS

A762

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

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3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

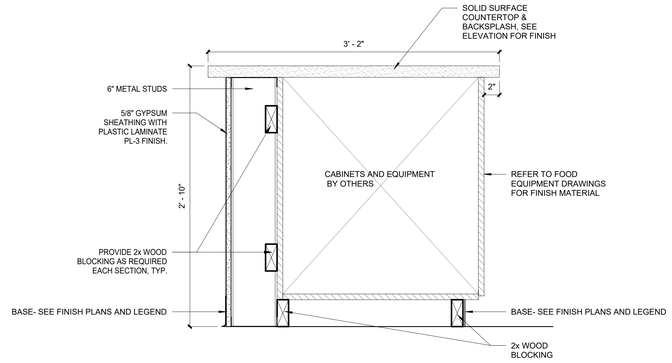
5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

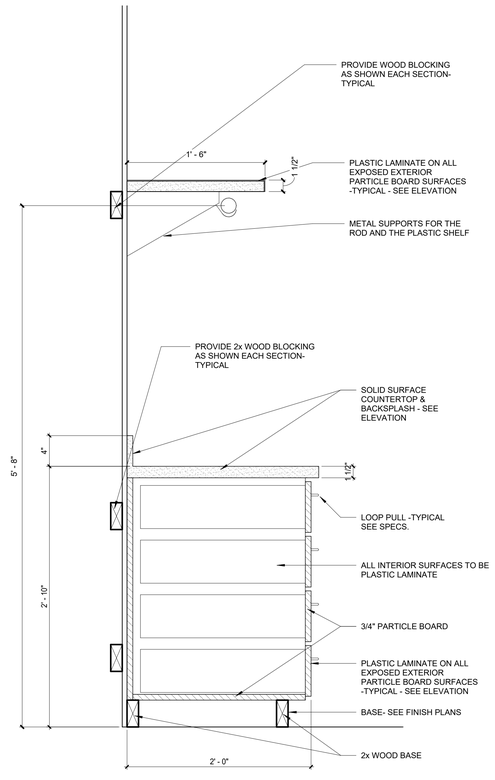
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

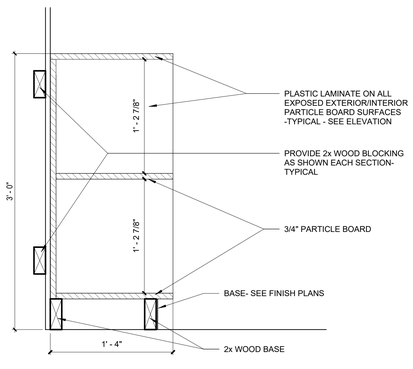
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.



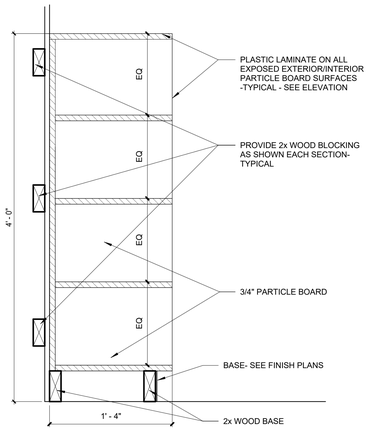
5 CSWK - STUDENT POS COUNTER
SCALE: 1 1/2" = 1'-0" REF. 5 / A752



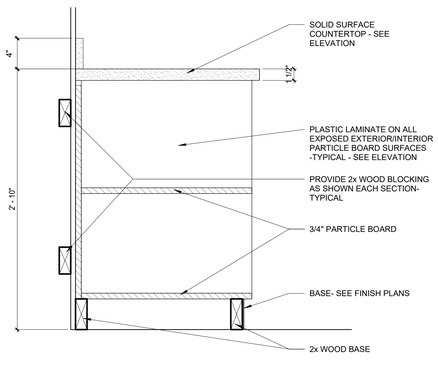
1 CSWK - 4 DRAWER BASE W/ HANGING ROD
SCALE: 1 1/2" = 1'-0" REF. 4 / A761



2 CSWK - 2 TIER CUBBY SECTION
SCALE: 1 1/2" = 1'-0" REF. 2 / A761



3 CSWK - 4 TIER CUBBY SECTION
SCALE: 1 1/2" = 1'-0" REF. 5 / A761



4 CSWK - OPEN SHELVES BASE SECTION 24"D
SCALE: 1 1/2" = 1'-0" REF. 5 / A762

PLOT DATE/TIME 7/31/2026 12:00:04 PM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JUSTIN L. CRIPE
REGISTERED
NO
8908139
STATE OF
INDIANA
REGISTERED ARCHITECT

REVISIONS:

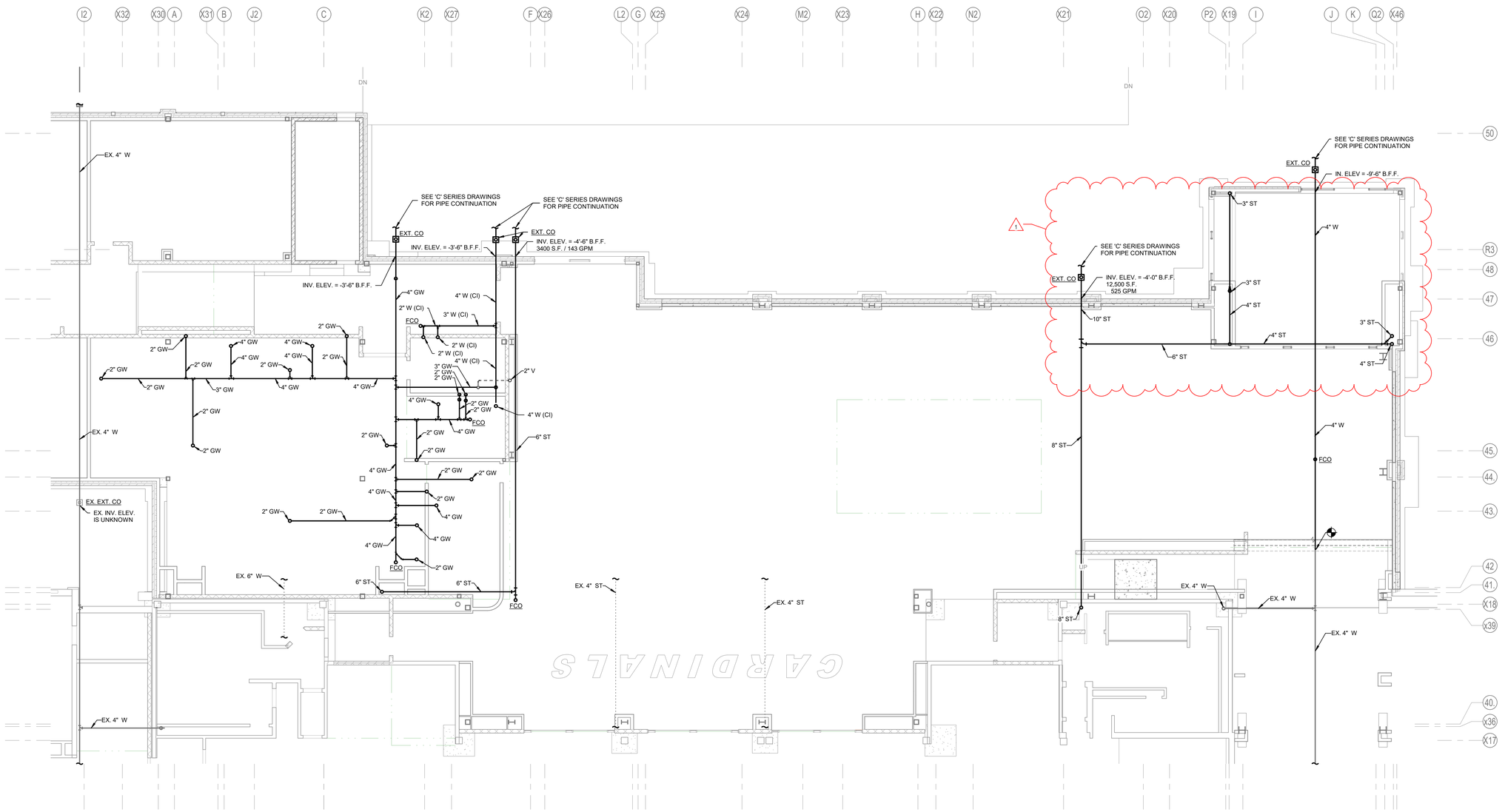
#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

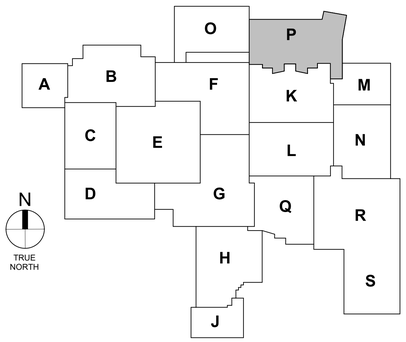
CASEWORK SECTIONS

A764



GARDINALS

1 **PLUMBING FOUNDATION PLAN - UNIT P**
1/8" = 1'-0"



N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

creative engineering solutions
mechanical • electrical • plumbing
602 N. Capitol Ave., Suite 200
Indianapolis, IN 46204 • 463.259.9799
www.cecengr.com

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

GABRIEL S. CURRIER
REGISTERED
NO. PE10808972
STATE OF IND IANA
PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

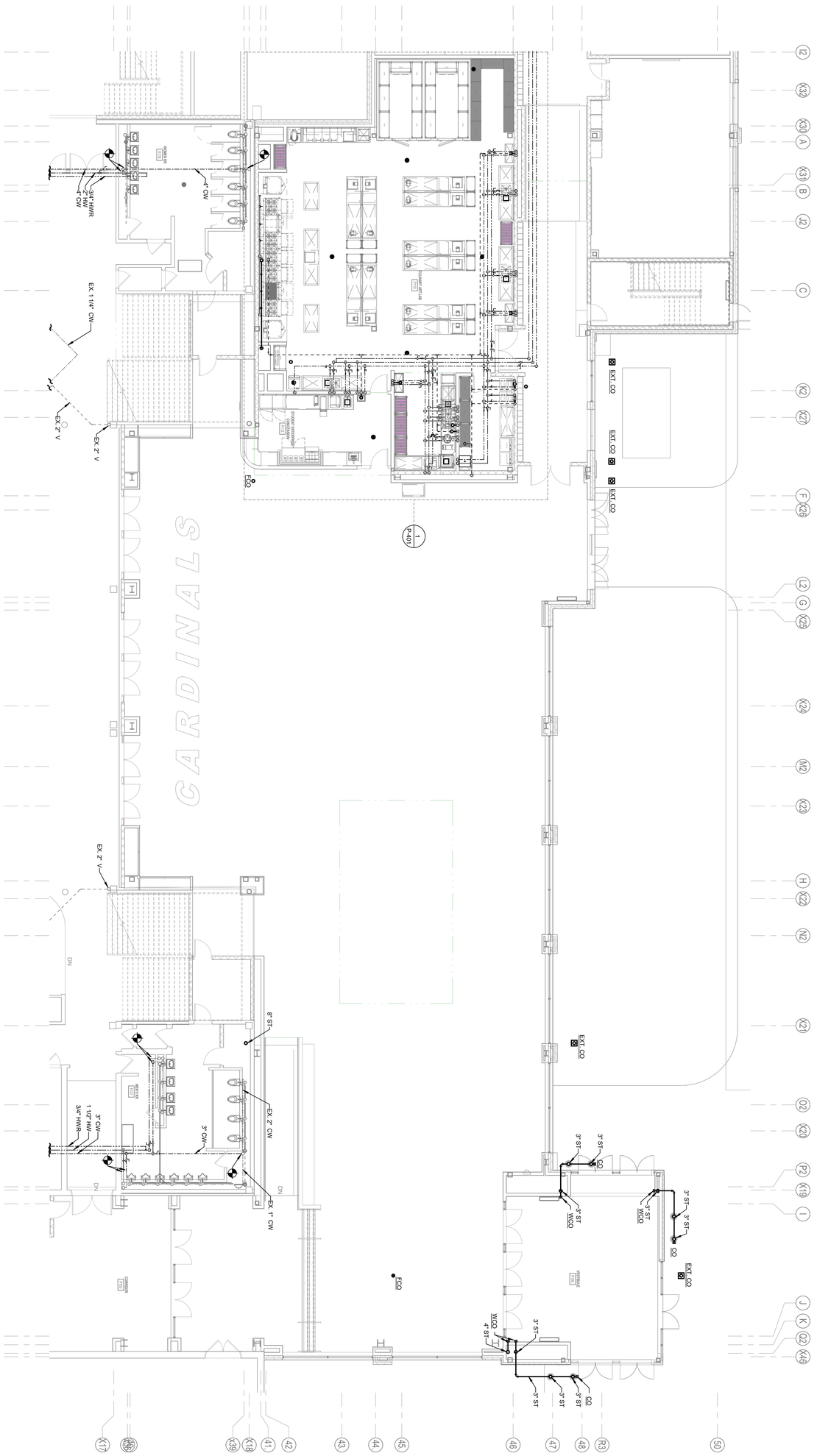
PROJECT: #24173S
DATE: 07/10/2026
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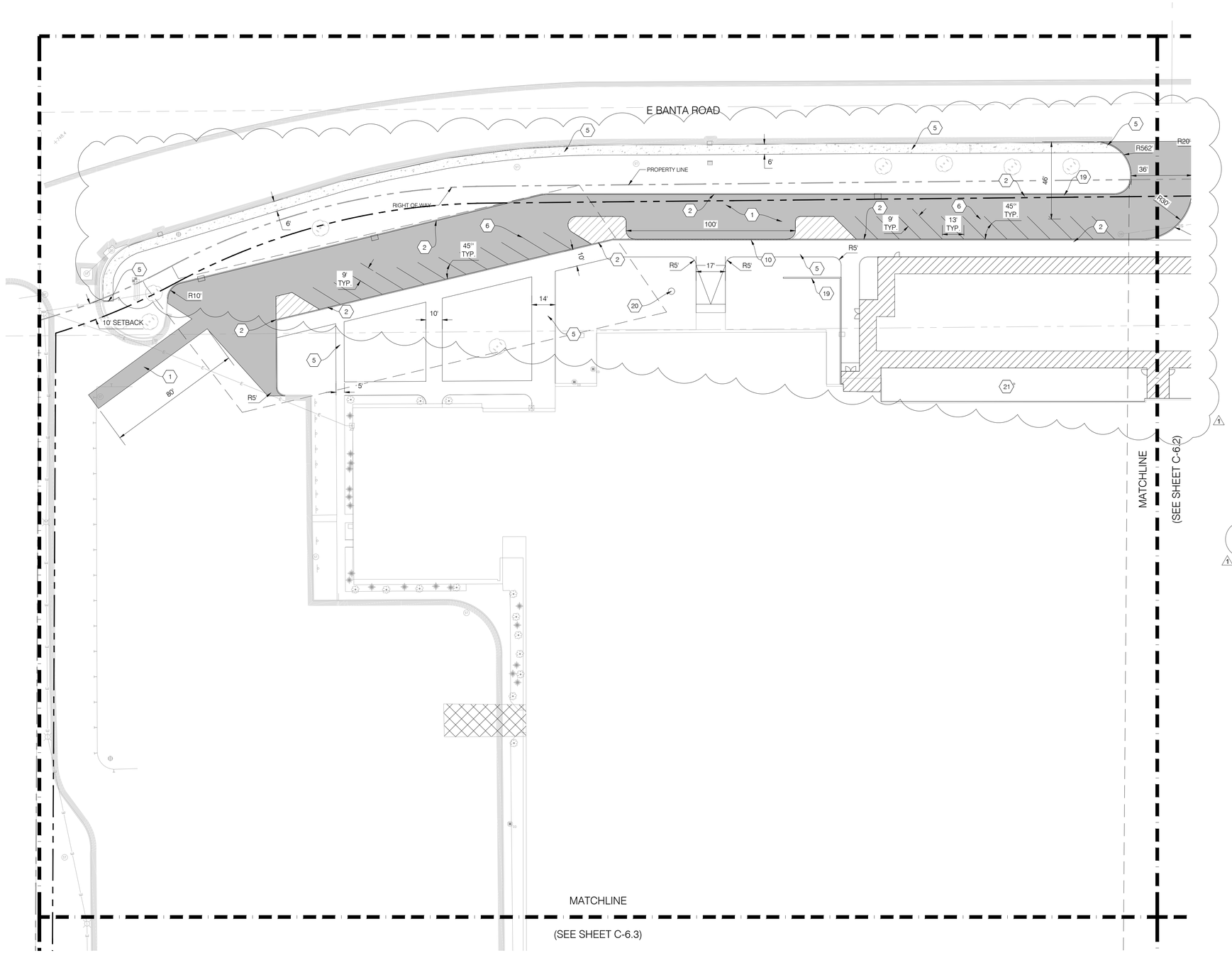
PLUMBING FOUNDATION PLAN - UNIT P

PF105

PLOT DATE/TIME: 7/30/2026 12:27:43 PM

PLOT DATE/TIME:7/28/2026 10:06:22 AM

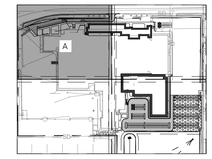

EX. 1 1/4" CW
EX. 2" V
EX. 2" V
4" CW
2" HW
4" CW
3/4" HWR
1 1/2" HW
3/4" HWR
3" CW
3" CW
EX. 2" CW
EX. 1" CW
8" ST
EXT. CO
EXT. CO
EXT. CO
EXT. CO
3" ST
3" ST
3" ST



SITE PLAN LEGEND

1. FULL DEPTH HMA PAVEMENT, SEE SITE DETAIL SHEET C-6.5
2. CONCRETE CURB, SEE SITE DETAIL SHEET C-6.5
3. BUILDING, SEE ARCHITECTURAL PLANS
4. STOP SIGN, SEE SITE DETAIL SHEET C-6.6
5. CONCRETE SIDEWALK
6. LINE, PAINT, SOLID, WHITE, 4 IN.
7. LINE, PAINT, SOLID, YELLOW, 4 IN.
8. LINE, PAINT, SOLID, BLUE, 4 IN.
9. ALTERNATE - SEE ARCHITECTURAL PLANS
10. ROLL CURB
11. LANDSCAPE ISLAND
12. DRY DETENTION POND
13. RETAINING WALL, SEE ARCHITECTURAL PLANS
14. SHOTPUT
15. ADA STRIPING, SEE SITE DETAIL SHEET C-6.6
16. ADA SIGN, SEE SITE DETAIL SHEET C-6.6
17. CONCRETE PARKING BUMPER, SEE SITE DETAIL SHEET C6.6
18. FIRE LANE SIGN
19. RETAINING WALL - SEE STRUCTURAL PLANS
20. FLAG POLE - SEE ELECTRICAL PLANS FOR LIGHTING
21. INTERIOR COURTYARD
22. BOLLARD (14)

SOUTHPORT HIGH SCHOOL PARKING REQUIREMENTS	
EXISTING PARKING SPACES	455 SPACES
PROPOSED PARKING SPACES	270 SPACES
TOTAL SITE PARKING SPACES	725 SPACES
REQUIRED ADA SPACES	15 SPACES
EXISTING ADA SPACES	15 SPACES
PROPOSED ADA SPACES	2 SPACES



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

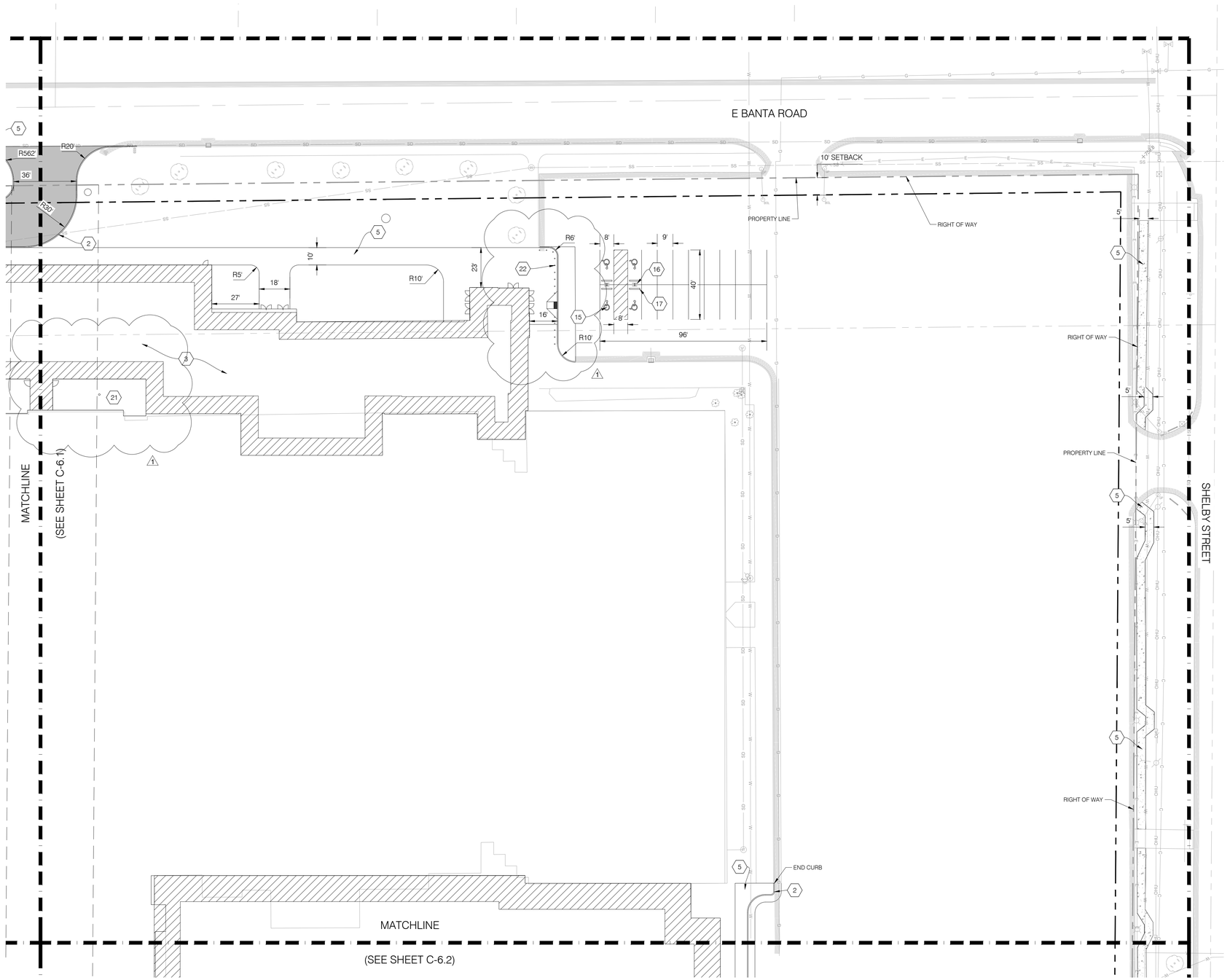
REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE PLAN

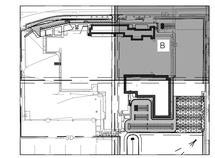
C-6.1



SITE PLAN LEGEND

1. FULL DEPTH HMA PAVEMENT, SEE SITE DETAIL SHEET C-6.5
2. CONCRETE CURB, SEE SITE DETAIL SHEET C-6.5
3. BUILDING, SEE ARCHITECTURAL PLANS
4. STOP SIGN, SEE SITE DETAIL SHEET C-6.6
5. CONCRETE SIDEWALK
6. LINE, PAINT, SOLID, WHITE, 4 IN.
7. LINE, PAINT, SOLID, YELLOW, 4 IN.
8. LINE, PAINT, SOLID, BLUE, 4 IN.
9. ALTERNATE - SEE ARCHITECTURAL PLANS
10. ROLL CURB
11. LANDSCAPE ISLAND
12. DRY DETENTION POND
13. RETAINING WALL, SEE ARCHITECTURAL PLANS
14. SHOTPUT
15. ADA STRIPING, SEE SITE DETAIL SHEET C-6.6
16. ADA SIGN, SEE SITE DETAIL SHEET C-6.6
17. CONCRETE PARKING BUMPER, SEE SITE DETAIL SHEET C6.6
18. FIRE LANE SIGN
19. RETAINING WALL - SEE STRUCTURAL PLANS
20. FLAG POLE - SEE ELECTRICAL PLANS FOR LIGHTING
21. INTERIOR COURTYARD
22. BOLLARD (14)

SOUTHPORT HIGH SCHOOL PARKING REQUIREMENTS	
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PROPOSED PARKING SPACES	270 SPACES
TOTAL SITE PARKING SPACES	725 SPACES
REQUIRED ADA SPACES	15 SPACES
EXISTING ADA SPACES	15 SPACES
PROPOSED ADA SPACES	2 SPACES



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS: #	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE PLAN

C-6.2

GENERAL NOTES

Where sidewalk is constructed immediately adjacent to curb, the surface of the sidewalk shall be constructed ½" higher than the top of the curb. (See FIGURE 101.17)

Transverse joints shall be cut with a jointer having a radius of ¼" of spacing as indicated or as directed by the Engineer.

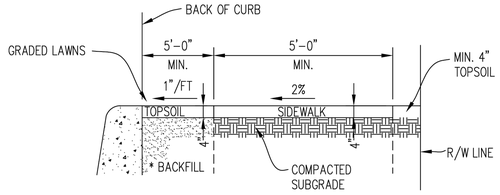
* Compacted Subgrade – All soft, yielding or other unsuitable material, which cannot be compacted satisfactorily, shall be removed. All rock encountered shall be removed or broken off at least six (6) inches below the subgrade surface. Any holes or depressions resulting from the removal of unsuitable material, shall be filled with suitable material which shall be thoroughly compacted.

** Where sidewalk is constructed adjacent to curb, the space behind the new curb shall be filled with granular material to the required elevation and compacted in layers not to exceed 4".

*** Where sidewalk is not constructed adjacent to the curb, the space behind the curb shall be filled with suitable material to the required elevation and compacted in layers not to exceed 4".

**** When built in conjunction with concrete pavement, expansion and contraction joints should be placed at the same locations as in the pavement slab. The curb and gutter should be tied to the pavement by #5 rebars at 2 foot intervals. If no concrete pavement is being built at the time the curb is constructed. Expansion joints should be placed at the ends of all returns and at intervals not to exceed 100 feet. Contraction joints should be installed at 20 foot spacing.

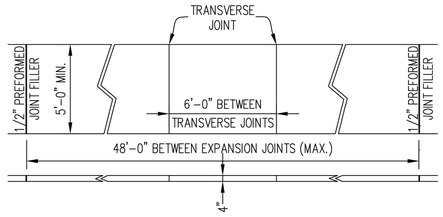
INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NONE
GENERAL NOTES FOR CURB & GUTTER	
FIGURE 101.15	UPDATED: 11/26/2012



CONCRETE SIDEWALK SECTION

* THE SPACE BEHIND THE CURB SHALL BE FILLED WITH SUITABLE MATERIAL TO THE REQUIRED ELEVATION AND COMPACTED IN LAYERS NOT TO EXCEED 4" IN DEPTH.

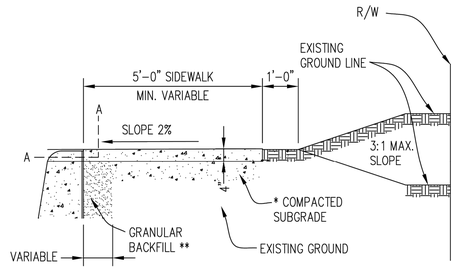
SUBGRADE UNDER ALL CURB, SIDEWALK, AND DRIVES SHALL BE COMPACTED IN ACCORDANCE WITH MOST RECENT INDOT STANDARD SPECIFICATIONS.

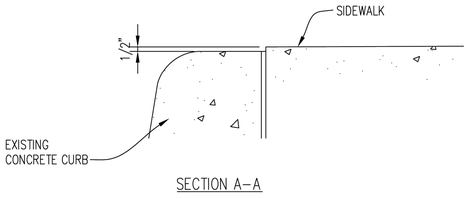


CONCRETE SIDEWALK

INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NOT TO SCALE
SIDEWALK DETAILS	
FIGURE 101.16	UPDATED: 11/19/2012

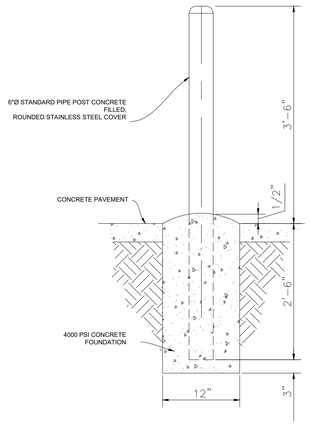
* SEE FIGURE 101.15 FOR GENERAL NOTES





SECTION A–A

INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NOT TO SCALE
SIDEWALK NEXT TO EXISTING CURB	
FIGURE 101.17	UPDATED: 11/19/2012



6" CONCRETE BOLLARD

SCALE: 1:1

1

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

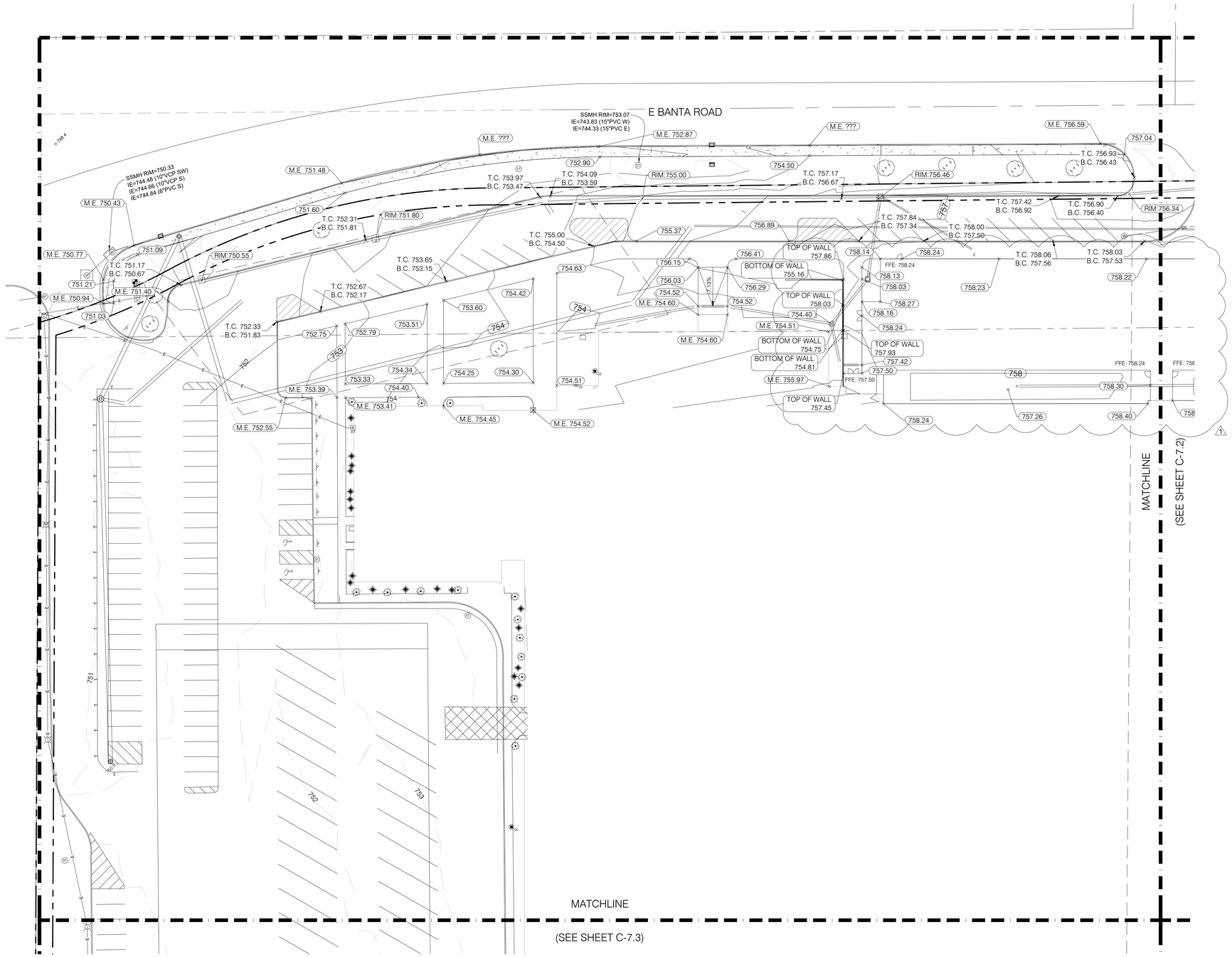
REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

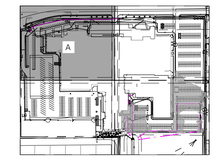
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE DETAILS

C-6.7





GRAPHIC SCALE

0' 30' 60' 90'

(IN FEET)

N

TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

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REVISIONS:

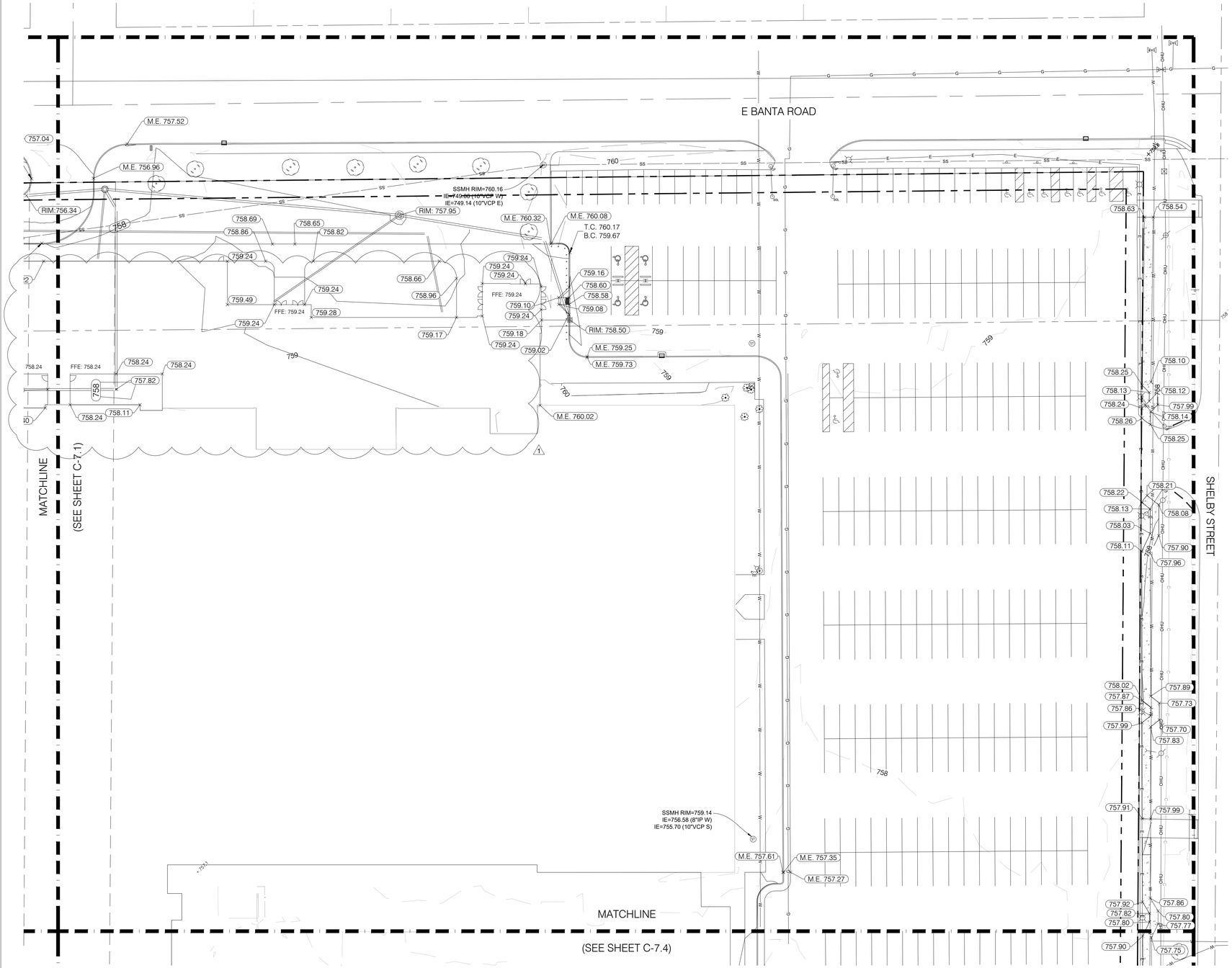
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

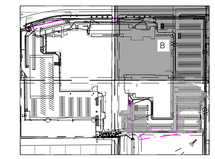
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

GRADING PLAN

C-7.1





GRAPHIC SCALE

0' 30' 60' 90'

(IN FEET)

N

TRUE NORTH

PLOT DATE/TIME:

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145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

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SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN F. REY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Rey, PE, PMP

REVISIONS:

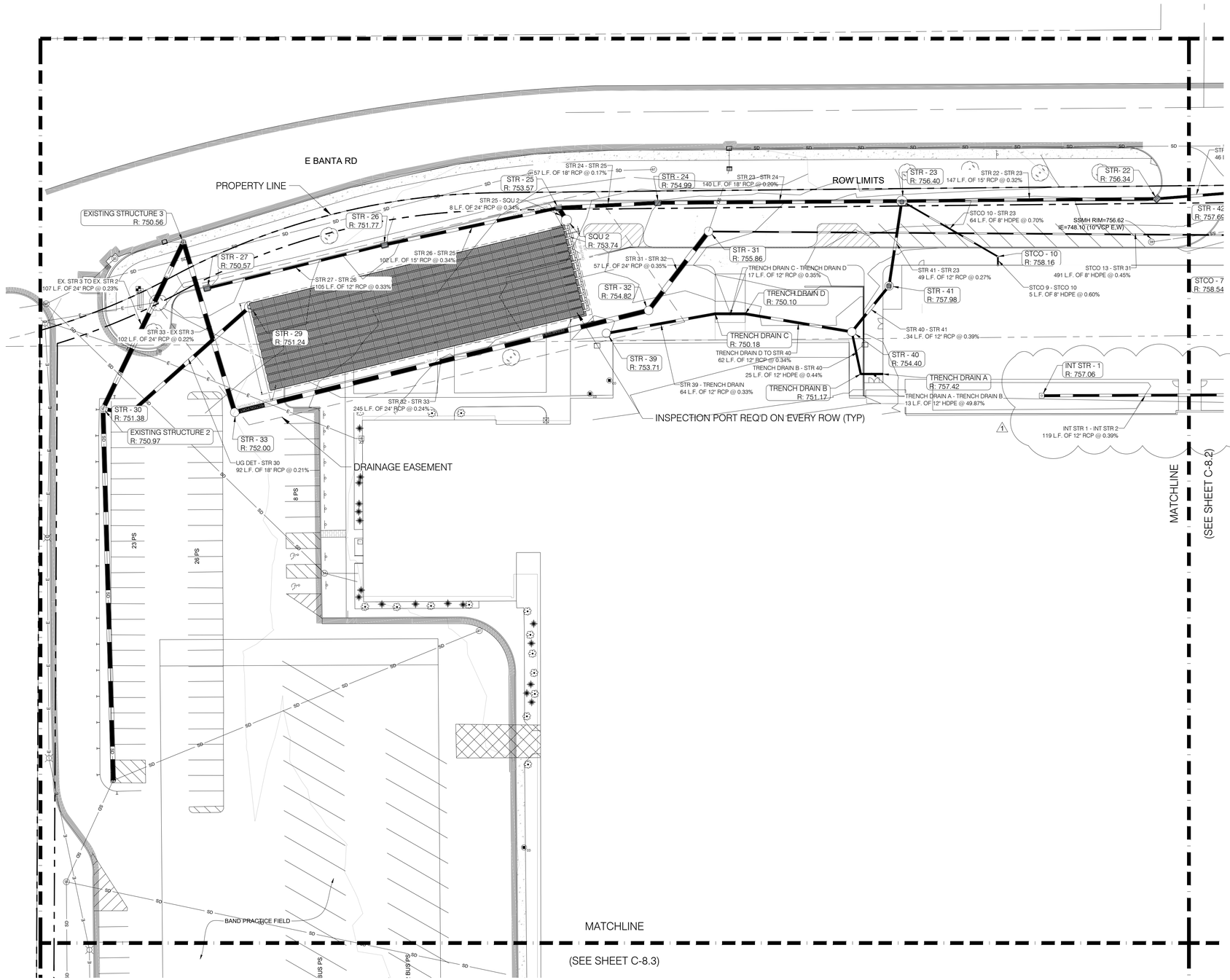
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

GRADING PLAN

C-7.2



STORMWATER GENERAL NOTES:

1. WHERE CONNECTIONS ARE MADE TO EXISTING OR INLET STRUCTURES, THOSE STRUCTURES SHALL BE REHABILITATED OR REPLACED TO THE MINIMUM STANDARDS OUTLINED IN CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. THE REHABILITATION SHALL INCLUDE THE INSTALLATION OF BENCH WALLS, AS WELL AS PRESCRIBED MEASURES TO ELIMINATE THE POTENTIAL FOR MIGRATION OF BACKFILL MATERIALS INTO THE STORMWATER SYSTEM.
2. ALL PROPOSED STORM SEWER AND DRAINAGE APPURTENANCES SHALL BE IN CONFORMANCE WITH CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. DISCREPANCIES BETWEEN THE PLANS AND THE MANUAL SHALL NOT ALLEVIATE THE CONTRACTOR FROM ADHERING TO THE REQUIREMENTS AS SET FORTH IN THE MANUAL.
3. INLET CASTINGS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM 1" IN HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.
4. THE BENCHWALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2-INCH PER FOOT SLOPE TO THE MANHOLE WALL.
5. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT REGARDING ANY EXISTING TREES OR INFRASTRUCTURE THAT CONFLICT WITH PROPOSED STORM SEWER INSTALLATION.
6. ALL STORM SEWER MANHOLE COVERS SHALL HAVE THE WORDS "STORM SEWER" CAST IN RECESSED LETTERS TWO (2) INCHES IN HEIGHT.

UNDERGROUND DETENTION SPECIFICATIONS

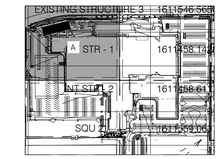
- Model: Contech Chambermaxx 2016
- Dimensions: 187.35' Long X 53.78' Wide X 3.52' High
- Eleven (11) rows and Twenty-six (26) chambers per row
- Stone Invert: 746.25
- Bottom of Chambers: 746.75
- Top of Chambers: 749.27
- Top of Stone Cover: 749.77
- 6" Stone Base and Cover
- 12" End and Side Stone
- 40% stone voids
- Connection Invert to System : 746.75
- Storage Outlet Invert: 746.25
- 18-inch RCP outlet pipe
- 6.0-inch Orifice Elevation: 746.25
- 11.0-inch Orifice Elevation: 747.46
- MAX STAGING ELEV: 10 YR- 747.83, 100 YR - 748.41

SQU 1 - ARCADIA ARC8

SQU 2- ARCADIA ARC10

SQU 3 - ARCADIA ARC3

FUTURE GRADING INFORMATION, SITE IMPROVEMENTS, AND STORM AND UTILITY ROUTING FOR PHASE 2 AND PHASE 3 WILL BE ADDRESSED AS PART OF FUTURE PERMITTING UPDATES.



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

REVISIONS:		
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1	07/30/2026	ADDENDUM #01

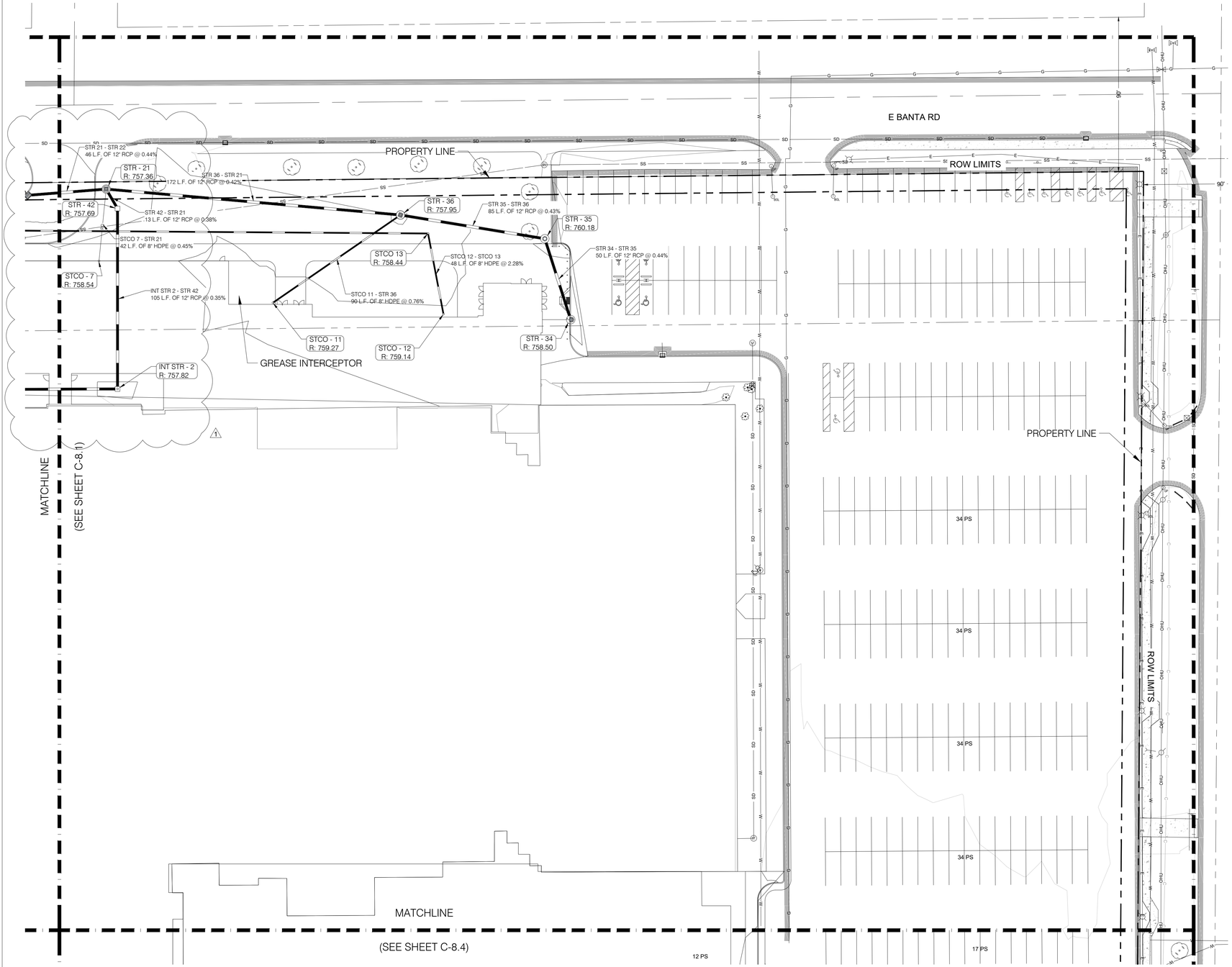
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

STORM LAYOUT PLAN

C-8.1

PLOT DATE/TIME: JULY 30, 2026



STORMWATER GENERAL NOTES:

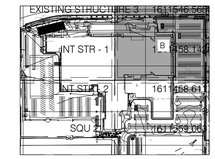
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3. INLET CASTINGS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM 1" IN HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.
4. THE BENCHWALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2-INCH PER FOOT SLOPE TO THE MANHOLE WALL.
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6. ALL STORM SEWER MANHOLE COVERS SHALL HAVE THE WORDS "STORM SEWER" CAST IN RECESSED LETTERS TWO (2) INCHES IN HEIGHT.

SQU 1 - ARCADIA ARC8

SQU 2- ARCADIA ARC10

SQU 3 - ARCADIA ARC3

FUTURE GRADING INFORMATION, SITE IMPROVEMENTS, AND STORM AND UTILITY ROUTING FOR PHASE 2 AND PHASE 3 WILL BE ADDRESSED AS PART OF FUTURE PERMITTING UPDATES.



GRAPHIC SCALE
0' 30' 60' 90'
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REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

STORM LAYOUT PLAN

C-8.2

PLOT DATE/TIME: July 30, 2026

PHASE TWO STRUCTURE DATA TABLE

STRUCTURE TABLE							
STRUCTURE NAME:	NORTHING	EASTING	DESCRIPTION	DETAILS:	PIPES IN:	PIPES OUT	CASTING:
EXISTING STRUCTURE 2	1611450.6200	193694.9190	EXISITNG STRUCTURE	RIM = 750.97 INV IN = 745.71 INV IN = 745.67 INV OUT = 745.61	STR 30 - EX STR 2, 18" RCP INV IN =745.71 EX. STR 3 TO EX. STR 2, 24" RCP INV IN =745.67	EX. STR 2 - OUTFALL, 24" RCP INV OUT =745.61	Standard
EXISTING STRUCTURE 3	1611546.5650	193741.2270	EXISTING INLET	RIM = 750.56 INV IN = 747.77 INV OUT = 745.92	STR 33 - EX STR 3, 24" RCP INV IN =747.77	EX. STR 3 TO EX. STR 2, 24" RCP INV OUT =745.92	
INT STR - 1	1611458.1428	194235.0250	ADS 12" DRAIN BASIN	RIM = 757.06 INV OUT = 754.06		INT STR 1 - INT STR 2, 12" RCP INV OUT =754.06	ADS 12" PEDESTRIAN GRATE
INT STR - 2	1611458.6117	194353.5456	ADS 12" DRAIN BASIN	RIM = 757.82 INV IN = 753.60 INV OUT = 753.50	INT STR 1 - INT STR 2, 12" RCP INV IN =753.60	INT STR 2 - STR 42, 12" RCP INV OUT =753.50	ADS 12" PEDESTRIAN GRATE
SQU 2	1611559.0637	193961.5245	BMP STRUCTURE	RIM = 753.74 INV IN = 746.57	STR 25 - SQU 2, 24" RCP INV IN =746.57		
STCO - 7	1611533.2261	194342.7571	STORM CLEANOUT	RIM = 758.54 INV OUT = 754.04		STCO 7 - STR 21, 8" PROPOSED STORM INV OUT =754.04	
STCO - 9	1611533.2261	194209.7864	STORM CLEANOUT	RIM = 758.23 INV OUT = 754.25		STCO 9 - STCO 10, 8" PROPOSED STORM INV OUT =754.25	
STCO - 10	1611538.1953	194209.7854	STORM CLEANOUT	RIM = 758.16 INV IN = 754.22 INV OUT = 753.95	STCO 9 - STCO 10, 8" PROPOSED STORM INV IN =754.22	STCO 10 - STR 23, 8" PROPOSED STORM INV OUT =753.95	
STCO - 11	1611508.8240	194444.0305	STORM CLEANOUT	RIM = 759.27 INV OUT = 754.00		STCO 11 - STR 36, 8" PROPOSED STORM INV OUT =754.00	
STCO - 12	1611502.1800	194543.4575	STORM CLEANOUT	RIM = 759.14 INV OUT = 753.74		STCO 12 - STCO 13, 8" PROPOSED STORM INV OUT =753.74	
STCO 13	1611549.2156	194534.4610	STORM CLEANOUT	RIM = 758.44 INV IN = 752.65 INV OUT = 752.55	STCO 12 - STCO 13, 8" PROPOSED STORM INV IN =752.65	STCO 13 - STR 31, 8" PROPOSED STORM INV OUT =752.55	
STR- 22	1611571.4737	194301.3283	TYPE "J" INLET - R-3287-10V	RIM = 756.34 INV IN = 748.85 INV OUT = 748.50	STR 21 - STR 22, 12" RCP INV IN =748.85	STR 22 - STR 23, 15" RCP INV OUT =748.50	INDOT TYPE 10
STR - 21	1611575.0908	194346.9433	TYPE "C" MH - R-3472	RIM = 757.36 INV IN = 753.85 INV IN = 749.15 INV IN = 752.98 INV OUT = 749.05	STCO 7 - STR 21, 8" PROPOSED STORM INV IN =753.85 STR 36 - STR 21, 12" RCP INV IN =749.15 STR 42 - STR 21, 12" RCP INV IN =752.98	STR 21 - STR 22, 12" RCP INV OUT =749.05	
STR - 23	1611570.1411	194154.5002	TYPE "J" MH - R-3010	RIM = 756.40 INV IN = 748.03 INV IN = 753.50 INV IN = 749.36 INV OUT = 747.68	STR 22 - STR 23, 15" RCP INV IN =748.03 STCO 10 - STR 23, 8" PROPOSED STORM INV IN =753.50 STR 41 - STR 23, 12" RCP INV IN =749.36	STR 23 - STR 24, 18" RCP INV OUT =747.68	
STR - 24	1611569.1209	194014.0951	TYPE "J" INLET - R-3287-10V	RIM = 754.99 INV IN = 747.40 INV OUT = 747.30	STR 23 - STR 24, 18" RCP INV IN =747.40	STR 24 - STR 25, 18" RCP INV OUT =747.30	INDOT TYPE 10
STR - 25	1611566.2831	193957.0513	TYPE "J" INLET - R-3287-10V	RIM = 753.57 INV IN = 747.45 INV IN = 747.20 INV OUT = 746.60	STR 26 - STR 25, 15" RCP INV IN =747.45 STR 24 - STR 25, 18" RCP INV IN =747.20	STR 25 - SQU 2, 24" RCP INV OUT =746.60	INDOT TYPE 10
STR - 26	1611544.9924	193856.8326	TYPE "J" INLET - R-3287-10V	RIM = 751.77 INV IN = 748.15 INV OUT = 747.80	STR 27 - STR 26, 12" RCP INV IN =748.15	STR 26 - STR 25, 15" RCP INV OUT =747.80	INDOT TYPE 10
STR - 27	1611519.9272	193754.7748	TYPE "J" INLET - R-3287-10V	RIM = 750.57 INV OUT = 748.50		STR 27 - STR 26, 12" RCP INV OUT =748.50	INDOT TYPE 10
STR - 29	1611509.2353	193779.3108	TYPE "J" MH - R-1772	RIM = 751.24 INV OUT = 745.95		UG DET - STR 30, 18" RCP INV OUT =745.95	INDOT TYPE 4
STR - 30	1611447.7602	193710.2027	TYPE "C" MH	RIM = 751.38 INV IN = 745.76 INV OUT = 745.76	UG DET - STR 30, 18" RCP INV IN =745.76	STR 30 - EX STR 2, 18" RCP INV OUT =745.76	INDOT TYPE 4
STR - 31	1611552.6380	194043.3500	TYPE "C" MH	RIM = 755.86 INV IN = 750.33 INV OUT = 748.90	STCO 13 - STR 31, 8" PROPOSED STORM INV IN =750.33	STR 31 - STR 32, 24" RCP INV OUT =748.90	INDOT TYPE 4
STR - 32	1611507.2257	194008.8018	TYPE "C" MH	RIM = 754.82 INV IN = 748.70 INV OUT = 748.60	STR 31 - STR 32, 24" RCP INV IN =748.70	STR 32 - STR 33, 24" RCP INV OUT =748.60	INDOT TYPE 4
STR - 33	1611448.5670	193770.7048	TYPE "C" MH	RIM = 752.00 INV IN = 748.00 INV OUT = 748.00	STR 32 - STR 33, 24" RCP INV IN =748.00	STR 33 - EX STR 3, 24" RCP INV OUT =748.00	INDOT TYPE 4
STR - 34	1611498.9907	194617.5555	TYPE "C" MH - R-3010	RIM = 758.50 INV OUT = 750.66		STR 34 - STR 35, 12" RCP INV OUT =750.66	
STR - 35	1611546.1490	194602.4852	TYPE "C" MH - R-1772	RIM = 760.18 INV IN = 750.44 INV OUT = 750.34	STR 34 - STR 35, 12" RCP INV IN =750.44	STR 35 - STR 36, 12" RCP INV OUT =750.34	
STR - 36	1611559.9947	194518.4175	TYPE "C" MH - R-3472	RIM = 757.95 INV IN = 749.97 INV IN = 753.31 INV OUT = 749.87	STR 35 - STR 36, 12" RCP INV IN =749.97 STCO 11 - STR 36, 8" PROPOSED STORM INV IN =753.31	STR 36 - STR 21, 12" RCP INV OUT =749.87	
STR - 39	1611494.0118	193984.5342	TYPE "C" MH	RIM = 753.71 INV OUT = 750.21		STR 39 - TRENCH DRAIN, 12" RCP INV OUT =750.21	
STR - 40	1611494.8731	194125.7384	18" ADS DRAIN BASIN	RIM = 754.40 INV IN = 749.73 INV IN = 749.73 INV OUT = 749.63	TRENCH DRAIN B - STR 40, 12" PROPOSED STORM INV IN =749.73 TRENCH DRAIN D TO STR 40, 12" RCP INV IN =749.73	STR 40 - STR 41, 12" RCP INV OUT =749.63	ADS 18" DOME GRATE
STR - 41	1611521.2805	194147.1477	ADS 18" DRAIN BASIN	RIM = 757.98 INV IN = 749.50 INV OUT = 749.50	STR 40 - STR 41, 12" RCP INV IN =749.50	STR 41 - STR 23, 12" RCP INV OUT =749.50	ADS 18" DOME GRATE
STR - 42	1611563.7624	194353.5456	ADS 12" DRAIN BASIN	RIM = 757.69 INV IN = 753.13 INV OUT = 753.03	INT STR 2 - STR 42, 12" RCP INV IN =753.13	STR 42 - STR 21, 12" RCP INV OUT =753.03	ADS 12" DOME GRATE
TRENCH DRAIN A	1611470.6066	194133.6808	NULL STRUCTURE	RIM = 757.42 INV OUT = 756.32		TRENCH DRAIN A - TRENCH DRAIN B, 12" PROPOSED STORM INV OUT =756.32	???
TRENCH DRAIN B	1611470.6066	194130.8864	NULL STRUCTURE	RIM = 751.17 INV IN = 749.94 INV OUT = 749.84	TRENCH DRAIN A - TRENCH DRAIN B, 12" PROPOSED STORM INV IN =749.94	TRENCH DRAIN B - STR 40, 12" PROPOSED STORM INV OUT =749.84	???
TRENCH DRAIN C	1611505.2599	194047.0910	NULL STRUCTURE	RIM = 750.18 INV IN = 750.00 INV OUT = 750.00	STR 39 - TRENCH DRAIN, 12" RCP INV IN =750.00	TRENCH DRAIN C - TRENCH DRAIN D, 12" RCP INV OUT =750.00	???
TRENCH DRAIN D	1611505.2491	194064.4438	NULL STRUCTURE	RIM = 750.10 INV IN = 749.94 INV OUT = 749.94	TRENCH DRAIN C - TRENCH DRAIN D, 12" RCP INV IN =749.94	TRENCH DRAIN D TO STR 40, 12" RCP INV OUT =749.94	???

N

TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN F. REY
REGISTERED
No. 10403307
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

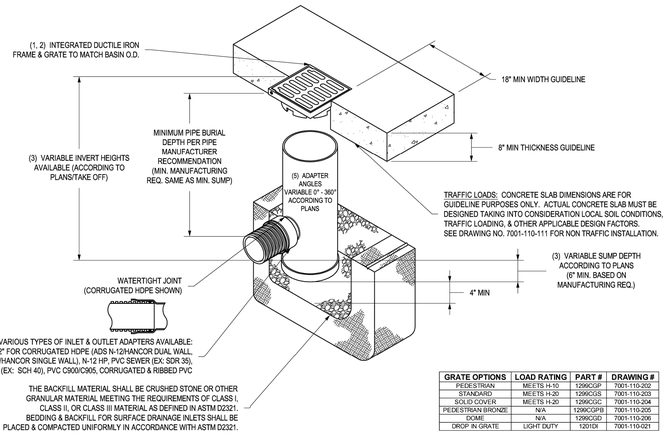
PROJECT: 2025.150
DATE: 07/10/2026
DRAWN BY: KIS

STORM LAYOUT PLAN

C-8.7

PLOT DATE/TIME: July 30, 2026

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1299CGP	7001-110-202
STANDARD	MEETS H-20	1299CGS	7001-110-203
SOLID COVER	MEETS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1299CGPB	7001-110-205
DOME	N/A	1299CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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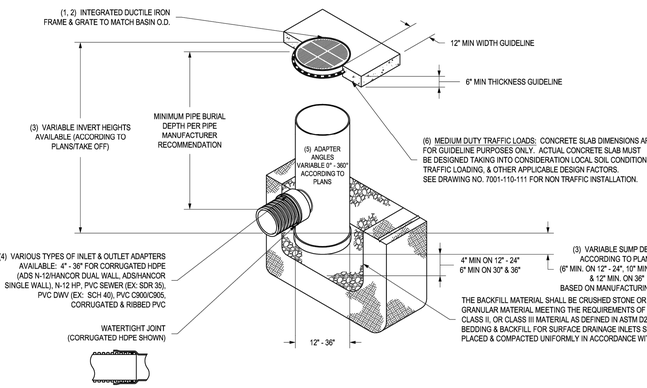
DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE



1 - 12" - 30" PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 24" PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING. 30" PEDESTRIAN GRATE SHALL MEET H-20 LOAD RATING (SEE DRAWING NO. 7001-110-144 FOR H-20 TRAFFIC LOAD GUIDELINES).

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DRAWN BY	EBC	MATERIAL	PVC
DATE	4-20-07		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH PEDESTRIAN GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-283 REV E

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

REVISIONS:

#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: 2025.150
DATE: 07/10/2026
DRAWN BY: KIS

STORM DETAILS

C-8.21

PLOT DATE/TIME:

SECTION 23 21 23 - HYDRONIC PUMPS

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. Close-coupled, in-line centrifugal pumps.

1.3 DEFINITIONS

A. ECM: Electronically commutated motor.

B. EPDM: Ethylene propylene diene monomer.

C. EPR: Ethylene propylene rubber.

D. FKM: Fluoroelastomer polymer.

E. HI: Hydraulic Institute.

F. NBR: Nitrile rubber or Buna-N.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of pump.

1. Include certified performance curves and rated capacities, operating characteristics, furnished specialties, final impeller dimensions, and accessories for each type of product indicated.
2. Indicate pump's operating point on curves.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pumps to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Mechanical Seals: One mechanical seal(s) for each pump.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of pumps that fail in materials or workmanship within specified warranty period.

1. Warranty Period for Pumps:
a. Warranty Coverage: 2-years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 CLOSE-COUPLED, IN-LINE CENTRIFUGAL PUMPS

A. Provide products by the following manufacturers:

1. Bell & Gossett.
2. Grundfos.
3. Taco.

B. Source Limitations: Obtain pumps from single source from single manufacturer.

C. Description: Factory-assembled and -tested, centrifugal, overhung-impeller, close-coupled, in-line pump as defined in HI 1.1-1.2 and HI 1.3; designed for installation with pump and motor shafts mounted horizontally or vertically.

D. Pump Construction:

1. Casing: Radially split, cast iron, with threaded gauge tappings at inlet and outletand threaded companion-flange connections.
2. Impeller: ASTM B584, cast bronze; statically and dynamically balanced, keyed to shaft, and secured with a locking cap screw. For constant-speed pumps, trim impeller to match specified performance.
3. Pump Shaft Sleeve: Bronze.
4. Pump Stub Shaft: Type 316 stainless steel.

5. Seal: Mechanical seal consisting of carbon rotating ring against a ceramic seat held by a stainless steel spring, and EPDM rubber bellows and gasket. Include water slinger on shaft between motor and seal.
6. Seal Flushing: Flush, cool, and lubricate pump seal by directing pump discharge water to flow over the seal.
7. Shaft grounding ring.

E. Motor: Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 23 05 13 "Common Motor Requirements for HVAC Equipment."

1. Enclosure : Totally enclosed, fan cooled.
2. NEMA Premium Efficient motors as defined in NEMA MG 1.
3. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
4. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.

F. Capacities and Characteristics:

1. See schedule on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine equipment foundations and anchor-bolt locations for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for piping systems to verify actual locations of piping connections before pump installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PUMP INSTALLATION

A. Comply with HI 1.4.

B. Install pumps to provide access for periodic maintenance including removing motors, impellers, couplings, and accessories.

C. Independently support pumps and piping so weight of piping is not supported by pumps and weight of pumps is not supported by piping.

D. Equipment Mounting: Install in-line pumps with continuous-thread hanger rods and spring hangers of size required to support weight of in-line pumps or floor mounted supports.

1. Comply with requirements for hangers and supports specified in Section 23 05 29 "Hangers and Supports for HVAC Piping and Equipment."

3.3 PIPING CONNECTIONS

A. Where installing piping adjacent to pump, allow space for service and maintenance.

B. Connect piping to pumps. Install valves that are same size as piping connected to pumps.

C. Install suction and discharge pipe sizes equal to or greater than diameter of pump nozzles.

D. Install Y-type strainer and shutoff valve on suction side of pumps.

1. Use startup strainer for initial system startup. Install permanent strainer element before turnover of system to Owner.

E. Install check valve, manual balance valve, and shutoff valve on discharge side of pumps.

F. Install pressure gauges on pump suction and discharge or at integral pressure-gauge tapping, or install single gauge with multiple-input selector valve.

3.4 ELECTRICAL CONNECTIONS

A. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

B. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

C. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

3.6 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's written instructions.

2. Check piping connections for tightness.
3. Clean strainers on suction piping. Use startup strainer for initial startup.
4. Perform the following startup checks for each pump before starting:

    a. Verify bearing lubrication.
    b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
    c. Verify that pump is rotating in correct direction.

5. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
6. Start motor.
7. Open discharge valve slowly.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Hydronic pumps will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain hydronic pumps.

END OF SECTION 23 21 23

SECTION 23 29 23 - VARIABLE-FREQUENCY MOTOR CONTROLLERS

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 separately enclosed, pre-assembled, combination VFCs, rated 600 V and less, for speed control of three-phase, squirrel-cage induction motors.

B. Related Sections:

1. Division 26 Section "Motor-Control Centers" for VFCs installed in motor-control centers.

1.3 ACTION SUBMITTALS

A. LEED Submittals:

1. Product Data for Credit EA 5: For continuous metering equipment for energy consumption.

B. Product Data with Shop Drawings:

1. Product Data: For each type and rating of VFC indicated. Include features, performance, electrical ratings, operating characteristics, shipping and operating weights, and furnished specialties and accessories.
2. Shop Drawings: For each VFC indicated. Include dimensioned plans, elevations, and sections; and conduit entry locations and sizes, mounting arrangements, and details, including required clearances and service space around equipment.

a. Show tabulations of installed devices, equipment features, and ratings. Include the following:

1) Each installed unit's type and details.
2) Factory-installed devices.
3) Enclosure types and details.
4) Nameplate legends.
5) Features, characteristics, ratings, and factory settings of each VFC and installed devices.

6) Specified modifications.

b. Schematic and Connection Wiring Diagrams: For power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

A. Load-Current and Overload-Relay Heater List: Compile after motors have been installed, and arrange to demonstrate that selection of heaters suits actual motor nameplate, full-load currents.

B. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed and arrange to demonstrate that switch settings for motor-running overload protection suit actual motors to be protected.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For VFCs to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Manufacturer's written instructions for testing and adjusting thermal-magnetic circuit breaker and MCP trip settings.
2. Manufacturer's written instructions for setting field-adjustable overload relays.
3. Manufacturer's written instructions for testing, adjusting, and reprogramming microprocessor control modules.
4. Manufacturer's written instructions for setting field-adjustable timers, controls, and status and alarm points.

1.6 DESCRIPTION / QUALITY ASSURANCE

A. Source Limitations: Obtain VFDs of a single type through one source from local manufacturer representative. All VFDs on the jobsite shall be furnished from one VFD manufacturer and have a common user interface (control panel).

B. Drives that are manufactured by a third party and "brand labeled" shall not be acceptable. Drive manufacturers who do not build their own power boards and assemblies, or do not have full control of the power board manufacturing and quality control, shall be considered as a "brand labeled" drive.

C. Manufacturer Qualifications: Maintain, within 100 miles of project site, an independent factory certified sales and service center capable of performing certified start up, commissioning, warranty service, training, parts, emergency maintenance and repairs.

D. The VFD and all Electrical Components, Devices, and Accessories must be UL Listed and labeled.

E. This specification is intended to supplement a drive schedule. The drive schedule identifies the optimized BOM for the project and includes quantity, size, voltage, enclosure rating, options, and harmonic mitigation requirements of the drives. IEEE 519-2014 is an electrical system standard for harmonic mitigation and not intended to be applied to an individual piece of equipment.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Rate equipment for continuous operation, capable of driving full load without derating, under the following conditions unless otherwise indicated:

1. Ambient Temperature: Not less than 14 deg F and not exceeding 104 deg F.
2. Ambient Storage Temperature: Not less than minus 4 deg F and not exceeding 140 deg F)
3. Humidity: Less than 95 percent (noncondensing).
4. Altitude: 0 to 3,300 feet above sea level.

1.8 COORDINATION

A. Coordinate features of motors, load characteristics, installed units, and accessory devices to be compatible with the following:

1. Torque, speed, and horsepower requirements of the load.
2. Ratings and characteristics of supply circuit and required control sequence.
3. Ambient and environmental conditions of installation location.

B. Coordinate sizes and locations of concrete bases with actual equipment provided. Cast anchor-bolt inserts into bases.

C. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace VFCs that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.
2. Warranty Coverage: At a minimum provide coverage for: Parts, on-site labor, and travel time and costs, or replacement of the complete drive as determined by the drive manufacturer's technical support.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ABB Model ACH by Fuller Engineering.
2. Danfoss.
3. Square D; a brand of Schneider Electric.

B. Application: variable torque.

C. Design and Rating: Match load type, such as fans, blowers, and pumps; and type of connection used between motor and load such as direct or through a power-transmission connection.

D. Output Rating: Three-phase; 10 to 60 Hz, with voltage proportional to frequency throughout voltage range; maximum voltage equals input voltage.

E. Unit Operating Requirements:

1. Input AC Voltage Tolerance: Plus 10 and minus 10 percent of VFC input voltage rating.
2. Input AC Voltage Unbalance: Not exceeding 3 percent.
3. Ambient Temperature Rating: Not less than 14 deg F and not exceeding 104 deg F.
4. Ambient Storage Temperature Rating: Not less than minus 4 deg F and not exceeding (140 deg F)
5. Humidity Rating: Less than 95 percent (noncondensing).

F. Isolated Control Interface: Allows VFCs to follow remote-control signal over a minimum 40:1 speed range.

1. Signal: Electrical.

G. Internal Adjustability Capabilities:

1. Minimum Speed: 25 percent of maximum rpm.
2. Maximum Speed: 100 percent of maximum rpm.
3. Acceleration: 0.1 to 999.9 seconds.
4. Deceleration: 0.1 to 999.9 seconds.
5. Current Limit: 30 to minimum of 150 percent of maximum rating.

H. Self-Protection and Reliability Features:

1. Input transient protection by means of surge suppressors to provide three-phase protection against damage from supply voltage surges 10 percent or more above nominal line voltage.

2. Loss of Input Signal Protection: Selectable response strategy, including speed default to a percent of the most recent speed, a preset speed, or stop; with alarm.
3. Under- and overvoltage trips.
4. Inverter overcurrent trips.
5. VFC and Motor Overload/Overtemperature Protection: Microprocessor-based thermal protection system for monitoring VFCs and motor thermal characteristics, and for providing VFC overtemperature and motor overload alarm and trip; settings selectable via the keypad; NRTL approved.
6. Critical frequency rejection, with three selectable, adjustable deadbands.
7. Instantaneous line-to-line and line-to-ground overcurrent trips.
8. Loss-of-phase protection.
9. Reverse-phase protection.
10. Short-circuit protection.
11. Motor overtemperature fault.

I. Automatic Reset/Restart: Attempt three restarts after drive fault or on return of power after an interruption and before shutting down for manual reset or fault correction; adjustable delay time between restart attempts.

J. Power-Interruption Protection: To prevent motor from re-energizing after a power interruption until motor has stopped, unless "Bidirectional Autospeed Search" feature is available and engaged.

K. Bidirectional Autospeed Search: Capable of starting VFC into rotating loads spinning in either direction and returning motor to set speed in proper direction, without causing damage to drive, motor, or load.

L. Torque Boost: Automatically varies starting and continuous torque to at least 1.5 times the minimum torque to ensure high-starting torque and increased torque at slow speeds.

M. Motor Temperature Compensation at Slow Speeds: Adjustable current fall-back based on output frequency for temperature protection of self-cooled, fan-ventilated motors at slow speeds.

N. Integral Input Disconnecting Means and OCPD: NEMA AB 1, instantaneous-trip circuit breaker with pad-lockable, door-mounted handle mechanism.

1. Disconnect Rating: Not less than 115 percent of VFC input current rating.
2. Disconnect Rating: Not less than 115 percent of NFPA 70 motor full-load current rating or VFC input current rating, whichever is larger.
3. Auxiliary Contacts: NO/NC, arranged to activate before switch blades open.
4. Auxiliary contacts "a" and "b" arranged to activate with circuit-breaker handle.
5. NO alarm contact that operates only when circuit breaker has tripped.

2.2 CONTROLS AND INDICATION

A. Status Lights: Door-mounted LED indicators displaying the following conditions:

1. Power on.
2. Run.
3. Overvoltage.
4. Line fault.
5. Overcurrent.
6. External fault.

B. Panel-Mounted Operator Station: Manufacturer's standard front-accessible, sealed keypad and plain-English language digital display; allows complete programming, program copying, operating, monitoring, and diagnostic capability.

1. Keypad: In addition to required programming and control keys, include keys for HAND, OFF, and AUTO modes.
2. Security Access: Provide electronic security access to controls through identification and password with at least three levels of access: View only; view and operate; and view, operate, and service.

    a. Control Authority: Supports at least four conditions: Off, local manual control at VFC, local automatic control at VFC, and automatic control through a remote source.

C. Historical Logging Information and Displays:

1. Real-time clock with current time and date.
2. Running log of total power versus time.
3. Total run time.
4. Fault log, maintaining last four faults with time and date stamp for each.

D. Indicating Devices: Digital displaymounted flush in VFC door and connected to display VFC parameters including, but not limited to:

1. Output frequency (Hz).
2. Motor speed (rpm).
3. Motor status (running, stop, fault).
4. Motor current (amperes).
5. Motor torque (percent).
6. Fault or alarming status (code).
7. PID feedback signal (percent).
8. DC-link voltage (V dc).
9. Set point frequency (Hz).
10. Motor output voltage (V ac).

E. Control Signal Interfaces:

1. Electric Input Signal Interface:

    a. A minimum of two programmable analog inputs: 0- to 10-V dc 4- to 20-mA dc.
    b. A minimum of six multifunction programmable digital inputs.
2. Remote Signal Inputs: Capability to accept any of the following speed-setting input signals from the BAS or other control systems:

a. 0- to 10-V dc.
b. 4- to 20-mA dc.

3. Output Signal Interface: A minimum of one programmable analog output signal(s) (0- to 10-V dc), which can be configured for any of the following:

a. Output frequency (Hz).
b. Output current (load).
c. DC-link voltage (V dc).
d. Motor torque (percent).
e. Motor speed (rpm).
f. Set point frequency (Hz).

4. Remote Indication Interface: A minimum of two programmable dry-circuit relay outputs (120-V ac, 1 A) for remote indication of the following:

a. Motor running.
b. Set point speed reached.
c. Fault and warning indication (overtemperature or overcurrent).
d. PID high- or low-speed limits reached.

F. PID Control Interface: Provides closed-loop set point, differential feedback control in response to dual feedback signals. Allows for closed-loop control of fans and pumps for pressure, flow, or temperature regulation.

1. Number of Loops: One.

G. BAS Interface: Factory-installed hardware and software to enable the BAS to monitor, control, and display VFC status and alarms and energy usage. Allows VFC to be used with an external system within a multidrop LAN configuration; settings retained within VFC's nonvolatile memory.

1. Network Communications Ports: Ethernet and RS-422/485.
2. Embedded BAS Protocols for Network Communications: ASHRAE 135 BACnet Echelon LonWorks; protocols accessible via the communications ports. Provide protocol to be compatible with BMS provider.

2.3 LINE CONDITIONING AND FILTERING

A. Input Line Conditioning: The VFC shall have internal 5% impedance reactors to reduce harmonics to the power line and to add protection from AC transients. The 5% impedance may be from dual (positive and negative DC bus) reactors, or 5% AC line reactors. VFD's with only one DC reactor shall add AC line reactors. The VFC shall include a coordinated AC transient protection system consisting of 4 - 120 joule rated MOV's (phase to phase and phase to ground), a capacitor clamp and 5% impedance reactors.

B. Output Filtering: If the motor load is located more than 100 ft. from VFC, provide output line. Size output line reactor to properly handle and protect the load.

C. Remote manual disconnect: If a remote disconnect is used on the load side of the VFC, an auxiliary set of contacts will be provided in that disconnect wired to disable the VFC. Run disable control wiring in separate conduit from power feed.

2.4 ENCLOSURES

A. VFC Enclosures: NEMA 250, to comply with environmental conditions at installed location.

1. Dry and Clean Indoor Locations: Type 1.
2. Outdoor Locations: Type 3R.
3. Other Wet or Damp Indoor Locations: Type 4.
4. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: Type 12.

B. Plenum Rating: UL 1995; NRTL certification label on enclosure, clearly identifying VFC as "Plenum Rated."

2.5 ACCESSORIES

A. General Requirements for Control-Circuit and Pilot Devices: NEMA ICS 5; factory installed in VFC enclosure cover unless otherwise indicated.

1. Push Buttons, Pilot Lights, and Selector Switches: Standard-duty, type.

a. Stop and Lockout Push-Button Station: Momentary-break, push-button station with a factory-applied hasp arranged so padlock can be used to lock push button in depressed position with control circuit open.

B. NO bypass contactor auxiliary contact(s).

C. Control Relays: Auxiliary and adjustable solid-state time-delay relays.

D. Phase-Failure, Phase-Reversal, and Undervoltage and Overvoltage Relays: Solid-state sensing circuit with isolated output contacts for hard-wired connections. Provide adjustable undervoltage, overvoltage, and time-delay settings.

1. Current Transformers: Continuous current rating, basic impulse insulating level (BIL) rating, burden, and accuracy class suitable for connected circuitry. Comply with IEEE C57.13.

E. Supplemental Digital Meters:

1. Elapsed-time meter.
2. Kilowatt meter.
3. Kilowatt-hour meter.

F. Breather and drain assemblies, to maintain interior pressure and release condensation in NEMA 250, Type 4 Type 4X Type 12 enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

G. Space heaters, with NC auxiliary contacts, to mitigate condensation in NEMA 250, Type 3R Type 4X Type 12 enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

H. Cooling Fan and Exhaust System: For NEMA 250, Type 12; UL 508 component recognized: Supply fan, with stainless steel intake and exhaust grills and filters; 120 -V ac; obtained from integral CPT.

I. Sun shields installed on fronts, sides, and tops of enclosures installed outdoors and subject to direct and extended sun exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, surfaces, and substrates to receive VFCs, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance.

B. Examine VFC before installation. Reject VFCs that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for conduit systems to verify actual locations of conduit connections before VFC installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Coordinate layout and installation of VFCs with other construction including conduit, piping, equipment, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Wall-Mounting Controllers: Install VFCs on walls with tops at uniform height and with disconnect operating handles not higher than 79 inches above finished floor unless otherwise indicated, and by bolting units to wall or mounting on lightweight structural-steel channels bolted to wall. For controllers not on walls, provide freestanding racks complying with Division 26 Section "Hangers and Supports for Electrical Systems."

C. Floor-Mounting Controllers: Install VFCs on 4-inch nominal thickness concrete base. Comply with requirements for concrete base specified in Division 03 Section "Cast-in-Place Concrete."

1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
2. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
4. Install anchor bolts to elevations required for proper attachment to supported equipment.

D. Roof-Mounting Controllers: Install VFC on roofs with tops at uniform height and with disconnect operating handles not higher than 79 inches above finished roof surface unless otherwise indicated, and by bolting units to curbs or mounting on freestanding, lightweight, structural-steel channels bolted to curbs. Seal roof penetrations after raceways are installed.

1. Curbs and roof penetrations are specified in Division 07 Section "Roof Accessories."
2. Structural-steel channels are specified in Division 26 Section "Hangers and Supports for Electrical Systems."

E. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

F. Install fuses in each fusible-switch VFC.

G. Install fuses in control circuits if not factory installed. Comply with requirements in Division 26 Section "Fuses."

H. Install heaters in thermal-overload relays. Select heaters based on actual nameplate full-load amperes after motors have been installed.

I. Install, connect, and fuse thermal-protector monitoring relays furnished with motor-driven equipment.

J. Comply with NECA 1.

3.3 IDENTIFICATION

A. Identify VFCs, components, and control wiring. Comply with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
2. Label each VFC with engraved nameplate.

B. Operating Instructions: Frame printed operating instructions for VFCs, including control sequences and emergency procedures. Fabricate frame of finished metal, and cover instructions with clear acrylic plastic. Mount on front of VFC units.

3.4 CONTROL WIRING INSTALLATION

A. Install wiring between VFCs and remote devices and facility's central-control system. Comply with requirements in Division 26 Section "Control-Voltage Electrical Power Cables."

B. Bundle, train, and support wiring in enclosures.

C. Connect selector switches and other automatic control devices where applicable.

1. Connect selector switches to bypass only those manual- and automatic control devices that have no safety functions when switches are in manual-control position.
2. Connect selector switches with control circuit in both manual and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor overload protectors.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

C. Tests and Inspections:

1. Inspect VFC, wiring, components, connections, and equipment installation. Test and adjust controllers, components, and equipment.
2. Verify that voltages at VFC locations are within 10 percent of motor nameplate rated voltages. If outside this range for any motor, notify Architect before starting the motor(s).
3. Test each motor for proper phase rotation.
4. Perform each electrical test and visual and mechanical inspection stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
5. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

6. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

D. VFCs will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports, including a certified report that identifies the VFC and describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations made after remedial action.

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.7 ADJUSTING

A. Program microprocessors for required operational sequences, status indications, alarms, event recording, and display features. Clear events memory after final acceptance testing and prior to Substantial Completion.

3.8 PROTECTION

A. Temporary Heating: Apply temporary heat to maintain temperature according to manufacturer's written instructions until controllers are ready to be energized and placed into service.

B. Replace VFCs whose interiors have been exposed to water or other liquids prior to Substantial Completion.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, reprogram, and maintain VFCs.

END OF SECTION 23 29 23

SECTION 23 73 43.19 - OUTDOOR, CUSTOM AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Outdoor, custom air-handling units.

1.2 ACTION SUBMITTALS

A. Product Data: For each outdoor, custom air-handling unit.

1. Product information organized to show compliance with each performance requirement of "Performance Requirements" article.
2. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
3. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
4. Include unit dimensions and weight.
5. Include cabinet material, metal thickness, finishes, insulation, and accessories.
6. Fans:

    a. Include certified fan-performance curves with system operating conditions indicated. For fans operating at variable speeds include curves in 10 percent speed increments starting at design speed down to minimum speed.
    b. Include fan-sound power ratings in all eight octave bands. Include inlet or outlet sound power levels to coincide with sound requirements indicated on Drawings.
    c. Include fan construction and accessories. Submit sufficient information to show product compliance with requirements indicated.
    d. Include dimensions and weight.
    e. Include motor ratings, electrical characteristics, and motor accessories.

7. Vibration isolation product data with performance ratings. Uniquely identify and include information for each different isolator type and indicate for each air-handling unit where each isolator type is being used.
8. Include certified coil-performance ratings with system operating conditions indicated. Product data to include: dimensions, dry and operating weight, volume of fluid contained, materials of construction, and performance ratings with system operating conditions indicated.
9. Casing insulation product data and performance ratings.
10. Access door and access panel product data and performance ratings.
11. Roofing product data and performance ratings.
12. Louver product data and performance ratings.

13. Paint product data and performance ratings.
14. Electrical product data and performance ratings.
15. Metal grating product data and performance ratings.
16. Dampers product data, including housings, linkages, and operators with performance ratings.
17. Filters product data with performance characteristics.
18. Roof curbs product data.

B. Shop Drawings: For each type and configuration of indoor, custom air-handling unit.

1. Prepared by manufacturer's factory employees with review and sign-off by those individuals responsible for manufacturing the air-handling units.
2. Include plans, elevations, sections, and mounting details. For air-handling units consisting of multiple levels, create drawings for each level showing interrelationship of levels superimposed.
3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, methods of field assembly, components, and location and size of each field connection.
4. Detail fabrication and assembly of indoor, custom air-handling units, as well as procedures and diagrams.
5. Indicate details of construction with materials description including applicable specified standards and material grades in sufficient detail for reviewers to evaluate point by point compliance with requirements indicated for each air-handling unit.
6. Use actual dimensions of internal equipment in preparing Shop Drawings. Identify mechanical equipment shown on Shop Drawings with equipment designations on Drawings.
7. Thickness and finish of all casing materials with cross references indicated where each is used. Uniquely identify and include information for each different casing construction.
8. Details for each unique casing joint and reinforcing. Indicate wall joints, wall to floor joints, wall to roof joints, floor joints, and roof joints.
9. Roofing details.
10. Assembly details of base and casing for units consisting of multiple sections requiring field assembly.
11. Sizes and dimensioned locations of field connections for ductwork, piping, electrical, and controls.
12. Base and casing penetration and sealing details for factory-installed conduit.
13. Base and casing penetration and sealing details for factory-installed piping including coils.
14. Details of casing connections to field-installed ductwork.
15. Size, shape and layout of base members including localized support of internal components.
16. Base materials, thickness, finishes, lifting provisions, and mounting requirements. Uniquely identify and include information for each different base construction. Clearly indicate for each air-handling unit.
17. Recommended points of field attachment with dimensioned locations.
18. Size and location of each access door, including clearing opening size, with door swing indicated.
19. Size and location of each access panel with service equipment superimposed to show relationship of panel to internal equipment.

20. Drain pans and associated piping, with sizes and locations dimensioned, including relationship to internal equipment.
21. Floor drains and associated piping, with sizes and locations dimensioned, including relation to internal equipment.
22. Coil framework and support including enlarged details showing framework attachment to air-handling unit base, coil attachment to framework, and means for individual coil removal.
23. Mounting details of all internal components, such as fans, filters, and dampers.
24. Hoist rails layout for internal equipment showing size of members, attachments to structure, and serviced equipment superimposed to indicate relationships.
25. Size and location of catwalks, handrails, ladders, and safety cages including construction details and details of attachment to air-handling unit base.
26. Location of UV-C lamp systems, service clearances, and mounting details.
27. Location of receptacles, service lights, and switches.
28. Location of motor controllers and disconnect switches.
29. Size and location of junction boxes used for interface with field electrical power.
30. Point-to-point electrical power wiring diagrams including wire size, conduit size, motor controllers sizes, switch types and ratings, receptacle types and ratings, service light fixture types and ratings.
31. Point-to-point control wiring diagrams including cable types and sizes, conduit sizes, and connected control devices.
32. Point-to-point control tubing diagrams including tubing types and sizes, conduit sizes, and connection controls devices.
33. Control panel drawings drawn to scale showing detailed internal layout.
34. Indicate code, operating, and maintenance clearances drawn to scale using dashed lines.
35. Indicate weights of internal components, weight of each separately shipped section, and air-handling unit total weight.
36. .

C. Comparison Schedule:

1. Submit a schedule to indicate performance of equipment scheduled on Drawings directly compared to performance of submitted equipment.
2. Clearly identify each line in schedule to indicate "Scheduled" where indicating performance scheduled on Drawings and "Submitted" where indicating performance of submitted equipment.
3. Organize schedule to first indicate performance scheduled on Drawings on one line followed by line directly below that indicates performance of submitted equipment.
4. Comparison schedule shall follow arrangement and organization of scheduled information indicated on Drawings.
5. Submitted equipment shall have a value for each scheduled value indicated.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Floor plans, sections, and other details, or BIM model, drawn to scale, showing the items described in this Section and coordinated with all building trades.

B. Source quality-control reports.

C. Startup service reports.

D. Field quality-control reports.

E. Sample Warranty: For manufacturer's warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-handling units to include in emergency, operation, and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Panel Filters: One set(s) for each air-handling unit.
2. Access Door Gaskets: One set(s) for each unique access door.
3. Fan Belts: One set(s) for each fan with belt-drive assembly.

B. Tool Kit: Manufacturer to provide a tool kit including special tools required for air-handling unit service. See "Accessories" Article for additional requirements.

1.6 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate sizes and locations of structural-steel support members, if any, with actual equipment provided.

1.7 DELIVERY, STORAGE, HANDLING

A. Deliver air-handling units with factory-installed shipping skids and lifting lugs; pack small components in factory-fabricated protective containers. Cover units with heat-shrinkable plastic sheeting suitable for shipping from point of manufacture to Project.

B. Handle air-handling units carefully to avoid damage to components, casing, and finish. Do not install damaged components; replace and return damaged components to air-handling unit manufacturer.

C. Store air-handling units in a clean dry place and protect them from weather and construction activities.

D. Keep air-handling units fully covered and protected during construction. Remove dirt and debris and clean units to a factory-cleaned condition.

E. Comply with manufacturer's written rigging and installation instructions for unloading air-handling units and moving them to their final locations.

1.8 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of air-handling units that fails in materials or workmanship within specified warranty period.

1. Warranty Period: One year(s) from date of Substantial Completion.

B. Extended warranties include, but are not limited to, the following:

1. Complete Air-Handling Unit: Two years from date of Substantial Completion for entire air-handling unit and longer where indicated for individual components.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of air-handing units and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

E. Casing Structural Performance:

1. Floor: Capable of withstanding positive/negative 8 inches wg of internal static pressure, without exceeding a deflection of L/300 of span.
2. Walls and Roof: Capable of withstanding positive/negative 8 inches wg of internal static pressure, without exceeding a midpoint deflection of L/200 of span.

F. Casing Leakage Performance, ASHRAE 111: Class 3 leakage or better at plus or minus 8 inches wg.

G. Casing Thermal Performance:

1. Surface Condensation: Air-handling manufacturer shall evaluate potential for condensation and design and manufacture entire unit casing to prevent condensation at most extreme operating conditions encountered.
2. Thermal Break: Incorporate a thermal break at each through metal path to prevent condensation from occurring on interior and exterior of casing.

3. U-Value: Overall U-value or equivalent R-value of casing shall not exceed governing codes and ASHRAE/IES 90.1 while considering the effects of metal-to-metal contact and thermal bridging in calculations.

H. Air Tunnel Aerodynamic Performance: Position air-handling unit internal components and transition between internal components to maintain uniform airflow; minimize sound levels and energy consumption. Use methods indicated and other means to ensure compliance.

1. Use turning vanes if necessary to direct the air path.

a. Design, manufacture, and install vanes in accordance with applicable requirements in ASHRAE and SMACNA guidelines, handbooks, and standards.
b. Install vanes firmly in place so that no vane movement occurs at worst-case airflow capacity possible.

2. Use fan inlet and discharge transitions and other devices to maximize system regain and minimize airborne sound levels.
3. Center system components such as coils, fans, and filters, vertically and horizontally, in the airstream.
4. Maintain spacing between components such that airflow patterns to adjacent components are as uniform as possible and that component "dead spots" or "jetted areas" are avoided.
5. Design and install internal structural supports, piping, and conduit that do not block airflow and impede performance of coils, fans, filters, and other unit components, and service space clearances.

I. Durability Performance: Design and manufacture air-handling units with underlying requirement to provide a highly durable piece of equipment.

1. Unit Life Expectancy: 25 years.
2. Supporting Documentation: Submit documentation showing proposed products to consider and include design features, components, and materials to satisfy requirement.

J. Outdoor Environment:

1. Air-handling units specially designed to withstand effects of wind, rain, ice, snow, seismic, air quality, sun, and other influences associated with outdoor installations.
2. Comply with requirements of air-handling unit and governing codes.

K. Safety:

1. Comply with OSHA regulations.
2. Exposed sharp edges and corners of metal shall be protected or rounded to prevent injury to personnel not wearing gloves.
3. Cover exposed ends of screws with plastic or metal covers to prevent injury to personnel coming in contact with screws.

L. Serviceability:

1. Hoisting Provisions: Fans and motors weighing more than 200 lb shall have full-length hoist rails mounted over the equipment to facilitate service, removal, and replacement.
2. Mounting Location: Install internal components in readily accessible locations to facilitate ease of service and replacement.
3. Service Access:

    a. Internal components shall be serviceable through access sections with doors indicated on Drawings.
    b. Internal components shall be removable and replaceable through access doors or panels.
    c. Review requirements for access doors and panels indicated and recommend additional access doors and panels if required for uninhabited service, removal, and replacement of components.

4. Tripping Hazards: Floors in accessible sections of air-handling unit shall be free of standing seams, reinforcing, supports, or section splits located in the walking path that is capable of causing a tripping hazard. Locate section splits immediately adjacent to internal walls.

M. Quality: Type and thickness of materials indicated are the minimum acceptable. Provide better-quality materials of a heavier thickness if required to comply with performance requirements indicated.

1. If manufacturer's standard construction exceeds requirements indicated, use manufacturer's standard construction.
2. If manufacturer's standard construction does not comply with requirements indicated, modify manufacturer's standard construction to comply with requirements.

N. Vibration Performance: Air-handling unit manufacturer shall evaluate vibration of internal components installed inside of air-handling units and include internal vibration isolation required to limit the vibration transmitted to the building at a low enough level that vibration is not perceived by building occupants.

2.2 CAPACITIES AND CHARACTERISTICS

A. See equipment schedules on Drawings.

2.3 SOURCE LIMITATIONS

A. Source all outdoor custom air-handling units from same manufacturer.

B. Like components furnished with air-handling units shall be from same manufacturer.

C. Air-handling units shall be manufactured in United States or Canada.

D. OUTDOOR, CUSTOM AIR-HANDLING UNITS

E. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Haakon Industries.
   2. Air Flow Equipment, Inc.
   3. Ventrol (Fully Custom Line).

F. Unit Arrangement and Configuration:

   1. Arrangement: Project-specific arrangement and configuration of air-handling units indicated on Drawings. Do not deviate from requirements indicated without submitting a formal request clearly describing each deviation and reason for each deviation, and only after receiving Architect's written acceptance.
   2. Mounting Requirements: Indicated on Drawings.
   3. Multiple Sections: Each air-handling unit shall consist of multiple sections for field assembly to comply with requirements indicated on Drawings.
   4. Multiple Sections, Splits: Air-handling unit manufacturer to determine number of sections and location of section splits required for each air-handling unit in accordance with the following criteria:

      a. Physical size and weight of each section, on-site path of travel, and methods for erection and installation. Air-handling manufacturer to review criteria with Installer before preparing Shop Drawings.
      b. Maximize physical size of each air-handling unit section considering, shipping, moving, erecting, and installation.
      c. Minimize the number of air-handling unit sections requiring field assembly. Preference is for single-piece air-handling units where possible.

G. Air-Handling Unit Base:

   1. Performance:

      a. Air-handling unit manufacturer shall design and assemble air-handing unit casing and internal components for attachment and support by air-handling unit structural base.
      b. Design air-handling units to be lifted from only the air-handling unit structural base and not the casing.
      c. Support air-handling units from only the perimeter base unless otherwise indicated on Drawings.
      d. Air-handling unit manufacturer to size and locate intermediate structural base supports as required to comply with structural performance indicated for air-handling unit floors.
      e. Level base before factory assembly of air-handling unit casing and internal components to ensure proper fit and alignment.

   2. Structural Member Size:

      a. Air-handling unit manufacturer shall select size of base members and construction of base to withstand the rigors of loading, unloading, shipping,

and rigging without damage to air-handling unit components or misalignment of factory-assembled components.
b. Depth and weight of structural members shall be selected by air-handling unit manufacturer to comply with performance requirements indicated.
c. Depth of perimeter base members is not less than 8 inchesdeep.

3. Structural Member Spacing: Positioned as required to comply with requirements indicated, but not to exceed 24 inches.
4. Materials: Structural aluminum, ASTM B209, Alloy 6061 T6 Structural stainless steel, ASTM A276/A276M, Type 304L or structural stainless steel, ASTM A276/A276M, Type 316L.

   a. Perimeter Members: channel or tube.
   b. Intermediate Members (Spanning Full Width of Unit): channel or I or W beam shapes or tube.
   c. Cross Members (Spanning Intermediate Members): channel or tube.
5. Welding Filler Metals: Comply with AWS welding codes for welding materials appropriate for thickness and chemical analysis of material being welded.

   a. Use welding materials with corrosion properties equal to material being welded.

6. Welding Procedures:

   a. Structural Welding Codes: AWS D1.2/D1.2M for aluminum and AWS D1.6/D1.6M for stainless steel.
   b. Join structural members to one another using continuous welds.
   c. After welding and fabrication, deburr and grind exposed welds to provide smooth surfaces free of sharp edges.

7. Penetrations through Base Perimeter: Seal weld pipe, tubing, and conduit penetrations through base perimeter members to provide a watertight assembly.
8. Section Joints: Air-handling units consisting of multiple sections for field assembly shall be joined with structural joining plates.

   a. Joining plate material type to match base.
   b. Joining plate of thickness required to join sections without resulting in a permanent deflection, minimum 1/2 inch thick.
   c. Continuously weld joining plates to each mating end of base.
   d. Joining plates shall not extend beyond outer edge of adjoining base.
   e. Plates to include at least three equally spaced holes for field connection using factory-furnished threaded hardware of a nominal diameter of at least 1/2 inch.

9. Lifting Provisions: Air-handling unit manufacturer to design and install lifting lugs of size and location required to comply with performance requirements indicated. Lifting lugs extending beyond the base shall be easily removable in the field after unit is installed.
10. Curb Cap:

a. For air-handling units installed on a continuous perimeter curb, provide air-handling unit base with a continuous structural angle counterflashing.
b. Angle shall extend down vertical face of curb to completely cover wood nailer.
c. Coordinate inside dimension of angle counterflashing with curb dimension and roofing. Provide adequate clearance between angle counterflashing and roofing over curb.

H. Unit Casings:

1. Casing Assembly:

a. Appearance:

1) Exposed exterior surfaces of casing shall have a neat and finished appearance free of standing seams, exposed reinforcing, and other casing protrusions more than 0.5 inch beyond the exterior skin surface.
2) Underside of air-handling units with finished installation exposed to view shall have finished appearance matching casing walls. Casing shall be recessed within the perimeter structural base to provide a single contiguous plane.
3) Interior surfaces of casing shall have a neat and finished appearance free of standing seams, exposed reinforcing, and other casing protrusions more than 0.5 inch beyond the skin surface.

b. Dissimilar Metals: Isolate dissimilar metals that are in contact to prevent galvanic action and corrosion.
c. Framing and Supports: Interconnect and support individual casing wall and roof panels using either formed panel construction or framed construction with structural support members. For framed casing construction, materials used to construct casing of structural support members shall be as follows:

1) Casings with Aluminum Outer and Inner Skins: Aluminum extrusions in accordance with ASTM B211 Alloy 6063 T6.
2) Casings with Galvanized-Steel Outer and Inner Skins: Galvanized steel.
3) Casings with Galvanized-Steel Outer Skin and Aluminum or Stainless Steel Inner Skins: Stainless steel.
4) Casings with Stainless Steel Outer and Inner Skins: Stainless steel.

d. Seals: Seal interior and exterior joints and seams to make casing air- and watertight. Trim factory-applied sealant flush with adjacent surface.
e. Double-Wall Casings: Consisting of insulation sandwiched between an outer and inner metal wall. Use double-wall casings to construct air-handling units unless septum casings are required.
f. Septum Casings: Triple-wall construction consisting of a solid metal inner wall sandwiched between insulation layers that are covered with metal walls. Use septum casings for applications having performance requirements that are not achievable with double-wall casings.

g. Wall and Roof Penetrations: Seal voids around conduit, piping, and tubing penetrations.

1) Conduit, Pipe, and Tube: Sizes NPS 3 (DN 80) and smaller:

a) Seal void through casing with a nonhardening vapor-barrier caulk covered by an escutcheon on both interior and exterior sides of casing. Back caulk using formed insulation within a sheet metal sleeve.
b) Seal void using a friction fit neoprene or EPDM sheet material attached to casing using a bed of adhesive.
c) Cover penetration and sealing sheet material with metal escutcheon matching adjacent casing material.

2) Larger Conduit, Pipe, and Tube Sizes: Seal annular void using an adjustable compression-type sealing sleeve.

h. Floors: Route conduit, pipe, and tube within a floor-mounted pipe sleeve.

1) Sleeve:

a) Fabricate sleeve of aluminum or stainless steel pipe.
b) Extend top of sleeve above adjacent floor surface to prevent standing water on floor from entering annular space of sleeve.
c) Seal weld sleeve to top of floor for an air- and watertight seal.
d) Seal annular void of sleeve using an adjustable compression seal or nonhardening packing material.

i. Floor Openings with Metal Grating:

1) Factory install walk-on safety gratings over any floor opening large enough to create a safety hazard for operators including, but not be limited to, supply-, return-, and exhaust-air openings.
2) Bar Grating:

a) Materials: Use stainless steel grating for aluminum and stainless steel floors.
b) Air-handling unit manufacturer shall select depth and thickness of grating bars to limit deflection to 1/360 of span when subjected to a dynamic load of not less than 500 lb.
c) Industry-standard welded grating with bars at least 1-1/2 inches deep by at least 3/16 inch thick with nominal 1-3/16-inch main bar spacing and 4-inch cross bar spacing.
d) Source: Product manufacturer specializing in metal gratings.
e) Grating bearing surface shall extend beyond clear opening in floor at least 2 inches.

3) Mounting Frame:

a) Mount grating in a continuous structural angle or bar frame so no ends of grating bars are exposed. Top of frame to be flush with top of grating.
b) Secure grating to frame with threaded hardware so grating does not move when walked on but can be easily removed from top to gain access behind grating.
c) Continuously weld mounting frame to air-handling unit floor.
d) Fasten mounting frame to air-handling unit floor with hardware and seal attachment air- and watertight.
e) For applications with automatic dampers installed at floor openings, elevate height of mounting frame and grating to enclose entire damper assembly including jackshaft so walk-on surface of grating is above damper assembly.

j. Waterproof Floors: Continuously weld floor joints, seams, and penetrations to completely seal floor. Roll all edges of floor up at least 1.5 inch to create a shallow tub capable of holding standing water.
k. Duct Connections - Direct to Casing: Frame and reinforce unit casing around perimeter of unit duct openings to accommodate direct attachment of field-installed ductwork. Coordinate requirements with Installer to accommodate field connection.

l. Materials for Outer Skin of Casing Walls and Roofs:

Retain any of "Galvanized-Steel Solid Sheet," "Aluminum Solid Sheet," and "Stainless Steel Solid Sheet" subparagraphs below.

m. Galvanized-Steel Solid Sheet: ASTM A653/A653M; G90 coating; minimum (nominal) 18 gauge thick.
n. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, stucco-embossed texture finish; minimum (nominal) 0.063 inch thick.

2. Materials for Inner Skin of Casing Walls and Roofs:

a. Galvanized-Steel Solid Sheet: ASTM A653/A653M; G90 coating, minimum (nominal) 18 gauge thick.
b. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.040 inch thick.
c. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M; Type 304Lor Type 316L; No. 2D finish; minimum (nominal) 18 gauge thick.

3. Materials for Floor Walking Surface:
a. Aluminum Diamond Treadplate: ASTM B632/B632M, Alloy 6061 T6; mill finish; minimum (nominal) 0.1875 inch thick.
b. Stainless Steel Diamond Treadplate: ASTM A793; Type 304Lor Type 316L; mill finish; minimum (nominal) 0.125 inch thick.

4. Materials for Underside of Floor Insulation:
a. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.063 inch thick.

b. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M; Type 304L**or** Type 316L; No. 4 finish; minimum (nominal) 18 gauge thick.

5. Materials for Internal Walls:
   a. Aluminum Solid Sheet: ASTM B209; Alloy 3003-H14, smooth finish; minimum (nominal) 0.063 inch thick.
   b. Stainless Steel Solid Sheet: ASTM A240/A240M or ASTM A480/A480M, Type 304Lor Type 316L; No. 2D finish; minimum (nominal) 16 gauge thick.

6. Surfaces in Contact with Airstream:

   a. Comply with ASHRAE 62.1 and NFPA 90A.

7. Insulation for Casing Walls and Roofs Not Exposed to Airstream:

   a. Materials Not Exposed to Airstream: Glass or mineral-fiber board, injected or sprayed polyurethane foam or polyurethane foam board insulation with a minimum nominal density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

8. Insulation for Casing Walls and Roofs Exposed to Airstream:

   a. Materials Exposed to Airstream: Glass or mineral-fiber board insulation with a minimum density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

9. Insulation for Casing Floors:

   a. Materials: Glass or mineral-fiber board insulation, injected or sprayed polyurethane foam or polyurethane foam board insulation with a minimum nominal density of 2 lb/cu. ft.
   b. Thickness: Minimum 4 inches.
   c. Insulation shall completely fill the casing cavity so no voids exist.

10. Access Doors:

   a. Application: Install access doors in air-handling units at locations indicated on Drawings.
   b. Adjustment: Design doors for field adjustment capable of maintaining specified leakage rate.
   c. Mounting Height: Install bottom of door frame within 2 inches (50 mm) of air-handling unit floor walking surface.
   d. Performance: Leakage as required to satisfy overall unit leakage performance indicated, but not more than 1.0 cfm per door when tested at 10 inches wg.
   e. Fabrication: Formed and reinforced, constructed of same materials and thicknesses as casing.
   f. Swing: Arrange doors to be opened against pressure, unless otherwise indicated on Drawings.

g. Frame: Extruded aluminum with thermal break or stainless steel with welded mitered corners.
h. Handles:

1) Secure door closed using not less than two latches with handles located at quarter points along door height.
2) If three latches with handles are included, install one at midpoint of door height and equally space others.
3) Air-handling unit manufacturer has option to use a multipoint latching mechanism that is operable from a single door handle located at midpoint of door height, but secures door to frame at top, bottom, and handle location.
4) Include door handles on outside and inside of door to allow operator access to open and close door from outside and inside of unit.
5) Field adjustable to accommodate changes to fit and gasket compression.
6) Durable product capable of withstanding repeated opening and closing of door while operating under design pressure without damage.

i. Hinges: full-length, concealed, stainless steel piano hinge.
j. Gasket:

1) Design: Specially formed with an internal air chamber specifically designed to seal on two surfaces without taking a permanent set.
2) Dual Gaskets: Primary and secondary gasket.
3) Location: Install gaskets around entire perimeter of doors or frames.
4) Material: EPDM, neoprene, or santoprene.
5) Protection: Seat gasket in a protective metal ribbed chamber integral to door or door frame to protect gasket from damage by operator incidental contact.
6) Service: Field replaceable.
7) Adhesive-backed tape-type gaskets adhered to a single flat surface are unacceptable.

k. Size of Door Frame Clear Opening: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components.

1) Width: At least 24 inches clear inside of door frame.
2) Height: Full clear height of unit casing up to a maximum height of 72 inches clear inside of door frame.

l. Safety Latches and Stops:

1) Safety Latches: Install safety latch with retainers on outward swing doors that do not open against pressure to allow restricted travel for purpose of pressure relief and so that doors do not open uncontrollably due to inside pressure.

2) Stops: Install cushioned door stops on inward swinging doors where necessary to limit door travel that could potentially damage the door or internal components.

m. Tie-Backs: Install tie-backs with retainers on outward-swinging access doors to hold doors in an open position during service.

n. Windows:

1) Construction: Fabricate windows with frame mounted in access doors of double-glazed safety glass with an airspace between panes and interior and exterior seals.
2) Condensation Control: Install desiccant material in airspace between panes if necessary to prevent condensation from forming on glazing.
3) Clear Viewing Size: Minimum 12 inches (300 mm), square or round.
4) Mounting Location: Center window in door width. For doors up to 60 inches high, locate top of window 6 inches below top of door. For taller doors, locate center of windows at optimal viewing height, approximately 60 inches above floor adjacent to unit.
5) Application: Install windows in all access doors.

11. Standing-Seam Metal Roof: Construct air-handling unit roof casing with standing seams designed for waterproof roofing applications.

a. Construct air-handling unit roof using same materials and finish as walls.
b. Slope roof away from primary access side of unit at not less than 1 percent.
c. For air-handling units shipped in multiple sections, include standing-seam joiners at each split with adhesive, hardware, and cover strips for field joining by Installer.

12. Roofing Membrane:

a. Cover entire roof with a roofing membrane. Extend membrane down sides of unit a sufficient distance to provide a waterproof roof assembly and secure in place with a metal flashing matching casing material and finish.

1) Roofing membrane shall have an elongation of at least 450 percent when tested in accordance with ASTM D412.
2) Roofing membrane shall not become brittle at temperatures down to minus 40 deg F.

b. Slope unit roof away from primary access side of unit at a slope in accordance with roofing manufacturer's written instructions, but not less than 1 percent.
c. Application: Factory or field applied as determined by air-handling unit manufacturer; in accordance with roof manufacturer's written instructions.

1) Field-applied roofing to be supervised by an air-handling unit manufacturer's factory service representative.

13. Service Corridors:

a. Description: Integral walk-in service corridors with heated temperature-controlled indoor environment for weather-protected service access to unit access doors and factory-installed piping electrical and controls.
b. Size and Arrangement: As indicated on Drawings.
c. Construction: Base, floor, walls, and roof to match air-handling unit.
d. Access Doors:

1) Width: Minimum 24-inch (900-mm) clear inside frame opening.

e. Electrical: Factory install and wire service lights with switches and receptacles.
f. Indoor Environmental Control: Factory install HVAC equipment required to thermostatically controlled indoor environment to maintain following indoor conditions:

1) Minimum Temperature: 40F.

g. Field Connections to Factory-Installed Piping, Electrical, and Controls: Arranged to make field connections to factory terminations inside of service corridor. Frame openings in air-handling unit floor to accommodate field connections.

I. Internal Structural Supports:

1. General:

a. Air-handling unit manufacturer shall design and assemble air-handing unit internal structural supports for attachment and support by air-handling unit structural base.
b. Factory install structural supports for internal support casing if required to comply with casing structural performance.
c. Factory install hoist beams and rails over equipment to comply with performance requirements for service.

2. Structural Member Size and Spacing:

a. Size: Air-handling unit manufacturer shall select size of members and construction to do the following:

1) Withstand the rigors of loading, unloading, shipping and rigging without damage to air-handling unit components or misalignment of factory-assembled casing and components.
2) Comply with performance requirements indicated.

b. Spacing: Positioned as required to comply with requirements.

3. Materials: Structural aluminum, ASTM B209, Alloy 6061 T6 Structural stainless steel, ASTM A276/A276M, Type 304L or structural stainless steel, ASTM A276/A276M, Type 316L.

a. Structural Supports: Angle, channel, I or W beam shapes or tube shapes selected by air-handling unit manufacturer for application.
b. Hoist Beams for Internal Components (Spanning Full Width of Unit): I or W beam shapes.

J. Centrifugal Plenum Fans:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Greenheck fan Corporation.
b. Loren Cook Company.
c. New York Blower Company (The).
d. Twin City Fan & Blower.

2. Source Limitations: Obtain fans from single source from single manufacturer.
3. Operating Performance:

a. Air-handling unit manufacturer shall account for, and include in, submitted fan selections any static pressure drops associated with unit, and system effect due to fan operating in the air-handling unit.

1) Add additional static pressure to fan scheduled total static pressure.
2) If fan motor horsepower is increased, notify Architect.

b. Fans shall have sharply rising pressure characteristics at operating point and stable in operation. Fan horsepower characteristics shall be self-limiting and non-loading.
c. Fan speed, brake horsepower, and sound power levels indicated are maximum acceptable.
d. Motor horsepower, airflow rate, and static pressure are minimum acceptable. Motor horsepower shall be capable of handling maximum horsepower of fan at scheduled speed.
e. Fan air performance ratings shall be based on tests in accordance with ASHRAE 51/AMCA 51 and AMCA 210.
f. Base fans sound ratings on AMCA 300 and calculation methods in accordance with AMCA 301.
g. At a minimum, fans shall have AMCA class indicated on Drawings.

1) Fan operating limits shall be in accordance with AMCA 99 for AMCA class indicated.
2) If AMCA class is not indicated, use AMCA 99 as basis for determining AMCA class.
3) AMCA class selected shall be capable of accommodating a plus 10 percent increase to fan static pressure indicated on Drawings.

h. Motor starting torque shall exceed fans speed-torque requirements.

4. Vibration Balance:

a. Each fan/motor assembly shall be factory balanced to AMCA 204, BV-4, Balance Quality Grade G2.5 or better through entire operating speed range

from minimum speed to maximum speed. If minimum speed is not indicated on Drawings, assume minimum speed to be 10 percent of design speed.

b. Identify and record each speed and speed range within the fan operating range that could cause potential vibration problems.
c. Submit test reports as an information submittal for Project record.

5. Operation and Service Requirements:

a. Each fan/motor assembly shall be capable of lock-out/tag-out procedure without interrupting operation of other fans in air-handling unit.
b. Design and incorporate features to permit safe, rapid, and economical maintenance.

6. Fan Base:

a. Mount fan, motor, and drive on a structural-steel or an aluminum base; except, where indicated on Drawings, install fan on a concrete-filled inertia base.
b. Include base and vibration isolators in accordance with requirements indicated.
c. Electrically weld the base.
d. Size and design the base construction to withstand the rigors of shipping and rigging.
e. Include the base with lifting lugs or holes.
f. Construct base with gusseted brackets to accommodate spring isolators indicated.

7. Fan Panel:

a. Construct fan panel of aluminum or powder-coated steel.
b. Support fan wheel and bearings from a structural aluminum or powder-coated steel framework.
c. Reinforce and brace fan panel to prevent vibration and pulsation.
d. Include stiffeners to form a rigid panel that is free of structural resonance and vibration.

8. Fan Inlet and Wheel Cone:

a. Precision-spun or die-formed, matched inlet and wheel cone to ensure streamlined airflow into the wheel and full loading of blades.
b. Inlet and wheel cones shall be hyperbolic.
c. Inlet cone shall be a single piece, constructed of aluminum or powder-coated carbon steel.
d. Fasten inlet cone to fan panel using bolts, nuts and washers to provide a positive and secure attachment that can be field removable.
e. Inlet cones that are held in place using retaining clips are unacceptable.

9. Fan Wheel:

a. Fan blades shall be a true hollow airfoil shape, continuously welded to backplate and wheel cone.
b. Construct blades of aluminum, reinforced for AMCA fan class and operating conditions scheduled.
c. Design blades to provide smooth and aerodynamic airflow over all surfaces of blade.
d. Construct fan hubs of cast aluminum or cast-iron ASTM A48/A48M Class 20A and better, with integral bracing for extra strength and stiffness.

    1) Castings shall be sound and free of shrink holes, blow holes, cracks, scale, blisters, or other similar injurious defects.
    2) Clean surfaces of castings by blasting, pickling, or other standard method.
    3) Mold-parting fins and remains of gates and risers shall be chipped, filed, and ground flush.
    4) Design hubs to maintain a high resistance to fatigue and low relative wheel imbalance.

e. Hubs shall be keyed and setscrewed to shaft for positive attachment.
f. Construct the wheel backplates of aluminum.
g. Statically and dynamically balance fan wheel before fan is assembled.
h. Select entire rotating assembly so first critical speed is at least 30 percent greater than fan design speed and at least 20 percent greater than maximum AMCA class speed.

10. Fan Drive:

    a. Direct drive, arrangement 4 in accordance with AMCA 99 for single-width, single-inlet fans.
    b. Adjust wheel width and diameter to match motor speed while providing performance scheduled.
    c. Fasten fan wheel directly to motor shaft using a key and setscrew as previously specified.
    d. Construct motor base and pedestal of aluminum or powder-coated carbon steel plate.
    e. Fan Speed Limitation: Fan speed at design conditions indicated shall not exceed speed on motor nameplate for direct-drive applications. Do not select fans to operate at motor speeds greater than motor nameplate.

11. Protective Screens: Factory furnish and install protective screens on fan inlet and discharge.

    a. Expanded metal or welded wire welded to a painted carbon steel or stainless steel frame.
    b. Screens shall comply with OSHA requirements.
    c. Screens shall be constructed of painted carbon or stainless steel.
    d. Fasten screens to fan frame for easy removal by maintenance personnel.

12. Welding:

a. Use AWS- or ASME-certified welders to weld materials required by application.
b. All welds shall be continuous full penetration welds.

13. Hardware: Hex-head, high-strength 300 series stainless steel.
14. Nameplates:

a. Construct nameplates and rotation arrows of aluminum or 300 series stainless steel.
b. Securely fasten nameplate and rotation arrow to fan housing using pins or sheet metal screws.
c. Locate nameplates in a highly visible location on motor side of fan.
d. Provide the following information on nameplate: Engraved or stamped.

1) Manufacturer, address, phone number, and website address.
2) Manufacturer model number.
3) Serial number.
4) Manufacturing date.
5) Fan size.
6) Fan schedule equipment designation (may be listed on a separate nameplate if there is insufficient space).
7) Design airflow.
8) Design static pressure.
9) Design fan speed.
10) AMCA fan class.
11)

15. Air-Handling Unit Factory Assembly:

a. Internal Access: Include each fan with internal access from downstream and upstream sides as indicated on Drawings.
b. Removal and Replacement: Each fan shall be independently removable and replaceable through a removable access panel installed in air-handling unit casing.
c. Fan Supports:

1) Construct a freestanding and self-supporting structural framework to support each fan individually from and independent of adjacent fans.
2) Construct frame work from aluminum , painted steel, or stainless steel.

K. Fan Motors:
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Baldor Electric Company.
b. Emerson Electric Company.
c. Toshiba International Corporation.
d. US Motors; Nidec Motor Corporation; Nidec Corporation

2. Source Limitations: Obtain motors from single source from single manufacturer.

3. Standard: Comply with NEMA MG 1 unless more stringent requirements are indicated.
4. Description: NEMA MG 1, Design A, as required to comply with capacity and torque characteristics; medium-induction motor.

    a. Performance:

        1) Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor.
        2) Efficiency: NEMA Premium Efficiency rating complying with NEMA MG 1.
        3) Motor Horsepower: Minimum size as indicated on Drawings. Motor shall operate fan under all conditions indicated without exceeding motor nameplate and without use of motor service factor.
        4) Inverter-Duty Rating: Comply with minimum requirements of Class F or Class H insulation, suitable for "inverter-duty" or "drive-duty" applications in accordance with NEMA MG 1. Motor operation through a variable-frequency controller shall not adversely affect the motor performance, operation, useful life, and warranty.
        5) Service Factor: 1.15.
        6) Temperature Rise: Match insulation rating.

5. Enclosure Type: ODP.
6. Shaft Grounding System:

    a. Shaft grounding system to protect bearings from induced voltage.
    b. Shaft grounding system shall have low drag (less than 0.05 percent of motor horsepower), and shall operate for a minimum of three years without periodic maintenance or adjustments.
    c. Mounting: External or internal to motor enclosure.

7. Frame:

    a. Frames with integrally cast feet unless other requirements of driven equipment require a different arrangement.
    b. Frame, front and back end brackets, and front and back end bearing intercaps constructed of cast iron, ASTM A48/A48M, Class 25 or better.

8. Rotor:

    a. Fabricate rotor frame from die-cast aluminum, copper, or associated alloys.
    b. Key rotors to motor shaft.
    c. Rotating assembly shall be dynamically balanced to within limits defined in NEMA MG 1.
    d. Motors shall have the entire rotating assembly between bearing inner caps coated with a corrosion-resistant coating.

9. Stator:

a. Copper windings shall be spike resistant to withstand 1600 peak V.
b. Entire wound and insulated stator coated with a coating to protect against moisture and corrosion.

10. Shaft:

a. Solid shaft fabricated of Type 304 stainless or Type 316 stainless steel, accurately turned, ground and polished, and inspected for accuracy.
b. End of shaft with drilled hole for use in field measurements.

11. Bearings:

a. Grease-lubricated ball or roller bearings.
b. ABMA 11 L-10 motor bearing life of 100,000 hours.
c. Bearing Lubrication:

1) Factory lubricate motor bearings using a premium moisture-resistant polyurea thickened grease with rust inhibitors suitable for extreme operating temperatures encountered.
2) Coordinate special requirements that may impact lubrication and include appropriate lubrication.

12. Grease Fittings:

a. Equip each bearing housing with an easily accessible grease inlet.
b. Fit grease inlets with a grease fitting and protective fitting cap.
c. Equip inlets with an automatic grease relief fitting to prevent excessive greasing.
d. Equip each bearing housing with grease drain and threaded plug.

13. Conduit Box:

a. Material same as frame.
b. For motor frames 365T and below, furnish conduit boxes sized with internal volumes in accordance with NEMA MG 1.
c. For motor frames larger than 365T, furnish conduit boxes one size larger than NEMA MG 1.
d. Coordinate the location and mounting of conduit box with driven equipment manufacturer.
e. Factory mount conduit box on motor.

14. Grounding: NRTL-listed clamp-type grounding lug mounted in conduit box.
15. Motor Leads:

a. Non-wicking type, Class F temperature rating or better and permanently numbered over entire length for identification.
b. Lead terminals shall be manufacturer's standard.

16. Condensate Drains:

a. Motor with drain holes at the lowest point for drainage of condensate.

b. Each drain hole with a threaded removable plug.

17. Hardware: Hex-head, high-strength, zinc-plated carbon steel or stainless steel.
18. Lifting Eyebolts: Eyebolt threaded into frame receptacle and design to prevent moisture and other foreign material from entering motor cavity when eyebolt is removed.
19. Nameplates:

a. Construct nameplates of aluminum or stainless steel and attach to motor frame with aluminum, stainless steel, or brass drive pins.
b. Engrave or stamp data on the nameplate.
c. At a minimum, include nameplate data in accordance with NEMA MG 1.

L. Vibration Isolation:

1. General:

a. Provide fans inside air-handling units with base and vibration isolation.

2. Spring Isolators:

a. Performance:

1) Deflection: Minimum deflection indicated on Drawings. Use a greater deflection if required to maintain an isolator efficiency of at least 98 percent under all operating conditions encountered. Calculate isolator efficiency using actual support conditions considering the rigidity of structure.
2) Laterally stable freestanding open-spring mounting.
3) Spring diameter not less than 0.8 of compressed spring height at rated load and in the installed and operating condition.
4) Reserve travel to solid shall be equal to a minimum of 50 percent of rated deflection and in no case less than 25 percent of rated deflection in an installed and operating condition.
5) Ratio of horizontal stiffness to vertical stiffness equal to approximately one.
6) Design and install so that ends of springs remain parallel.
7) Select springs that are non-resonant with equipment related frequencies and natural frequencies of support structure.
8) Springs shall not take a permanent set when compressed to coil bind.

b. Construction:

1) Coat springs with PVC or neoprene. Color-code springs to allow positive identification after installation.
2) Construct baseplates, spring retainers, and other components of stainless steel. Etch and paint aluminum components.
3) Use nuts, bolts, and washers and other associated hardware constructed of zinc-electroplated carbon steel or stainless steel.
4) Isolators with integral leveling bolts.

5) Baseplates with holes and isolation grommets for bolting.
6) Bond nominal 1/4-inch- thick, neoprene friction pad to baseplate.

3. Elastomeric Grommets:

a. Elastomeric grommets shall be a combination of neoprene washer and bushing.
b. Elastomer shall be 56-durometer maximum.
c. Grommets formed to prevent bolts from directly contacting the secured item.

4. Flexible Connections:

a. Construct flexible connection stainless steel edges firmly attached to waterproof and fire-retardant fabric.
b. Fabric shall be 6 inches wide or more.
c. Suitable for operation in extreme temperatures encountered.
d. NRTL listed for application and complying with NFPA 90A.

M. Hydronic Coils:
1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Aerofin.
b. Heatcraft.
c. Marley.

2. Sourcing Option: In lieu of sourcing hydronic coils from a specialty coil manufacturer, air-handling unit manufacturer has option to furnish in-house hydronic coils that achieve equal or better performance while complying with other requirements indicated.
3. General: Provide air-handling units with hydronic coils where indicated on Drawings.
4. Description: Plate fin coils constructed of staggered tubes mechanically expanded into continuous collars that are die formed into plate fins.
5. Design and Performance:

a. Capacities, face area, and number of rows indicated on Drawings are minimum acceptable.
b. Air pressure drop, water pressure drop, fin spacing, and face velocity indicated on Drawings are the maximum acceptable.
c. Coils shall be counterflow design, air to fluid. Fluid supply shall enter air leaving side of coil and exit air entering side.
d. Design coils to be drainable.

1) Coils shall have all circuits drainable when coils are installed in horizontal position and level.
2) Coil supply and return header shall be furnished with a drain connection at lowest point on header.

e. Design coils to be self-venting.

1) Supply connection near bottom of supply header.
2) Return connection near top of return header.
3) Furnish coil return and supply header with a vent connection at highest point on header.

f. Coils supply and return piping connections on same end of coil.
g. Coils shall be rated for system operating pressures and temperatures encountered by installation, but not less than 200 psig.
h. Coil selection criteria, unless otherwise indicated on Drawings, are as follows:

1) Face Velocity: Maximum of 500 fpm.
2) Fluid Tube Velocity (at Design Flow Rate):

a) Maximum: 6 fps.
b) Minimum: 3 fps.

3) Fluid Header Velocity: Maximum of 6 fps.

a) Fin Height: Maximum of 48 inches.
b) Fin Spacing: Maximum of 12 fins per inch.

i. Cooling coils shall have no moisture carryover at design conditions. Install moisture eliminators on discharge face of coil if it is necessary to eliminate moisture carryover.

6. Casing and Tube Sheets:

a. Depth: Extend coil casing and tube sheets a minimum of 1/2 inch beyond face of fins on both entering and leaving side.
b. Casing and Tube Sheet Materials:

1) Cooling Coils: Stainless steel, ASTM A240/A240M or ASTM A480/A480M, Type 304L or Type 316L, No. 2D finish.
2) Heating Coils:

a) Stainless steel, ASTM A240/A240M or ASTM A480/A480M, Type 304L or Type 316L, No. 2D finish.

c. Top and Bottom Casings:

1) Flange face minimum of 1-1/2 inches; double flange edge for rigidity and ease of removal with secondary flange face minimum of 1/2 inch.
2) Thickness:

a) Coils with Fin Length of up to 72 Inches: Minimum of 16 gauge thick.
b) Coils with Fin Length Exceeding 72 Inches: Minimum of 16 gauge thick.

d. End Tube Sheets:

1) Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2) Flange face minimum of 1-1/2 inches.
3) Thickness: Minimum of 16 gauge thick.

e. Intermediate Tube Sheets:

1) Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2) Space intermediate tube sheets a maximum of 48 inches o.c. and locate to provide equal spacing between tube sheet across coil tube length.
3) Flange face minimum of 1/2 inch.
4) Thickness: Minimum of 16 gauge thick.

f. Holes: Include number, size, and location of holes in casing and end tube sheets required for coil installation.

7. Fins:

a. Materials:

1) Aluminum: 0.0075 inch thick.

b. Collars: Full collars for accurate fin spacing and maximum tube contact while leaving no surface of tube exposed.
c. Fin Configuration: Flat face or enhanced ripple fins as required by performance.

8. Headers:

a. Construct header of seamless copper, ASTM B75/B75M drawn temper of diameter and wall thickness based on coil size, flow rate, design pressure, design temperature, and circuiting.
b. Tube-to Header Connections: Tube-to-header holes shall intrude inward so landed surface area is three times the core tube thickness, to provide enhanced header to tube joint integrity. Tubes shall evenly extend within the ID of the header no more than 0.12 inch.
c. Header Top and Bottom Caps: End caps shall be die-formed and installed on the ID of header such that the landed surface area is three times the header wall thickness.
d. Drains: Include low point of supply and return header with a NPS 1/2 drain connection. Extend copper or red brass pipe through air-handling unit casing and terminate end with male national pipe threads (MNPT). Pipe shall be threaded on both ends to facilitate easy field removal and replacement.
e. Vents: Include high point of supply and return header with a NPS 1/2 vent connection. Extend copper or red brass pipe through air-handling unit casing and terminate end with MNPT. Pipe shall be threaded on both ends to facilitate easy field removal and replacement.
f. Supply and Return Connections:

1) Terminate ends with MNPT.
2) Connections to header shall be either copper tube with brazed ASME B16.18 threaded male adapters or red brass pipe with machine-threaded MNPT connections. Pipe shall extend through air-handling unit casing and be threaded on both ends to facilitate easy field removal and replacement.
3) Connections NPS 2-1/2 and larger shall have a bronze ASME 16.24 threaded flanges attached to threaded connections to provide for a flanged field connection. Select flange class, Class 150 or Class 300, for system pressure and temperature encountered.

g. Protect openings of supply, return, vent, and drain connections with a threaded cap to prevent entry of dirt into the coil.

9. Tubes:

a. Material: Copper, ASTM B75/B75M annealed temper or ASTM B280 drawn temper;.
b. Tube Nominal Diameter: 5/8 inch before expanding, selected to provide performance indicated.
c. Tube Nominal Wall Thickness: As required by performance, minimum of 0.035 inch thick.

10. Tube Return Bends: 180-degree bends brazed to tubes; material, wall thickness, and nominal diameter to match tubes.

11. Brazing: High-temperature brazing alloy with not less than 5 percent silver when brazing like non-ferrous materials together and more than 30 percent silver when brazing ferrous to non-ferrous materials.

12. Hardware: Use hex-head bolts, nuts, and washers constructed of Type 304 or Type 316 stainless steel.

13. Cleaning: Residual manufacturing oils and solid contaminants shall be removed internally and externally by completely submersing the coil in an environmentally acceptable degreasing solution that is chemically compatible with the coil material.
14. Air-Handling Unit Factory Assembly:

a. Coil Connections: Extend each coil connection through casing access panel and terminate connections, approximately 4 inches (100 mm) beyond exterior face of access panel, and seal each penetration as indicated. Casing access panels shall be removed and reinstalled with coils installed inside air-handling units.
b. Internal Access: Include each coil with internal access from sides as indicated on Drawings.
c. Removal and Replacement: Each coil shall be independently removable and replaceable through a removable access panel installed in air-handling unit casing.
d. Supports for Coils:

1) Construct a freestanding and self-supporting structural framework to support each coil individually from and independent of adjacent coils.
2) Construct framework for cooling coils, from aluminum or stainless steel structural shapes.
3) Construct frame work for heating coils from aluminum or stainless steel structural shapes.

N. Drain Pans:

1. General:

a. Include a drain pan for each cooling coil and at other locations indicated.
b. Continuously weld drain pan seams, joints, and mitered corners to make the assembled drain pan watertight.
c. Drain pans shall be located under the entire coil and provide full coil coverage including coil return bends and headers.
d. Slope drain pans in multiple directions toward low point drain connection at a uniform slope of at least 2 percent from high point to low point.
e. Include stainless steel blank-offs to prevent air from bypassing around coil.

2. Intermediate Drain Pans:

a. Where multiple individual horizontally mounted coils are vertically stacked to make a coil bank, install intermediate drain pans under each stacked coil in the coil bank.
b. Material: Type 304L stainless steel ASTM A240/A240M or ASTM A480/A480M, a minimum of 16 gauge thick.
c. Minimum Depth: 1.0 inch.
d. Extend drain pan beyond air leaving face of coil casing at least 6 inches.

e. Drain Pan Connection:

1) Stainless steel threaded coupling welded to underside of drain pan at lowest point.
2) Minimum Nominal Connection Size: NPS 1.

f. Drain Pipe:

1) Air-handling unit manufacturer to connect full-size drain pipe to each drain pan connection. Option to use one of following pipe materials:
a) Stainless steel pipe with threaded MNPT ends.

2) Extend drain pipe to top of drain pan immediately below.
3) Include a removable stainless steel support to secure bottom of drain pipe from drain pan below to prevent lateral movement.
4) In applications where multiple drain pans are stacked, align stacked drains pan connections and pipes for clear vertical flow.

3. Bottom Drain Pans:

a. Mounting Location, Recessed in Floor: Air-handling unit manufacturer has option to recess bottom drain pan into the floor or install drain pan above air-handling unit floor walking surface.
b. Grating: Install removable stainless steel grating on top of drain pan.
c. Double-Wall Construction: Double-wall sheet with space between walls filled with 1-inch insulation.
d. Material: Type 304L stainless steel ASTM A240/A240M or ASTM A480/A480M, a minimum of 16 gauge thick.
e. Minimum Depth: 1.5 inches.
f. Extend drain pan beyond air leaving face of coil casing at least 12 inches.

g. Drain Pan Connection:

1) Stainless steel threaded half-coupling welded to lowest point of drain pan.
2) Location: one end.
3) Minimum Nominal Connection Size: NPS 1.5.

h. Drain Pipe:

1) Air-handling unit manufacturer to connect full size drain pipe to each drain pan connection. Option to use one of following pipe materials:
a) Stainless steel pipe with threaded MNPT ends.

2) Extend drain pipe and terminate 3 inches beyond exterior face of casing.

O. Cartridge Filters:
1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

a. AAF International.
b. Camfil Farr, Inc.
c. Flanders Corporation.
d. Koch Filter Corporation.

2. Source Limitations: Obtain filters from single source from single manufacturer.
3. Description: Factory-fabricated, dry, extended-surface, disposable, air filters with media formed in mini-pleats and arranged in a V-shape pattern.
4. Performance:

a. Filtration Efficiency, ASHRAE 52.2 MERV Rating: 13.
b. Initial Air Pressure Drop: With face velocity of 500 fpm (2.5 m/s), clean filter pressure drop shall not exceed the following:
1) MERV 13 and MERV 13A: 0.25 inch wg (63 Pa).

c. Manufacturer-Recommended Final Air Pressure Drop: 1.5 inches wg.
d. Pressure Differential without Failure: 10 inches wg.
e. Temperature Rating: 175 deg F.

5. Certification:

    a. AHRI: Tolerances in accordance with AHRI 850 (I-P) and AHRI 851 (SI).
    b. ASHRAE: Tested and rated in accordance with ASHRAE 52.2.
    c. UL: UL 900 listed.

6. Size:

    a. Nominal size of individual filters indicated on Drawings:
    b. Nominal Filter Size:

        1) Face: 24 by 24 inches.
        2) Depth: 12 inches.

    c. Actual Filter Size: Suitable for installation in an industry-standard filter holding frame.

7. Filter Media Surface Area: Each filter shall contain at least 200 sq. ft. for a filter with a nominal 24-by-24-inch face.
8. Construction:

    a. Media: Microfine glass media formed into mini-pleats and arranged in V-shape patterns.
    b. Media Frame: Plastic or corrosion-resistant metal.
    c. Adhesive: Fire-retardant bonding adhesive where bonding media to frame.

P. Pleated Panel Filters:
1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

    a. AAF International.
    b. Camfil Farr, Inc.
    c. Flanders Corporation.
    d. Koch Filter Corporation.

2. Source Limitations: Obtain filters from single source from single manufacturer.
3. Description: Factory-fabricated, self-supported, extended-surface, pleated, panel-type, disposable air filters.
4. Performance:

    a. Filtration Efficiency, ASHRAE 52.2 MERV Rating: 8.
    b. Initial Air Pressure Drop: With face velocity of 500 fpm, clean filter pressure drop shall not exceed the following:

        1) MERV 8 and MERV 8A:
            a) Depth 2 Inches: 0.31 inch wg.

    c. Manufacturer-Recommended Final Air Pressure Drop: 1.0 inch wg.
    d. Pressure Differential without Failure: 2 inches wg.

5. Certification:

    a. AHRI: Tolerances in accordance with AHRI 850 (I-P) and AHRI 851 (SI).
    b. ASHRAE: Tested and rated in accordance with ASHRAE 52.2.
    c. UL: UL 900 listed.

6. Size:
    a. Nominal Filter Size:

        1) Face: 24 by 24 inches.
        2) Depth: 2 inches.

    b. Actual Filter Size: Suitable for installation in an industry-standard filter holding frame.

7. Filter Media Surface Area: Each filter shall contain the following minimum media surface area for a filter with a nominal 24-by-24-inch face:
    a. Depth 2 Inches: 17.3 sq. ft..

8. Construction:

    a. Media: Glass or synthetic blend of fibers arranged in a series of pleats attached to and supported by a corrosion-resistant welded-wire grid. Coat media with an antimicrobial agent.
    b. Filter Media Casing: High wet strength (28-point) beverage board that is bonded around the periphery to eliminate air bypass.

        1) Diagonal support members across upstream and downstream filter face constructed of same material as casing shall ensure pleat spacing and stability.

    c. Adhesive: Fire-retardant bonding adhesive where bonding media to casing.

Q. ASHRAE-Rated Filter Holding Frames:

1. Filter Holding Frames for ASHRAE-Rated Filters:

    a. Fabricate filter holding frames with mitered corners and reinforce frame to maintain a durable, rugged, true square shape.
    b. Construct frames of galvanized or stainless steel. Use stainless steel frames in applications exposed to corrosive airstreams.
    c. For applications with pre-filter and final filters sharing the same filter holding frame, frames shall be suitable for supporting and holding both pre-filter and final filters in frame with both filters serviceable from upstream (entering air) side.
    d. Frame Depth: At least 2.75 inches.
    e. Gaskets: Continuous, suitable for same operating temperature as filters.
    f. Filter Clips: Each filter holding frame with spring clip fasteners at each corner. Spring clips shall allow filters to be removed and replaced without use of tools.

g. Frames shall be industry-standard size to provide interchangeability of filters from other manufacturers.

2. Air-Handling Unit Factory Installation:

a. Air-handling unit manufacturer shall furnish filters and provide filter holding frames, retaining clips, and filter support structures.
b. Furnish filter quantity, size, type, and performance indicated on Drawings.
c. Install filter frames in a flat vertical position for horizontal airflow.
d. Install holding frames in accordance with manufacturer's written instructions and to prevent passage of unfiltered air. Include additional gaskets as necessary.
e. Secure individual holding frames together to build a multiple filter bank.
f. Construct aluminum or stainless steel support structure to hold frames and filters.

1) Design support structure for maximum system operating pressures encountered equal to fan shutoff pressure.
2) Design and fabricate support structure to limit deflection across filter bank to 1/360 of the span when subjected to a 200-lb lateral force applied at any point on the filter holding frame assembly.

R. Filter Gauges:

1. Basis-of-Design Product: Subject to compliance with requirements, provide the following:

a. Gauge: Dwyer Instruments, Inc; 2000 Series Magnahelic filter gauge.
b. Vent Valves: Dwyer Instruments, Inc; A-310A.
c. Static Pressure Sensors: Dwyer Instruments, Inc.; A-310A .
d. Tubing Compression Fittings: Parker; CPI.

2. Provide a gauge to indicate pressure differential between entering and leaving side of each filter bank. Panel filter bank separate from cartridge filter bank.

a. Where multiple filters share a common frame, include a separate gauge for each filter bank.
b. Include a metal spacer constructed of same material as filter frame for one of the filters installed in filter bank to accommodate pressure differential measure across both upstream and downstream filters.

3. Gauge shall have a nominal 4-inch-diameter face.
4. Select range of gauge to be approximately twice the dirty filter pressure drop.
5. Provide each gauge with vent valves to allow for re-zeroing the gauge without removing tubing connections.
6. Include static pressure sensors on entering and leaving side of each filter bank.
7. Air-Handling Unit Factory Assembly:

a. Mount each filter gauge on exterior surface of unit casing near associated filter sections.

b. Mount center of gauges 60 inches above bottom of air-handling unit structural base.
c. Connect static pressure sensors to filter gauges using aluminum copper or stainless steel tubing and compression type fittings.
d. Support tubing at intervals not greater than 60 inches o.c.

S. Automatic Dampers:

1. General: Provide air-handling units with automatic dampers where indicated on Drawings.

a. Unless otherwise indicated, use parallel-blade configuration for two-position control, for equipment isolation service, and when mixing two airstreams. For other applications, use opposed-blade configuration.
b. Factory assemble multiple damper sections to provide a single damper assembly of size required by application.

2. Rectangular Dampers with Aluminum Blades:
a. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but not limited to, the following]:

1) TAMCO (T.A. Morrison & Co. Inc.).

b. Source Limitations: Obtain dampers from single source from single manufacturer.
c. Performance:

1) Leakage: AMCA 511, Class 1A. Leakage shall not exceed 3 cfm/sq. ft. against 1-inch wg differential static pressure.
2) Pressure Drop: 0.05 inch wg at 1500 fpm across a 24-by-24-inch damper when tested in accordance with AMCA 500-D, figure 5.3.
3) Velocity: Up to 4000 fpm.
4) Temperature: Minus 40 to plus 185 deg F.
5) Pressure Rating: Damper close-off pressure equal to fan shutoff pressure with a maximum blade deflection of 1/200 of blade length.
6) Damper shall have AMCA seal for both air leakage and air performance.

d. Construction:

1) Frame:

a) Material: ASTM B211, Alloy 6063 T5 extruded-aluminum profiles, 0.07 inchthick.
b) Hat-shaped channel with integral flange(s). Flange mating face shall be a minimum of 1 inch.
c) Width not less than 5 inches.

2) Blades:

a) Hollow, airfoil, extruded aluminum.
b) Parallel- or opposed-blade configuration as required by application.
c) Material: ASTM B211, Alloy 6063 T5 aluminum, 0.07 inch thick.
d) Width not to exceed 6 inches.
e) Length as required by close-off pressure, not to exceed 48 inches.

3) Seals:

a) Blades: Replaceable, mechanically attached extruded silicone, vinyl, or plastic composite.
b) Jambs: Stainless steel, compression type; or replaceable, mechanically attached extruded silicone.

4) Axles: 0.5-inch-diameter, stainless steel, mechanically attached to blades.
5) Bearings:

a) Molded synthetic or stainless steel sleeve mounted in frame.
b) Where blade axles are installed in vertical position, include thrust bearings.

6) Linkage:

a) Concealed in frame.
b) Constructed of aluminum and stainless steel.
c) Hardware: Stainless steel.

3. Damper Actuators: Furnished and installed in field by TCC.

T. Air-Handling Unit Factory Drain Piping and Piping Insulation:

1. General:

a. Air-handling unit manufacturer to factory install piping inside air-handling units.
b. If more than one material is listed, material selection is by air-handling unit manufacturer.

2. Aluminum Piping:

a. Pipe: Aluminum ASTM B241/B241M, Grade 1061, Temper T6, seamless longitudinal joins with beveled or plain ends; and wall thickness as indicated under applications.
b. Fittings: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, ASME B16.1 Class 150; threaded ends.
c. Flanges: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, ASME B16.1, Class 150 including bolts, nuts, washers, and gaskets of the following end connections and facings:

1) Threaded end connections for threaded joints, welding-neck with butt-joint for welded joints, and blinds for use with flanged joints requiring close-off.

d. Unions: Cast aluminum, ASTM B26/B26M, Grade 356, Temper T6, hexagonal-stock body; female NPT threaded ends.

3. Copper Tubing:

a. Tubing: Drawn-temper, ASTM B88, Type M or Type DWV in accordance with ASTM B306.
b. Fittings: Wrought-copper and copper alloy, ASME B16.22, pressure fittings.
c. Unions: Cast-copper-alloy, MSS SP-123, hexagonal-stock body; female NPT threaded ends
d. Solder Filler Metals: ASTM B32, lead-free alloys, and water-flushable flux in accordance with ASTM B813.

4. Stainless Steel Piping:

a. Pipe: ASME B36.19/ASME B36.19M, stainless steel ASTM A312/A312M, with beveled or plain ends; seamless [or welded]longitudinal joints, Grade TP316L, and wall thickness as indicated under applications.
b. Fittings, Threaded: MSS SP-114, Class 150, stainless steel ASTM A351/A351M, Grade CF8M.
c. Fittings, Welded: ASME B16.9, stainless steel ASTM A403/A403M, Grade WP316L, seamless, wall thickness to match adjoining pipe.
d. Flanges: Stainless steel ASTM A182/A182M, Grade F316L, ASME B16.5, Class 150 including bolts, nuts, washers, and gaskets of the following material group, end connections, and facings:

1) Material Group: 2.2.
2) Threaded end connections for threaded joints, welding-neck with butt-joint for welded joints, and blinds for use with flanged joints requiring close-off.

e. Unions: MSS SP-114, Class 150, stainless steel ASTM A351/A351M, Grade CF8M; female NPT threaded ends.

5. Floor Drain Piping:

a. Schedule 40 aluminum or stainless steel pipe with threaded ends or copper tube with soldered threaded male adapters.
b. Factory install a dedicated drain pipe for each floor drain and extend pipe to access side of air-handling unit.

1) Terminate pipe with a threaded pipe cap 3 inches beyond exterior face of air-handling unit casing. Threaded pipe cap material to match pipe material.
2) Pipe size to match size of floor drain connection.

6. Drain Pan Piping:

a. Schedule 40 aluminum or stainless steel pipe with threaded ends or copper tube with soldered threaded male adapters.
b. Factory install drain piping for drain pan(s). Install a dedicated drain pipe for each drain pan serving different air-handling unit internal components. Where multiple drain pans serve like components interconnect drain piping to a single drain pipe for field connection.

1) Where interconnecting cooling coil condensate drain pans from upstream and downstream sides of cooling coil, provide pipe with a water seal trap configured to prevent air bypass.
2) Terminate pipe with a threaded pipe cap 3 inches beyond exterior face of air-handling unit casing. Threaded pipe cap material to match pipe material.
3) Drain pipe size to match size of drain pan connection.

7. Piping Insulation:

a. Factory insulate bottom cooling coil drain pan pipe with 1-inch- thick, flexible elastomeric insulation where pipe is located under and outside of the air-handling unit casing but within the air-handling unit base.
b. Cover pipe insulation with a factory-applied aluminum or stainless steel jacket.

U. Drains:

1. Floor Drains:

a. Drain Body: Fabricate floor drain body of NPS 4or larger aluminum or stainless pipe and weld a plate of same material to the bottom. Option to fabricate an aluminum or stainless steel rectangular box drain at least 4 by 4 inches of material at least 0.1 inchthick.
b. Drain Connection: Weld a nominal NPS 2 half coupling in side of drain body located within 1 inchfrom bottom.
c. Drain Cover: Perforated plate, at least 0.1 inch thick, or grating, fabricated from aluminum or stainless steel. Drain cover shall be supported and secured in place by drain body, but not fastened to drain body with fasteners.
d. Fluid Seal: Weld floor drain body to air-handling unit floor for a watertight installation.
e. Mounting: Recess floor drain body into structural base. Top of floor drain to be slightly recessed below air-handling unit finished floor for unobstructed gravity flow from floor into drain.
f. Application:

1) Install floor drains in air-handling unit floors at locations indicated on Drawings.
2) Install floor drains in air-handling unit floors of all sections, including service vestibule.

V. Factory-Assembled Electrical:

1. Factory install service light fixtures and switches, and receptacles for each air-handling unit.

    a. Locate in a convenient and field-accessible location.
    b. Installation shall comply with NFPA 70.
    c. Wire, Conduit, and Enclosures:

        1) Minimum Conduit Size: 3/4 inch.
        2) Materials: Aluminum or stainless steel.
        3) Supports: Support conduits, boxes, and enclosures using corrosion-resistant fastening hardware constructed of stainless steel.
        4) Conduit: Locate conduit inside the air-handling unit casing. Conduit installed on exterior of air-handling unit casing is unacceptable.
        5) Wire: Copper, rated for 600 V, solid wire for size No. 10 AWG and smaller and stranded wire for larger sizes.
        6) Minimum Wire Size: No. 12 AWG.
        7) Each circuit shall have a ground wire.
        8) Install wire in conduit.

    d. Boxes, Conduit Outlet Bodies, and Enclosures:

        1) Located in Airstream: NEMA 250, Type 4.

        2) Located in Service Corridor: NEMA 250, Type 1.
        3) Located on Exterior of Air-Handling Unit Casing: NEMA 250, Type 3R.

    e. Seals: Seal pathways to prevent air leakage between air-handling unit exterior and interior, and between internal component sections.
    f. Service Lighting Applications:

        1) Provide quantity of 20-A branch circuits required to power service light fixtures.
        2) Factory install a field power junction box for interfacing air-handling power for service lighting with single-point field power wiring connection.

    g. Receptacle Applications:

        1) For air-handling units consisting of multiple stacked tiers, provide separate circuits for top and bottom tiers of air-handling units.
        2) Factory wire receptacles to a field power junction box for interfacing air-handling power for receptacles with a single-point field power wiring connection.

2. Field Power Junction Box: Factory-install junction box with internal wire terminal block mounted on air-handling unit casing exterior for interface of factory power wiring with field power wiring.

3. Interior Service Light Fixtures:

a. LED Luminaires:
   1) Suitable for wet locations and operation in cold- and hot-temperature extremes encountered; dust and moisture resistant.
   2) High-impact, UV-stabilized fiberglass housing and acrylic lens.
   3) Light Color: 5000 K.
   4) Light Output: 2000 lumens.

b. Vaportight Fixtures:
   1) Suitable for wet locations and operation in cold- and hot-temperature extremes encountered; dust and moisture resistant.
   2) Cast-aluminum housing and guard with heat-resistant, tempered, clear glass globe.
   3) LED A21 Series Lamps:

      a) Light Color: 5000 K.
      b) Light Output: 1700 lumens.

c. Application:
   1) Provide one service light fixture in each accessible section of air-handling units.

4. Toggle Switches for Service Light Fixtures:
   a. Lighted Single-Pole Switches, 120/277 V, 20 A: Comply with NEMA WD 1, UL 20, and FS W-S-896.

      1) Description: Handle illuminated when switch is on.

   b. Toggle Switch Box and Cover: Mount toggle switch in a metal outlet box with cast-aluminum or stainless steel cover. Weatherproof where exposed to outdoors.
   c. Application:

      1) Factory install switching configuration (single, three way, or four way) required to operate a single service light fixture or group of service light fixtures from any access door that opens to respective service light fixtures.
      2) Factory install a single service light switch to switch all service light fixtures from a single location.

5. Receptacles:

   a. Duplex GFCI Receptacles, 125 V, 20 A:

      1) Description: Integral GFCI with "Test" and "Reset" buttons and LED indicator light. Two pole, three wire, and self-grounding.
      2) Configuration: NEMA WD 6, Configuration 5-20R.
      3) Type: Non-feed through.
      4) Standards: Comply with UL 498, UL 943 Class A, and FS W-C-596.

b. Receptacle Box and Cover: Mount receptacle in a metal outlet box with cast-aluminum or stainless steel cover. Weatherproof where exposed to outdoors.
c. Applications: Factory install a receptacle in a convenient and field-accessible location in air-handling unit service vestibule..

6. Power Supply to Fan Motors:
   a. Factory install a junction box for each fan motor.
      1) Locate in a convenient and field-accessible location in unit service vestibule.
      2) Installation shall comply with NFPA 70.
      3) Wire, Conduit, and Enclosures:
         a) Minimum Conduit Size: 3/4 inch.
         b) Materials: Metal, corrosion resistant and constructed of stainless steel.
         c) Motor Termination: Flexible conduit, NRTL listed, not to exceed 36 inches long.
         d) Supports: Support conduits, boxes, and enclosures using corrosion-resistant fastening hardware constructed of stainless steel.
         e) Wire: Copper, rated for 600 V, solid wire for size No. 10 AWG and smaller and stranded wire for larger sizes.
         f) Minimum Wire Size: No. 12 AWG.
         g) Each circuit shall have a ground wire.
         h) Install wire in conduit.
      4) Boxes, Conduit Outlet Boxes, and Enclosures:
         a) Located in Airstream: NEMA 250, Type 4.
         b) Located in Service Corridor: NEMA 250, Type 1.
         c) Located on Exterior of Air-Handling Unit Casing: NEMA 250, Type 3R.

7. Motor Field Power Junction Box:
   a. Provide junction box with internal wire terminal block mounted on unit exterior for interface with field power wiring.
      1) Provide for each motor not installed with a factory disconnect or controller with integral disconnect.
   b. Factory install internal wiring and conduit to motor.

W. Hardware:

1. Screws:

a. For Galvanized-Steel Materials: Self-tapping, hex-head, zinc-plate steel or 300 series stainless steel screws with a neoprene gasket encapsulated by a zinc-plate steel or 300 series stainless steel washer.
b. For Aluminum and Stainless Steel Materials: Self-tapping, hex-head, 300 series stainless steel screws with a neoprene gasket encapsulated by a 300 series stainless steel washer.
c. Provide protective covers on exposed screws to prevent personnel injury.

2. Bolts, Nuts, and Washers:

a. For Joining Galvanized and Painted Carbon Steel Materials: Hex-head, high-strength, 300 series stainless steel.
b. For Joining Aluminum and Stainless Steel Materials: Hex-head, high-strength, 300 series stainless steel.
c. Use washers and lock washers at each bolted connection.
d. Select bolt size and spacing sufficient for load and application.

X. Welding:

1. Welding Filler Metals: Comply with AWS welding codes for welding materials appropriate for thickness and chemical analysis of material being welded.

a. Use welding materials with corrosion properties equal to material being welded.

2. Use welders that are certified to weld at least twice the thickness of the material to be welded. Certification shall be within six months of work being performed.
3. Welds shall be continuous, full-penetration welds unless otherwise indicated. Intermittent welds, stitch welds and tack welds are permitted only in specific applications indicated.
4. Use welders and welding procedures complying with the following:

a. Piping Systems: Section IX of the ASME Boiler and Pressure Vessel Code and Section V of ASME B31.1.
b. Structural Aluminum: AWS D1.2/D1.2M.
c. Structural Carbon Steel: AWS D1.1/D1.1M.
d. Structural Stainless Steel: AWS D1.6/D1.6M.
e. Sheetmetal: AWS D9.1/D9.1M.

Y. Painting:

1. General:

a. Painted OEM components do not require additional coating other than touch-up to damaged areas. Match the touchup coating to surrounding undamaged surfaces.
b. Finish miscellaneous surfaces to match continuous surfaces.
c. Protect mill galvanized surfaces that are exposed to view, such as raw steel cuts and damage by welding, with multiple coats of matching galvanized paint.

d. Protect mill galvanized surfaces that are concealed, such as raw steel cuts and damage by welding, with multiple coats of zinc-rich paint or matching galvanized paint.
e. Touch up or entirely repaint surface finishes, damaged during shipment and installation, to the original condition, using original materials and methods.

2. Preparation:

a. Submit proposed manufacturer's written preparation and application instructions for information.
b. If paint manufacturer's recommended preparation requirements differ from those indicated, use the more stringent requirements.
c. Structural carbon steel to be painted shall be deburred, ground smooth, cleaned, and blasted in accordance with SSPC-SP 6/NACE No. 3.
d. Before applying a primer and a finish coat, remove oil and grease from surfaces to be coated using clean rags soaked in thinner in accordance with SSPC-SP 1.
e. Treat surfaces to be painted to ensure that paint adheres.

3. Primer:

a. Rust-inhibiting type, with a minimum dry film thickness of 1 mil(s) per coat.
b. Apply at least two coats of primer to unfinished carbon steel surfaces and at least one coat of primer to other surfaces.
c. Use primer that is compatible with substrate and finish coat.

4. Finish Coat:

a. Finish coat painting system shall be alkyd-enamel.
b. Use dry film thickness recommended by paint manufacturer for each coat. Total dry film thickness of all finish coats not less than 3 mils.
c. Painted Surfaces Minimum Properties:

1) Salt Spray ASTM B117: 5 percent salt solution fog at 95 deg F for 1000 hours with no deterioration.
2) Adhesion, ASTM D3359: When the coating is cut into 0.0625-inch squares and 3M No. 600 tape is suddenly removed, there is no loss of adhesion.
3) Acid Resistance ASTM D3260: 15-minute exposure to 10 percent hydrochloric acid at room temperature with no effect.
4) Alkali Resistance ASTM D1647: 15-minute exposure to 10 percent sodium hydroxide at room temperature with no effect.
5) Humidity Resistance ASTM D2247: 850-hour exposure to 100 deg F and at least 95 percent relative humidity with no effect.
6) Pencil Hardness ASTM D3363: A hardness of 1H.

d. Finish coat color shall be selected by Architect and not be limited to manufacturer's standard offering.

1) Submit a written request for color selection and indicate in the request the date color selection must be returned without impacting schedule.

5. Application: Paint the following surfaces with primer and finish coat indicated:

a. Unfinished carbon steel surfaces.
b. Exposed mill galvanized-steel surfaces of air-handling unit casing exterior.
c. Exposed aluminum surfaces of air-handling unit casing exterior.
d. Exposed stainless steel surfaces of air-handling unit casing exterior.

Z. Cleanliness Requirements:

1. General:

a. Provide equipment that has been manufactured, shipped, stored, and installed maintaining highest degree of cleanliness possible.
b. Owner Cleanliness Inspection: Air-handling unit(s) cleanliness is subject to Owner cleanliness inspection and must pass a white glove test before packaging for shipment.
.

2. During Manufacturing:

a. Clean materials to be free of mill grease, oxidation, dirt, dust, and other impurities before manufacturing and assembly.
b. Protect casing materials from contamination during manufacturing and assembly.
c. Use sealing materials that do not outgas.
d. Provide OEM components and equipment from their respective manufacturers free of grease, oxidation, and dirt. Store OEM components and equipment indoors. Cover and protect OEM components and equipment to maintain cleanliness. Follow OEM instructions for equipment storage.

3. After Manufacturing:

a. Before shipment, after unit is completely assembled, clean unit inside and out.

1) Vacuum entire inside to remove dirt, dust, and debris using HEPA-filtered vacuum equipment.
2) Purge hard to reach surfaces with dry, oil-free, compressed or bottled nitrogen.
3) Wipe down all surfaces, inside and out, with a residue-free cleaning agent.

b. Protect unit to maintain cleanliness.

4. Shipping:

a. Protect interior and exterior of air-handling unit from exposure to weather dirt, dust, and debris during shipment and rigging.
b. Cover openings with puncture-resistant durable coverings to ensure that cleanliness is maintained inside unit while providing an air- and watertight seal.

5. On-Site Storage:

a. If air-handling unit is to be stored before installation, Installer shall work closely with air-handling unit manufacturer for air-handling unit manufacturer to provide adequate protection at the factory to ensure that cleanliness for both unit interior and unit exterior is maintained. This protection shall remain in place until unit startup is performed.
b. For extended periods of storage, provide a means to rotate fan and motor assemblies on a periodic basis (as recommended in writing by manufacturer) without compromising unit cleanliness.

AA. Accessories:

1. Tool Kit:

a. Manufacturer shall assemble a tool kit specially designed for use in servicing air-handling units furnished.
b. Include only special tools required to service air-handling unit components not readily available for purchase by Owner service personnel in performing routine maintenance.
c. Place tools in a lockable case with hinged cover.
d. Mark case cover with large and permanent text to indicate special purpose of tool kit, such as "Air-Handling Unit Tool Kit." Text size shall be at least 1 inch high.
e. Provide a list of each tool furnished and permanently attach the list to underside of case cover. Text size shall be at least 1 inch high.

2.4 SOURCE QUALITY CONTROL

A. AHRI Compliance:
1. AHRI 410: Air-handling unit coils shall be rated in accordance with AHRI 410 and shall be listed by AHRI and labeled in accordance with AHRI.

B. AMCA Compliance:

1. AMCA 201: Air-handling unit manufacturer shall evaluate fan's performance within the air-handling unit in accordance with AMCA 201, "Fans and Systems" and account for conditions within the air-handling unit that could be detrimental to fan's performance by adjusting the fan performance indicated on Drawings.
2. AMCA 205 Certification: Air-handling unit fan's fan efficiency grade (FEG) shall be rated in accordance with AMCA 205, "Energy Efficiency Classifications for Fans" and shall bear the AMCA-certified fan efficiency grade seal.
3. AMCA 210 Certification: Air-handling unit fan's air performance shall be rated in accordance with AMCA 210, "Laboratory Methods of Testing Fans for

Aerodynamic Performance Rating" and shall bear the AMCA-certified air ratings seal.

4. AMCA 300: Air-handling unit fan's sound performance shall be rated in accordance with AMCA 300, "Reverberant Room Method for Sound Testing of Fans."
5. AMCA 301 Certification: Air-handling unit fans sound performance shall be rated in accordance with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data" and shall bear the AMCA-certified sound ratings seal.
6. AMCA 500-D: Air-handling unit damper's performance shall be rated in accordance with AMCA 500-D, "Laboratory Methods of Testing Dampers for Rating" and shall bear the AMCA-certified air ratings seal.

C. NFPA Compliance:

1. NFPA 70: Electrical components, devices, and accessories shall be listed and labeled by a qualified testing agency, and marked for intended location and application.
2. NFPA 90A: Design, fabrication, and installation of air-handling units and components shall comply with NFPA 90A.

D. UL Compliance:

1. UL 1598 Certification: Air-handling unit UVGI shall be NRTL listed and labeled in accordance with UL 1598, "Luminaires."
2. UL 1995 Certification: Where indicated, air-handling unit components shall be NRTL listed and labeled in accordance with UL 1995, "Standard for Safety Heating and Cooling Equipment."

2.5 SOURCE QUALITY CONTROL - AIR-HANDLING UNIT FACTORY TESTS

A. Functional Run Test:

1. Run test each unit before shipment.
2. Test and balance fans to comply with vibration requirements indicated.
3. Energize each electrical device to ensure it is operational.
    a. Take meter readings for volts, amperes, and kVAr on each phase leg of each motor.
    b. Take meter readings for volts, amperes, and kVAr on each single-phase power connection to field power.
4. Exercise each damper to ensure proper operation.
5. Exercise each access door to ensure proper fit.
6. Exercise each valve to ensure proper operation.
7. Submit a written report for each unit tested. Written report shall include, at a minimum, full name of each person witnessing test, detailed list of each unit component tested, condition observed, and corrective action required. Each line item shall have full name of the person doing the checkout and date and time the checkout was performed.

B. Airflow Capacity Performance Test:

1. Perform an airflow capacity performance test for each assembled air-handling unit.
2. Test results shall indicate that units comply with design airflow requirements indicated. Make changes to noncompliant air-handling units and retest until units comply with requirements.
3. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single air-handling unit, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

C. Hydronic Piping Systems Testing: Pressure test factory-assembled piping systems with compressed air or water at a pressure to comply with governing codes and ASME B31.9, but not less than design pressure indicated.

1. Test results shall indicate that piping systems are without leaks. Make changes to noncompliant piping systems and retest until units comply with requirements.
2. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single air-handling unit, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

2.6 SOURCE QUALITY CONTROL - OEM COMPONENT FACTORY TESTS

A. Coil Testing:

1. Hydronic Coils: Factory tested with air while coil is completely submerged underwater to design pressure indicated, but not less than 300-psig internal pressure.
2. Coils to display a tag with inspector's identification as proof of testing.

B. Fan Vibration Testing:

1. Perform a fan vibration test for each fan.
2. Energize each fan after final assembly and perform a vibration analysis with fan operating at design speed and at all speeds throughout the range from design to minimum speed.
3. Three vibration measurements shall be taken for each bearing in the vertical, and axial directions. Vibration measurements shall be recorded and consist of vibration amplitude verses frequency with filter-in.
4. Fan bearing measurement points shall be marked or scribed on bearings for permanent record.

5. Test results shall indicate units comply with vibration requirements indicated. Make changes to noncompliant fans and retest until fans comply with requirements.
6. Submit test reports indicating test location, documentation of test equipment used, test procedures, test results, test date and time, and full names of personnel performing tests and witnesses. If multiple tests are required to achieve compliance for a single fan, report shall include test date and time, test results, and full names of personnel performing tests and witnesses of each test with a detailed description and photographs of interim corrective measures made before each retest.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine air-handling units before installation. Reject units with physical damage, and air-handling unit components that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for the following before installation of air-handling units:

1. Structural substrate mounting and anchorage to verify actual sizes, types, and locations.
2. Piping systems to verify actual sizes, types, and locations of connections.
3. Ductwork and plenums to verify actual sizes, types, and locations of connections.
4. Electrical services and controls to verify actual sizes, types, and locations of connections.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF OUTDOOR, CUSTOM AIR-HANDLING UNITS

A. Equipment Mounting: Install air-handling units at locations indicated on Drawings. Unless, otherwise indicated on Drawings, install air-handling units on concrete equipment bases.

1. Units Mounted to Structural-Steel Supports: Level unit air-handling bases using aluminum or stainless steel shims compatible with air-handling unit base material. Continuously seal between structural supports and air-handling unit bases with nonhardening sealant.
2. Install air-handling units on curbs following air-handling unit manufacturer's written procedures.

    a. Install gaskets before setting air-handling units on curbs.
    b. Secure air-handling units to curbs using stainless steel fasteners.
    c. Install curb and fasten to structure.

d. Coordinate curb requirements, attachment, and location before installation.

B. Roof Openings:

1. Provide exact size and location of roof openings to trade installing structural framing and roof structure.
2. Supervise framing of openings to ensure coordinated installation with air-handling units.

C. Equipment Clearances and Access:

1. Arrange installation of air-handling units to provide access space around air-handling units for service and maintenance and for removal and replacement of internal components.
2. Provide clearance and access required by governing codes and NFPA 70.
3. At a minimum, comply with requirements indicated on Drawings and air-handling unit manufacturer's written instructions.

3.3 PROTECTION DURING CONSTRUCTION

A. Exterior Covers: Cover air-handling units during construction with sealed covers to protect air-handling unit casing and externally mounted components from physical damage, dirt, dust and debris, paint splatter, and any other construction materials.

1. Minor physical damage, as determined by Owner, shall be repaired by air-handling unit factory service personnel to factory-finished condition.
2. Replace air-handling units with damage that in any way compromises the performance indicated.

B. Internal Access: Keep access doors locked to maximum extent possible and restrict access to only authorized personnel.

1. Open access doors only during periods authorized work inside air-handling units is required.
2. Coordinate and monitor work inside air-handling units on a shift basis. Lock access doors once work is complete or at the end of each shift.
3. Immediately report unauthorized access and any observed damage to Owner.

3.4 DUCT CONNECTIONS

A. Connect ducts and plenums to air-handling unit connections. Comply with requirements in Section 23 31 13 "Metal Ducts."

B. Connect ducts and plenums to air-handling unit connections with flexible connections. Comply with requirements in Section 23 33 00 "Air Duct Accessories."

C. Provide duct transitions required to make field connections to air-handling units.

D. Arrange ducts and plenums to provide unobstructed access to inside of air-handling units.

3.5 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to air-handling unit, provide unobstructed access to inside of air-handling units for service and maintenance.

C. Connect piping to air-handling units with flexible connectors.

D. Drain Pan Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping."

1. Make connections to air-handling unit connections with flanges or unions.
2. Extend drain piping from each air-handling unit connection to nearest equipment or floor drain and arrange piping to maintain clear service aisle paths free of potential tripping hazards.
3. Construct traps near air-handling unit connections to seal airflow from escaping within air-handling unit. Locate traps in a serviceable location that is away from access doors.
4. Install threaded cleanouts at changes in direction.
5. Secure drain piping to structure.

E. Air-Handling Unit Floor Drains: Do not require installation of permanent drain piping.

F. Air-Handling Unit Floor Drain Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping."

1. Make connections to air-handling unit connections with flanges or unions.
2. Extend drain piping from each air-handling unit connection to nearest equipment or floor drain and arrange piping to maintain clear service aisle paths free of potential tripping hazards.
3. Construct traps near air-handling unit connections to seal airflow from escaping within air-handling unit. Locate traps in a serviceable location that is away from access doors.
4. Install threaded cleanouts at changes in direction.
5. Secure drain piping to structure.

G. Chilled-Water Coil Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping" and Section 23 21 16 "Hydronic Piping Specialties."

1. Comply with requirements indicated on Drawings.
2. Make connections to coils with a flange.
3. Connect to each coil inlet with shutoff valve, test plug, pressure gauge and thermometer.
4. Connect to each coil outlet with balancing valve, test plug, pressure gauge thermometer, temperature control valve, and shutoff valve.

5. Connect each coil drain connection with a drain valve, which is full size of drain connection. Connect drain pipe to drain valve with union, and extend drain pipe to terminate over floor drain.
6. Connect each coil vent connection with [automatic] [or] [manual] vent, which is full size of vent connection.

H. Hot-Water Coil Piping: Comply with applicable requirements in Section 23 21 13 "Hydronic Piping" and Section 23 21 16 "Hydronic Piping Specialties."

1. Comply with requirements indicated on Drawings.
2. Make connections to coils with a flange.
3. Connect to each coil inlet with shutoff valve, test plug, pressure gauge and thermometer.
4. Connect to each coil outlet with balancing valve, test plug, pressure gauge thermometer, temperature control valve, and shutoff valve.
5. Connect each coil drain connection with a drain valve, which is full size of drain connection. Connect drain pipe to drain valve with union, and extend drain pipe to terminate over floor drain.
6. Connect each coil vent connection with manual vent, which is full size of vent connection.

3.6 ELECTRICAL CONNECTIONS

A. Install field power to each air-handling unit electrical power connection. Coordinate with air-handling unit manufacturer and installers.

B. Connect wiring in accordance with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

C. Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

D. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

E. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.7 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with Section 26 05 23 "Control-Voltage Electrical Power Cables."

C. Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 26 05 53 "Identification for Electrical Systems."
2. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.8 STARTUP SERVICE

A. Engage an air-handling unit factory-authorized service representative to perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's written instructions.
2. Verify that shipping, blocking, and bracing are removed.
3. Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, controls, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers, and switches.
4. Verify proper motor rotation direction, free fan wheel rotation, and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
5. Verify that bearings, pulleys, belts, and other moving parts are lubricated with factory-recommended lubricants.
6. Verify that face-and-bypass dampers provide full face flow.
7. Verify that outdoor- and return-air mixing dampers open and close, and maintain minimum outdoor-air setting.
8. Comb coil fins for parallel orientation.
9. Verify that proper thermal-overload protection is installed for electric heaters.
10. Install new, clean filters.
11. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.
12. .

B. Starting procedures for air-handling units include the following:

1. Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm. Replace fan and motor pulleys as required to achieve design conditions.
2. Measure and record motor electrical values for voltage and amperage.
3. Manually operate dampers from fully closed to fully open position and record fan performance.
4. .

3.9 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Section 23 05 93 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

C. Before turning equipment over to Owner for use, adjust air-handling unit components that require further adjustment for proper operation. Consult air-handling unit manufacturer for instruction.

D. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

E. Seasonal Adjustments: Make seasonal visits during warranty period to inspect and review operation of equipment. Make necessary adjustments for components observed to require adjustments for proper operation. Prepare and submit a report to Owner documenting each visit, observations, and any adjustments made.

3.10 CLEANING

A. Cleaning Schedule: After completing system installation and testing, adjusting, and balancing air-handling unit and air-distribution systems, and after completing startup service, and immediately before Owner use, clean air-handling units to remove foreign material and construction dirt and dust.

B. Unit Interior: Clean air-handling units internally to factory clean condition. Remove foreign material and construction debris, dirt, and dust.

1. Vacuum clean with HEPA-filtered vacuum and then wipe down with cleaning solution.
2. Clean casing floors, roofs, wall surfaces, access doors, and panels.
3. Clean all internal components, such as coils, dampers, filter frames, fans, and motors.
4. Clean light fixtures and control devices.

C. Unit Exterior: Clean external surfaces of air-handling units to factory clean condition. Remove foreign material and construction debris, dirt and dust. Vacuum clean with HEPA-filtered vacuum and then wipe down all surfaces with cleaning solution.

D. Cleaning Materials: Use cleaning materials and products recommended in writing by air-handling unit manufacturer.

E. Acceptance: Following unit cleaning submit a written request for review and Owner acceptance. Acceptance for cleaning of air-handling units must pass a white glove test.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: [**Owner will engage**] [**Engage**] a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Tests and Inspections: Perform the following tests and inspections with the assistance of a factory-authorized service representative.

1. After field piping connections are complete, test hydronic coils and connections for leaks.
2. Charge refrigerant coils with refrigerant and test for leaks.
3. Field-Assembly Supervision: Instruct Installer and supervise field installation of first air-handling unit(s) shipped in multiple pieces for field assembly.
4. Roof-Mounted Field-Installation Supervision: Instruct Installer and supervise field installation of first roof-mounted air-handling unit(s).
5. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
6. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Air-handling unit or components will be considered defective if unit or components do not pass tests and inspections.

E. Prepare test and inspection reports.

3.12 OPERATION DURING CONSTRUCTION

A. Operation of air-handling units for temporary cooling, heating, and ventilation is not allowed without Owner authorization.

1. Submit written request for Owner approval by signature with detailed description of operating procedures to be followed including, but not limited to, the following:

a. Description of construction activities while units are operating.
b. Operation:

1) Beginning and ending calendar dates.
2) List each day during week.
3) List start and stop time and hours for each day.

c. Startup procedures and shut-down procedures.
d. Provisions for routine monitoring of unit operation.
e. Provisions to prevent and protect against damage to equipment due to adverse operation such as, low temperature, high temperature, over pressure, fire, smoke, electrical over- and undervoltage and current and electrical fault.
f. Provisions and safeguards for filtration to keep inside of units from getting dirty.
g. Record keeping.

2. If approved by Owner, units used for temporary cooling, heating, and ventilation during and before interior finish work is complete shall include an unconditional

complete unit labor and parts warranty to extend at least [**two**] years after the warranty indicated expires.

3. Interior and exterior of air-handling units shall be cleaned to a factory-cleaned condition and clean condition must be accepted by Owner.

B. Filtration During Temporary Use:

1. Protect air-handling system ducts (exhaust air, outdoor air, and return air) with temporary filters installed and supported to prevent filter media from collapse and bypass of unfiltered air. Temporary media shall be installed at each inlet and shall have a published filtration efficiency of MERV 8 in accordance with ASHRAE 52.2.
2. Protect air-handling units with open inlets that are not ducted with temporary filters installed and supported to prevent filter media from collapse and by-pass of unfiltered air. Temporary media shall be installed at each inlet and shall have a published filtration efficiency of MERV 8 in accordance with ASHRAE 52.2.
3. Do not operate air-handling units until both temporary and scheduled permanent air-handling unit particulate filters are in place. Temporary filters must be installed upstream of permanent filters while units are operating.
4. Replace temporary and permanent filters used during construction when dirty. After end of temporary use, replace permanent filters with new, clean filters before beginning testing, adjusting and balancing.

C. Comply with SMACNA 008, "IAQ Guidelines for Occupied Buildings under Construction," for procedures to protect HVAC system.

3.13 DEMONSTRATION

A. Engage air-handling unit manufacturer employed training instructor or factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

B. Training shall include, but not be limited to, procedures and schedules related to performance, safety, startup and shut down, troubleshooting, servicing, preventive maintenance, and how to obtain replacement parts.

1. Access Doors: Adjustment, gasket removal and replacement, handle removal and replacement, and spare parts.
2. Access Panels: Removal and replacement, adjustment, gasket removal and replacement, and spare parts.
3. Air Blenders: Cleaning, operation, removal, and replacement.
4. Coils: Cleaning, combing fins, draining, venting, removal, and replacement.
5. Controls: Calibration, cleaning, operation, service, removal and replacement, and spare parts.
6. Damper Assemblies: Cleaning, operation, service, removal and replacement, and spare parts.
7. Drain Pans: Cleaning, removal, and replacement.
8. Duct Silencers: Cleaning, removal, and replacement.
9. Electric Heaters: Cleaning, operation, service, removal and replacement, and spare parts.

10. Heat Wheels: Cleaning, operation, service, removal and replacement, and spare parts.
11. Fan and Motor Assemblies: Cleaning, operation, removal and replacement, service, and spare parts.
12. Filters: Operation, removal and replacement, frame gasket removal and replacement, clip removal and replacement, and spare parts.
13. Fixed Plate heat Exchangers: Cleaning, removal, and replacement.
14. Heat Pipe Heat Exchangers: Cleaning, combing fins, removal, and replacement.
15. Humidifiers: Cleaning, operation, service, removal and replacement, and spare parts.
16. UV-C Lamp Systems: Cleaning, operation, service, removal and replacement, and spare parts.
17. Lights, Receptacles and Switches: Cleaning, operation, service, removal and replacement, and spare parts.
18. .

C. Instructor:

1. Instructor shall be factory trained and certified by air-handling unit manufacturer with current training on equipment installed.
2. Instructor(s) shall have not less than three years of training experience with air-handling unit manufacturer and past training experience on at least three projects of comparable size and complexity.

D. Schedule and Duration:

1. Schedule training with Owner at least 20 business days before first training session.
2. Training shall occur before Owner occupancy.
3. Training shall be held at mutually agreed date and time during normal business hours.
4. Each training day shall not exceed eight hours of training. Daily training schedule shall allow time for a one -hour lunch period and 15 -minute break after every two hours of training.
5. Perform not less than eight hours of training.

E. Location: Owner to provide a suitable on-site location to host classroom training.

F. Training Attendees: Assume three people.

G. Training Attendance Records: For record purposes, document training attendees at start of each new training session. Record date, time, brief description of training covered during the session, attendee's name, signature, phone number, and e-mail address. Submit scanned copy of sign-in sheet to Owner for each training session.

H. Training Format: Individual training modules to include classroom training followed by hands-on field demonstration and training.

I. Training Materials: Provide training materials in electronic format to each attendee.

1. Include instructional videos showing general operation and maintenance that are coordinated with operation and maintenance manuals.

J. Training Video Recording: Video record each classroom training session and submit an electronic copy to Owner before requesting Owner acceptance of training.

K. Written Acceptance: Obtain Owner written acceptance that training is complete and requirements indicated have been satisfied.

END OF SECTION 23 73 43.19

SECTION 26 56 13 - LIGHTING POLES AND STANDARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Poles and accessories for support of luminaires.

1.2 DEFINITIONS

A. EPA: Equivalent projected area.

B. Luminaire: Complete luminaire.

C. Pole: Luminaire-supporting structure, including tower used for large-area illumination.

D. Standard: See "Pole."

1.3 ACTION SUBMITTALS

A. Product Data: For each pole, accessory, and luminaire-supporting and -lowering device.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Detail fabrication and assembly of poles and pole accessories.
4. Foundation construction details, including material descriptions, dimensions, anchor bolts, support devices, and calculations, signed and sealed by a professional engineer licensed in the state of installation.
5. Anchor bolt templates keyed to specific poles and certified by manufacturer.
6. Method and procedure of pole installation. Include manufacturer's written installations.

1.4 INFORMATIONAL SUBMITTALS

A. Material test reports.

B. Field quality-control reports.

C. Sample warranty.

D. Soil test reports.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of pole(s) that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within a specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs from special warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. 01 40 00Structural Characteristics: Comply with AASHTO LTS-6-M.

B. Dead Load: Weight of luminaire and its horizontal and vertical supports, and supporting structure, applied according to AASHTO LTS-6-M.

C. Live Load: Single load of 500 lbf distributed according to AASHTO LTS-6-M.

D. Ice Load: Load of 3 lbf/sq. ft., applied according to AASHTO LTS-6-M for applicable areas on the Ice Load Map.

E. Wind Load: Pressure of wind on pole and luminaire, calculated and applied according to AASHTO LTS-6-M.

1. Basic wind speed for calculating wind load for poles exceeding 50 feet in height is 100 mph.

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 50 years.
c. Velocity Conversion Factor: 1.0.

2. Basic wind speed for calculating wind load for poles 50 feet high or less is 100 mph.

a. Wind Importance Factor: 1.0.
b. Minimum Design Life: 25 years.
c. Velocity Conversion Factor: 1.0.

F. Strength Analysis: For each pole, multiply the actual EPA of luminaires and brackets by a factor of 1.1 to obtain the EPA to be used in pole selection strength analysis.

G. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless steel fasteners and mounting bolts unless otherwise indicated.

2.2 STEEL POLES

A. Refer to light fixture schedule for manufacturer and series.Source Limitations: Obtain poles from single manufacturer or producer.

B. Source Limitations: For poles, obtain each color, grade, finish, type, and variety of pole from single source with resources to provide products of consistent quality in appearance and physical properties.

C. Poles: Comply with ASTM A500/A500M, Grade B carbon steel with a minimum yield of 46,000 psig; one-piece construction up to 40 feet in height with access handhole in pole wall.

1. Shape: Square, straight.
2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.

D. Steel Mast Arms: Single-arm type, continuously welded to pole attachment plate. Material and finish same as plate.

E. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adaptor fitting welded to pole, allowing the bracket to be bolted to the pole-mounted adapter, then bolted together with stainless-steel bolts.
2. Cross Section: Tapered oval, with straight tubular end section to accommodate luminaire. Match pole material and finish.

F. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.

G. Fasteners: Stainless steel, size and type as determined by manufacturer. Corrosion-resistant items compatible with support components.

1. Materials: Compatible with poles and standards as well as the substrates to which poles and standards are fastened and shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.

H. Grounding and Bonding Lugs: Welded 1/2-inch threaded lug, complying with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size indicated, and accessible through handhole.

I. Handhole: Oval shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless steel captive screws.

J. Intermediate Handhole and Cable Support: Weatherproof, 3-by-5-inch handhole located at midpoint of pole, with cover for access to internal welded attachment lug for electric cable support grip.

K. Cable Support Grip: Wire-mesh type with rotating attachment eye, sized for diameter of cable and rated for a minimum load equal to weight of supported load multiplied by a 5.0 safety factor.

L. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.

M. Powder-Coat Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces according to SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair powder coat bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, according to SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Powder Coat: Comply with AAMA 2604.

a. Electrostatic-applied powder coating; single application and cured to a minimum 2.5- to 3.5-mils dry film thickness. Coat interior and exterior of pole for equal corrosion protection.
b. Color: As selected by Architect from manufacturer's full range.

2.3 ALUMINUM POLES

A. Refer to light fixture schedule for manufacturer and series.Poles: Seamless, extruded structural tube complying with ASTM B221, Alloy 6061-T6, with access handhole in in pole wall.

1. Shape: Square, straight.
2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.

B. Mast Arms: Aluminum Single-arm type, continuously welded to pole attachment plate. Material and finish same as plate.

C. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Adaptor fitting welded to pole, allowing the bracket to be bolted to the pole-mounted adapter, then bolted together with stainless-steel bolts.
2. Cross Section: Tapered oval, with straight tubular end section to accommodate luminaire. Match pole material and finish.

D. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.

E. Grounding and Bonding Lugs: Bolted 1/2-inch threaded lug, complying with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.

F. Fasteners: Stainless steel, size and type as determined by manufacturer. Corrosion-resistant items compatible with support components.

1. Materials: Compatible with poles and standards as well as to substrates to which poles and standards are fastened and shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.

G. Handhole: Oval shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless steel captive screws.

H. Powder-Coat Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair powder coat bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, according to SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Powder coat shall comply with AAMA 2604.

a. Electrostatic applied powder coating; single application with a minimum 2.5- to 3.5-mils dry film thickness; cured according to manufacturer's instructions. Coat interior and exterior of pole for equal corrosion protection.
b. Color: As selected by Architect from manufacturer's full range.

2.4 POLE ACCESSORIES

A. Base Covers: Manufacturers' standard metal units, finished same as pole, and arranged to cover pole's mounting bolts and nuts.

2.5 MOUNTING HARDWARE

A. Anchor Bolts: Manufactured to ASTM F1554, Grade 55, with a minimum yield strength of 55,000 psi.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Bent rods as required by manufacturer.
3. Threading: Uniform National Coarse, Class 2A.

B. Nuts: ASTM A563, Grade A, Heavy-Hex.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Two nuts provided per anchor bolt, shipped with nuts pre-assembled to the anchor bolts.

C. Washers: ASTM F436, Type 1.

1. Galvanizing: Hot dip galvanized according to ASTM A153, Class C.
2. Two washer(s) provided per anchor bolt.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. 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 - EXECUTION

3.1 POLE FOUNDATION

A. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Structural steel complying with ASTM A36/A36M and hot-dip galvanized according to ASTM A123/A123M; and with top-plate and mounting bolts to match pole-base flange and strength required to support pole, luminaire, and accessories. Concrete, reinforcement, and formwork are specified in Section 03 30 00 "Cast-in-Place Concrete."

B. 03 30 00Anchor Bolts: Install plumb using manufacturer-supplied steel template, uniformly spaced.

3.2 POLE INSTALLATION

A. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Section 03 30 00 "Cast-in-Place Concrete."

B. Foundation-Mounted Poles: Mount pole with leveling nuts and tighten top nuts to torque level according to pole manufacturer's written instructions.

C. Raise and set pole using web fabric slings (not chain or cable) at locations indicated by manufacturer.

3.3 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum using insulating fittings or treatment.

B. Steel Conduits: Comply with requirements in Section 26 05 33.13 "Conduits for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- thick, pipe-wrapping plastic tape applied with a 50-percent overlap.

3.4 GROUNDING

A. Ground Metal Poles and Support Structures: Comply with requirements in Section 26 05 26 "Grounding and Bonding for Electrical Systems."

1. Install grounding electrode for each pole unless otherwise indicated.
2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.

END OF SECTION 26 56 13

SECTION 26 56 19 - LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior solid-state luminaires that are designed for and exclusively use LED lamp technology.
2. Luminaire supports.

B. Related Requirements:

1. Section 26 09 23 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.
2. Section 26 56 13 "Lighting Poles and Standards" for poles and standards used to support exterior lighting equipment.

1.2 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color rendering index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of luminaire.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Delegated Design Submittals: For luminaire supports.

1. Include design calculations for luminaire supports.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale and coordinated.

B. 26 05 48Product Certificates: For each type of the following:

1. Luminaire.

C. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1. Provide a list of all lamp types used on Project. Use ANSI and manufacturers' codes.
2. Provide a list of all photoelectric relay types used on Project; use manufacturers' codes.

1.6 FIELD CONDITIONS

A. Mark locations of exterior luminaires for approval by Architect prior to the start of luminaire installation.

1.7 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 2 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 01 60 0001 60 00LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Luminaires shall be listed and labeled for indicated class and division of hazard by an NRTL.

C. UL Compliance: Comply with UL 1598 and listed for wet location.

D. CRI of minimum 80. CCT: Refer to light fixture schedule.

E. L70 lamp life of 50,000 hours.

F. Lamps dimmable from 100 percent to 0 percent of maximum light output.

G. Nominal Operating Voltage: Refer to light fixture schedule.

H. In-line Fusing: Separate in-line fuse for each luminaire.

I. Lamp Rating: Lamp marked for outdoor use and in enclosed locations.

J. Source Limitations:

1. Obtain luminaires from single source from a single manufacturer.
2. For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 LUMINAIRE TYPES

A. Area and Site:

1. Refer to light fixture schedule for manufacturer and series.
2. Luminaire Shape: Refer to light fixture schedule.
3. Mounting: Refer to light fixture schedule.
4. Luminaire-Mounting Height: Refer to light fixture schedule.
5. Distribution: Refer to light fixture schedule.

B. Canopy:

1. Refer to light fixture schedule for manufacturer and series.
2. Shape: Refer to light fixture schedule.
3. Dimensions: Refer to light fixture schedule.

2.3 MATERIALS

A. Metal Parts: Free of burrs and sharp corners and edges.

B. Sheet Metal Components: Refer to light fixture schedule. Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.

D. Diffusers and Globes:

1. Acrylic Diffusers: 100 percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
2. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

E. Lens and Refractor Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

F. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.

G. Housings:

1. Rigidly formed, weather- and light-tight enclosure that will not warp, sag, or deform in use.
2. Provide filter/breather for enclosed luminaires.

2.4 FINISHES

A. Variations in Finishes: Noticeable variations in same piece are unacceptable. 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.

B. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

C. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
2. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20 requirements; and seal aluminum surfaces with clear, hard-coat wax.
3. Class I, Clear-Anodic Finish: AA-M32C22A41 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.
4. Class I, Color-Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker), complying with AAMA 611.

    a. Color: Refer to light fixture schedule.

D. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.

a. Color:

1) As selected from manufacturer's standard catalog of colors.

2.5 LUMINAIRE SUPPORT COMPONENTS

A. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

A. Comply with NECA 1.

B. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.

C. Install lamps in each luminaire.

D. Fasten luminaire to structural support.

E. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Support luminaires without causing deflection of finished surface.
4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

F. Wall-Mounted Luminaire Support:

1. Attached to a minimum 1/8 inch backing plate attached to wall structural members.

G. Wiring Method: Install cables in raceways. Conceal raceways and cables.

H. Install luminaires level, plumb, and square with finished grade unless otherwise indicated. Install luminaires at height and aiming angle as indicated on Drawings.

I. Coordinate layout and installation of luminaires with other construction.

J. Adjust luminaires that require field adjustment or aiming. Include adjustment of photoelectric device to prevent false operation of relay by artificial light sources, favoring a north orientation.

K. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables" and Section 26 05 33.13 "Conduits for Electrical Systems" for wiring connections and wiring methods.

3.2 INSTALLATION OF INDIVIDUAL GROUND-MOUNTED LUMINAIRES

A. Aim as indicated on Drawings.

B. Install on concrete base with top 4 inches above finished grade or surface at luminaire location. Cast conduit into base, and finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Section 03 30 00 "Cast-in-Place Concrete."

3.3 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.

B. Steel Conduits: Comply with Section 26 05 33.13 "Conduits for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch- thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.4 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

B. Perform the following tests and inspections:

1. 26 09 23Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Photoelectric Control Operation: Verify operation of photoelectric controls.

C. Illumination Tests:

1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IES testing guide(s):

a. IES LM-5.
b. IES LM-50.
c. IES LM-52.
d. IES LM-64.
e. IES LM-72.

2. 26 09 23Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

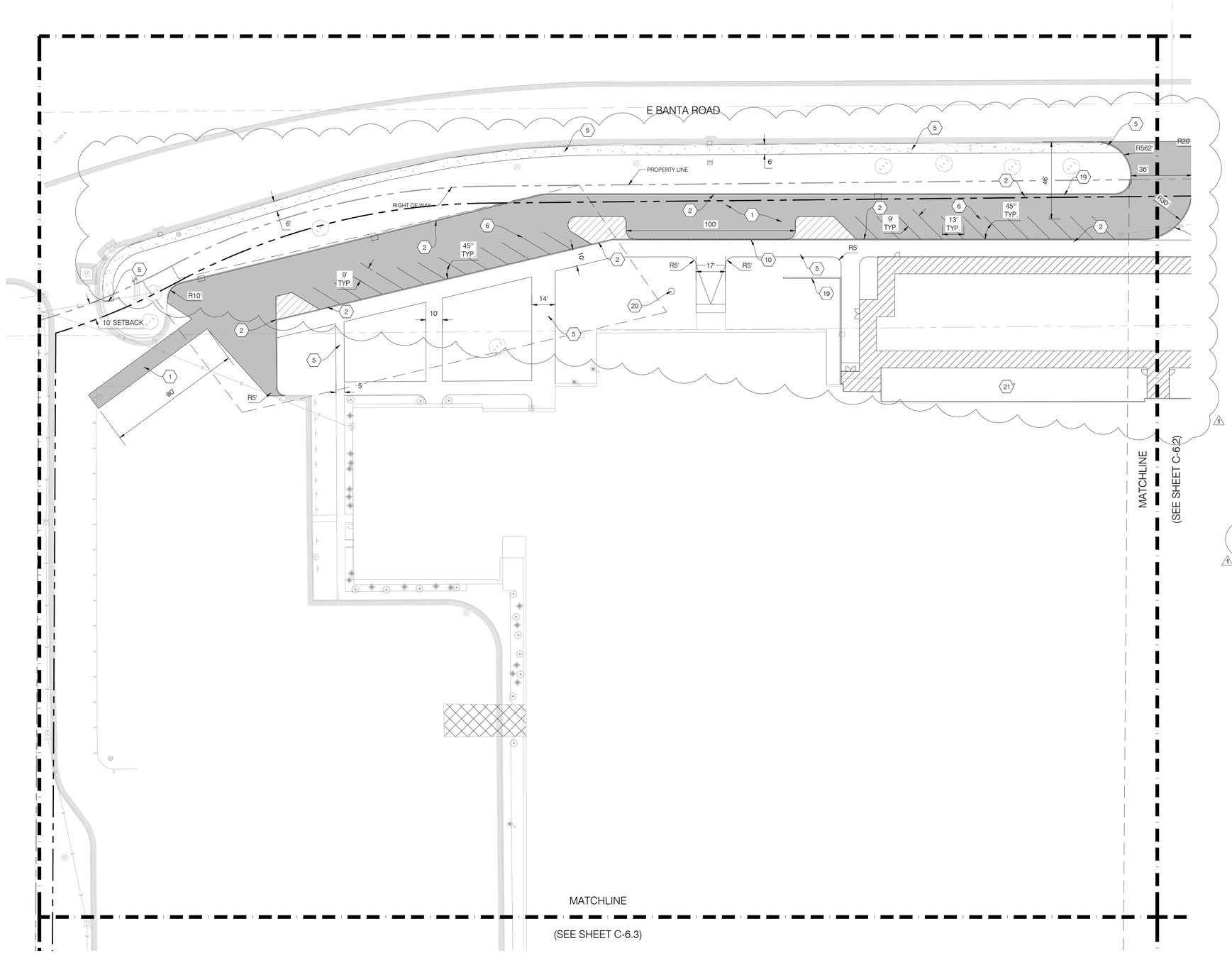
D. Luminaire will be considered defective if it does not pass tests and inspections.

E. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.6 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaires.

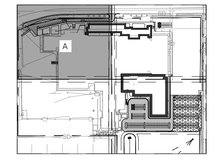
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SITE PLAN LEGEND

1. FULL DEPTH HMA PAVEMENT, SEE SITE DETAIL SHEET C-6.5
2. CONCRETE CURB, SEE SITE DETAIL SHEET C-6.5
3. BUILDING, SEE ARCHITECTURAL PLANS
4. STOP SIGN, SEE SITE DETAIL SHEET C-6.6
5. CONCRETE SIDEWALK
6. LINE, PAINT, SOLID, WHITE, 4 IN.
7. LINE, PAINT, SOLID, YELLOW, 4 IN.
8. LINE, PAINT, SOLID, BLUE, 4 IN.
9. ALTERNATE - SEE ARCHITECTURAL PLANS
10. ROLL CURB
11. LANDSCAPE ISLAND
12. DRY DETENTION POND
13. RETAINING WALL, SEE ARCHITECTURAL PLANS
14. SHOTPUT
15. ADA STRIPING, SEE SITE DETAIL SHEET C-6.6
16. ADA SIGN, SEE SITE DETAIL SHEET C-6.6
17. CONCRETE PARKING BUMPER, SEE SITE DETAIL SHEET C6.6
18. FIRE LANE SIGN
19. RETAINING WALL - SEE STRUCTURAL PLANS
20. FLAG POLE - SEE ELECTRICAL PLANS FOR LIGHTING
21. INTERIOR COURTYARD
22. BOLLARD (14)

SOUTHPORT HIGH SCHOOL PARKING REQUIREMENTS	
EXISTING PARKING SPACES	455 SPACES
PROPOSED PARKING SPACES	270 SPACES
TOTAL SITE PARKING SPACES	725 SPACES
REQUIRED ADA SPACES	15 SPACES
EXISTING ADA SPACES	15 SPACES
PROPOSED ADA SPACES	2 SPACES



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

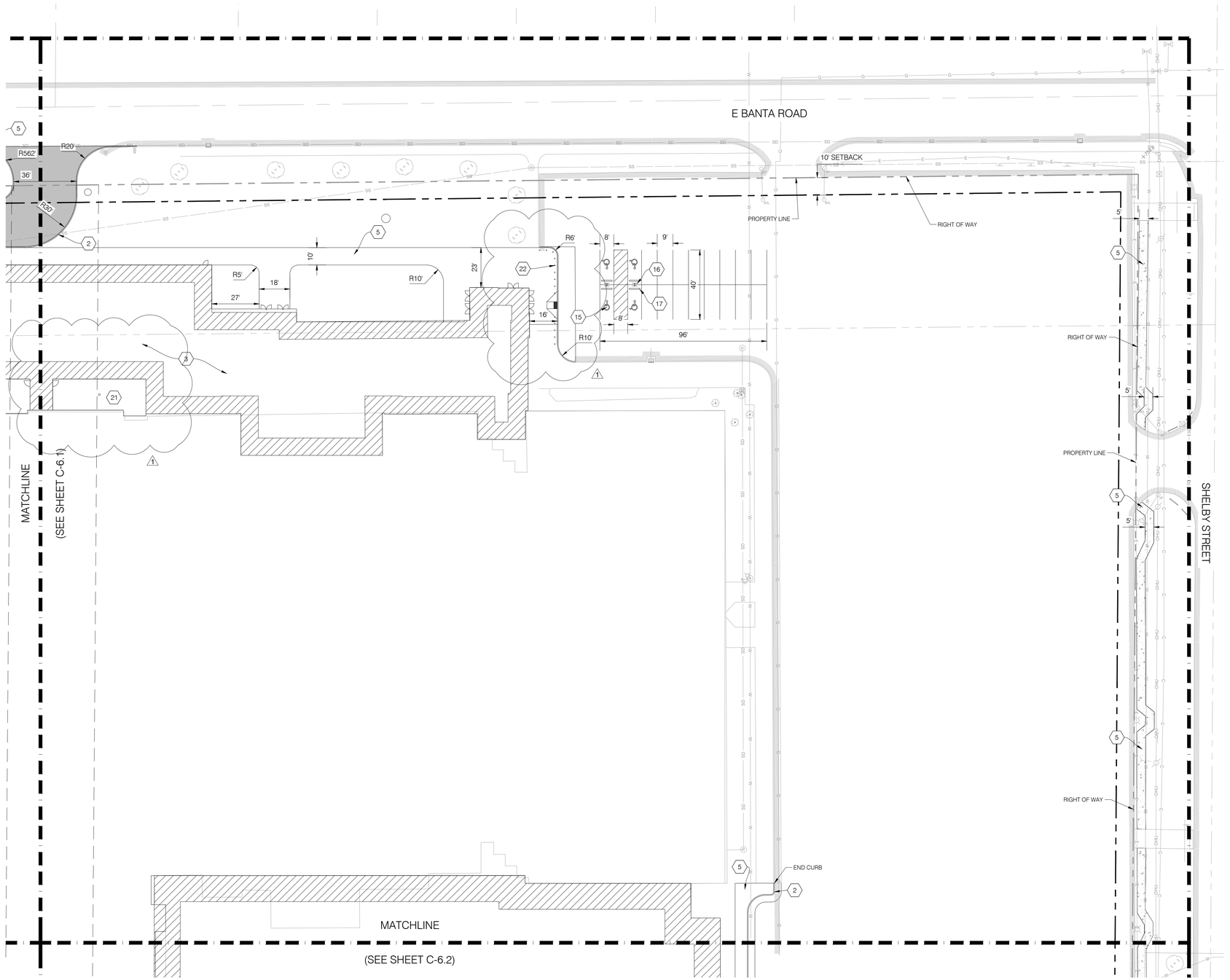
REVISIONS:		
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1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE PLAN

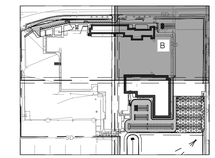
C-6.1



SITE PLAN LEGEND

1. FULL DEPTH HMA PAVEMENT, SEE SITE DETAIL SHEET C-6.5
2. CONCRETE CURB, SEE SITE DETAIL SHEET C-6.5
3. BUILDING, SEE ARCHITECTURAL PLANS
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5. CONCRETE SIDEWALK
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7. LINE, PAINT, SOLID, YELLOW, 4 IN.
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9. ALTERNATE - SEE ARCHITECTURAL PLANS
10. ROLL CURB
11. LANDSCAPE ISLAND
12. DRY DETENTION POND
13. RETAINING WALL, SEE ARCHITECTURAL PLANS
14. SHOTPUT
15. ADA STRIPING, SEE SITE DETAIL SHEET C-6.6
16. ADA SIGN, SEE SITE DETAIL SHEET C-6.6
17. CONCRETE PARKING BUMPER, SEE SITE DETAIL SHEET C6.6
18. FIRE LANE SIGN
19. RETAINING WALL - SEE STRUCTURAL PLANS
20. FLAG POLE - SEE ELECTRICAL PLANS FOR LIGHTING
21. INTERIOR COURTYARD
22. BOLLARD (14)

SOUTHPORT HIGH SCHOOL PARKING REQUIREMENTS	
EXISTING PARKING SPACES	455 SPACES
PROPOSED PARKING SPACES	270 SPACES
TOTAL SITE PARKING SPACES	725 SPACES
REQUIRED ADA SPACES	15 SPACES
EXISTING ADA SPACES	15 SPACES
PROPOSED ADA SPACES	2 SPACES



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS: #	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE PLAN

C-6.2

GENERAL NOTES

Where sidewalk is constructed immediately adjacent to curb, the surface of the sidewalk shall be constructed ½" higher than the top of the curb. (See FIGURE 101.17)

Transverse joints shall be cut with a jointer having a radius of ¼" of spacing as indicated or as directed by the Engineer.

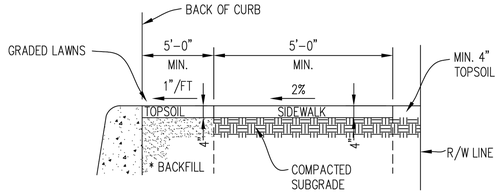
* Compacted Subgrade – All soft, yielding or other unsuitable material, which cannot be compacted satisfactorily, shall be removed. All rock encountered shall be removed or broken off at least six (6) inches below the subgrade surface. Any holes or depressions resulting from the removal of unsuitable material, shall be filled with suitable material which shall be thoroughly compacted.

** Where sidewalk is constructed adjacent to curb, the space behind the new curb shall be filled with granular material to the required elevation and compacted in layers not to exceed 4".

*** Where sidewalk is not constructed adjacent to the curb, the space behind the curb shall be filled with suitable material to the required elevation and compacted in layers not to exceed 4".

**** When built in conjunction with concrete pavement, expansion and contraction joints should be placed at the same locations as in the pavement slab. The curb and gutter should be tied to the pavement by #5 rebars at 2 foot intervals. If no concrete pavement is being built at the time the curb is constructed. Expansion joints should be placed at the ends of all returns and at intervals not to exceed 100 feet. Contraction joints should be installed at 20 foot spacing.

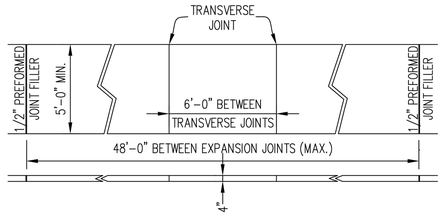
INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NONE
GENERAL NOTES FOR CURB & GUTTER	
FIGURE 101.15	UPDATED: 11/26/2012



CONCRETE SIDEWALK SECTION

* THE SPACE BEHIND THE CURB SHALL BE FILLED WITH SUITABLE MATERIAL TO THE REQUIRED ELEVATION AND COMPACTED IN LAYERS NOT TO EXCEED 4" IN DEPTH.

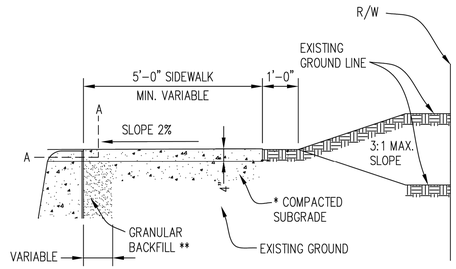
SUBGRADE UNDER ALL CURB, SIDEWALK, AND DRIVES SHALL BE COMPACTED IN ACCORDANCE WITH MOST RECENT INDOT STANDARD SPECIFICATIONS.

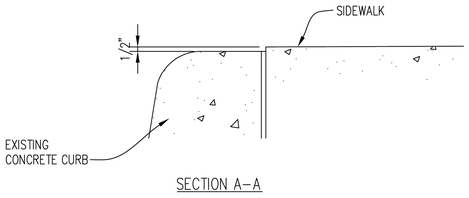


CONCRETE SIDEWALK

INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NOT TO SCALE
SIDEWALK DETAILS	
FIGURE 101.16	UPDATED: 11/19/2012

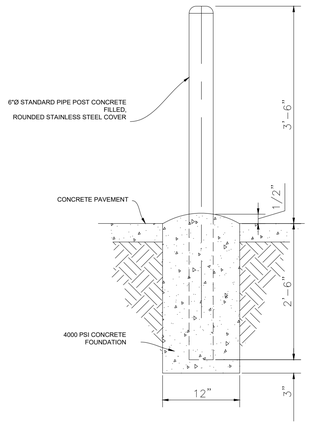
* SEE FIGURE 101.15 FOR GENERAL NOTES





SECTION A–A

INDIANAPOLIS DEPARTMENT OF PUBLIC WORKS	NOT TO SCALE
SIDEWALK NEXT TO EXISTING CURB	
FIGURE 101.17	UPDATED: 11/19/2012



6" CONCRETE BOLLARD

SCALE: 1:1

1

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

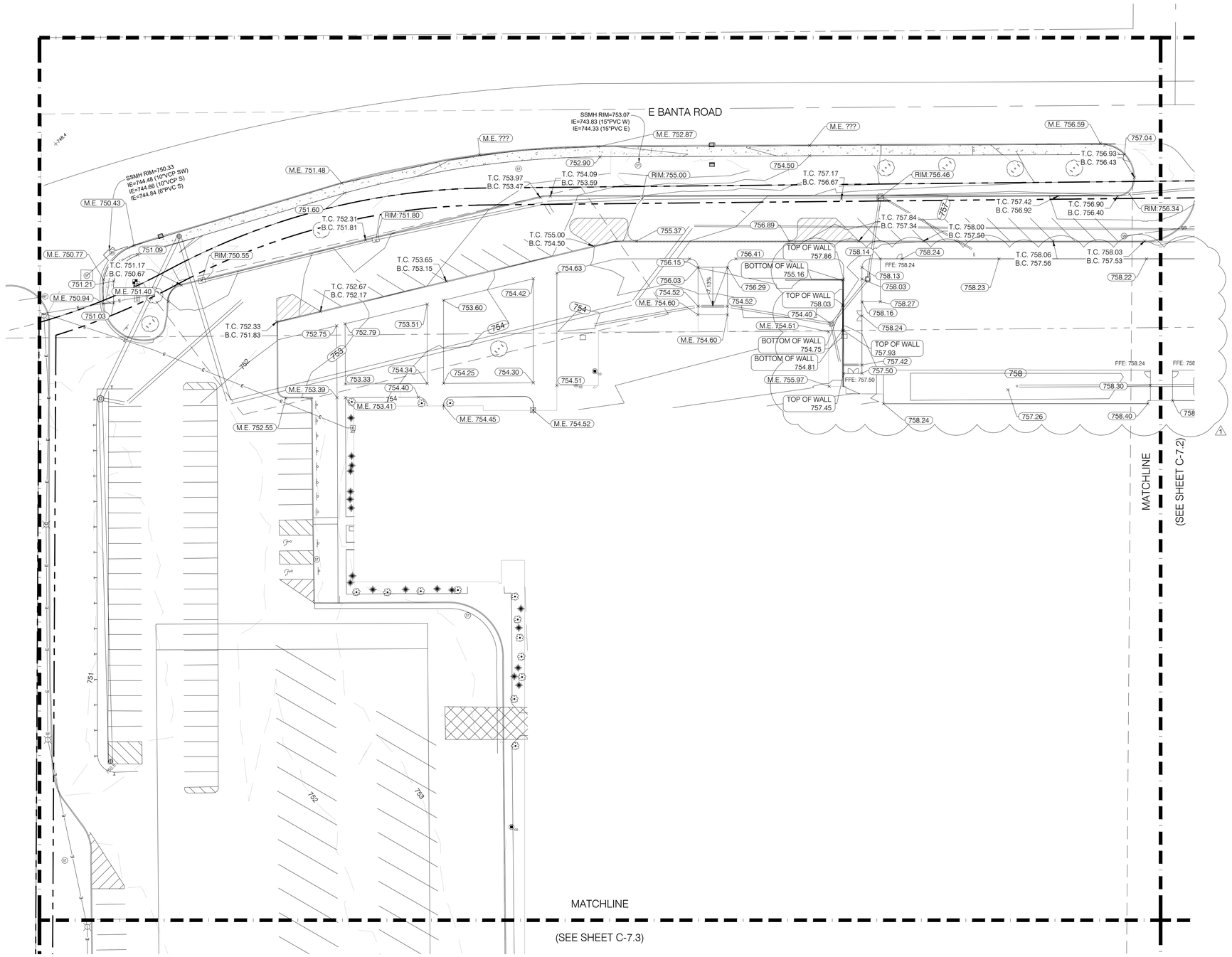
REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

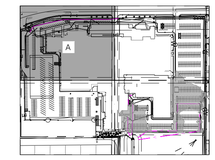
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

SITE DETAILS

C-6.7





GRAPHIC SCALE

0' 30' 60' 90'

(IN FEET)

N

TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

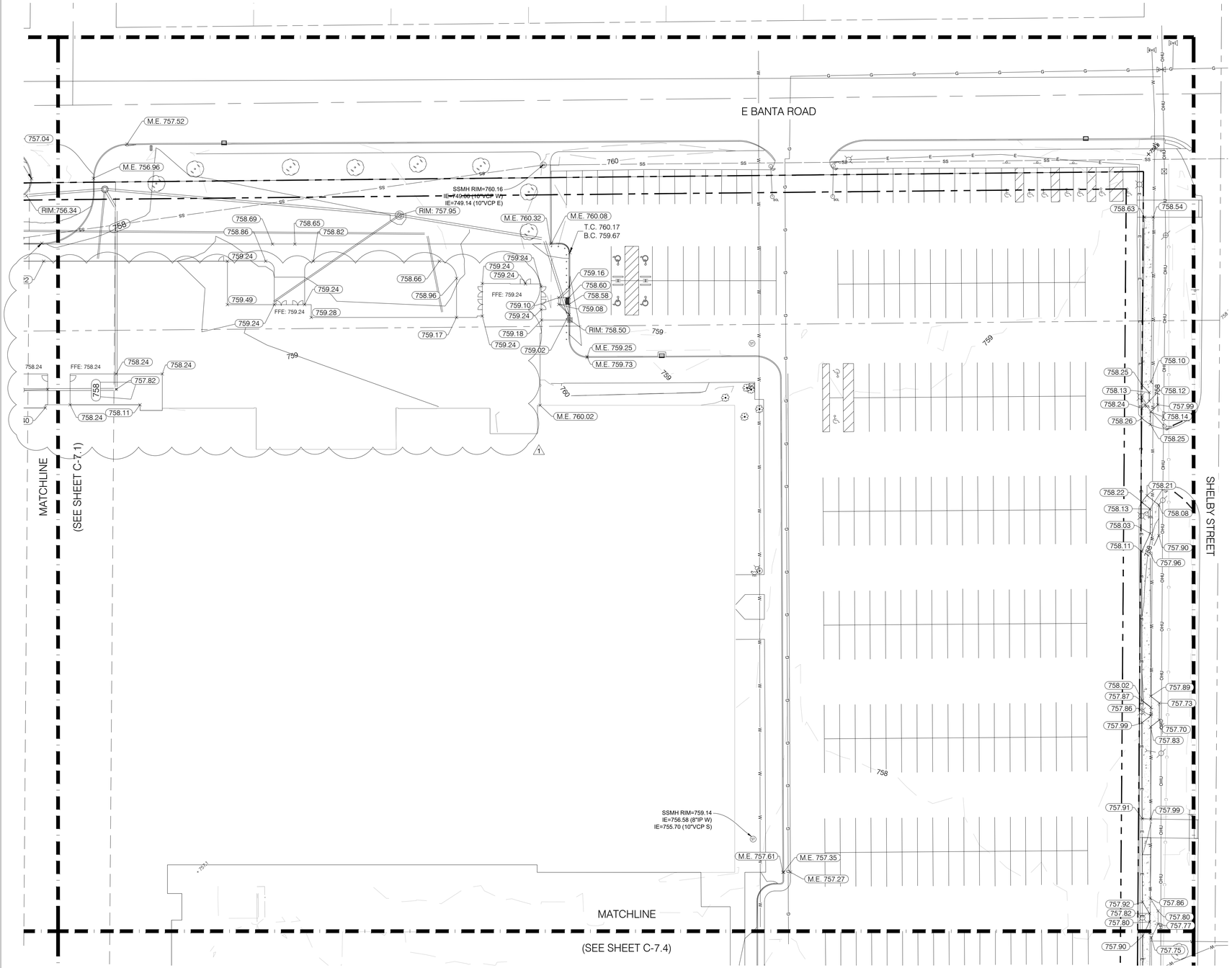
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

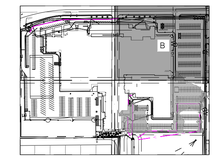
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

GRADING PLAN

C-7.1





GRAPHIC SCALE

0' 30' 60' 90'

(IN FEET)

N

TRUE NORTH

PLOT DATE/TIME:

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN F. REY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Rey, PE, PMP

REVISIONS:

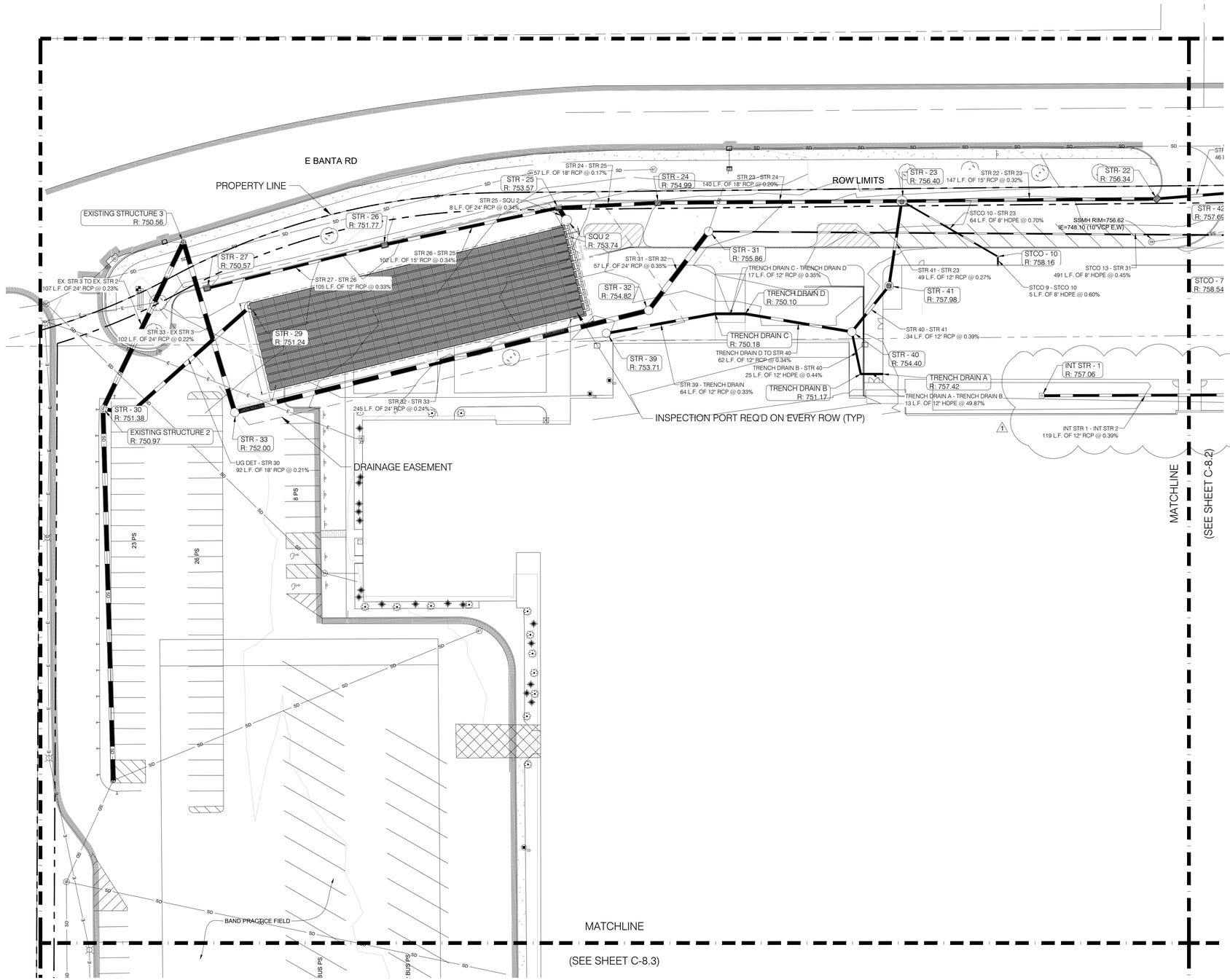
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

GRADING PLAN

C-7.2



STORMWATER GENERAL NOTES:

1. WHERE CONNECTIONS ARE MADE TO EXISTING OR INLET STRUCTURES, THOSE STRUCTURES SHALL BE REHABILITATED OR REPLACED TO THE MINIMUM STANDARDS OUTLINED IN CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. THE REHABILITATION SHALL INCLUDE THE INSTALLATION OF BENCH WALLS, AS WELL AS PRESCRIBED MEASURES TO ELIMINATE THE POTENTIAL FOR MIGRATION OF BACKFILL MATERIALS INTO THE STORMWATER SYSTEM.
2. ALL PROPOSED STORM SEWER AND DRAINAGE APPURTENANCES SHALL BE IN CONFORMANCE WITH CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. DISCREPANCIES BETWEEN THE PLANS AND THE MANUAL SHALL NOT ALLEVIATE THE CONTRACTOR FROM ADHERING TO THE REQUIREMENTS AS SET FORTH IN THE MANUAL.
3. INLET CASTINGS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM 1" IN HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.
4. THE BENCHWALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2-INCH PER FOOT SLOPE TO THE MANHOLE WALL.
5. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT REGARDING ANY EXISTING TREES OR INFRASTRUCTURE THAT CONFLICT WITH PROPOSED STORM SEWER INSTALLATION.
6. ALL STORM SEWER MANHOLE COVERS SHALL HAVE THE WORDS "STORM SEWER" CAST IN RECESSED LETTERS TWO (2) INCHES IN HEIGHT.

UNDERGROUND DETENTION SPECIFICATIONS

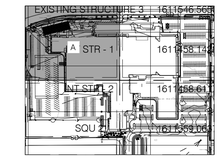
- Model: Contech Chambermaxx 2016
- Dimensions: 187.35' Long X 53.78' Wide X 3.52' High
- Eleven (11) rows and Twenty-six (26) chambers per row
- Stone Invert: 746.25
- Bottom of Chambers: 746.75
- Top of Chambers: 749.27
- Top of Stone Cover: 749.77
- 6" Stone Base and Cover
- 12" End and Side Stone
- 40% stone voids
- Connection Invert to System : 746.75
- Storage Outlet Invert: 746.25
- 18-inch RCP outlet pipe
- 6.0-inch Orifice Elevation: 746.25
- 11.0-inch Orifice Elevation: 747.46
- MAX STAGING ELEV: 10 YR- 747.83, 100 YR - 748.41

SQU 1 - ARCADIA ARC8

SQU 2- ARCADIA ARC10

SQU 3 - ARCADIA ARC3

FUTURE GRADING INFORMATION, SITE IMPROVEMENTS, AND STORM AND UTILITY ROUTING FOR PHASE 2 AND PHASE 3 WILL BE ADDRESSED AS PART OF FUTURE PERMITTING UPDATES.



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

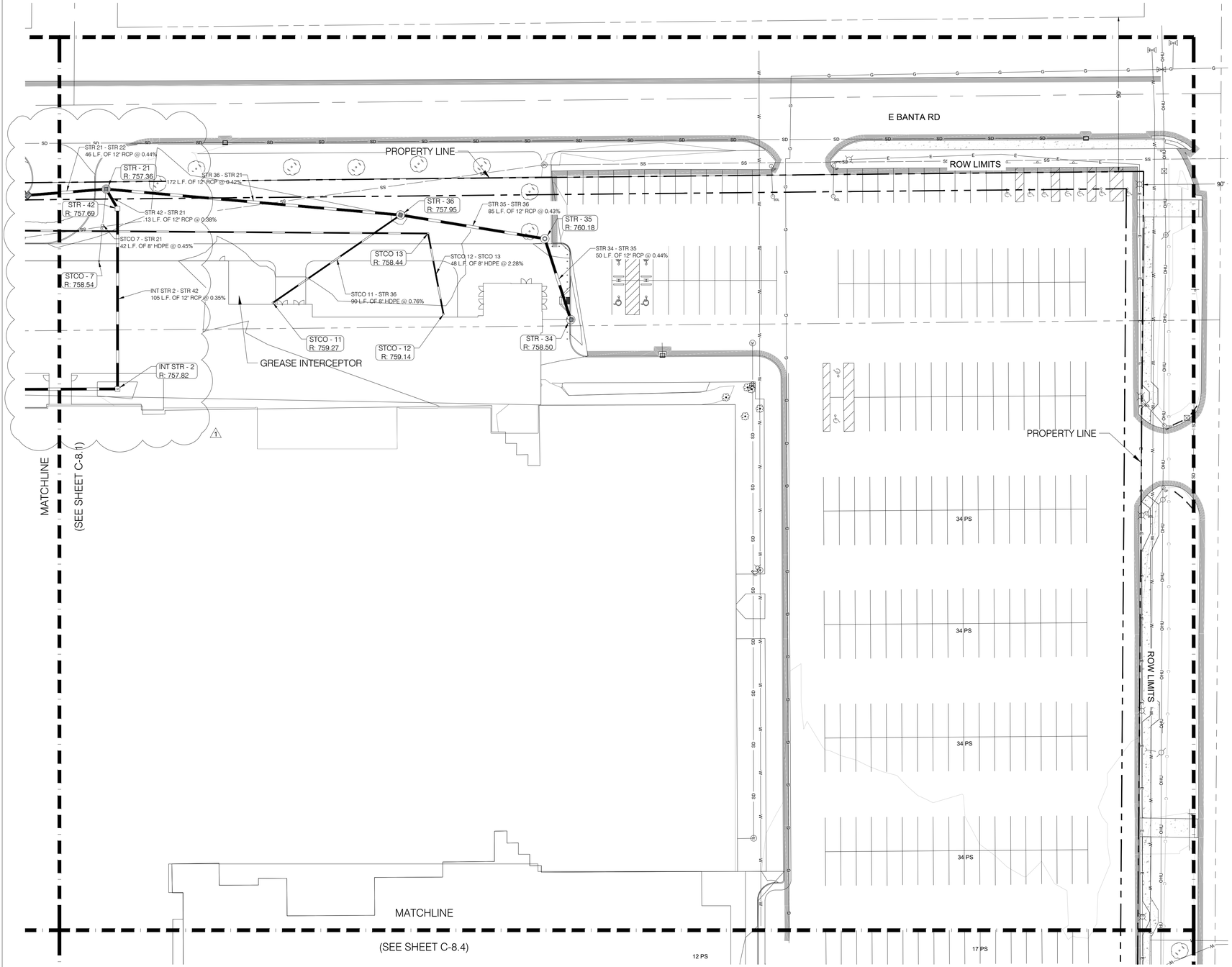
100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

STORM LAYOUT PLAN

C-8.1

PLOT DATE/TIME: JULY 30, 2026



STORMWATER GENERAL NOTES:

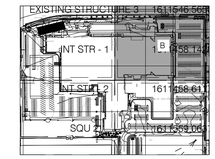
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6. ALL STORM SEWER MANHOLE COVERS SHALL HAVE THE WORDS "STORM SEWER" CAST IN RECESSED LETTERS TWO (2) INCHES IN HEIGHT.

SQU 1 - ARCADIA ARC8

SQU 2- ARCADIA ARC10

SQU 3 - ARCADIA ARC3

FUTURE GRADING INFORMATION, SITE IMPROVEMENTS, AND STORM AND UTILITY ROUTING FOR PHASE 2 AND PHASE 3 WILL BE ADDRESSED AS PART OF FUTURE PERMITTING UPDATES.



GRAPHIC SCALE
0' 30' 60' 90'
(IN FEET)

N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
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NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

REVISIONS:		
#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	2025.150
DATE:	07/10/2026
DRAWN BY:	KIS

STORM LAYOUT PLAN

C-8.2

PLOT DATE/TIME: July 30, 2026

PHASE TWO STRUCTURE DATA TABLE

STRUCTURE TABLE							
STRUCTURE NAME:	NORTHING	EASTING	DESCRIPTION	DETAILS:	PIPES IN:	PIPES OUT	CASTING:
EXISTING STRUCTURE 2	1611450.6200	193694.9190	EXISITNG STRUCTURE	RIM = 750.97 INV IN = 745.71 INV IN = 745.67 INV OUT = 745.61	STR 30 - EX STR 2, 18" RCP INV IN =745.71 EX. STR 3 TO EX. STR 2, 24" RCP INV IN =745.67	EX. STR 2 - OUTFALL, 24" RCP INV OUT =745.61	Standard
EXISTING STRUCTURE 3	1611546.5650	193741.2270	EXISTING INLET	RIM = 750.56 INV IN = 747.77 INV OUT = 745.92	STR 33 - EX STR 3, 24" RCP INV IN =747.77	EX. STR 3 TO EX. STR 2, 24" RCP INV OUT =745.92	
INT STR - 1	1611458.1428	194235.0250	ADS 12" DRAIN BASIN	RIM = 757.06 INV OUT = 754.06		INT STR 1 - INT STR 2, 12" RCP INV OUT =754.06	ADS 12" PEDESTRIAN GRATE
INT STR - 2	1611458.6117	194353.5456	ADS 12" DRAIN BASIN	RIM = 757.82 INV IN = 753.60 INV OUT = 753.50	INT STR 1 - INT STR 2, 12" RCP INV IN =753.60	INT STR 2 - STR 42, 12" RCP INV OUT =753.50	ADS 12" PEDESTRIAN GRATE
SQU 2	1611559.0637	193961.5245	BMP STRUCTURE	RIM = 753.74 INV IN = 746.57	STR 25 - SQU 2, 24" RCP INV IN =746.57		
STCO - 7	1611533.2261	194342.7571	STORM CLEANOUT	RIM = 758.54 INV OUT = 754.04		STCO 7 - STR 21, 8" PROPOSED STORM INV OUT =754.04	
STCO - 9	1611533.2261	194209.7864	STORM CLEANOUT	RIM = 758.23 INV OUT = 754.25		STCO 9 - STCO 10, 8" PROPOSED STORM INV OUT =754.25	
STCO - 10	1611538.1953	194209.7854	STORM CLEANOUT	RIM = 758.16 INV IN = 754.22 INV OUT = 753.95	STCO 9 - STCO 10, 8" PROPOSED STORM INV IN =754.22	STCO 10 - STR 23, 8" PROPOSED STORM INV OUT =753.95	
STCO - 11	1611508.8240	194444.0305	STORM CLEANOUT	RIM = 759.27 INV OUT = 754.00		STCO 11 - STR 36, 8" PROPOSED STORM INV OUT =754.00	
STCO - 12	1611502.1800	194543.4575	STORM CLEANOUT	RIM = 759.14 INV OUT = 753.74		STCO 12 - STCO 13, 8" PROPOSED STORM INV OUT =753.74	
STCO 13	1611549.2156	194534.4610	STORM CLEANOUT	RIM = 758.44 INV IN = 752.65 INV OUT = 752.55	STCO 12 - STCO 13, 8" PROPOSED STORM INV IN =752.65	STCO 13 - STR 31, 8" PROPOSED STORM INV OUT =752.55	
STR- 22	1611571.4737	194301.3283	TYPE "J" INLET - R-3287-10V	RIM = 756.34 INV IN = 748.85 INV OUT = 748.50	STR 21 - STR 22, 12" RCP INV IN =748.85	STR 22 - STR 23, 15" RCP INV OUT =748.50	INDOT TYPE 10
STR - 21	1611575.0908	194346.9433	TYPE "C" MH - R-3472	RIM = 757.36 INV IN = 753.85 INV IN = 749.15 INV IN = 752.98 INV OUT = 749.05	STCO 7 - STR 21, 8" PROPOSED STORM INV IN =753.85 STR 36 - STR 21, 12" RCP INV IN =749.15 STR 42 - STR 21, 12" RCP INV IN =752.98	STR 21 - STR 22, 12" RCP INV OUT =749.05	
STR - 23	1611570.1411	194154.5002	TYPE "J" MH - R-3010	RIM = 756.40 INV IN = 748.03 INV IN = 753.50 INV IN = 749.36 INV OUT = 747.68	STR 22 - STR 23, 15" RCP INV IN =748.03 STCO 10 - STR 23, 8" PROPOSED STORM INV IN =753.50 STR 41 - STR 23, 12" RCP INV IN =749.36	STR 23 - STR 24, 18" RCP INV OUT =747.68	
STR - 24	1611569.1209	194014.0951	TYPE "J" INLET - R-3287-10V	RIM = 754.99 INV IN = 747.40 INV OUT = 747.30	STR 23 - STR 24, 18" RCP INV IN =747.40	STR 24 - STR 25, 18" RCP INV OUT =747.30	INDOT TYPE 10
STR - 25	1611566.2831	193957.0513	TYPE "J" INLET - R-3287-10V	RIM = 753.57 INV IN = 747.45 INV IN = 747.20 INV OUT = 746.60	STR 26 - STR 25, 15" RCP INV IN =747.45 STR 24 - STR 25, 18" RCP INV IN =747.20	STR 25 - SQU 2, 24" RCP INV OUT =746.60	INDOT TYPE 10
STR - 26	1611544.9924	193856.8326	TYPE "J" INLET - R-3287-10V	RIM = 751.77 INV IN = 748.15 INV OUT = 747.80	STR 27 - STR 26, 12" RCP INV IN =748.15	STR 26 - STR 25, 15" RCP INV OUT =747.80	INDOT TYPE 10
STR - 27	1611519.9272	193754.7748	TYPE "J" INLET - R-3287-10V	RIM = 750.57 INV OUT = 748.50		STR 27 - STR 26, 12" RCP INV OUT =748.50	INDOT TYPE 10
STR - 29	1611509.2353	193779.3108	TYPE "J" MH - R-1772	RIM = 751.24 INV OUT = 745.95		UG DET - STR 30, 18" RCP INV OUT =745.95	INDOT TYPE 4
STR - 30	1611447.7602	193710.2027	TYPE "C" MH	RIM = 751.38 INV IN = 745.76 INV OUT = 745.76	UG DET - STR 30, 18" RCP INV IN =745.76	STR 30 - EX STR 2, 18" RCP INV OUT =745.76	INDOT TYPE 4
STR - 31	1611552.6380	194043.3500	TYPE "C" MH	RIM = 755.86 INV IN = 750.33 INV OUT = 748.90	STCO 13 - STR 31, 8" PROPOSED STORM INV IN =750.33	STR 31 - STR 32, 24" RCP INV OUT =748.90	INDOT TYPE 4
STR - 32	1611507.2257	194008.8018	TYPE "C" MH	RIM = 754.82 INV IN = 748.70 INV OUT = 748.60	STR 31 - STR 32, 24" RCP INV IN =748.70	STR 32 - STR 33, 24" RCP INV OUT =748.60	INDOT TYPE 4
STR - 33	1611448.5670	193770.7048	TYPE "C" MH	RIM = 752.00 INV IN = 748.00 INV OUT = 748.00	STR 32 - STR 33, 24" RCP INV IN =748.00	STR 33 - EX STR 3, 24" RCP INV OUT =748.00	INDOT TYPE 4
STR - 34	1611498.9907	194617.5555	TYPE "C" MH - R-3010	RIM = 758.50 INV OUT = 750.66		STR 34 - STR 35, 12" RCP INV OUT =750.66	
STR - 35	1611546.1490	194602.4852	TYPE "C" MH - R-1772	RIM = 760.18 INV IN = 750.44 INV OUT = 750.34	STR 34 - STR 35, 12" RCP INV IN =750.44	STR 35 - STR 36, 12" RCP INV OUT =750.34	
STR - 36	1611559.9947	194518.4175	TYPE "C" MH - R-3472	RIM = 757.95 INV IN = 749.97 INV IN = 753.31 INV OUT = 749.87	STR 35 - STR 36, 12" RCP INV IN =749.97 STCO 11 - STR 36, 8" PROPOSED STORM INV IN =753.31	STR 36 - STR 21, 12" RCP INV OUT =749.87	
STR - 39	1611494.0118	193984.5342	TYPE "C" MH	RIM = 753.71 INV OUT = 750.21		STR 39 - TRENCH DRAIN, 12" RCP INV OUT =750.21	
STR - 40	1611494.8731	194125.7384	18" ADS DRAIN BASIN	RIM = 754.40 INV IN = 749.73 INV IN = 749.73 INV OUT = 749.63	TRENCH DRAIN B - STR 40, 12" PROPOSED STORM INV IN =749.73 TRENCH DRAIN D TO STR 40, 12" RCP INV IN =749.73	STR 40 - STR 41, 12" RCP INV OUT =749.63	ADS 18" DOME GRATE
STR - 41	1611521.2805	194147.1477	ADS 18" DRAIN BASIN	RIM = 757.98 INV IN = 749.50 INV OUT = 749.50	STR 40 - STR 41, 12" RCP INV IN =749.50	STR 41 - STR 23, 12" RCP INV OUT =749.50	ADS 18" DOME GRATE
STR - 42	1611563.7624	194353.5456	ADS 12" DRAIN BASIN	RIM = 757.69 INV IN = 753.13 INV OUT = 753.03	INT STR 2 - STR 42, 12" RCP INV IN =753.13	STR 42 - STR 21, 12" RCP INV OUT =753.03	ADS 12" DOME GRATE
TRENCH DRAIN A	1611470.6066	194133.6808	NULL STRUCTURE	RIM = 757.42 INV OUT = 756.32		TRENCH DRAIN A - TRENCH DRAIN B, 12" PROPOSED STORM INV OUT =756.32	???
TRENCH DRAIN B	1611470.6066	194130.8864	NULL STRUCTURE	RIM = 751.17 INV IN = 749.94 INV OUT = 749.84	TRENCH DRAIN A - TRENCH DRAIN B, 12" PROPOSED STORM INV IN =749.94	TRENCH DRAIN B - STR 40, 12" PROPOSED STORM INV OUT =749.84	???
TRENCH DRAIN C	1611505.2599	194047.0910	NULL STRUCTURE	RIM = 750.18 INV IN = 750.00 INV OUT = 750.00	STR 39 - TRENCH DRAIN, 12" RCP INV IN =750.00	TRENCH DRAIN C - TRENCH DRAIN D, 12" RCP INV OUT =750.00	???
TRENCH DRAIN D	1611505.2491	194064.4438	NULL STRUCTURE	RIM = 750.10 INV IN = 749.94 INV OUT = 749.94	TRENCH DRAIN C - TRENCH DRAIN D, 12" RCP INV IN =749.94	TRENCH DRAIN D TO STR 40, 12" RCP INV OUT =749.94	???

N

TRUE NORTH

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PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN F. REY
REGISTERED
No. 10403307
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

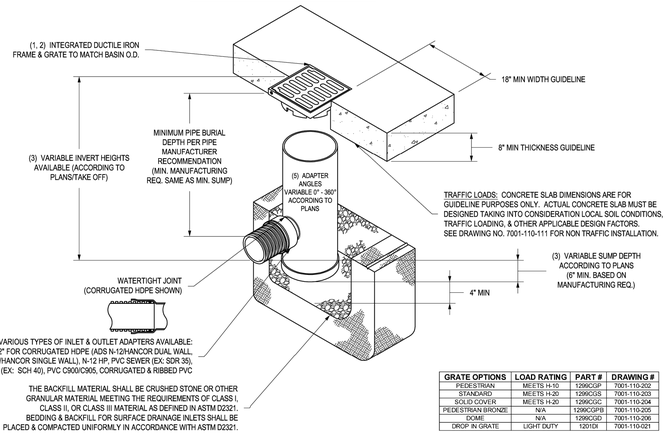
PROJECT: 2025.150
DATE: 07/10/2026
DRAWN BY: KIS

STORM LAYOUT PLAN

C-8.7

PLOT DATE/TIME: July 30, 2026

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1299CGP	7001-110-202
STANDARD	MEETS H-20	1299CGS	7001-110-203
SOLID COVER	MEETS H-20	1299CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1299CGPB	7001-110-205
DOME	N/A	1299CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

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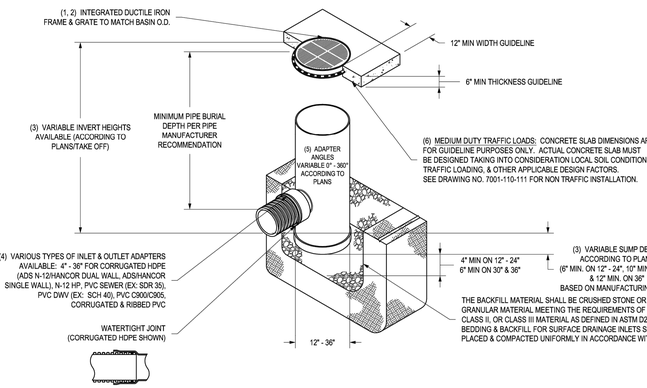
DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE



1 - 12" - 30" PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 24" PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING. 30" PEDESTRIAN GRATE SHALL MEET H-20 LOAD RATING (SEE DRAWING NO. 7001-110-144 FOR H-20 TRAFFIC LOAD GUIDELINES).

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DRAWN BY	EBC	MATERIAL	PVC
DATE	4-20-07		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH PEDESTRIAN GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-283 REV E

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

NATHAN FREY REGISTERED No. 10403307 STATE OF INDIANA PROFESSIONAL ENGINEER
Nathan Frey, PE, PMP

REVISIONS:

#	DATE	DESC.
1	07/30/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: 2025.150
DATE: 07/10/2026
DRAWN BY: KIS

STORM DETAILS

C-8.21

PLOT DATE/TIME:

GENERAL NOTES

As used in these General Notes:
"Drawings" means the latest structural design drawings, uno.
"Specifications" means the latest project specifications, uno.
"Contract Documents" is defined as the design drawings and the specifications.
"SER" is defined as the structural engineer of record for the structure in its final condition.
"Design Professionals" is defined as the owner's architect
"MEP" includes, but is not limited to Mechanical, Electrical, Plumbing, Fire Protection.
"Contractor" is defined to include any of the following: General Contractor and their Subcontractors, Construction Manager and their Subcontractors, Structural Steel Fabricator or Structural Steel Erector.
"Base Building Structure" is defined as the structural frame desinged by JQOL Global LLC.
"Structure in its final condition" means all structural elements shown on the structural contract documents are installed and completely connected and inspected with no outstanding non-comliance issues.

The Contractor is solely responsible for the stability of the structure until the construction of the structure reaches its final condition.

The Contractor is responsible for coordination of the Structural work with the Architectural, Civil, MEP contract documents, as well as any other applicable trades. The architectural, mechanical, electrical and plumbing aspects are not in the scope of these drawings. Therefore, all required materials and work may not be indicated. Refer to architectural drawings for all dimensions not shown on these drawings. Locations, sizes and numbers of all openings may not be completely indicated in the structural drawings. The respective contractor shall verify their work with all other disciplines.

The contractor is solely responsible for the design, installation, and removal of temporary bracing and construction supports, for new and existing structures, as necessary to complete the project. No portion of the project while under construction is intended to be stable in the absence of the contractor's temporary supports and braces. Contractor shall retain a structural engineer licensed in the state in which the project is located to design temporary bracing and construction supports.

The contract documents represent the structure only. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not limited to, bracing, shoring, underpinning, etc. the Engineer of Record is not responsible for the contractor's means, methods, techniques, sequences or safety procedures during construction.

The specifications are an integral part of the contract documents and shall be used in conjunction with the structural drawings.

The contractor shall verify all existing dimensions and conditions and coordinate with the structural drawings, architectural drawings, drawings from other consultants, project shop drawings and field conditions.

Apply details, sections, and notes on the drawings where conditions are similar to those indicated by detail, detail title or note.

Only use dimensions indicated on the drawings. Do not scale drawings.

Assume equal spacing between established dimensions, if not indicated on drawings.

Centerlines of columns and foundations coincide with grid line intersections, uno.

Centerlines of grade beams and walls coincide with centerlines of foundations, uno.

Centerlines of framing members coincide with column centerlines, uno.

The contractor shall verify that construction loads do not exceed the capacity of the structure at the time the load is applied.

Reactions and forces indicated are unfactored, Allowable Strength Design (ASD) loads.

If Drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern.

Notes and details shall take precedence over general structural notes. Where no details or sections are shown, construction shall conform to similar work on the project. Typical sections and details may not be cut on the plans, but apply unless noted otherwise.

Verify all existing conditions prior to any construction or fabrication. If different than shown, notify engineer/architect immediately for modification of drawings.

Provisions for future expansion:
Horizontal: None
Vertical: None

CODES AND DESIGN CRITERIA

CODES

Building Code:	2012 International Building Code
Local Building Code:	Indiana Building Code 2014
Code Standard:	ASCE 7-10
Steel Standard:	AISC 360-10 ASD
Steel Seismic Standard:	AISC 341-10 ASD
Concrete Standard:	ACI 318-11
Masonry Standard:	TMS 402/602-11
Wood Standard:	AITC/APA/NDS Current Ed.
Risk Category:	III
Exposure Category:	C
ROOF LOADS	SEE LOAD MAPS
FLOOR LOADS	SEE LOAD MAPS

SOILS

Soils Report:	A&W Project No. 25IN0492	
Report Date:	10.08.2025	
	Spread	Wall
Allowable Bearing Pressure, qa:	2500 psf	2000 psf
Soil Density, yt:	120 pcf	
Minimum Foundation Bearing Depth:	36 in	

SLAB ON GRADE

Compacted Fill Thickness	6 in
Compaction Specification:	95% Modified Proctor D-1557

SNOW DESIGN CRITERIA

Ground Snow Load, Pg:	20 psf	
Flat Roof Snow Load, Pf:	15.4 psf	
Minimum Snow, Pm:	22 psf	
Importance Factor, Is:	1.1	
Exposure Factor, Ce:	1.0	Partially
Thermal Factor, Ct:	1.0	Heated
Warm Slope Factor, Cs:	1.0	

WIND DESIGN CRITERIA

Ultimate Wind Speed, Vult:	120 mph
Design Wind Speed, Vasd:	90 mph
Enclosure Class:	Enclosed
Internal Pressure Coefficient, GCpi:	0.18
Roof Net Uplift:	See S-010 Loading Sheet

SEISMIC DESIGN CRITERIA

Importance Factor, Ie:	1.25
Ss:	0.163
S1:	0.088
SDS:	0.174
SD1:	0.141
Site Class:	D
Seismic Design Category:	C
Analysis Procedure:	ELFA
Response Modification Coeff., R:	3
Overstrength Factor, Ω:	3
Seismic Response Coefficient, CS:	0.073
Unfactored Design Base Shear, V:	7.3% * W
Basic Seismic-Force-Resisting System:	H. Steel Systems not Specifically Detailed for Seismic Resistance 1. Steel Systems, R=3

010002 EXISTING STRUCTURE NOTES

The actual existing structure configuration, member sizes, etc. has not been field verified.

All existing structure indicated is for reference only.

Field verify existing structure. If existing structure varies from configuration, sizes, etc. from drawings, notify engineer of record immediately.

Existing structural information has been obtained from drawings prepared
by TISLOW HUNTER & BERGEN ASSOCIATED, dated 10.25.1965 &
by THE MCGUIRE & SHOOK CORPORATION, dated 01.28.1988

014000 DELEGATED DESIGN

DELEGATED DESIGN REQUIREMENTS
A Specialty Structural Engineer (SSE), registered in the state of the project, shall be responsible for the structural design of the following products and systems complying with specific performance and design criteria indicated.

1. Steel Joists, joist girders, bridging and accessories.
2. Structural Steel Connections, except as shown on drawings.
   AISC Option 2 (Detailer): Simple shear connections.
   AISC Option 3 (SSE): All other connections not shown.
3. Cold-Formed Steel CFS wall studs, CFS floor joists and accessories.
4. Stairs, ladders, and railings.
5. Post-Tensioned Slab and Beams.
6. Precast Prestressed Concrete elements and accessories.
7. Sprinkler supports and required loading.

The contractor is to review each submittal prior to forwarding to architect and structural engineer. The contractor is to stamp each submittal verifying that the following is addressed:

1. The shop drawing is requested.
2. The shop drawing is based on the latest design.
3. The architect' s and structural engineer' s comments from any previous submittals are addressed.
4. The work is coordinated among all construction trades.
5. Revisions from previous submittals are clearly marked by circling or clouds.
6. Submittal is complete.
7. Submittal does not include substitution request
8. Submittal shall include a stamp indicating project name and location, submittal number, specification section number.

The structural engineer shall return, without comment, submittals which the contractor has not stamped or which do not meet the above requirements. The structural engineer' s review of submittals shall be for general conformance with the design intent. No work shall be started without such review.

The structural engineer will return the shop drawing items within ten working days after having received the reproducible shop drawing.

SHOP DRAWINGS SUBMITTAL

The Contractor shall prepare detailed shop drawings to enable all parts of the work to be fabricated and constructed in accordance with the drawings and specifications. These shop drawings will be reviewed for general compliance with the design intent only. The contractor is responsible for all dimensions, accuracy and fit of the work.

All shop drawings shall be reviewed by the contracted prior to submittal to the structural engineer. Drawings without the contractor's review will be returned without review.

Work requiring submittals for structural engineer review shall not be started by the contractor without appropriate reviewed submittals. Work performed by the contractor prior to receiving appropriate received submittals shall be subject to removal and replacement as deemed necessary by the structural engineer, at the contractor's expense, and with no cost to the owner

Submit shop drawings for each of the following items:

1. CONCRETE MIX DESIGNS
2. STRUCTURAL STEEL
3. REINFORCING STEEL - FOUNDATIONS
4. REINFORCING STEEL - CONCRETE MASONRY UNITS (SUBMITTAL SHALL INCLUDE PLAN VIEW, WALL ELEVATIONS AND WALL SECTIONS)
5. EMBEDDED ITEMS
6. METAL DECK
7. STEEL JOISTS
8. PRECAST HOLLOW CORE PLANKS
9. PRECAST STAIRS
10. ELEVATORS (SUBMITTED FOR ENGINEER'S RECORDS ONLY AND WILL NOT RECEIVE THE ENGINEER'S SHOP DRAWING STAMP)
11. COLD-FORMED STEEL
12. CONCRETE MASONRY UNITS
13. STRUCTURAL WOOD FRAMING - LOAD BEARING STUDS, SILLS, FLOOR JOISTS, LEDGERS AND SPECIFIED ANCHORS CLIPS AND FASTENERS

017900 DEMOLITION NOTES

All shoring shall be in place before demolition begins.

It is the Contractor's responsibility to select the appropriate shoring system for the loads and work indicated.

Reactions and forces indicated for shoring are actual, working loads.

If Drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern. Contractor shall bring all discrepancies to the attention of the engineer immediately.

Verify all existing conditions prior to any demolition, construction or fabrication. If different than shown, notify engineer/architect immediately for modification of drawings.

All contractors are required to coordinate their work with all disciplines to avoid conflicts. The architectural, mechanical, electrical and plumbing aspects are not in the scope of these drawings. Therefore, all required materials and work may not be indicated. It is the contractor's responsibility to coordinate these drawings with all other construction documents. Refer to architectural drawings for all dimensions not shown on these drawings. Locations, sizes and numbers of all openings may not be completely indicated in the structural drawings, the respective contractor shall verify their work with all other disciplines.

The contract documents represent the structure only. They do not indicate the method of demolition, shoring or construction. The contractor shall provide all measures necessary to protect the structure during demolition and construction. The Engineer of Record is not responsible for the contractor's means, methods, techniques, sequences or safety procedures during construction.

020000 SHALLOW FOUNDATION AND SLAB ON GRADE NOTES

Soil to be stripped, compacted and tested in accordance with the recommendations of the soils engineer and project specifications.

Footings shall be placed on firm, undisturbed soil or on engineered fill. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

Slabs shall be placed on 6" compacted, free-draining, frost-free drainage course. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve. All fill shall be compacted to a minimum dry density of 95% of the standard Proctor maximum dry density (ASTM-D698), placed in 6" to 8" lifts. Pea gravel may not be used as fill. Utility trenches and excavations under the foundations or slabs shall meet the same requirements. See soils investigation report for further recommendations.

Undercutting of the soil for foundation and/or slab placement may be required. These drawings do not indicate the entire scope of undercutting, fill or bad soil removal that may be required to attain the design soil bearing pressures. It is the responsibility of the contractor to obtain a soils investigation report, before bidding, to assess the extent of excavation and compaction that may be required to meet the design criteria. The contractor shall retain the services of a soils engineer to monitor all backfilling operations and to inspect footing bearing material. A report certified by the soils engineer shall be furnished to the architect/engineer verifying that all foundations were placed on a material capable of sustaining the design bearing pressures.

If dewatering is required, sumps shall not be placed within the foundation excavation.

Maintain a maximum slope between adjacent footing bearing elevations of 2 horizontal to 1 vertical. Maintain a 2 horizontal to 1 vertical slope next to existing foundations to avoid undermining foundations.

No horizontal joints are permitted in any foundation. Vertical joints are permitted only in wall footings.

Shallow foundations may be earth-formed where the excavation permits. If earth-forming is used, add 2" to the width and length of all foundations.

The bottom of all foundations shall be a minimum of 36" depth below final grade.

033000 CAST IN PLACE CONCRETE NOTES (Foundations, Slabs, & Walls)

See concrete mix schedule for mix design requirements.

All reinforcing shall conform to the following concrete cover:

COVER	LOCATION
3"	Foundations & Footings: All surfaces; Exterior Slabs: Bottom; Grade Beams & Trench Footings: All surfaces; All concrete cast against soil.
2"	Exterior Walls, All Piers & All Pilasters: All surfaces; Exterior Slabs: Top; All exterior concrete
1 1/2"	Interior beams & columns: All surfaces; All concrete not exposed to weather or in contact with ground.
3/4"	Interior slabs, Walls & joists

Welded Wire Reinforcement (WWR) for slabs and fill for metal deck shall be placed in the upper-third of the slab or fill. See details.

All reinforcing steel shall be detailed, supplied and placed in accordance with ACI 315, ACI 318 and CRSI MSP-1.

All reinforcing steel shall be shop fabricated and, where applicable, shall be wired together and conform to ASTM A-615, Grade 60.

Chamfer edges of exposed concrete 3/4", unless noted otherwise.

Contractor shall make four, 6"x12" test cylinders for each 50 cubic yards of concrete poured for each days operation. Break 1 at 7 days, 2 at 28 days and retain spare.

All welded wire fabric shall conform to ASTM A1064, Fy(min) of 65 ksi. All welded wire fabric laps shall be 8".

All finished concrete, concrete formwork and falsework shall be in accordance with ACI 301. Contractor is solely responsible for the design and construction of all formwork, falsework and shoring.

Provide sleeves for all openings in grade beams or walls to totally separate pipe from concrete.

Foundations may be earth-formed where the excavation permits. If earth-forming is used, add 2" to the width, length & thickness of all foundations.

Plastic Vapor Retarder: ASTM E 1745, Class A, not less than 10 mils (0.25 mm) thick, see specifications. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.

Adhesive Anchors and Adhesives Used for Reinforcing Anchorage:
1. The adhesive anchor system used for post-installed anchorage to concrete shall conform to the requirements of the most recently published ACI 355.4.
2. Adhesive anchors indicated are the Basis-of-Design. Approved equal meeting ACI 355.4 is permitted.
3. Bulk-mixed adhesives are not permitted.
4. Anchors shall be supplied as an entire system with manufacturer's recommendations adhered to.
5. Adhesive anchors shall be installed by qualified personnel trained to install adhesive anchors.
6. Installation of adhesive anchors horizontally or upwardly inclined shall be performed by personnel certified by the ACI/CRSI Adhesive Anchor Installer Certification program.
7. Adhesive anchors installed in horizontal or upwardly inclined orientations shall be continuously inspected during installation by an inspector specially approved for that purpose.

Bonding agent for bonding fresh concrete to hardened concrete: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.

042000 MASONRY AND REINFORCED MASONRY NOTES

Minimum 28 day compressive strength of concrete masonry units shall be 2000 p.s.i. based on net area of the unit. Specified design compressive strength of masonry shall be f'm = 2000 p.s.i. All units for exterior walls, load-bearing walls and shear walls shall be normal weight block.

All mortar shall be Type S. No admixtures may used unless approved by architect/engineer. Mortar shall not be used for grouting cores or filling bond beams.

Lay masonry units in running bond uno with units designed to align with webs on each course.

Course grout shall be used where grouting is required. Slump shall be 8" +/- 1". Minimum grout compressive strength shall be 2000 p.s.i.

All reinforcing shall be ASTM A615 Grade 60 (Fy=60 ksi). Lap all reinforcing a minimum of 48 bar diameters.

Center vertical reinforcing in block cores, unless noted otherwise.

See architectural and specifications for all control joint locations. Reinforcing in bond beams shall be discontinuous at control joints.

Provide ladder type horizontal joint reinforcement at 16" o.c. typical and 8" o.c. for parapets and below ground floor elevation. Side rods and cross rods shall be #9 wire, galvanized, see specifications. Cut joint reinforcement at control joints.

Provide "L" bars at all bond beam corners as required.

Fill cores of block solid with grout two full courses below the bearing of all beams or lintels supported on masonry.

All attachments to block shall be made with Hilti HLC 1/2" diameter x 3" sleeve anchors, unless noted otherwise. Anchors shall be installed per manufacturer's recommendations.

See typical schedules for masonry and steel lintels not indicated on plans.

Grout solid cores with reinforcment. Grout solid cells in below grade construction where masonry is in contact with soil.

Provide ties to all structural steel.

All interior, non-load bearing masonry walls over 12'-0" high, shall be supported on thickened slab as per typical detail. Wall vertical reinforcing shall be #5 @ 48" OC full height. Unless noted otherwise.

Place grout by low-lift method. Maximum grout pour shall be 5 feet.

051200 STRUCTURAL STEEL NOTES

All structural steel shall conform to the following:

W Shapes	ASTM A992, Grade 50.
Angles, Channels, Plates, Bars	ASTM A36 (Fy=36 ksi)
HSS Tubes	ASTM A500, Grade C (Fy=50 ksi)
HSS Rounds	ASTM A500, Grade C (Fy=46 ksi)
Anchor Rods	ASTM F1554, Grade 36

All steel shall be detailed, fabricated and erected in accordance with:
- AISC 360 "Specification for Structural Steel Buildings", Allowable Strength Design (ASD)
- AISC 303 "Code of Standard Practice"

Submit connections not specifically detailed on the drawings to the SER for review prior to review of shop drawings. Where no shear is indicated on drawings design connection for minimum 10 k reaction and where no moment is indicated on drawings provide full moment capacity of member per ASD Design Requirements.

All bolted connections shall be made with 3/4" diameter, A325 bolts with nuts and washers, unless otherwise noted. All connections shall be shear bearing connections tightened to snug-tight condition, unless otherwise noted.

All shop and field welds shall be made using E70 electrodes or equivalent.

Splices shall be allowed only at locations specifically indicated on the structural drawings unless approved otherwise by the SER in writting.

For steel members and embedments exposed to weather, provide hot-dipped galvanized finish, uno.

Provide holes in all steel as required to provent any accumulation of water. All penetrations through main members shall not exceed 1 1/8" dia. and shall be ground smooth. These drains must be kept clean and open.

Field modification of structural steel is prohibited without prior approval of the architect and structural engineer.

Steel fabricator shall obtain the size and location of all openings for grilles, louvers, etc. before proceeding with the fabrication and erection of any required frames.

Provide Heckman #129 and #130 channel slot anchors and channel slot at all columns that abut masonry walls, uno.

Provide temporary bracing of the structure until all permanent lateral support is in place.

Structure Stability: The entire roof and/or floor decking materials must be fully erected and connected to the supporting steel before temporary, erection bracing is removed.

RD = Roof Drain location. Provide steel frame for drains. See other drawings for actual drain type, number, size, etc. Coordinate with drain contractor.

Remove erection bolts and fill holes in all exposed braces.

052100 STEEL JOIST NOTES

Provide all joists, bridging and accessories for the complete erection of joists in accordance with the current Steel Joist Institute "STANDARD SPECIFICATIONS AND LOAD TABLES FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS" and Underwriters Laboratories "STANDARD, FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS".

Bridging shall be completely erected and joists aligned before any construction loads are placed on joists.

Do not weld bottom chord of joists to columns unless noted on drawings.

Install erection bolts at all joist girder to column and joist to column connections.

Where ballasted roofing is not shown on architectural drawings, provide uplift bridging at all joists as per "STANDARD SPECIFICATIONS AND LOAD TABLES FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS" for a net uplift load of 20 psf, unless noted or shown otherwise.

053100 STEEL DECK NOTES

All metal deck material, fabrication and installation shall conform to Steel Deck Institute" SDI SPECIFICATIONS AND COMMENTARY" and "CODE OF RECOMMENDED STANDARD PRACTICE", Current edition, unless noted.

FASTENING DECK
1. Roof deck shall be welded using 5/8" diameter puddle welds, 36/4 pattern with (1) #10 TEK sidelap fastener unless otherwise shown in typical detail or indicated on drawings.
2. Floor deck shall be welded using 3/4" diameter puddle welds, 36/4 pattern unless otherwise shown in typical detail or indicated on drawings.

Provide TS 2 1/2x 2 1/2x 1/8 deck support, field welded to joist or beam at all deck span changes.

Provide L3x3x1/4 deck support at all columns where required, unless noted.

Provide 20 gauge cover plate at all roof deck span changes.

Provide L3x3x1/4 at all unsupported edges of deck and around roof perimeter, unless otherwise noted.

All deck shall be provided in a minimum of 3-span lengths where possible.

316217 HELICAL PILE-ANCHOR NOTES

All piles/anchors shall meet or exceed the following minimum criteria, unless noted.
Capacities shown are ASD (working):
Soils report by: Alt & Witzig Engineering, Inc. No. 25IN0492 _
Compression: 50 k
Tension: 25 k
Base bid length: 25 ft below existing ground surface

All Helical piles and anchors shall have galvanized steel shafts.

All piles shall be designed and installed by a specialty engineer to provide the resistance indicated on the pile layout plan, or, as indicated above. Submit calculations for review to the architect and structural engineer.

Contractor shall have a soils engineer on site to keep placement logs and verify pile capacities. All logs and reports shall be certified by the soils engineer and copies provided to the architect and structural engineer.

Extend helical piles and anchors into bottom of caps, grade beams, as shown in typical details. Provide manufacturers standard pile head suitable to transfer reactions. Notify EOR immediately if dimensions vary from size indicated.

Basis of Design Product: Pile spacing and anchorage based on the following:
Manufacturer: A.B. Chance
Shaft: SS 200
Bolts and Welds Match capacity of shaft and cap

All bolted connections field modified to field welded connections: See specifications for requirements.

ABBREVIATIONS LIST

AR	ANCHOR RODS	O/O	OUT TO OUT
ABV	ABOVE	OAL	OVERALL
ACI	AMERICAN CONCRETE INSTITUTE	OC	ON CENTER
ADD'L	ADDITIONAL	OD	OUTSIDE DIAMETER
ADH	ADHESIVE	OFC	OUTSIDE FACE
ADJ	ADJACENT	OH	OVER HEAD
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	OPNG	OPENING
		OPP	OPPOSITE
AFF	ABOVE FINISHED FLOOR	OPP HD	OPPOSITE HAND
AGGR	AGGREGATE	OSB	ORIENTED STRAND BOARD
AHU	AIR HANDLING UNIT	OSL	OUTSTANDING LEG
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	OVS	OVERSIZE HOLE
		PAF	POWDER ACTUATED FASTENER
AISI	AMERICAN IRON AND STEEL INSTITUTE	PC	PRECAST
		PL	PLATE
ALUM	ALUMINUM	PLF	POUNDS PER LINEAR FOOT
ALT	ALTERNATE	PLYWD	PLYWOOD
APPROX	APPROXIMATE	PNL	PANEL
ARCH	ARCHITECT	PROJ	PROJECTION
ARCH'L	ARCHITECTURAL	PSF	POUNDS PER SQUARE FOOT
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	PSI	POUNDS PER SQUARE INCH
		PSL	PARALLEL STRAND LUMBER
AWS	AMERICAN WELDING SOCIETY	PT	PRESSURE TREATED
L	ANGLE	PTN	PARTITION
BAL	BALANCE	R	RADIUS
BB	BOND BEAM	RD	ROOF DRAIN
B/B	BACK TO BACK	REF	REFERENCE
BC	BOTTOM CHORD	REINF	REINFORCE(D) (ING) (MENT)
BD	BOARD	REQ'D	REQUIRED
BLDG	BUILDING	REV	REVISION/REVISED
BLK	BLOCK	RO	ROUGH OPENING
BLW	BELOW	RRD	ROOF RELIEF DRAIN
BM	BEAM	RTN	RETURN
BOTT	BOTTOM	RTU	ROOF TOP UNIT
BP	BEARING PLATE	RW	RETAINING WALL
BRDG	BRIDGING	SCHED	SCHEDULE
BRG	BEARING	SECT	SECTION
BRK	BRICK	SHT	SHEET
BS	BOTH SIDES	SIM	SIMILAR
BSMT	BASEMENT	SJ	SAWCUT JOINT
BTWN	BETWEEN	SJI	STEEL JOIST INSTITUTE
BUC	BUILT UP COLUMN	SL	SLOPED
c	CAMBER	SPA	SPACE(S)
C/C	CENTER TO CENTER	SPECS	SPECIFICATIONS
CANT	CANTILEVER	SQ	SQUARE
CAIS	CAISSON	SS	STAINLESS STEEL
CFS	COLD FORMED STEEL	SSL	SHORT SLOTTED HOLES
CJ	CONTROL AND/OR CONSTRUCTION JOINT	STD	STANDARD
		STIFF	STIFFENERS
CL	CENTERLINE	STL	STEEL
CLR	CLEAR	STRUCT	STRUCTURAL
CMU	CONCRETE MASONRY UNIT	SYMM	SYMMETRICAL
COL	COLUMN	T&B	TOP AND BOTTOM
COORD	COORDINATE	T&G	TONGUE AND GROOVE
COMP	COMPACTED	TB	TIE BEAM
CONC	CONCRETE	TC	TOP CHORD
CONN	CONNECTION	TCX	TOP CHORD EXTENSION
CONST	CONSTRUCTION	TEMP	TEMPERATURE
CONT	CONTINUOUS	TF	TRENCH FOOTING
CONTR	CONTRACTOR	THK	THICK
CTR	CENTER	THKS	THICKENED SLAB
CTRD	CENTERED	THR'D	THREADED
DIA	DIAMETER	TL	TOTAL LOAD
DIAG	DIAGONAL	TOPG	TOPPING
DIM	DIMENSION	TRANS	TRANSVERSE
DL	DEAD LOAD	TYP	TYPICAL
DLT	DEEP LEG TRACK	UNO	UNLESS NOTED OTHERWISE
DO	DITTO	VERT	VERTICAL
DN	DOWN	VIF	VERIFY IN FIELD
DTL	DETAIL	w/	WITH
DWG	DRAWING	WD	WOOD
DWL	DOWEL	WO	WINDOW OPENING (MASONRY)
EA	EACH	WP	WORKING POINT
EE	EACH END	WT	WEIGHT
EF	EACH FACE	WWF	WELDED WIRE FABRIC
EJ	EXPANSION JOINT		
ENG	ENGINEER	**ELEVATION TOP AND BOTTOM OF LIST**	
ELEV	ELEVATION		
ELECT	ELECTRICAL	T/	"ELEVATION, TOP OF"
EOD	EDGE OF DECK	B/	"ELEVATION, BOTTOM OF"
EOS	EDGE OF SLAB	J/BRG	JOIST BEARING ELEVATION
EQ	EQUAL	T/BB	TOP OF BOND BEAM
EQUIV	EQUIVALENT	T/BM	TOP OF BEAM
ES	EACH SIDE	T/CONC	TOP OF CONCRETE
EW	EACH WAY	T/F	TOP OF FOOTING
EXIST	EXISTING	T/LDG	TOP OF LEDGE
EXP	EXPANSION	T/MAS	TOP OF MASONRY
EXT	EXTERIOR	T/P	TOP OF PIER
F/	FACE OF	T/SLAB	TOP OF SLAB
FD	FLOOR DRAIN	T/STL	TOP OF STEEL
FDN	FOUNDATION	T/W	TOP OF WALL
FIN	FINISH	T/GB	TOP OF GRADE BEAM
FLR	FLOOR	T/CAIS	TOP OF CAISSON
FLG	FLANGE	B/PL	BOTTOM OF PLATE
FS	FARSIDE	B/F	BOTTOM OF FOOTING
FTG	FOOTING		
GA	GAUGE	**SPECIAL CHARACTERS**	
GALV	GALVANIZED		
GB	GRADE BEAM	°	DEGREE
GC	GENERAL CONTRACTOR	±	PLUS OR MINUS
GL	GLULAM	℄	ELEVATION
GR	GRADE	Ø	DIAMETER
HC	HOLLOW CORE		
HD	HOLD DOWN		
HGT	HEIGHT		
HI	HIGH		
HK	HOOK		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HS	HEADED STUD		
HSS	HOLLOW STRUCTURAL SECTION		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
INFO	INFORMATION		
INT	INTERIOR		
INV	INVERT		
JST	JOIST		
JT	JOINT		
K	KIP		
KO	KNOCK OUT		
LB	POUND		
LDG	LEDGE		
LG	LONG		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LNTL	LINTEL		
LSL	LONG SLOTTED HOLES		
LONG	LONGITUDINAL		
LP	LOW POINT		
LVL	LAMINATED VENEER LUMBER		
MAS	MASONRY		
MAT'L	MATERIAL		
MAX	MAXIMUM		
MBM	METAL BUILDING MFR		
MCJ	MASONRY CONTROL JT		
MECH	MECHANICAL		
MEZZ	MEZZANINE		
MFR	MANUFACTURER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MO	MASONRY OPENING		
MOM	MOMENT		
MSW	MASONRY SHEAR WALL		
MSL	MEAN SEA LEVEL		
MTL	METAL		
NO	NUMBER		
NS	NEAR SIDE		
NTS	NOT TO SCALE		

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSA KAY RABLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

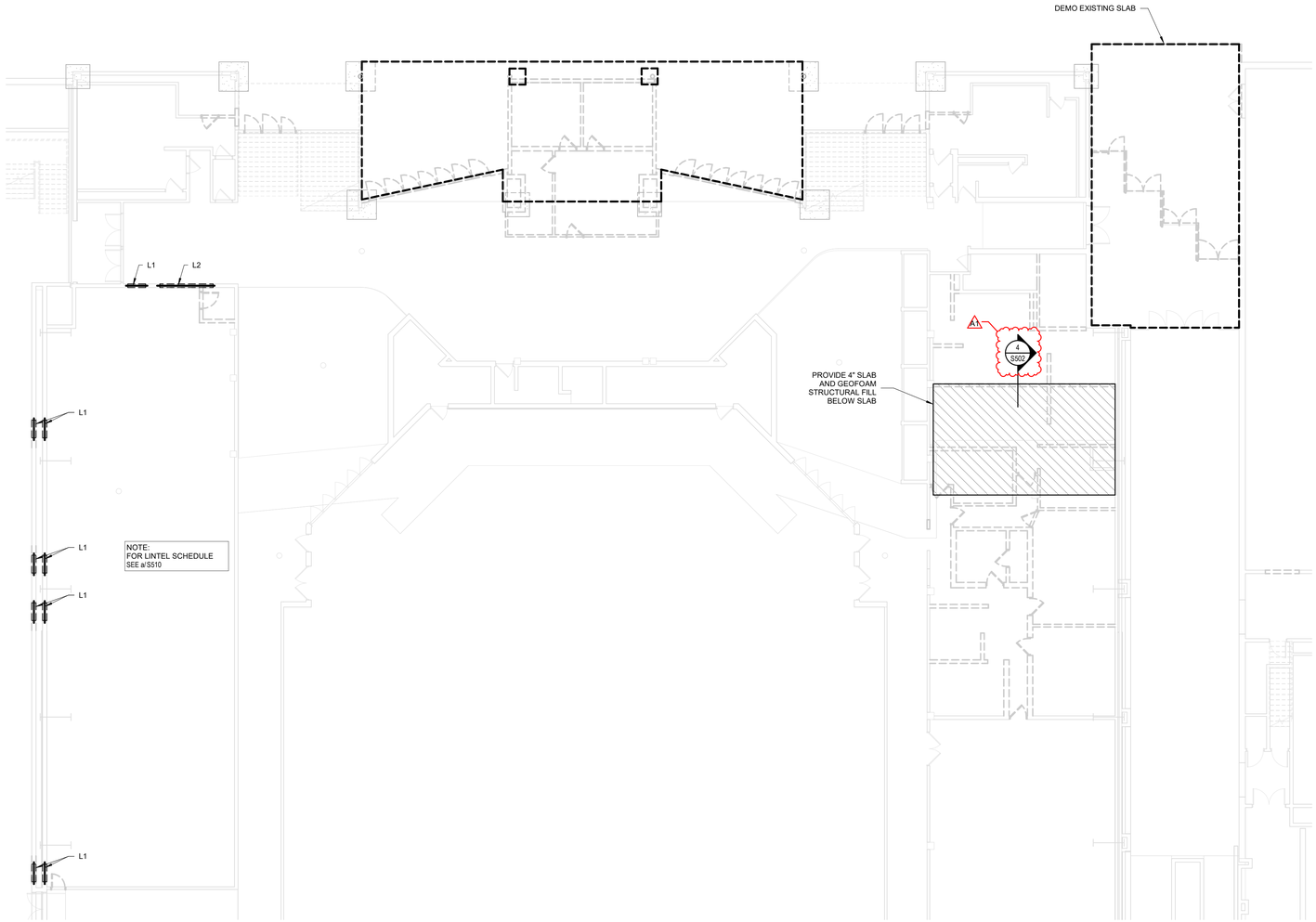
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PROJECT: #24173S
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GENERAL NOTES & ABBREVIATIONS

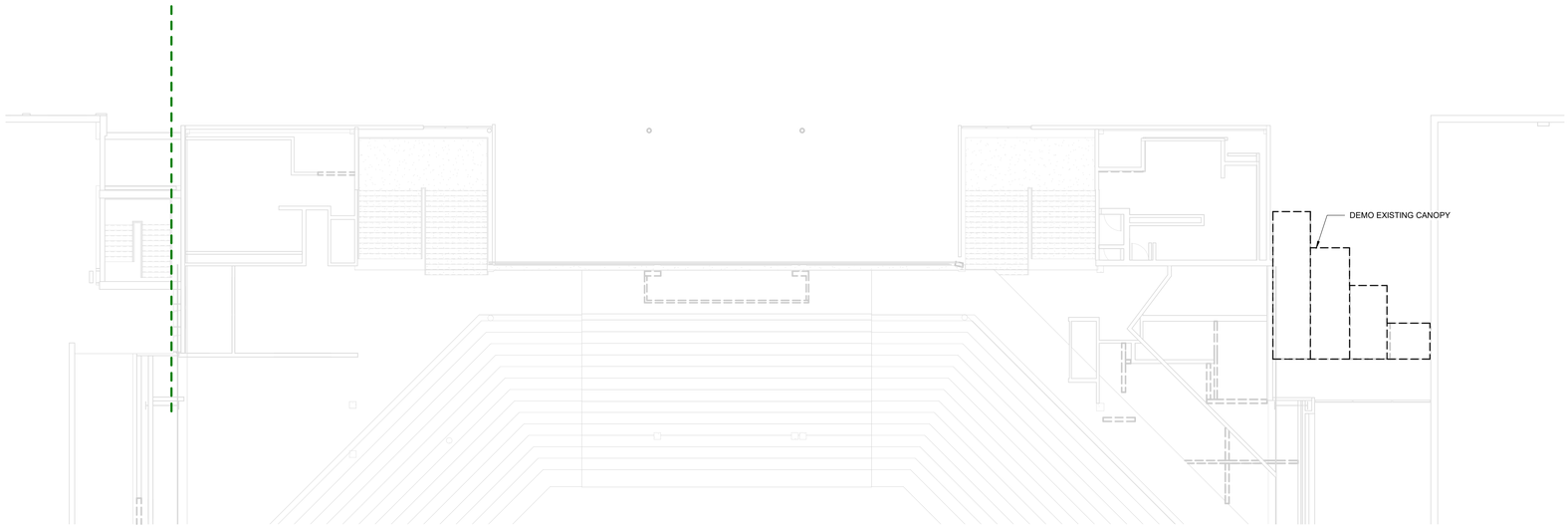
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UNIT K FOUNDATION DEMO PLAN

SCALE: 3/32" = 1'-0"



UNIT K ROOF DEMO PLAN

SCALE: 3/32" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
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INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

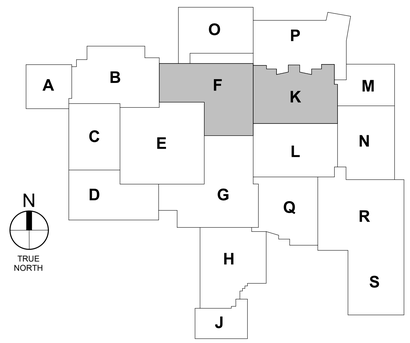


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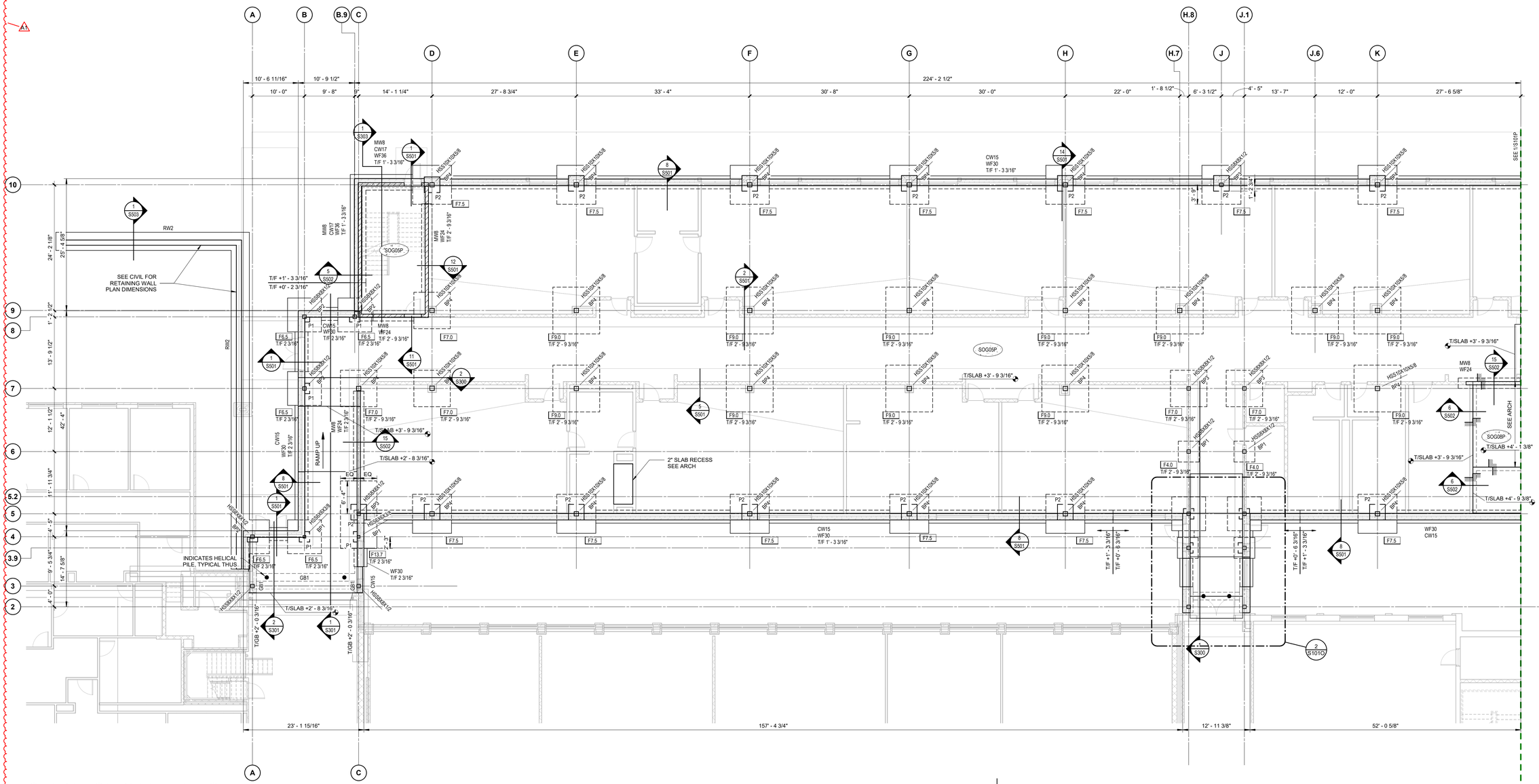
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DEMO PARTIAL PLANS - UNIT K

SD100

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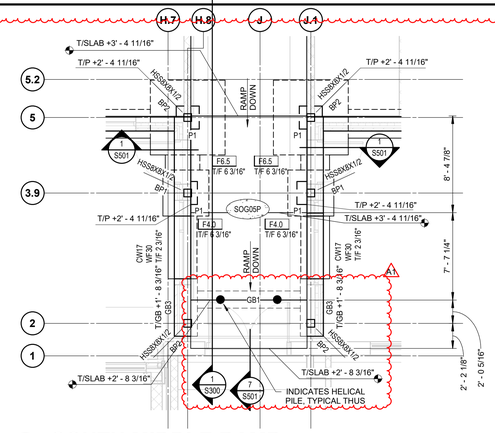


FOUNDATION PLAN - UNIT O

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

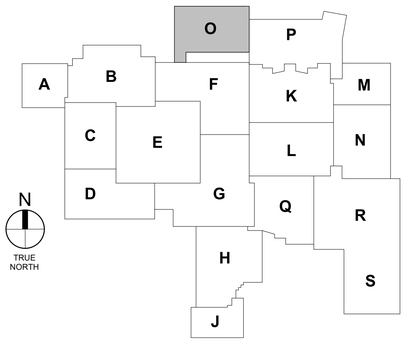
FOUNDATION PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0". SEE CIVIL DRAWINGS.
2. UNIT O TYPICAL FIRST FLOOR ELEV +3'-9 3/16" (APPROX 758.41'). SEE CIVIL.
3. UNIT O TYPICAL T/PIER ELEV +2'-9 3/16 (-1'-0" FROM FFE) U.N.O.
4. UNIT O TYPICAL T/FDN ELEV +1'-3 3/16 (-2'-6" FROM FFE) U.N.O.
5. UNIT P TYPICAL FIRST FLOOR ELEV +4'-9 3/8" (APPROX 759.43'). SEE CIVIL.
6. UNIT P TYPICAL T/PIER ELEV +3'-9 3/8 (-1'-0" FROM FFE) U.N.O.
7. UNIT P TYPICAL T/FDN ELEV +2'-3 3/8 (-2'-6" FROM FFE) U.N.O.
8. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.



2 / S101O SOUTH MIDDLE RAMP

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



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971 EAST BANTA ROAD

JESSICA KAY RARLOW
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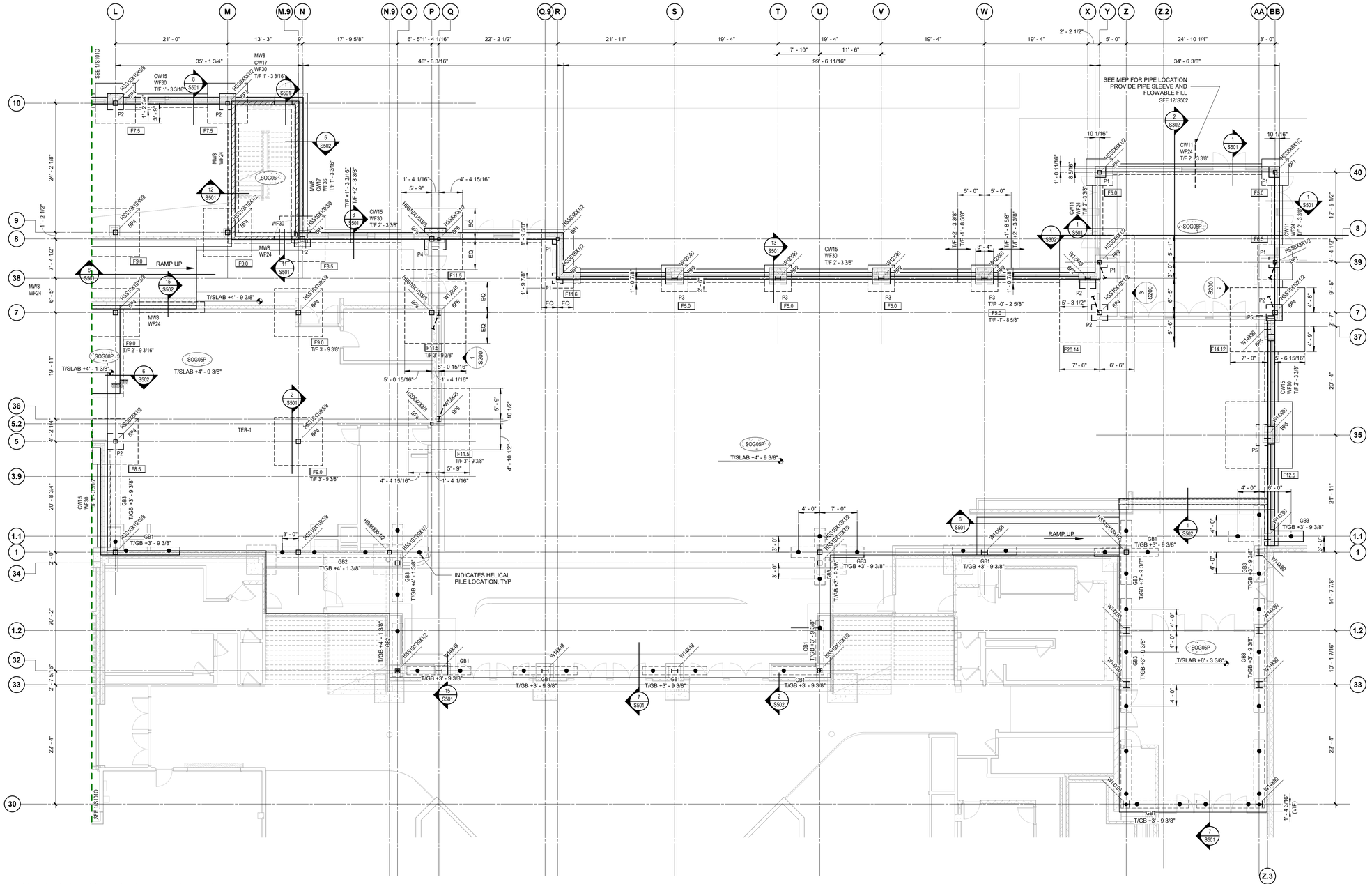
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UNIT O FOUNDATION PLAN

S101O

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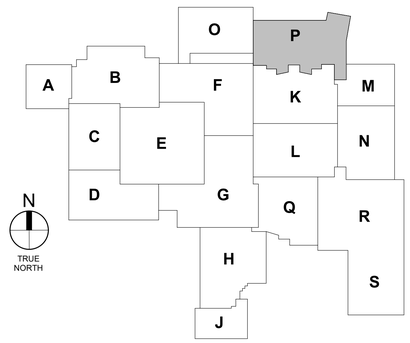


FOUNDATION PLAN - UNIT P

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

FOUNDATION PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. UNIT O TYPICAL FIRST FLOOR ELEV +3'-9 3/16" (APPROX 758.41'). SEE CIVIL.
3. UNIT O TYPICAL T/PIER ELEV +2'-9 3/16 (-1'-0" FROM FFE) U.N.O.
4. UNIT O TYPICAL T/FDN ELEV +1'-3 3/16 (-2'-6" FROM FFE) U.N.O.
5. UNIT P TYPICAL FIRST FLOOR ELEV +4'-9 3/8" (APPROX 759.43'). SEE CIVIL.
6. UNIT P TYPICAL T/PIER ELEV +3'-9 3/8 (-1'-0" FROM FFE) U.N.O.
7. UNIT P TYPICAL T/FDN ELEV +2'-3 3/8 (-2'-6" FROM FFE) U.N.O.
8. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.



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INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARLOW
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No. PE11800818
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UNIT P FOUNDATION PLAN

S101P

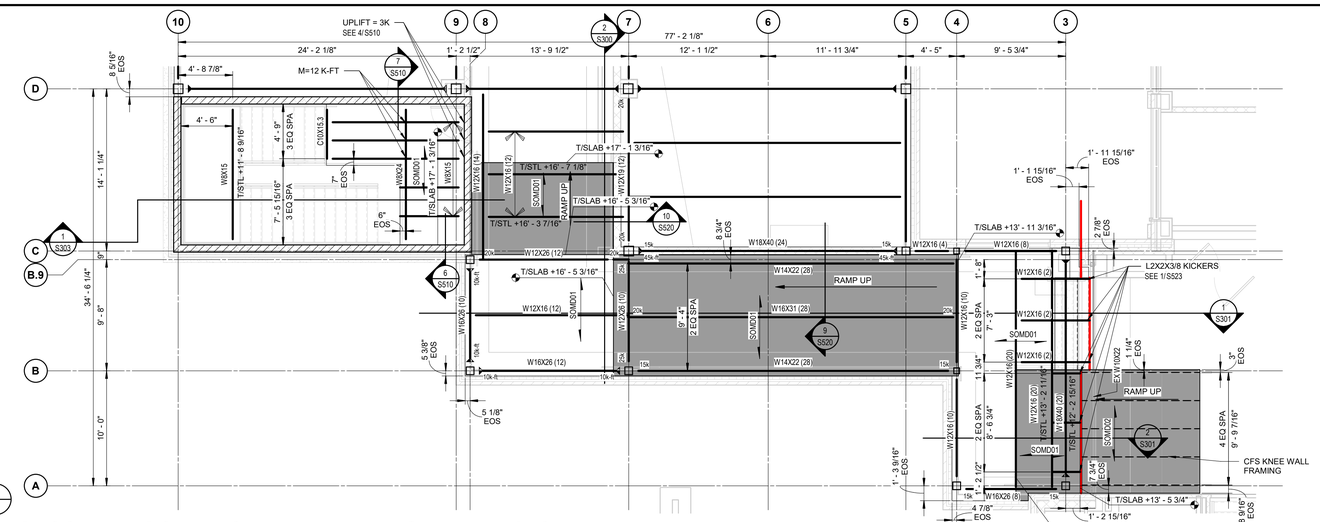
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SECOND FLOOR FRAMING PLAN - UNIT O

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

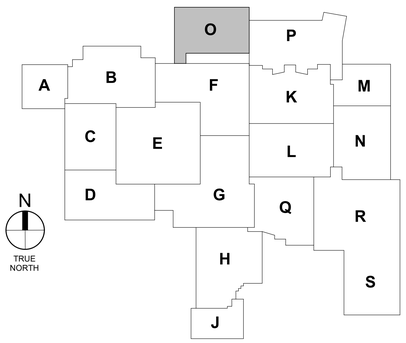
FRAMING PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



SECOND FLOOR WEST RAMP ENLARGED FRAMING PLAN

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



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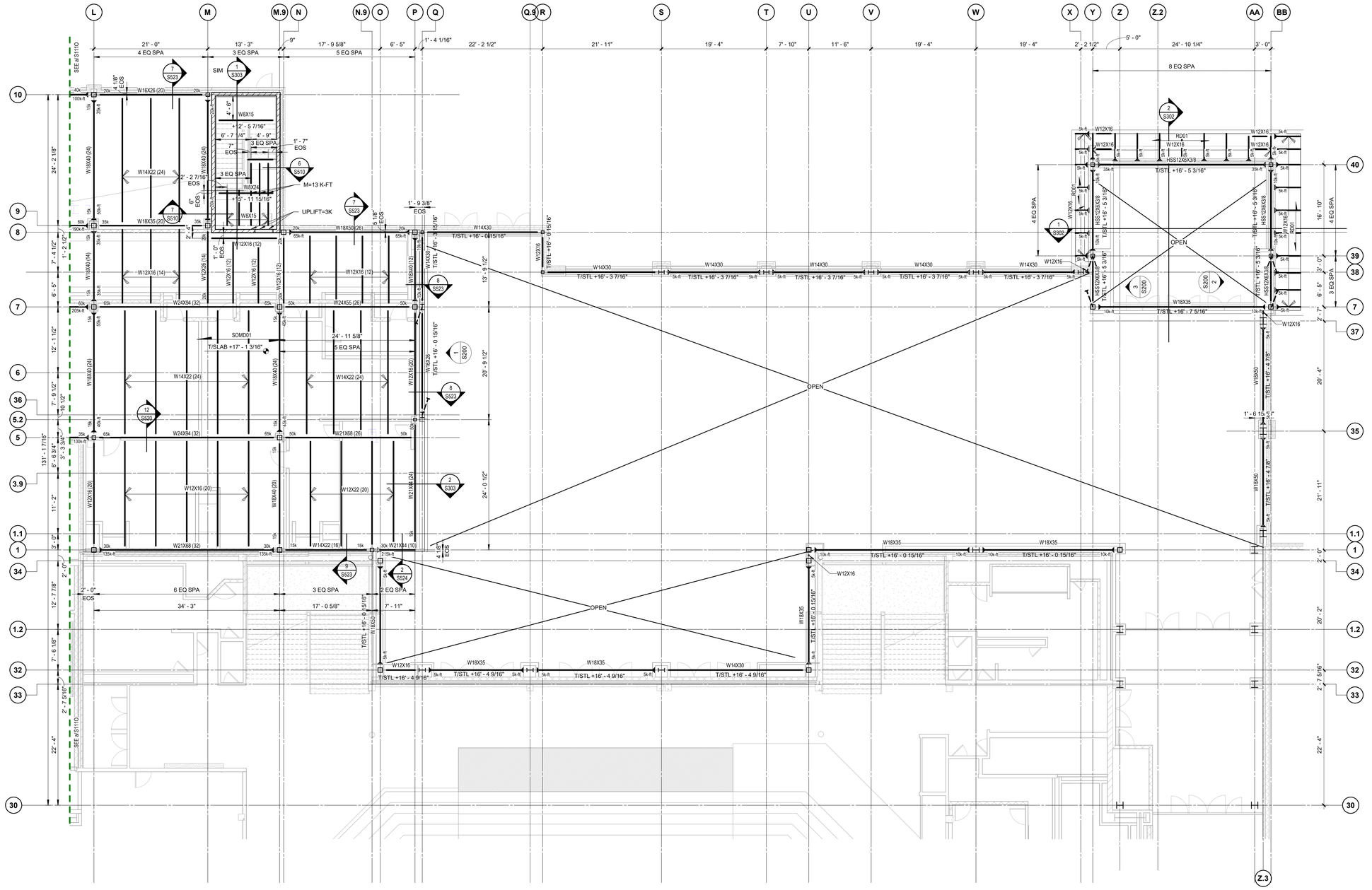
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UNIT O SECOND FLOOR FRAMING PLAN

S111O

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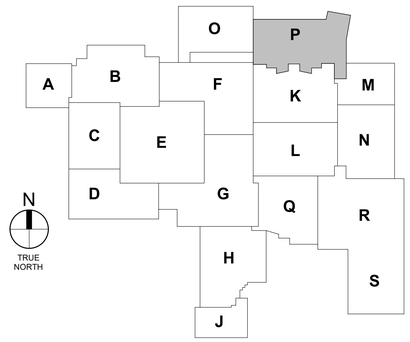


SECOND FLOOR FRAMING PLAN - UNIT P

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

FRAMING PLAN NOTES:

1. ELEVATIONS ± ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARSONS
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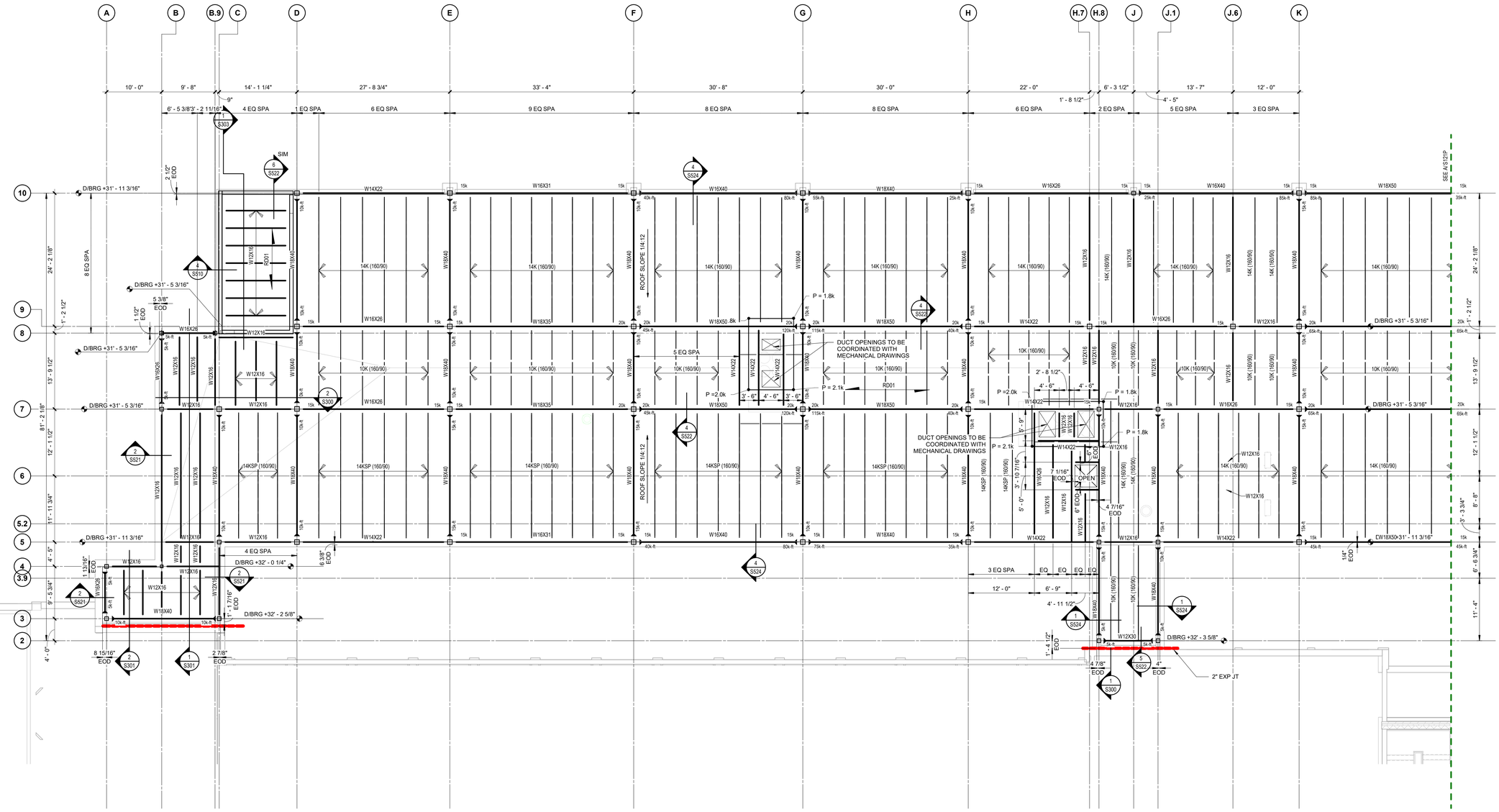
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UNIT P SECOND FLOOR FRAMING PLAN

S111P

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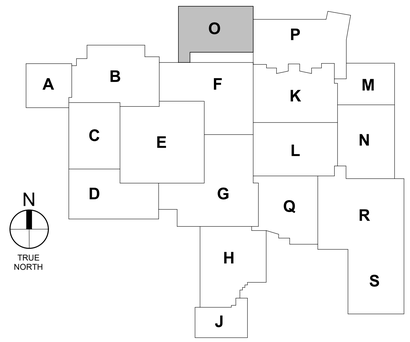
ROOF FRAMING PLAN - UNIT O

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

N

FRAMING PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



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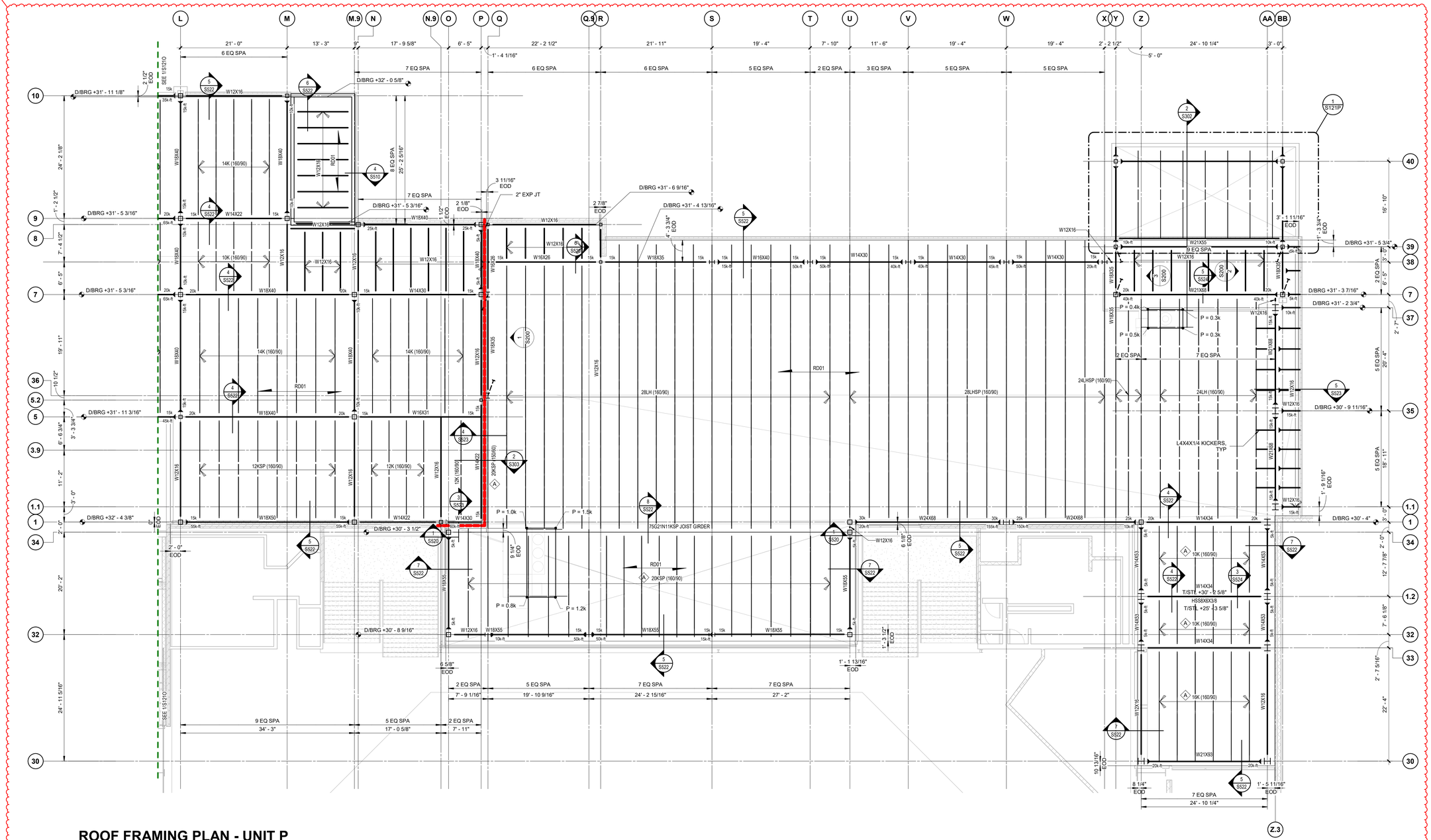
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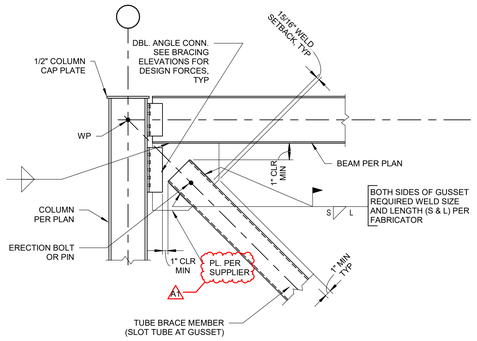
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DATE:	07/10/2026
DRAWN BY:	DWM/CMM

UNIT O ROOF FRAMING PLAN

S121O

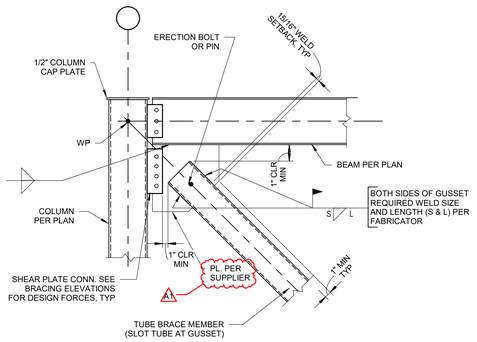
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L
M
M.9
N
N.9
O
P
Q
Q.9
R
S
T
U
V
W
X
Y
Z
AA
BB
21' - 0"
13' - 3"
17' - 9 5/8"
6' - 5"
22' - 2 1/2"
21' - 11"
19' - 4"
7' - 10"
11' - 6"
19' - 4"
19' - 4"
2' - 2 1/2"
24' - 10 1/4"
3' - 0"
6 EQ SPA
7 EQ SPA
6 EQ SPA
6 EQ SPA
5 EQ SPA
2 EQ SPA
3 EQ SPA
5 EQ SPA
5 EQ SPA
5' - 0"
1' - 4 1/16"
10
9
8
7
36
5.2
5
3.9
1.1
1
34
32
30
40
39
38
37
35
33
1.2
2.3
D/BRG +31' - 11 1/8"
D/BRG +31' - 5 3/16"
D/BRG +31' - 5 3/16"
D/BRG +31' - 11 3/16"
D/BRG +32' - 4 3/8"
D/BRG +30' - 8 9/16"
D/BRG +32' - 0 5/8"
D/BRG +31' - 5 3/16"
D/BRG +31' - 3 1/2"
D/BRG +31' - 6 9/16"
D/BRG +31' - 4 13/16"
D/BRG +31' - 5 3/4"
D/BRG +31' - 3 7/16"
D/BRG +31' - 2 3/4"
D/BRG +30' - 9 11/16"
D/BRG +30' - 4"
2 1/2" EOD
SEE 1/S121O
24' - 2 1/8"
1' - 2 1/2"
7' - 4 1/2"
6' - 5"
19' - 11"
10 1/2"
3' - 3 3/4"
6' - 6 3/4"
11' - 2"
3' - 0"
2' - 0"
20' - 2"
24' - 11 5/16"
SEE 1/S121O
14K (160/90)
10K (160/90)
14K (160/90)
14K (160/90)
RD01
12KSP (160/90)
12K (160/90)
12K (160/90)
20KSP (160/90)
28LH (160/90)
28LHSP (160/90)
24LHSP (160/90)
24LH (160/90)
RD01
RD01
20KSP (160/90)
10K (160/90)
19K (160/90)
19K (160/90)
W18X40
W18X40
W18X40
W18X40
W18X40
W18X40
W18X40
W18X40
W18X50
W16X31
W16X26
W18X35
W16X40
W14X30
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W14X30
W18X55
W18X55
W18X55



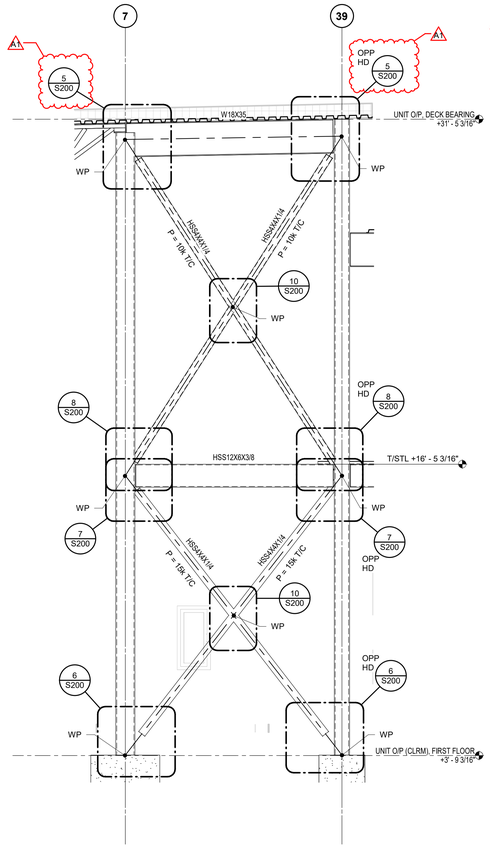
TOP OF COLUMN BRACE DETAIL (GUSSET TO FLANGE CONNECTION)

4 S200 SCALE: 3/4" = 1'-0"



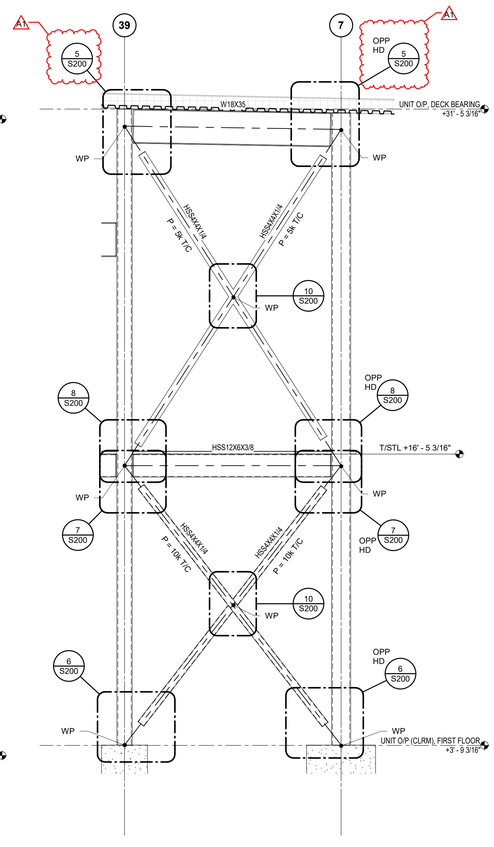
TOP OF COLUMN BRACE DETAIL (GUSSET TO HSS TUBE WALL CONN)

5 S200 SCALE: 3/4" = 1'-0"



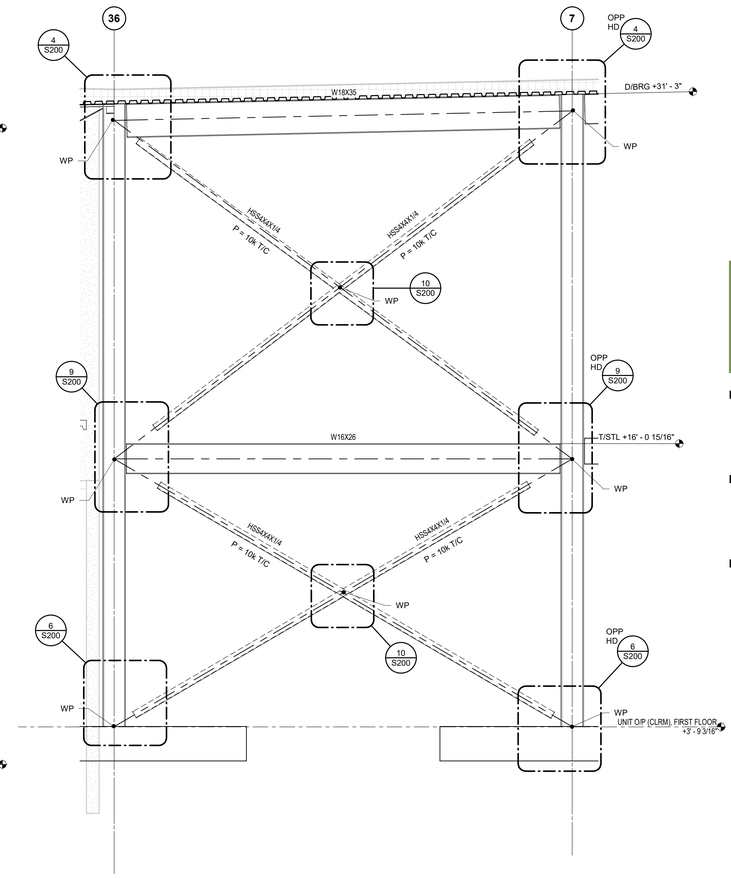
3 S200 BRACE FRAME BTW GRID 7 & 38

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



2 S200 BRACE FRAME BTW GRID 38 & 7

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



1 S200 BRACE FRAME BTW GRID 35 & 7

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

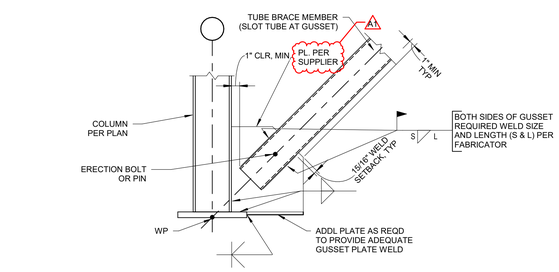
ELEVATION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

BRACING GENERAL NOTES

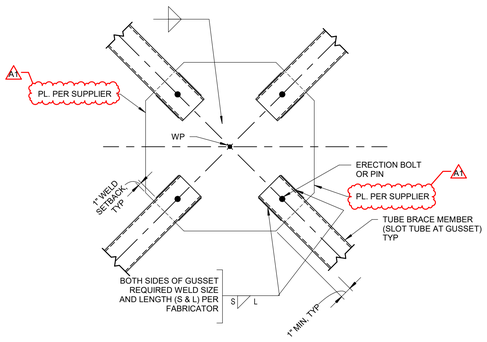
1. FORCES SHOWN ARE THE MORE CRITICAL OF ALL APPLICABLE BUILDING CODE ASD LOAD COMBINATIONS.
2. CONNECTIONS SHALL BE DESIGNED FOR BRACE FORCE INDICATED ON ELEVATION ACTING CONCURRENTLY WITH BEAM REACTION AND ANY INDICATED TRANSFER FORCES. ECCENTRICITY SHALL BE CONSIDERED IN DESIGN OF CONNECTION.
3. EACH MEMBER'S CONNECTION SHALL BE SYMMETRIC ABOUT THE CENTER OF GRAVITY OF THAT MEMBER.
4. ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL WITH CLASS A FAYING SURFACES.
5. SLOT IN BRACE AT GUSSET NO LARGER THAN GUSSET THICKNESS + 1/16"
6. ABBREVIATIONS:
   T = TENSION
   C = COMPRESSION

GENERAL:
ALL BRACING CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR, UNO. BRACE DETAILS INDICATED ON THE STRUCTURAL DRAWINGS ARE PROVIDED TO SHOW CONNECTION CONCEPT ONLY AND ARE NOT TO BE CONSIDERED A FINAL DESIGN. FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER SHALL DESIGN AND DETAIL ALL FINAL CONNECTIONS AS REQUIRED TO SAFELY TRANSFER THE DESIGN FORCES AND ALLOW FOR FIELD FIT-UP AND ERECTION TOLERANCES.



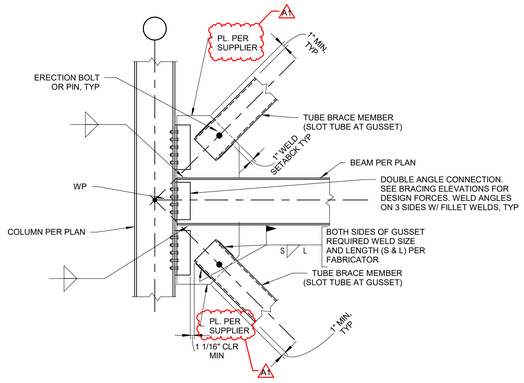
COLUMN BASE BRACE DETAIL (GUSSET TO FLANGE CONNECTION)

6 S200 SCALE: 3/4" = 1'-0"



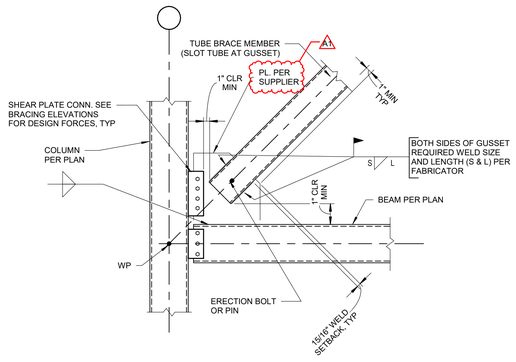
10 S200 X-BRACE DETAIL AT BEAM

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



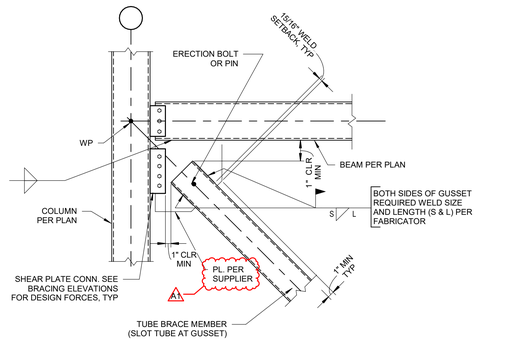
9 S200 COLUMN MID-HEIGHT BRACE HIGH-LOW DETAIL (GUSSET TO FLANGE CONNECTION)

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



8 S200 MID-HEIGHT COLUMN BRACE HIGH DETAIL (GUSSET TO HSS TUBE WALL CONN)

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



7 S200 MID-HEIGHT COLUMN BRACE LOW DETAIL (GUSSET TO HSS TUBE WALL CONN)

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

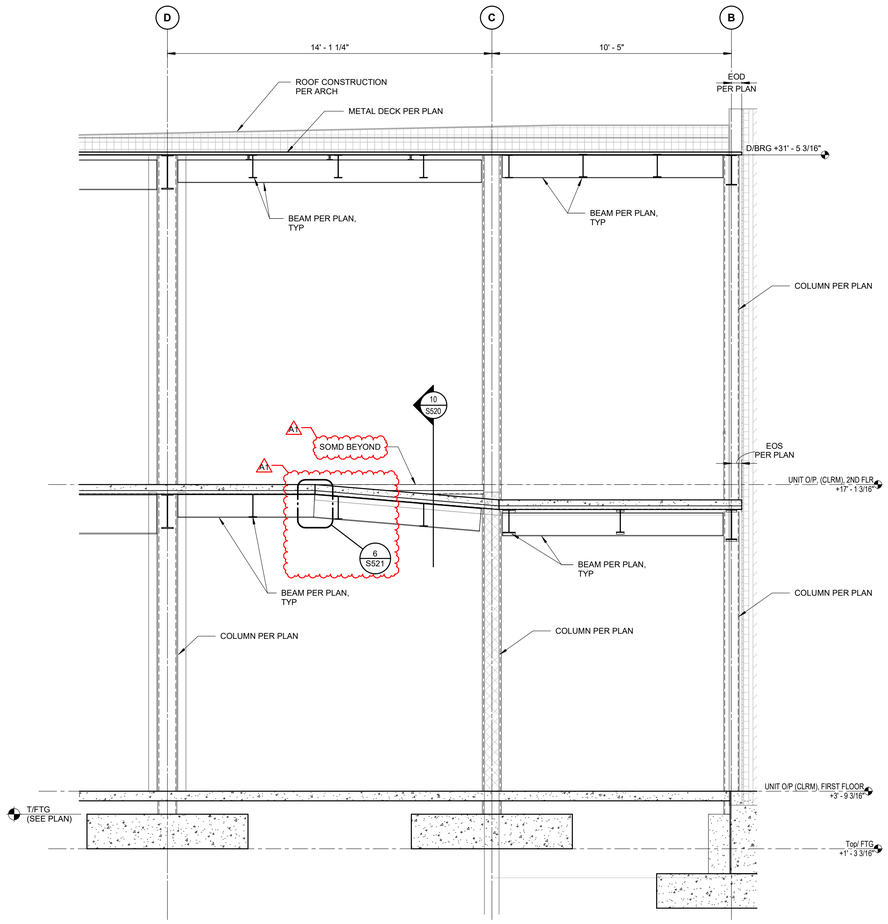
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING ELEVATIONS

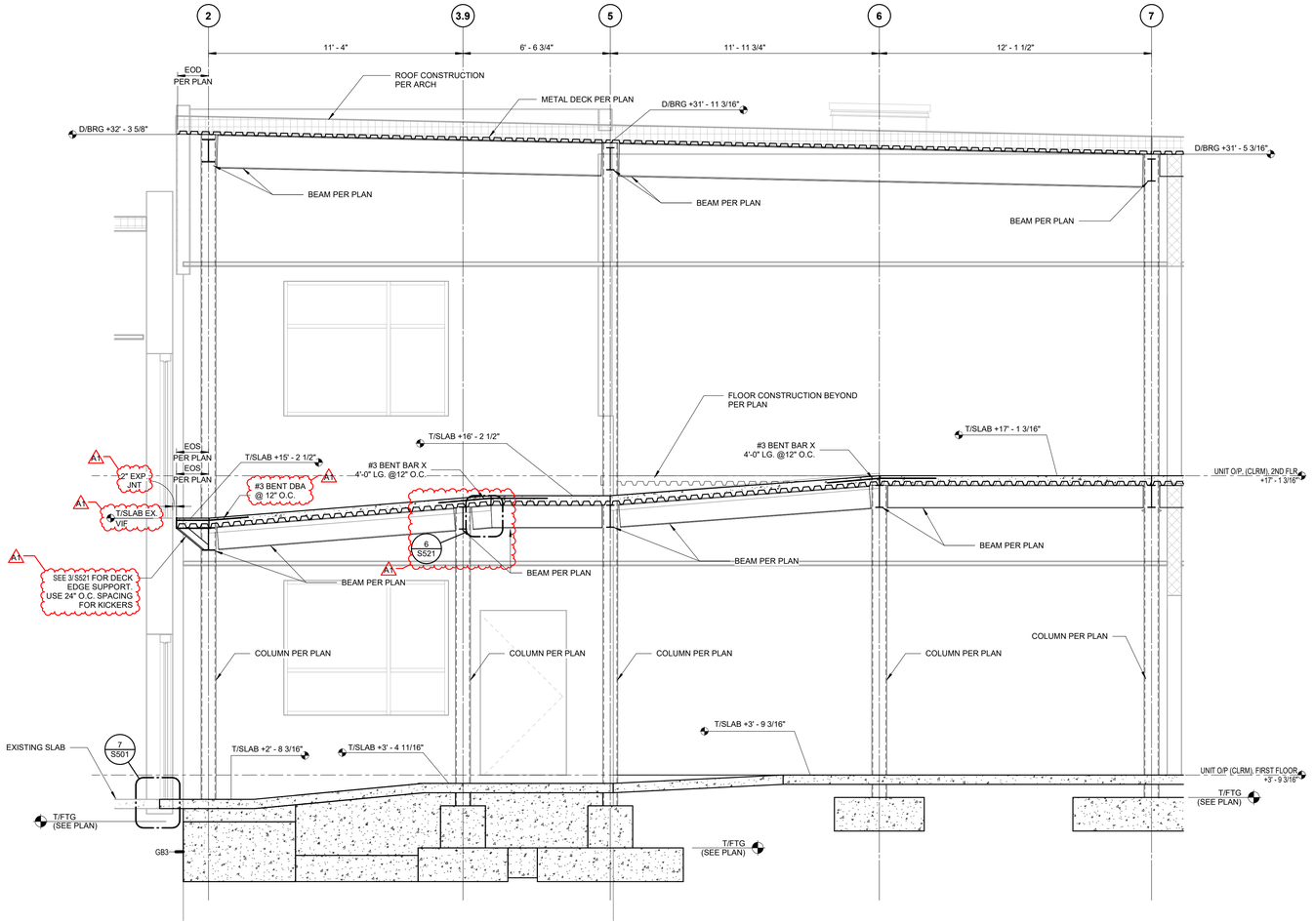
S200

PLOT DATE/TIME: 7/31/2026 11:00:06 AM



2 S300 NORTHWEST RAMP SECTION

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



1 S300 SOUTH RAMP ELEVATION

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

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/31/2026 11:05:07 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD

JESSICA KAY BAIRD
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

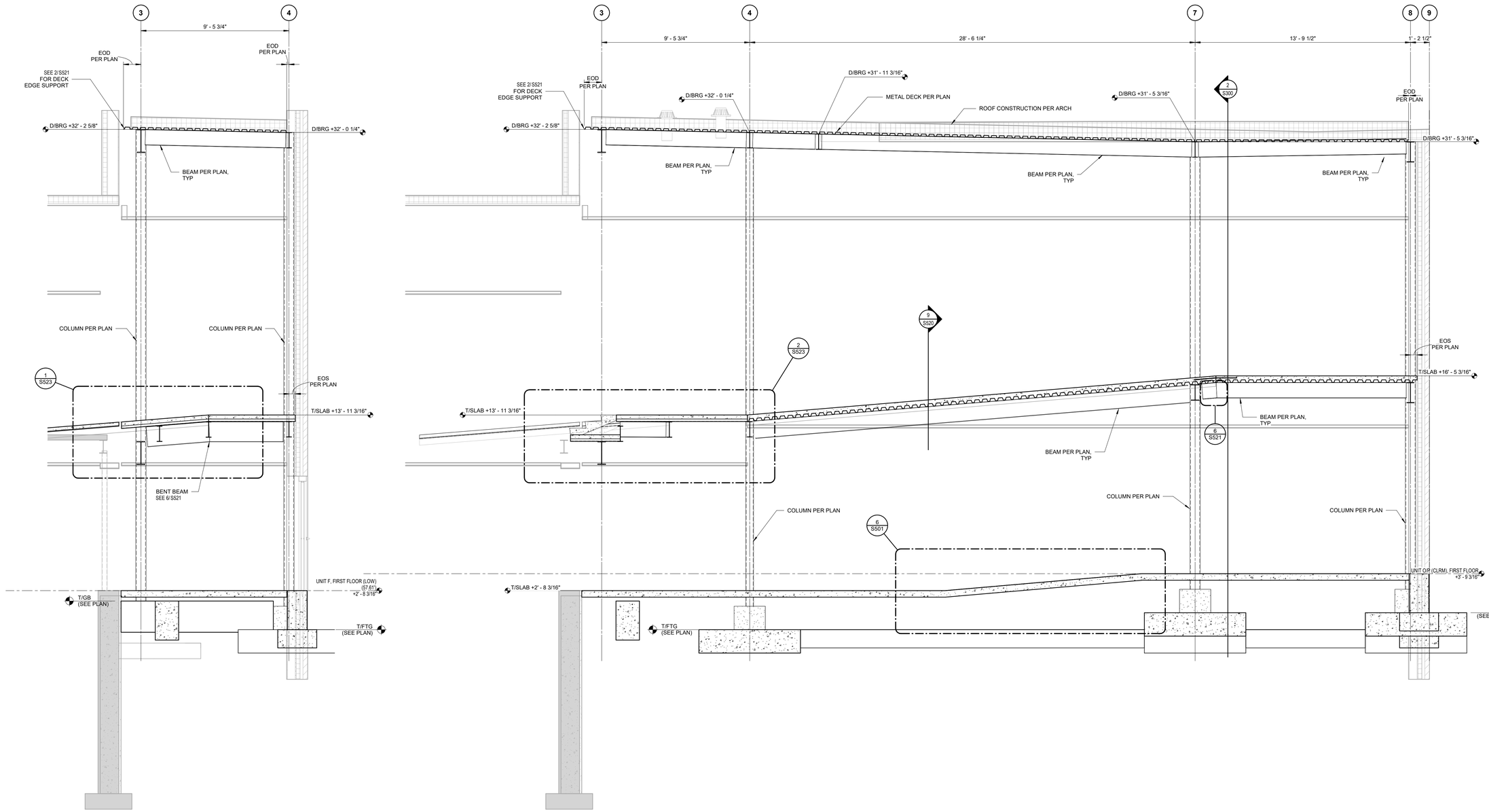
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

BUILDING SECTIONS

S300



2 WEST RAMP PARTIAL ELEVATION
2 / S301 SCALE: 3/8" = 1'-0"

1 WEST RAMP FULL ELEVATION
1 / S301 SCALE: 3/8" = 1'-0"

A1

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/31/2026 1:11:50:08 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

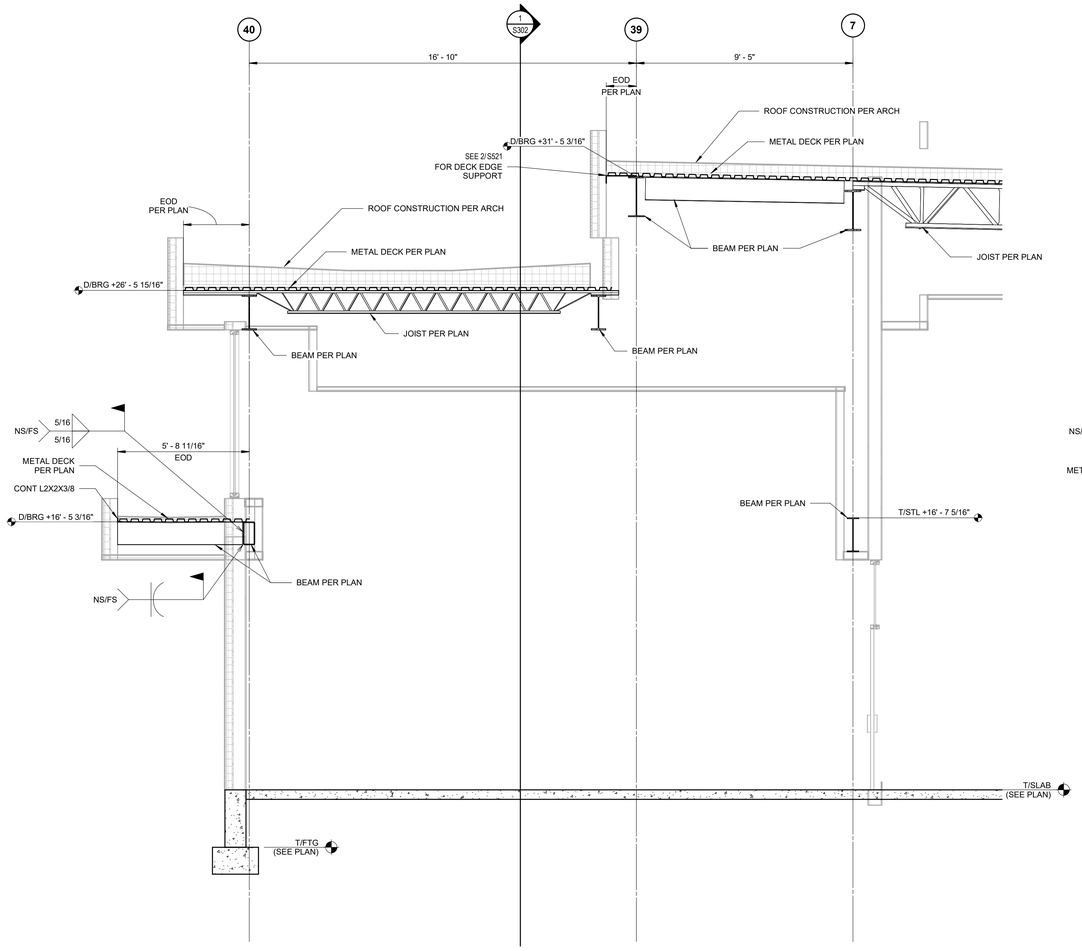
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

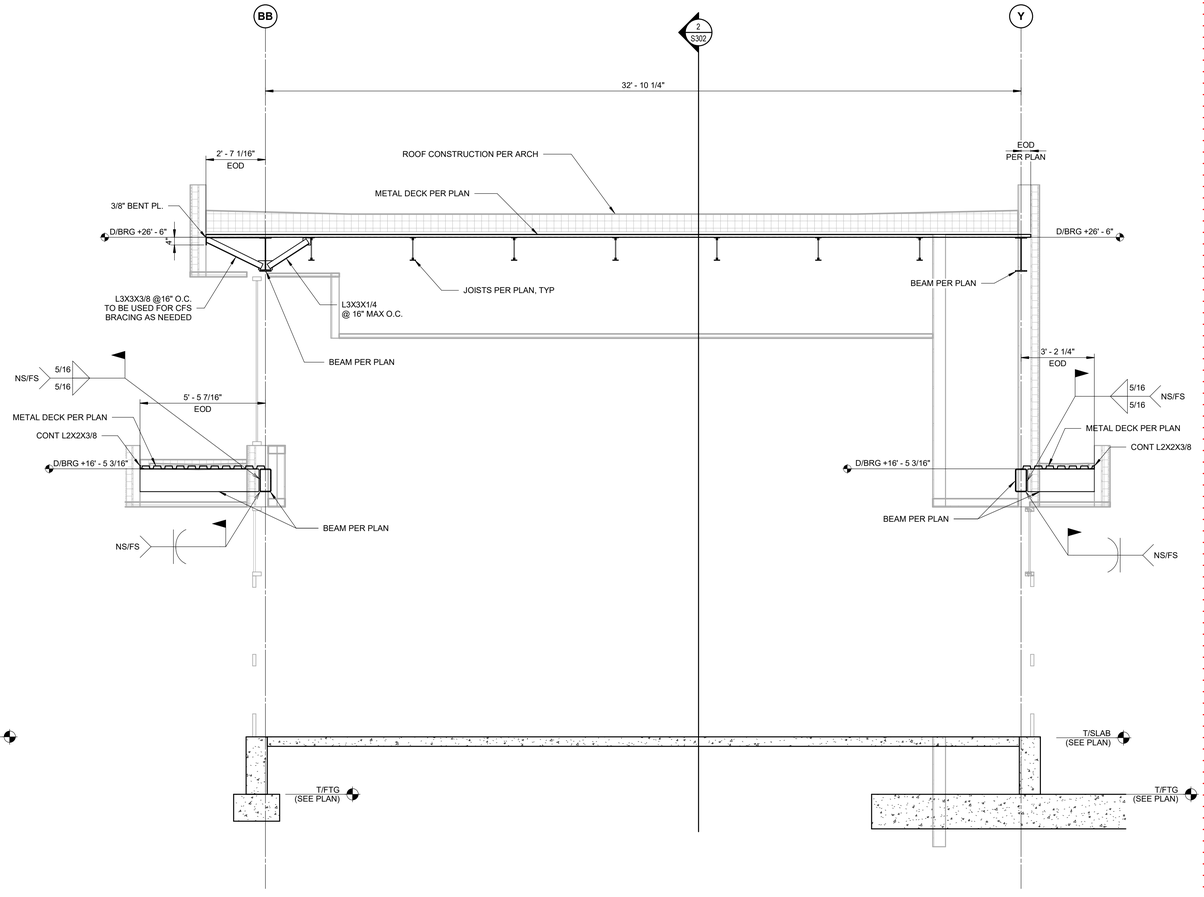
BUILDING SECTIONS

S301



2 S302 **NORTH VESTIBULE BUILDING SECTION**

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



1 S302 **NORTH LOBBY VESTIBULE SECTION**

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

SECTION NOTES:

1. ELEVATIONS ±. ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/7/2026 11:30:09 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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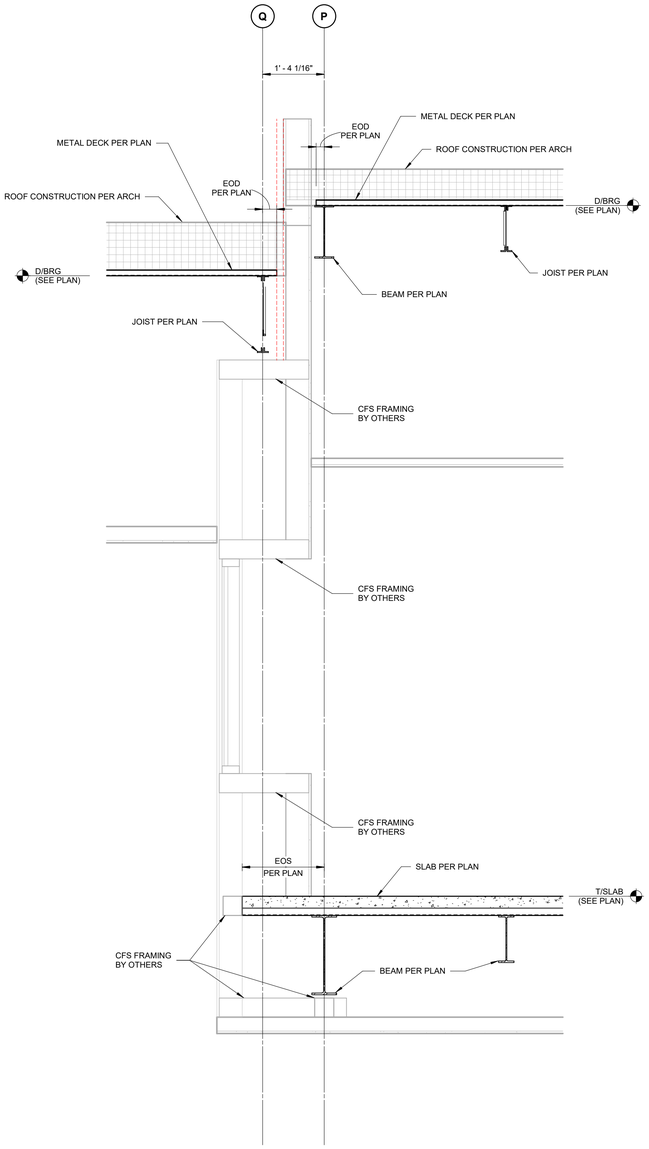
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

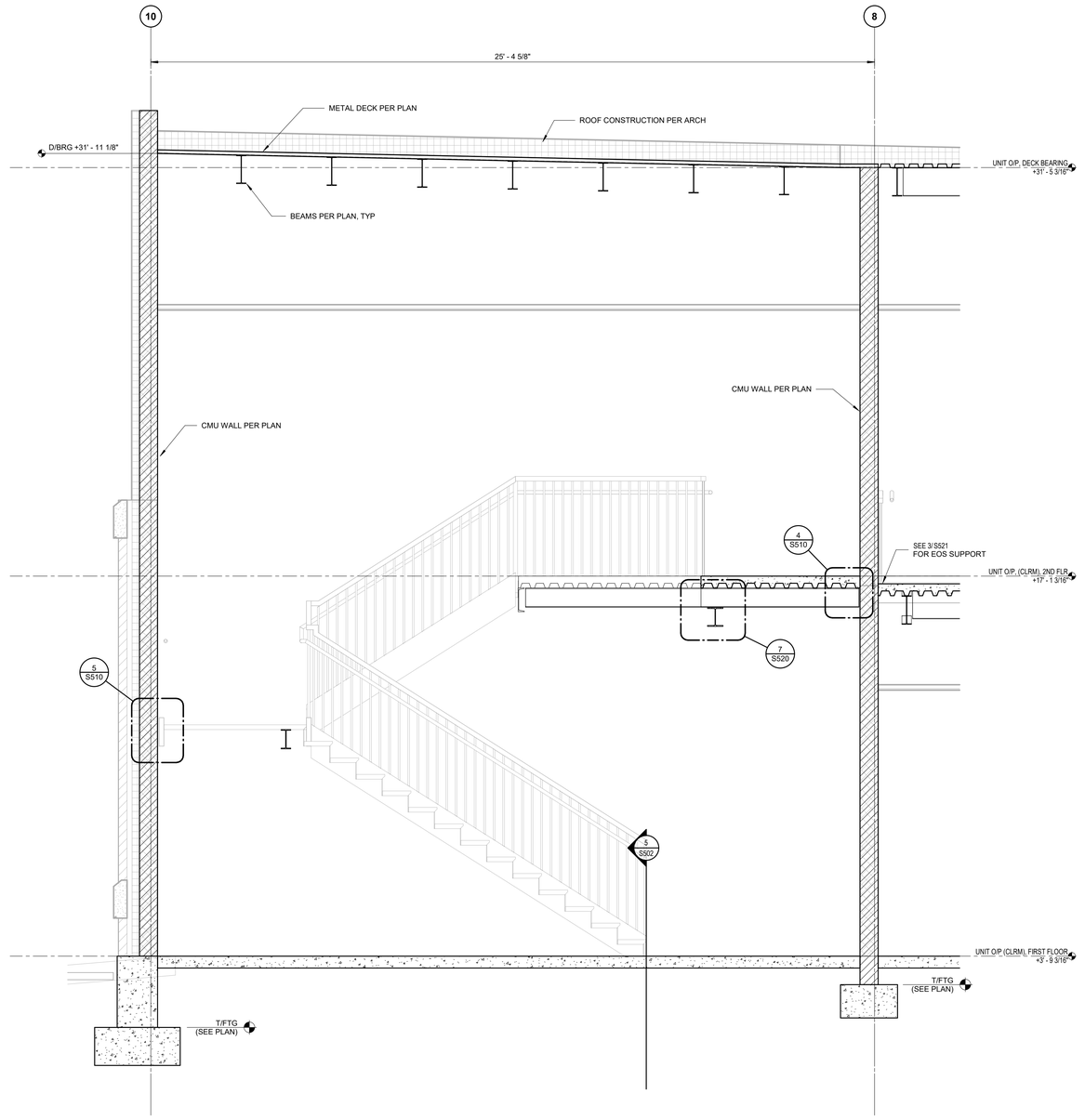
BUILDING SECTIONS

S302



2 S303 WEST LOBBY SECTION

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



1 S303 WEST STAIRWAY SECTION

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

SECTION NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

PLOT DATE/TIME:7/31/2026 11:55:09 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW
REGISTERED
No. PE11800818
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07.10.2026

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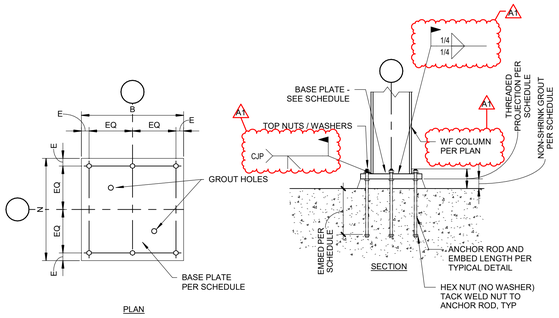
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

BUILDING SECTIONS

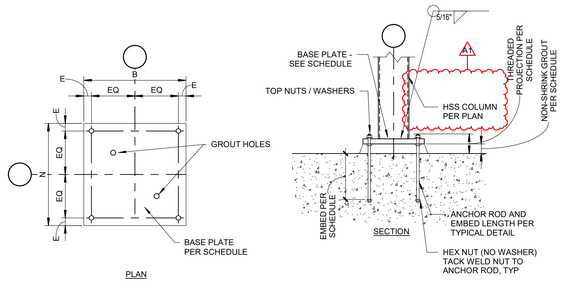
S303



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

3 S500 TYPICAL COLUMN BASE DETAIL - CASE 2

SCALE: 1" = 1'-0"

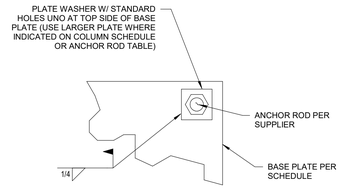


NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

2 S500 TYPICAL COLUMN BASE DETAIL - CASE 1

SCALE: 1" = 1'-0"

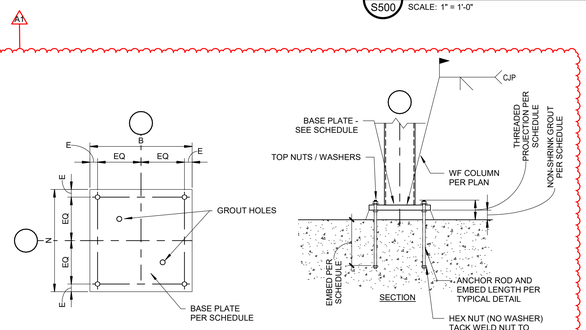
PLATE WASHER DIMENSIONS	
ANCHOR ROD DIA	REQD PLATE WASHER
≤ 3/4"	1/4x2-1/2x2-1/2
1"	3/8x3-1/2x3-1/2
> 1" TO 1.5"	1/2x3-1/2x3-1/2
> 1.5"	1/2x4x4



NOTES:
1. THIS DETAIL APPLIES AT ALL COLUMN ANCHOR RODS AT BRACED FRAMES AND MOMENT FRAMES UNO.

1 S500 TYPICAL WELDED PLATE WASHER DETAIL

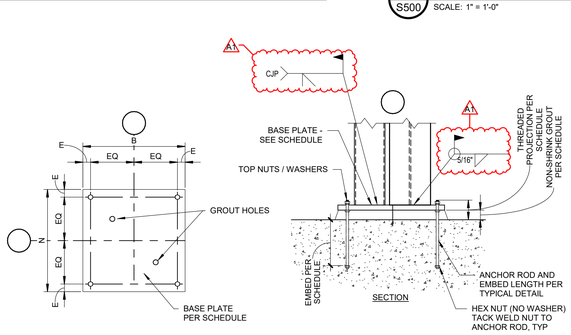
SCALE: 3/4" = 1'-0"



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

5 S500 TYPICAL COLUMN BASE DETAIL - CASE 4

SCALE: 1" = 1'-0"



NOTES:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

4 S500 COMBINED COLUMN BASE DETAIL - CASE 3

SCALE: 1" = 1'-0"

PIER (P) SCHEDULE

Type Mark	Width	Length	Vert. Size	Vert. Qty.	Tie Size	Tie Spa.	Remarks
P1	2' - 0"	2' - 0"	#6	8	#3	1' - 0"	TYPE A
P2	3' - 0"	3' - 0"	#7	12	#3	1' - 0"	TYPE A
P3	3' - 4"	3' - 0"	#7	14	#3	1' - 0"	TYPE B
P4	4' - 0"	4' - 0"	#8	16	#3	1' - 0"	TYPE A
P5	4' - 0"	3' - 6"	#8	16	#3	1' - 0"	TYPE B

TYPES:



Pier Schedule Notes:
1. Provide 2 inch concrete cover over ties.
2. Space first tie 2" from top of footing, last tie 2" from top of pier.
3. Provide (3) ties in top of pier, spacing = 2 1/2" on center.
4. Provide CRSI typical bar bend T5 for all ties.
5. Provide CRSI typical bar bend T9 additional ties for all piers with more than four vertical bars.
6. Provide 90° Hook for all ties per CRSI detailing standards.

WALL FOOTING SCHEDULE

Mark	Dimensions		Bottom Reinf				Remarks
			Longitudinal Reinf		Transverse Reinf		
	Width	Thickness	No	Size	Size	Spa	
WF24	2' - 0"	1' - 2"	3	#5	#4	1' - 4"	
WF30	2' - 6"	1' - 2"	3	#5	#4	1' - 4"	
WF36	3' - 0"	1' - 4"	4	#5	#4	1' - 4"	

Wall Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"
2. Use concrete brick of CRSI Class 3, CHCP wire bar supports @ 36".

CONCRETE WALL SCHEDULE

Mark	Width	Horiz Reinf		Vert Reinf		Dowel Reinf		Reinf Location	Cover	Horz. Reinf. Location
		Size	Spa	Size	Spa	Size	Spa			
CW8	8"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Center	2"	IN
CW11	11"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT
CW15	1' - 3"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT
CW17	1' - 5"	#5	1' - 0"	#5	1' - 0"	#5	1' - 0"	Ea Face	2"	OUT

Concrete Wall Schedule Notes:
1. Provide concrete cover to closest bar as indicated.
2. Provide wheel spacers or CRSI Typ. Bar Bend T5 at 36" each way to assure adequate concrete cover.
3. See sections for all bars not included in schedule.
4. Horizontal Bar Location: In = Horiz. bars inside of vertical bars, Out = Horiz. Bars outside of vert. bars.

SLAB ON GRADE SCHEDULE

Mark	Thickness	Reinforcing	Control Jt Depth	Reinf Clearance	Control Jt Spa	Vapor Retarder	Sub-Base Depth	Remarks
SOG04P	4"	6x6-W1.4xW1.4 WWF	1"	1 1/2"	13' - 0"	Plastic	6"	
SOG05P	5"	6x6-W2.1xW2.1 WWF	1 1/4"	1 1/2"	15' - 0"	Plastic	6"	
SOG08P	8"	6x6-W2.9xW2.9 WWF	2"	2 1/2"	20' - 0"	Plastic	6"	

Slab on Grade Schedule Notes:
1. Reinforcing clearance is from the top of slab.

COLUMN FOOTING SCHEDULE

Mark	Ftg Dimensions		Foundation Thickness	Bottom Reinforcing						Top Reinforcing						Remarks
				Short Direction			Long Direction			Short Direction			Long Direction			
	Width	Length		No	Size	Length	No	Size	Length	No	Size	Length	No	Size	Length	
F4.0	4' - 0"	4' - 0"	1' - 6"	5	#6	3' - 6"	5	#6	3' - 6"							
F5.0	5' - 0"	5' - 0"	1' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	6	#6	4' - 6"	
F6.5	6' - 6"	6' - 6"	1' - 6"	7	#6	6' - 0"	7	#6	6' - 0"	7	#6	6' - 0"	7	#6	6' - 0"	
F7.0	7' - 0"	7' - 0"	1' - 6"	8	#6	6' - 0"	8	#6	6' - 0"	8	#6	6' - 6"	8	#6	6' - 6"	
F7.5	7' - 6"	7' - 6"	1' - 6"	9	#6	7' - 0"	9	#6	7' - 0"	9	#6	7' - 0"	9	#6	7' - 0"	
F8.5	8' - 6"	8' - 6"	1' - 6"	10	#6	8' - 0"	10	#6	8' - 0"	10	#6	8' - 0"	10	#6	8' - 0"	
F9.0	9' - 0"	9' - 0"	1' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	10	#6	8' - 6"	
F11.5	11' - 6"	11' - 6"	1' - 6"	13	#6	11' - 0"	13	#6	11' - 0"	13	#6	11' - 0"	13	#6	11' - 0"	
F11.6	11' - 0"	6' - 0"	1' - 6"	12	#6	5' - 6"	7	#6	10' - 6"	12	#6	5' - 6"	7	#6	10' - 6"	
F12.5	12' - 6"	12' - 6"	1' - 6"	14	#7	12' - 0"	14	#7	12' - 0"	14	#7	12' - 0"	14	#7	12' - 0"	
F13.7	13' - 0"	7' - 0"	1' - 6"	14	#7	6' - 6"	8	#7	12' - 6"	14	#7	6' - 6"	8	#7	12' - 6"	
F14.12	14' - 0"	12' - 0"	1' - 6"	15	#7	11' - 6"	13	#7	13' - 6"	15	#7	11' - 6"	13	#7	13' - 6"	
F20.14	14' - 0"	20' - 0"	1' - 6"	21	#7	13' - 6"	15	#7	19' - 6"	21	#7	13' - 6"	15	#7	19' - 6"	

Column Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"
2. Use concrete brick of CRSI Class 3, CHCP wire bar supports @ 36".

SLAB ON GRADE FLATNESS/LEVELNESS SCHEDULE

CLASSIFICATION	OVERALL FF	OVERALL FL	MIN LOCAL FF	MIN LOCAL FL
CONVENTIONAL	20	15	15	10
MODERATELY FLAT	25	20	20	15
FLAT	35	25	25	15
VERY FLAT	45	35	30	25
SUPER FLAT	60	40	40	25

FLOOR TYPE/LOCATION	REQUIRED SLAB
EXPOSED WAREHOUSE, MANUFACTURING AREAS, UNO	FLAT
EXPOSED UTILITY/MECHANICAL AREAS, UNO	MODERATELY FLAT
FLOORS WITH CARPET, VCT FINISH, UNO	MODERATELY FLAT
FLOORS WITH POLISHED CONCRETE FINISH	FLAT
TILE UP TO 16" LONG DIMENSION, ≥ 1/4" GROUT JOINTS	FLAT
TILE UP TO 16" LONG DIMENSION, 3/16" GROUT JOINTS	VERY FLAT
TILE UP TO 16" LONG DIMENSION, 1/8" GROUT JOINTS	SUPER FLAT
TILE > 16" TO < 36" LONG DIMENSION, ≥ 1/4" GROUT JOINTS	VERY FLAT
TILE > 16" TO < 36" LONG DIMENSION, < 1/4" GROUT JOINTS	SUPER FLAT
TILE > 36" LONG DIMENSION	SUPER FLAT

NOTES:
1. GENERAL CONTRACTOR SHALL REVIEW ALL FLOOR FINISH REQUIREMENTS FOR THE PROJECT AND PROVIDE CONCRETE SLAB SURFACE FINISHES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIED FLOOR FINISH MATERIALS. WHERE TOLERANCES FOR THE FLOOR FINISH MATERIALS DIFFER FROM THIS SCHEDULE, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
2. GENERAL CONTRACTOR SHALL COORDINATE WITH THE FINISH FLOORING SUPPLIER TO PROVIDE ALL NECESSARY REPAIR, GRINDING, AND/OR LEVELING OF THE CONCRETE SLAB TO ACCOMMODATE ALL FLOOR FINISHES PRIOR TO INSTALLATION OF FINISH MATERIALS WITH NO ADDITIONAL COST TO THE PROJECT.

NON-COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

f'c = 3000 PSI

BAR SIZE	Ld	Ldt	Lt	Ltt
#3	17	23	23	29
#4	22	29	29	38
#5	28	37	37	48
#6	33	43	43	56
#7	48	63	63	82
#8	55	72	72	93
#9	62	81	81	105
#10	69	90	90	117
#11	76	99	99	129

f'c = 4000 PSI

BAR SIZE	Ld	Ldt	Lt	Ltt
#3	15	20	20	26
#4	19	25	25	33
#5	24	32	32	41
#6	29	38	38	50
#7	42	55	55	71
#8	48	63	63	82
#9	54	71	71	92
#10	60	78	78	102
#11	66	86	86	112

f'c = 5000 PSI

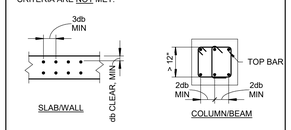
BAR SIZE	Ld	Ldt	Lt	Ltt
#3	13	17	17	22
#4	17	23	23	29
#5	22	29	29	38
#6	26	34	34	44
#7	38	50	50	65
#8	43	56	56	73
#9	48	63	63	82
#10	54	71	71	92
#11	59	77	77	100

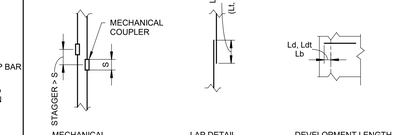
ALL CONCRETE STRENGTHS

BAR SIZE	Lb	Lc	Lcs
#3	9	12	12
#4	11	13	12
#5	14	16	15
#6	17	19	17
#7	20	22	20
#8	22	25	23
#9	25	29	26
#10	28	32	29
#11	31	35	31

NOTES:
1. db = NOMINAL BAR DIAMETER
   Ld = TENSION DEVELOPMENT LENGTH
   Ldt = DEVELOPMENT LENGTH OF TOP BARS IN TENSION
   Lt = TENSION LAP SPLICE STRENGTH
   Ltt = TENSION LAP SPLICE LENGTH OF TOP BARS
   Lb = COMPRESSION DEVELOPMENT LENGTH
   Lc = TIED COLUMN LAP SPLICE IN COMPRESSION
   Lcs = SPIRAL COLUMN LAP SPLICE IN COMPRESSION
2. REBAR DEVELOPMENT/SPLICE LENGTHS ARE BASED ON ACI 318. REINFORCEMENT YIELD STRENGTH, Fy = 60 KSI.
3. "TOP BARS" = HORIZONTAL BEAM, MAT, OR SLAB REINFORCING WITH MORE THAN 12" CAST BELOW.
4. ALL SPLICES SHALL BE TENSION SPLICES, UNO.
5. LARGER DIAMETER SPLICE LENGTH GOVERN AT BAR SIZE TRANSITIONS.
6. FOR LIGHTWEIGHT CONCRETE MULTIPLY TABLE VALUES BY 1.33, UNO

TABLE VALUES SHALL BE MULTIPLIED BY 1.5 IF THE FOLLOWING CRITERIA ARE NOT MET:





TYPICAL REINFORCING BAR DEVELOPMENT/SPLICE DETAILS

CONCRETE MIX SCHEDULE

CONCRETE USAGE	28-DAY COMPRESSIVE STRENGTH (PSI)	MAX CEMENT REPLACEMENT (NOTE 3)	MAXIMUM W/CM RATIO	AIR CONTENT (PERCENT)	MAX AGGREGATE SIZE (INCHES)	NOTES
FOOTINGS	4,000	20%	0.55	0-3	1.5	
PILE CAPS, MAT FOUNDATIONS	4,000	20%	0.50	0-3	1.5	
GRADE BEAMS, PIERS, FOUNDATION WALLS	4,000	20%	0.50	0-3	1	
EXTERIOR RETG WALLS, STOOPS AND PADS	4,000	20%	0.45	6 ± 1	1	
SLABS ON GRADE (6 INCHES OR LESS)	4,000	20%	0.48	0-3	1	
SLABS ON METAL DECK	4,000	20%	0.48	0-3	1	4.0 LBS/CYD MACRO-FIBER
INTERIOR TOPPING SLABS	4,000	20%	0.48	0-3	0.75	

NOTES:
1. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. ALL CONCRETE IS NORMAL WEIGHT AND CEMENT IS ASTM C150 TYPE 1 OR ASTM C595 TYPE 1L, UNO. DO NOT USE LIGHTWEIGHT CONCRETE UNLESS SPECIFICALLY INDICATED.
3. ACCEPTABLE CEMENT REPLACEMENT MATERIAL, WHERE PERMITTED, SHALL BE FLY ASH, ASTM C618 TYPE C OR F, UNO.
4. TARGET SLUMP SHALL BE DETERMINED BY THE CONTRACTOR AS NEEDED FOR PROPER PLACEMENT.
5. WHERE NOTED, BLENDED AGGREGATE WITH ZONE 2 COARSENESS PER ACI 302 IS MANDATORY.
6. COORDINATE OF LOCATIONS OF ALL POLISHED CONCRETE SLABS (WHEN USED) AND REVIEW THE CONCRETE MIX REQUIREMENTS WITH THE POLISHED CONCRETE CONTRACTOR PRIOR TO SUBMITTAL OF CONCRETE MIXES. IF THE POLISHED CONCRETE CONTRACTOR REQUESTS TO DEVIATE FROM THE REQUIREMENTS OF THIS SCHEDULE, CONTACT THE STRUCTURAL ENGINEER TO REVIEW THE REQUESTS PRIOR TO SUBMISSION OF THE POLISHED CONCRETE MIX(ES).

COLUMN BASE PLATE SCHEDULE

MARK	PLATE SIZE	ANCHOR RODS			SHEAR LUG			BASE PLATE TYPE	REMARKS
	B" X N" X T"	QTY	DIA	EMBED	LENGTH	DEPTH	THICKNESS		
BP1	14" X 14" X 3/4"	4	3/4"	12"	N/A	N/A	N/A	CASE 1	SEE 2/S500
BP2	14" X 14" X 3/4"	4	1"	12"	N/A	N/A	N/A	CASE 1	SEE 2/S500
BP3	14" X 14" X 1"	4	1 1/4"	12"	N/A	N/A	N/A	CASE 4	SEE 5/S500
BP4	16" X 16" X 1"	4	1 1/4"	12"	N/A	N/A	N/A	CASE 4	SEE 5/S500
BP5	20" X 28" X 1 1/2"	6	1 3/4"	12"	N/A	N/A	N/A	CASE 2	SEE 3/S500
BP6	32" X 32" X 3/4"	4	1"	12"	N/A	N/A	N/A	CASE 3	SEE 4/S500

NOTES:
1. 50 KSI SHEAR LUGS U.N.O.
2. SEE REMARKS FOR BASE PLATE TYPES.

ANCHOR ROD TABLE

ANCHOR ROD DIA	BASEPLATE HOLE DIA	MINIMUM WASHER SIZE	MINIMUM WASHER THICKNESS	MINIMUM PROJ ABOVE T/CONC	NON-SHRINK GROUT BED THK	MIN EDGE DISTANCE, E	REMARKS
3/4"	1 5/16"	2"	1/4"	8"	2"	1 1/2"	
1"	1 13/16"	3"	3/8"	8"	2"	2"	
1 1/4"	2 1/16"	3"	1/2"	10"	3"	2"	
1 3/4"	2 3/4"	4"	5/8"	10"	3"	3"	

NOTES:
1. ANCHOR RODS ARE ASTM F1554 GR. 36 UNO.
2. PROVIDE WELDED PLATE WASHERS IN ACCORDANCE WITH TYPICAL DETAIL AT ALL STEEL BRACED FRAMES AND MOMENT FRAMES, UNO.
3. AT CONTRACTOR'S OPTION, PROVIDE HEADED BOLT ASTM F1554 GR. 36 IN LIEU OF ANCHOR ROD.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY RARDIN
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

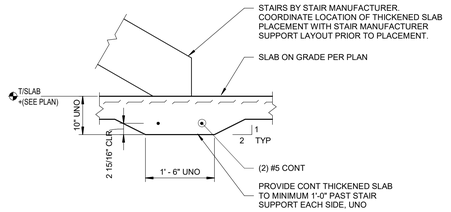
100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

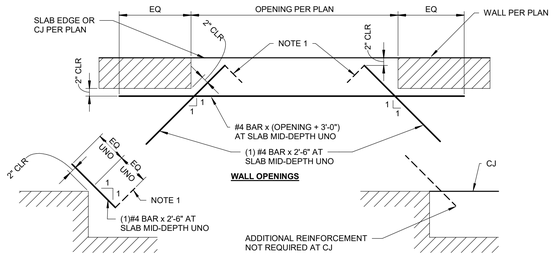
S500

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4 S501 TYP THICKENED SLAB AT STAIRS

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

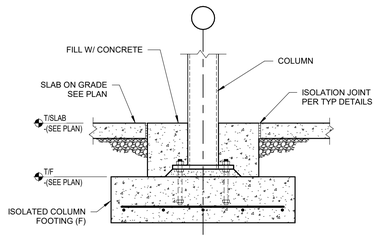


NOTES:

1. WHERE THERE IS INSUFFICIENT ROOM TO INSTALL A STRAIGHT BAR AS SHOWN CENTERED WITH EQUAL LENGTH EACH SIDE OF THE RE-ENTRANT CORNER, PROVIDE BAR WITH A 90- OR 180- DEGREE HOOK INSTALLED ON THE SIDE WITH SHORTER EMBEDMENT.
2. FOR SLABS WITH 2 LAYERS OF REINFORCEMENT, INSTALL ADDITIONAL REINFORCEMENT AT ELEVATION OF TOP LAYER ONLY.

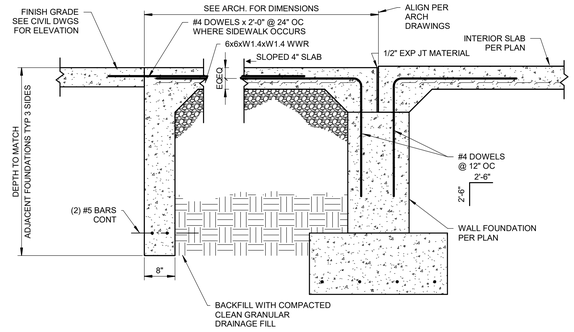
3 S501 TYPICAL ADDITIONAL SLAB ON GRADE REINFORCEMENT AT RE-ENTRANT CORNERS

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



2 S501 TYPICAL COLUMN BASE SECTION

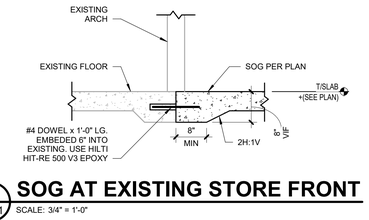
SCALE: 3/4" = 1'-0"



1 S501 EXTERIOR MANDOOR STOOP

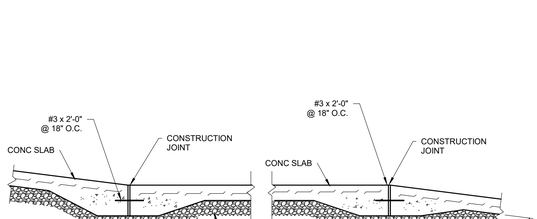
SCALE: 3/4" = 1'-0"

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12



7 S501 SOG AT EXISTING STORE FRONT

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



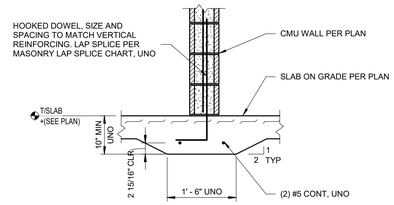
NOTES:

1. PROVIDE CONTROL JOINTS @ 5'-0" OC, UNO.
2. SEE ARCH AND/OR CIVIL DRAWINGS FOR RAILING REQUIREMENTS.

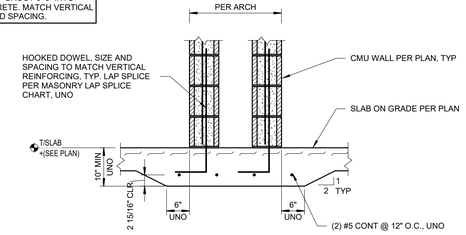
6 S501 TYPICAL CONCRETE RAMP DETAILS

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

AT CONTRACTORS OPTION:
PROVIDE STRAIGHT DOWELS IN LIEU OF HOOKED DOWELS. DRILL AND EXPOXY-GROUT 0'-6" INTO SLAB CONCRETE. MATCH VERTICAL BAR SIZE AND SPACING.



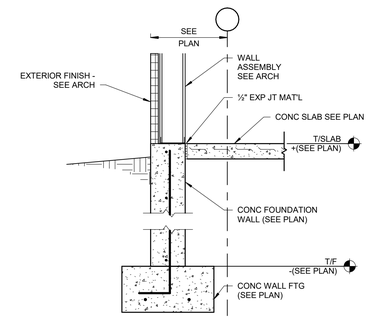
SINGLE CMU WALL CONDITION



DOUBLE CMU WALL CONDITION

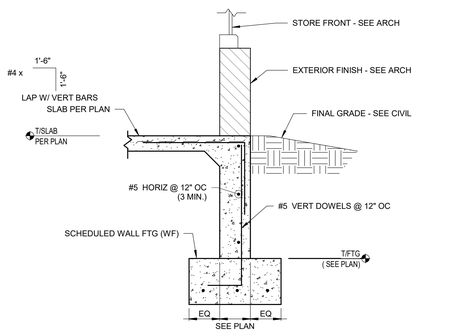
5 S501 TYPICAL THICKENED SLAB AT CMU WALL

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



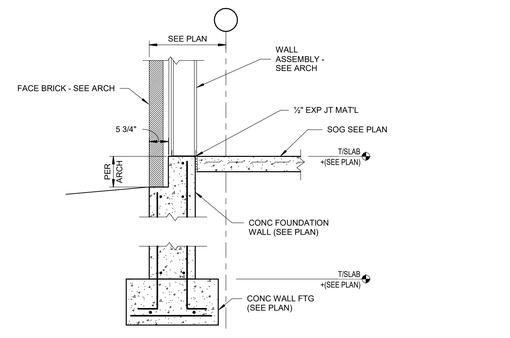
10 S501 FOUNDATION WALL AT EFIS

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



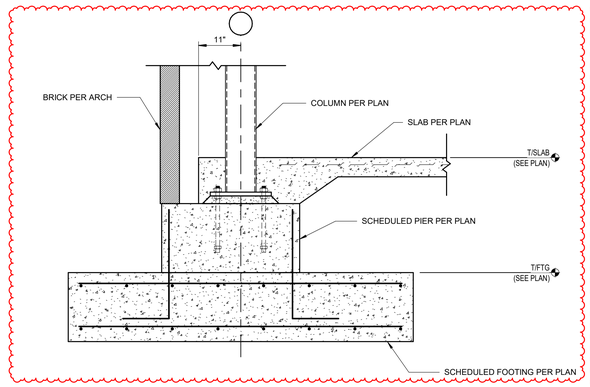
9 S501 TYPICAL SECTION AT STOREFRONT

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



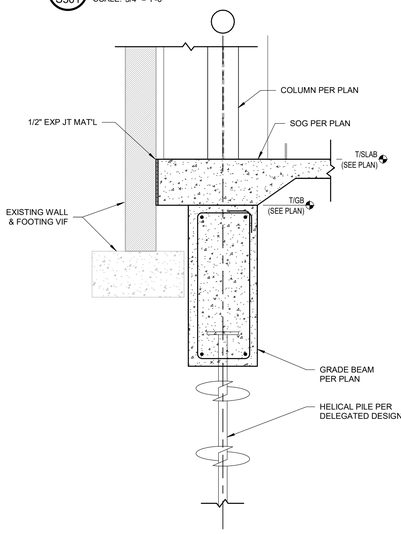
8 S501 FOUNDATION WALL AT BRICK

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



11 S501 WALL FOUNDATION AT OPENING

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

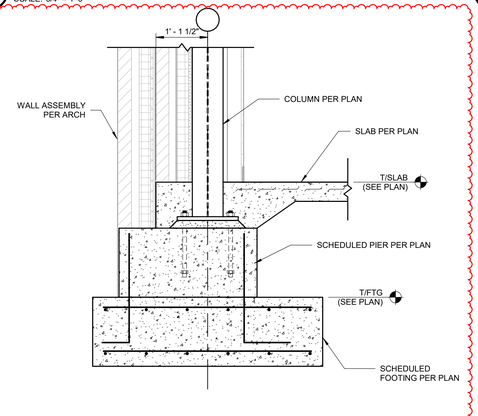


15 S501 TYP GRADE BEAM AT EXISTING

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

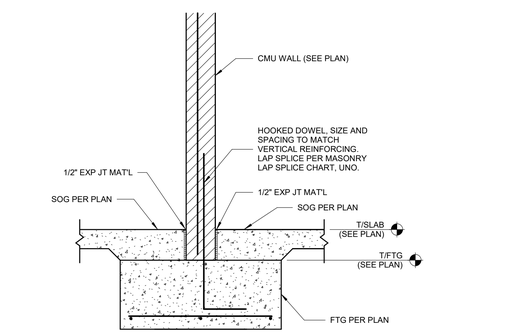
14 S501 TYP HSS COLUMN AT EXTERIOR BUMPOUT

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



13 S501 TYP WF COLUMN AT EXTERIOR BUMPOUT

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



12 S501 INTERIOR LOAD BEARING CMU WALL

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
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PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

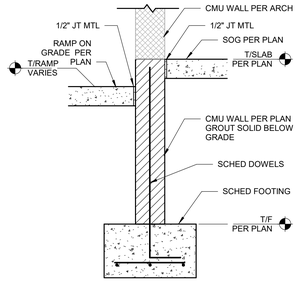
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

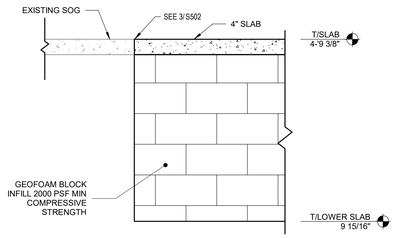
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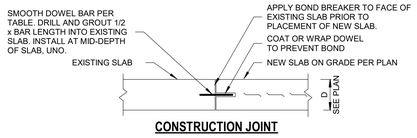
15/S502 CMU WALL FOUNDATION AT RAMPS

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



4/S502 SLAB INFILL AT EXISTING

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

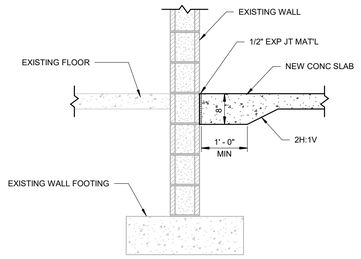


CONSTRUCTION JOINT

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12

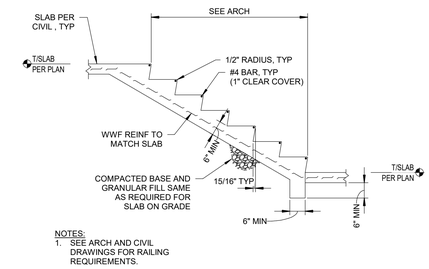
3/S502 TYPICAL NEW-TO-EXISTING SLAB ON GRADE JOINT

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



2/S502 NEW TO EXISTING CONCRETE SLAB

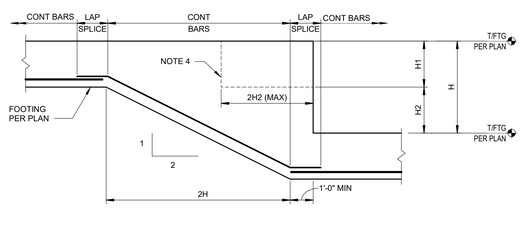
SCALE: 3/4" = 1'-0"



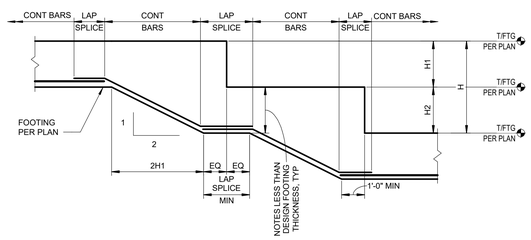
NOTES:
1. SEE ARCH AND CIVIL DRAWINGS FOR RAILING REQUIREMENTS.

1/S502 TYPICAL INTERIOR CONCRETE STAIR

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



UNIFORMLY SLOPED BASE

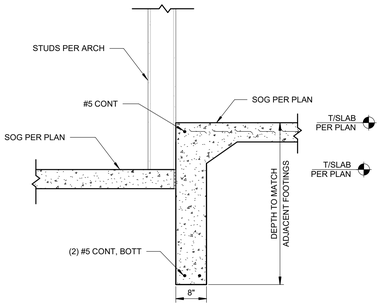


BENCHED BASE

NOTES:
1. SEE PLAN FOR STEP LOCATIONS AND ELEVATIONS.
2. MAXIMUM SINGLE STEP HEIGHT = 4'-0".
3. USED BENCHED BASE FOR MULTIPLE ADJACENT STEPS AND WHEN TOTAL ELEVATION CHANGE "H" EXCEEDS 4'-0".
4. AT CONTRACTOR'S OPTION, DOUBLE STEP MAY BE USED AS SHOWN WHEN SINGLE STEP HEIGHT INDICATED ON PLAN EXCEEDS 2'-0". COORDINATE IN ADVANCE WITH ALL AFFECTED TRADES.

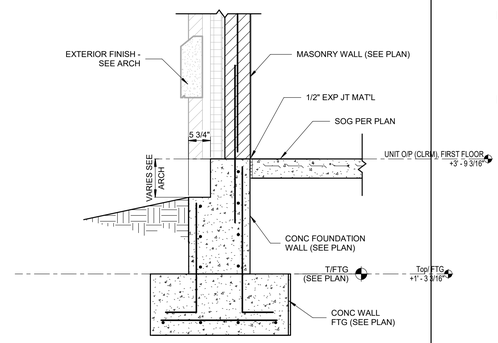
7/S502 TYP STEPPED FOOTING

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



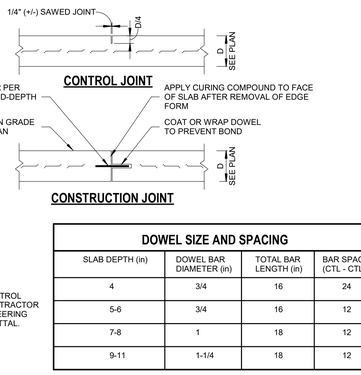
6/S502 SLAB TURNDOWN AT ELEVATION CHANGE

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



5/S502 PERIMETER WALL W/BRICK VENEER

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



CONTROL JOINT

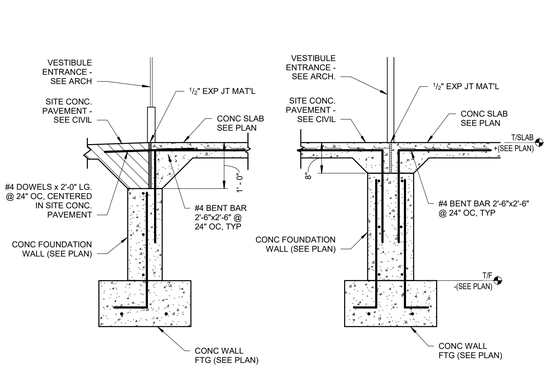
CONSTRUCTION JOINT

DOWEL SIZE AND SPACING			
SLAB DEPTH (in)	DOWEL BAR DIAMETER (in)	TOTAL BAR LENGTH (in)	BAR SPACING (CTL - CTL) (in)
4	3/4	16	24
5-6	3/4	16	12
7-8	1	18	12
9-11	1-1/4	18	12

NOTE:
IF NO CONSTRUCTION OR CONTROL JOINT PLAN IS PROVIDED, CONTRACTOR TO PROVIDE PLAN FOR ENGINEERING APPROVAL AS PART OF SUBMITTAL.

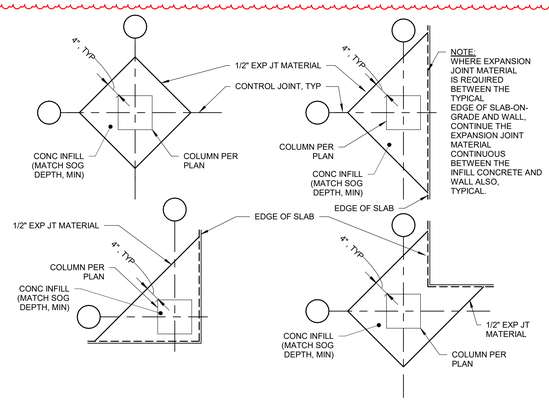
10/S502 TYPICAL SLAB ON GRADE JOINTS

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



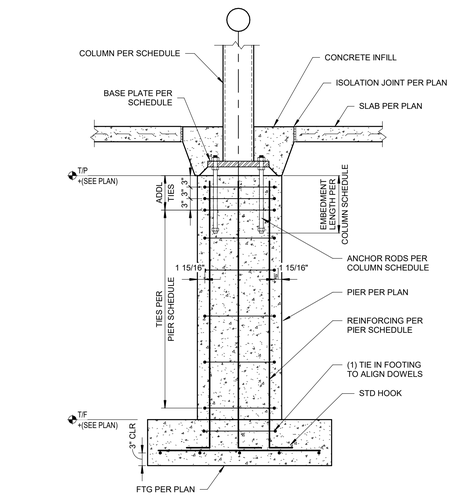
9/S502 VESTIBULE ENTRY FOUNDATION

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



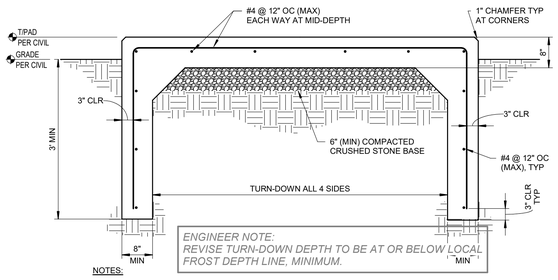
8/S502 TYPICAL CONCN COLUMN ISO JT DETAIL

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



11/S502 TYPICAL COLUMN ON PIER

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



NOTES:
1. CONCRETE 28-DAY COMPRESSIVE STRENGTH = 4000 PSI, MINIMUM.
   AIR ENTRAINMENT = 6" ± 1%
   MAX W/C RATIO = 0.45
   BROOM FINISH SURFACE.
2. PROVIDE SAW-CUT CONTROL JOINTS SPACED NOT MORE THAN 24 TIMES THE SLAB THICKNESS CENTER-TO-CENTER, UNO. SEAL JOINTS WITH WEATHER-RESISTANT SEALANT.
3. SEE PLANS FOR OVERALL PAD DIMENSIONS.
4. COORDINATE EXACT LOCATION WITH CIVIL AND MECHANICAL DRAWINGS, AND EQUIPMENT SUPPLIER.

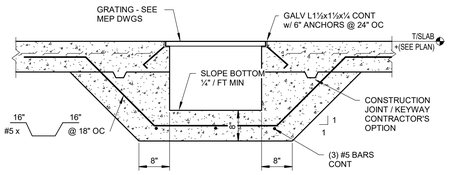
6/S502 SLAB TURNDOWN AT ELEVATION CHANGE

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

NOTES:
1. CONCRETE 28-DAY COMPRESSIVE STRENGTH = 4000 PSI, MINIMUM.
   AIR ENTRAINMENT = 6" ± 1%
   MAX W/C RATIO = 0.45
   BROOM FINISH SURFACE.
2. PROVIDE SAW-CUT CONTROL JOINTS SPACED NOT MORE THAN 24 TIMES THE SLAB THICKNESS CENTER-TO-CENTER, UNO. SEAL JOINTS WITH WEATHER-RESISTANT SEALANT.
3. SEE PLANS FOR OVERALL PAD DIMENSIONS.
4. COORDINATE EXACT LOCATION WITH CIVIL AND MECHANICAL DRAWINGS, AND EQUIPMENT SUPPLIER.

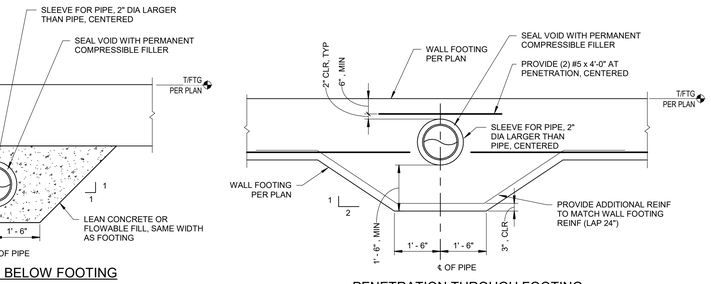
13/S502 TYPICAL EXTERIOR EQUIPMENT PAD DETAIL

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



12/S502 SECTION THRU TRENCH DRAIN

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



PENETRATION BELOW FOOTING

PENETRATION THROUGH FOOTING

NOTES:
1. SEE PLUMBING DRAWINGS FOR LOCATIONS AND SIZE OF PENETRATIONS.
2. DETAIL SHOWN IS FOR MAXIMUM OF 12" DIA PIPE FOR LARGER SIZE, CONTACT STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

14/S502 TYPICAL WALL FOOTING DETAIL AT PIPE/CONDUIT PENETRATION

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:			
#	Date	Desc.	
A1	07.31.2026	Addendum 1	

100% CONSTRUCTION DOCUMENTS

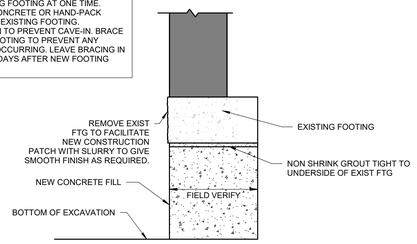
PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

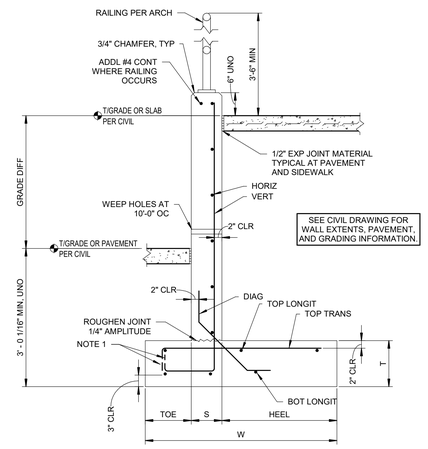
S502

PLOT DATE/TIME:7/31/2026 11:30:14 AM

UNDERPINNING NOTES:
1. ONLY EXCAVATE AND UNDERPIN A 4'-0" MAXIMUM LENGTH OF EXISTING FOOTING AT ONE TIME.
2. FORM AND POUR CONCRETE OR HAND-PACK GROUT UNDER THE EXISTING FOOTING.
3. BRACE EXCAVATION TO PREVENT CAVE-IN. BRACE EXIST WALL AND FOOTING TO PREVENT ANY MOVEMENT FROM OCCURRING. LEAVE BRACING IN PLACE FOR SEVEN DAYS AFTER NEW FOOTING HAS BEEN POURED.



2 S503 TYPICAL UNDERPINNING DETAIL
SCALE: 3/4" = 1'-0"



RETAINING WALL SCHEDULE

GEOMETRY

MARK	GRADE DIFF	W	HEEL	S	TOE	T
RW1	3'-9" MAX	3'-6"	1'-6"	12"	1'-0"	1'-6"
RW2	4'-3" MAX	4'-0"	2'-0"	12"	1'-0"	1'-6"

REINFORCEMENT

MARK	VERT	HORIZ	DIAG	TOP LONGIT	TOP TRANS	BOT LONGIT
RW1	#4 @ 12"	#5 @ 12"	#4 @ 12"	#4 @10" C/C	#6 @ 12"	(4) #4
RW2	#4 @ 12"	#5 @ 12"	#4 @ 12"	#4 @10" C/C	#6 @ 12"	(4) #4

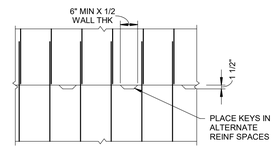
NOTES:
1. "H" IN REINF SCHEDULE INDICATES STANDARD HOOK REQUIRED AT END OF NOTED REINF AT TOE OF FOOTING.

1 S503 TYPICAL RETAINING WALL DETAIL
SCALE: 3/4" = 1'-0"

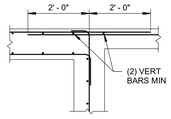
MINIMUM WALL REINFORCEMENT

WALL THICKNESS	HORIZ BARS	VERT BARS	LOCATION
6" AND UNDER	#4 @ 12"	#4 @ 12"	CENTERLINE
> 6" TO 8"	#5 @ 15"	#5 @ 15"	CENTERLINE
> 8" TO 10"	#5 @ 12"	#5 @ 12"	CENTERLINE
> 10" TO 12"	#4 @ 12"	#4 @ 12"	EACH FACE
> 12" TO 14"	#5 @ 18"	#5 @ 18"	EACH FACE
> 14" TO 16"	#5 @ 15"	#5 @ 15"	EACH FACE
> 16" TO 18"	#5 @ 14"	#5 @ 14"	EACH FACE

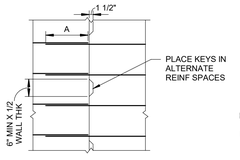
NOTES:
1. WALLS ARE TO BE REINFORCED WITH THE MINIMUM REINFORCEMENT INDICATED, UNO.
2. "A" INDICATES Lt LAP SPLICE, SEE TYPICAL LAP SPLICE TABLES.
3. PROVIDE KEYED HORIZONTAL JOINT AT SHEAR WALLS AND RETAINING WALLS.
4. PROVIDE KEYED VERTICAL JOINT AT SHEAR WALLS.
5. SMALL WALL SECTION DETAILS APPLY TO BOTH HORIZONTAL AND VERTICAL DIRECTIONS.



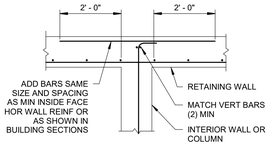
ELEVATION OF HORIZONTAL JOINT (SEE NOTE 3)



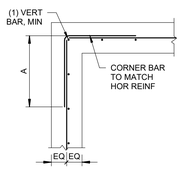
WALL INTERSECTION OF SINGLE AND DOUBLE LAYER REINFORCING



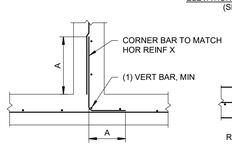
ELEVATION OF VERTICAL JOINT (SEE NOTE 4)



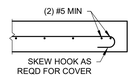
WALL INTERSECTION AT RETAINING WALL



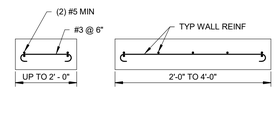
WALL CORNER (1 LAYER REINF)



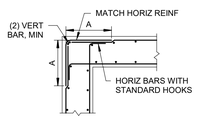
WALL INTERSECTION (1 LAYER REINF)



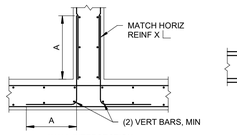
WALL ENDS SINGLE LAYER (1 LAYER REINF)



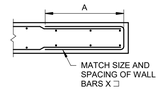
SMALL WALL SECTIONS (NOTE 5)



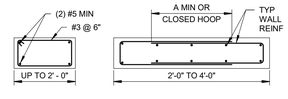
WALL CORNER (2 LAYER REINF)



WALL INTERSECTION (2 LAYER REINF)

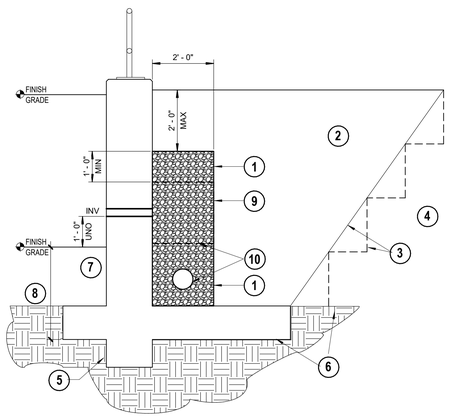


WALL ENDS DOUBLE LAYER (2 LAYER REINF)



SMALL WALL SECTIONS (NOTE 5)

4 S503 TYPICAL CONCRETE WALL REINFORCING DETAILS
SCALE: 1/2" = 1'-0"



TYPE A

DETAIL NOTES: (#)

1. ZONE OF COMPACTED GRANULAR FILL.
2. ZONE OF COMPACTED FILL AND FINISH GRADE MATERIALS. SEE CIVIL DRAWINGS.
3. LINE OF EXCAVATION AND/OR BENCHING AS DETERMINED BY THE CONTRACTOR FOR THE SITE SOIL CONDITIONS IN ACCORDANCE WITH RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT AND THE PROJECT GEOTECHNICAL TESTING AGENCY. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING SAFETY DURING ALL EARTH WORKS OPERATIONS.
4. EXISTING SOIL OR COMPACTED FILL.
5. KEY (WHERE REQUIRED). INSTALL IN SUITABLE EXISTING FIRM UNDISTURBED SOIL OR COMPACTED FILL.
6. INSTALL FOOTINGS ON AND WITHIN SUITABLE FIRM UNDISTURBED SOIL OR COMPACTED FILL.
7. ZONE OF COMPACTED FILL AND FINISH GRADE MATERIALS PER CIVIL DRAWINGS.
8. INSTALL FOOTINGS TO ELEVATIONS INDICATED ON THE DRAWINGS. IN NO CASE SHALL BOTTOMS OF FOOTINGS BE LESS THAN THE GREATER OF LOCAL FROST DEPTH OR 3'-0" BELOW LOWER FINISH GRADE ELEVATION. IF A DIMENSIONAL DISCREPANCY OCCURS THAT WOULD IMPLY PLACEMENT WITH LESS THAN REQUIRED SOIL COVER, NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY AND DO NOT INSTALL THE FOOTING WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.
9. WHERE WEEP HOLES ARE INDICATED ON STRUCTURAL DETAILS, INSTALL 2'-0" X 2'-0" CONTINUOUS BED OF COMPACTED GRANULAR FILL WRAPPED IN FILTER FABRIC, TIGHT TO WALL, CENTERED ON WEEP HOLE CENTERLINE ELEVATION. WHERE WEEP HOLES ARE INDICATED BUT NOT OTHERWISE SIZED, USE 2-INCH DIAMETER PVC PIPE SPACED AT A MAXIMUM OF 10'-0" OC, UNO.
10. WHERE FOOTING DRAINS ARE INDICATED ON STRUCTURAL DETAILS, INSTALL 2'-0" WIDE BED OF COMPACTED GRANULAR FILL WRAPPED IN FILTER FABRIC, FULL HEIGHT FROM TOP OF FOOTING TO TOP OF GRANULAR FILL LAYER. WHERE FOOTING DRAINS ARE INDICATED BUT NOT OTHERWISE SIZED, USE MINIMUM OF 6-INCH DIAMETER PERFORATED PVC PIPER, EXTENDED TO DRAINAGE OUTLET AS INDICATED ON THE CIVIL DRAWINGS.FULLY WRAP DRAINS WITH FILTER FABRIC PRIOR TO SETTING IN PLACE.

3 S503 TYPICAL RETAINING WALL BACKFILL DETAIL
SCALE: 1/2" = 1'-0"

RETAINING WALL BACKFILL DETAIL

GENERAL NOTES:

A. SEE RETAINING WALL STRUCTURAL DETAILS FOR REINFORCEMENT, DIMENSIONS, AND ADDITIONAL INFORMATION.
B. SEE CIVIL DRAWINGS FOR WALL LOCATIONS, LENGTHS, ELEVATIONS, GRADING AND ADDITIONAL INFORMATION.
C. ALL SOILS AND BACKFILL OPERATIONS SHALL BE INSPECTED AND APPROVED BY THE PROJECT GEOTECHNICAL TESTING AGENCY.
D. BACKFILL EQUALLY ON BOTH SIDES OF WALL UNTIL LOWER SIDE OF GRADE IS WITHIN 8 INCHES (MAX) OF FINAL GRADE BEFORE PLACING REMAINDER OF HIGH SIDE GRADE. USE HAND-OPERATED COMPACTION EQUIPMENT WITHIN 6 FEET OF WALL.
E. PLACE BACKFILL IN LIFTS AND COMPACT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
F. COMPACTED GRANULAR FILL SHALL CONSIST OF NATURALLY OR ARTIFICIAL GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D-2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2- INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 (0.075-MM) SIEVE OR OTHER SUITABLE GRANULAR FILL APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
G. COMPACTED FILL SHALL BE SUITABLE CLEAN COMPACTABLE SOIL MATERIAL APPROVED BY THE PROJECT GEOTECHNICAL TESTING AGENCY.
H. FILTER FABRIC SHALL BE A LIGHTWEIGHT, NONWOVEN, 100% POLYPROPYLENE GEOTEXTILE WEIGHING NOT LESS THAN 3.5 OUNCES PER SQUARE YARD, MEETING ASTM D-4632 50% ELONGATION AT BREAK, WITH APPARENT OPENING SIZE EQUAL TO A #50 SIEVE AND FLOW RATE PER ASTM D-4491 OF NOT LESS THAN 150 GAL/MIN PER SFT.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

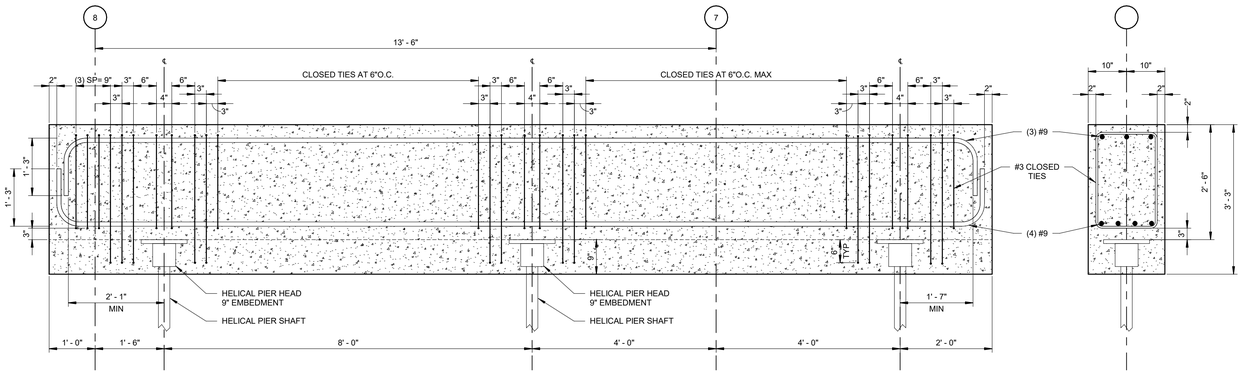
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FOUNDATION SCHEDULES, SECTIONS, & DETAILS

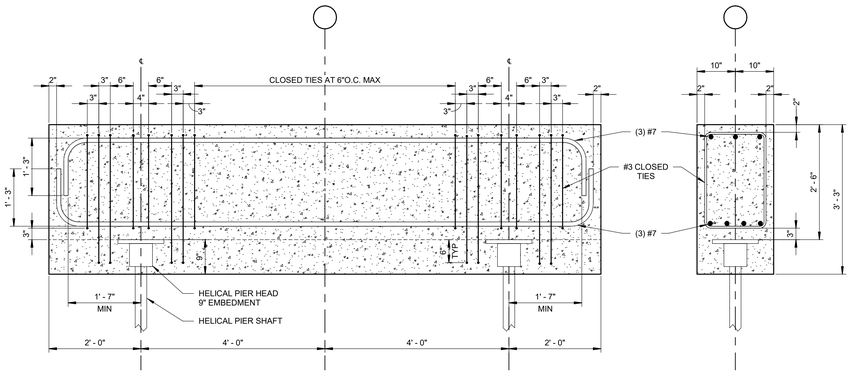
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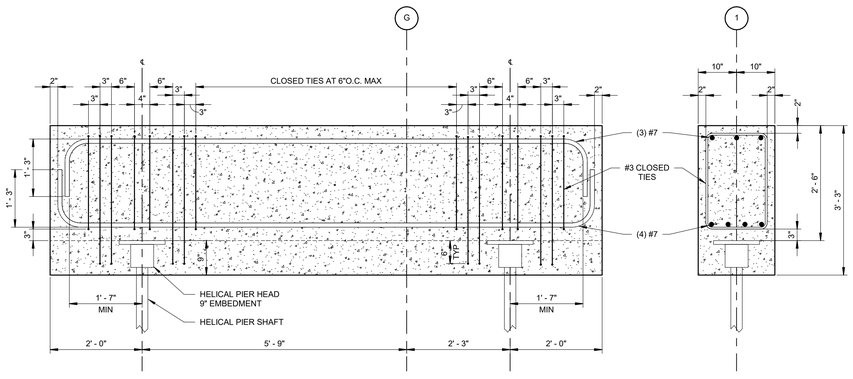
2 S504 GRADE BEAM GB2 DETAILING

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



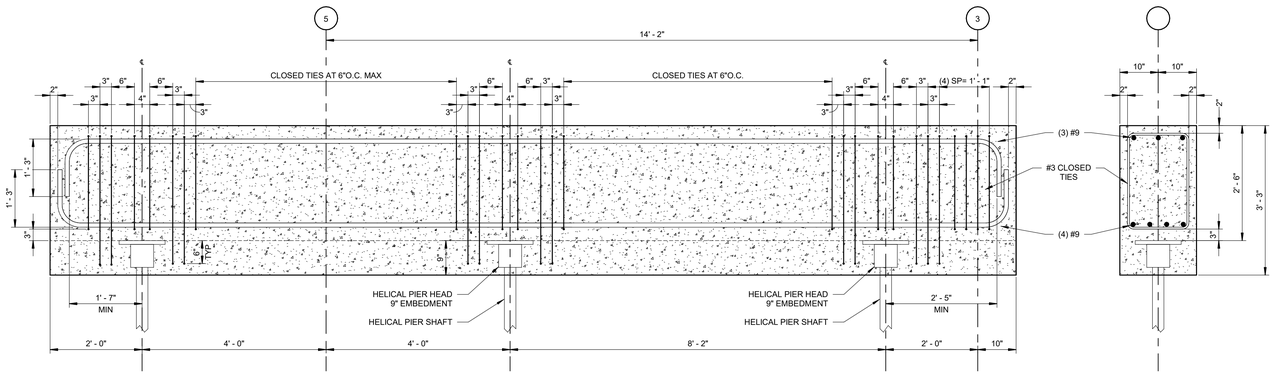
1 S504 GRADE BEAM GB1 DETAILING

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



4 S504 GRADE BEAM GB4 DETAILING

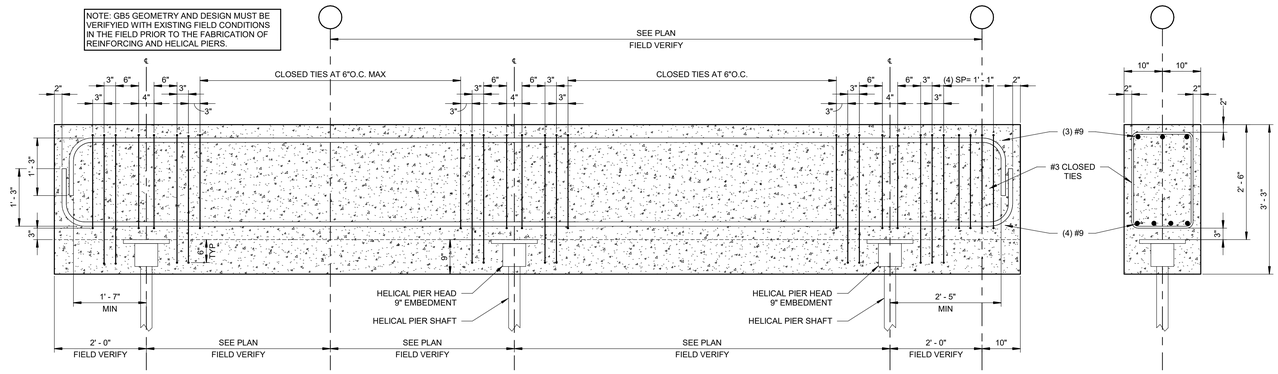
SCALE: 3/4" = 1'-0"



3 S504 GRADE BEAM GB3 DETAILING

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

NOTE: GB5 GEOMETRY AND DESIGN MUST BE VERIFYIED WITH EXISTING FIELD CONDITIONS IN THE FIELD PRIOR TO THE FABRICATION OF REINFORCING AND HELICAL PIERS.



5 S504 GRADE BEAM GB5 DETAILING

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

JQOL QUALITY OF LIFE

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW REGISTERED No. PE11800818 STATE OF INDIANA PROFESSIONAL ENGINEER
01/30/2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

GRADE BEAM DETAILS AND ELEVATIONS

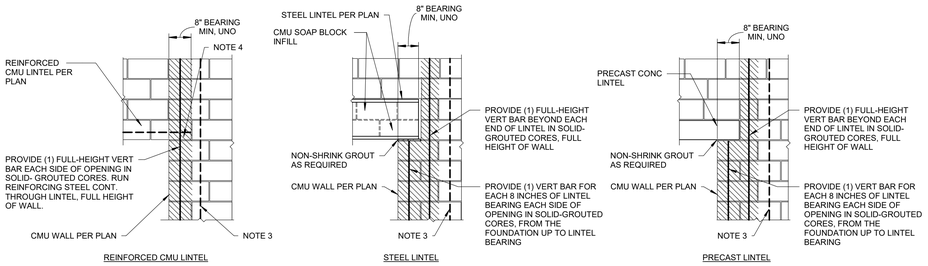
S504

A1

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TRUE NORTH

PLOT DATE/TIME: 7/31/2026 11:00:20 AM

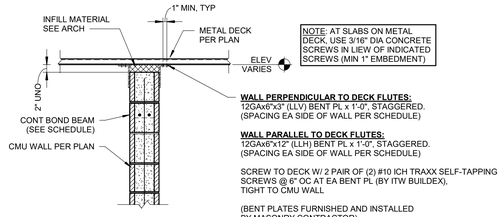


NOTES:

1. INSTALL LINTELS TO PROVIDE EQUAL BEARING LENGTH EACH SIDE OF OPENING, UNO.
2. VERTICAL BARS SHALL BE THE SAME SIZE AS TYPICAL VERTICAL WALL REINFORCEMENT, UNO.
3. FOR OPENINGS THAT INTERRUPT 2 OR MORE REGULARLY SPACED VERTICAL BARS, PROVIDE ONE ADDITIONAL FULL-HEIGHT BAR @ 8" OC ADJACENT TO EACH JAMB FOR EVERY 2 BARS INTERRUPTED BY THE OPENING.
4. AT CMU LINTEL BEARING, CUT OPENING THROUGH BOTTOM OF U-SHAPE LINTEL BLOCK AS REQUIRED TO ALLOW REINFORCEMENT AND GROUT PLACEMENT AT LINTEL BEARING.

3 S510 TYPICAL LINTEL BEARING DETAILS

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



NOTE: AT SLABS ON METAL DECK, USE 3/16" DIA CONCRETE SCREWS IN LIEW OF INDICATED SCREWS (MIN 1" EMBEDMENT)

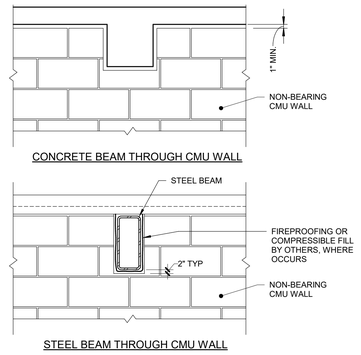
CMU PARTITION WALL BRACING SCHEDULE

CMU SIZE	*INTERSECTING WALL MAX SPACING	MAX BRIDGE SPACING	REMARKS
4"	10'-0"	4'-0"	
6"	15'-4"	6'-0"	
8"	18'-0"	6'-0"	

***NOTE**: PROVIDE BRACING AS SHOWN FOR ALL CMU PARTITION WALLS (WHICH ARE NOT OTHERWISE BRACED AT TOP) AT ALL LOCATIONS WHERE THE DISTANCE BETWEEN INTERSECTING WALLS EXCEEDS THE MAXIMUM SPACING SHOWN

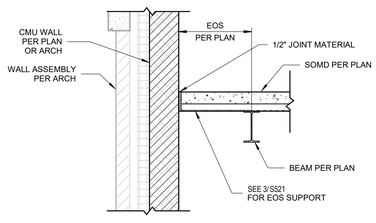
2 S510 TYP FULL-HEIGHT CMU PARTITION WALL BRACING (AT STEEL DECK)

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



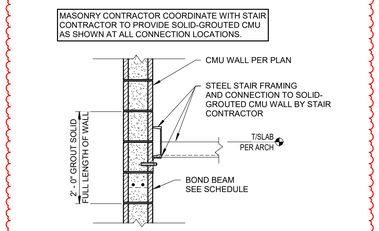
1 S510 TYPICAL CMU NON-BEARING WALL ISOLATION DETAILS

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



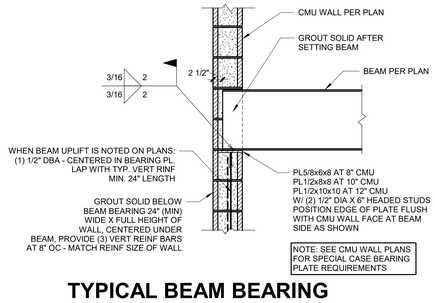
6 S510 SLAB EDGE AT CMU

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



5 S510 STAIR LANDING SUPPORT AT CMU WALL

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



NOTE: SEE CMU WALL PLANS FOR SPECIAL CASE BEARING PLATE REQUIREMENTS

4 S510 TYPICAL BEAM BEARING PERPENDICULAR TO CMU WALL

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

MASONRY REINFORCING STEEL LAP SPLICE CHART

BAR SPLICE LENGTHS

BAR	UNCOATED BARS		EPOXY-COATED BARS	
	TYPE 1.0LD	TYPE 1.5LD	TYPE 1.0LD	TYPE 1.5LD
#3	20"	36"	29"	54"
#4	26"	48"	39"	72"
#5	32"	60"	48"	90"
#6	39"	72"	58"	108"
#7	45"	84"	68"	126"
#8	52"	96"	77"	144"
#9	58"	109"	87"	164"

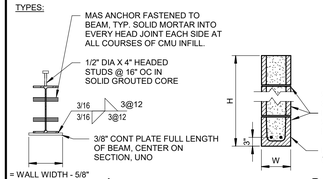
NOTES:

1. ALL SPLICES ARE TYPE 1.0LD, UNO.
2. BARS LARGER THAN #9 ARE REQUIRED TO BE SPLICED BY MECHANICAL CONNECTORS, UNO.
3. SPLICES BASED ON Fs = 32,000 PSI AND f'm ≥ 1500 PSI.
4. ALL BARS ARE UNCOATED, UNO.
5. USE EPOXY-COATED BARS ONLY IN PARKING STRUCTURE MASONRY WHERE SPECIFICALLY INDICATED, UNO.

LINTEL SCHEDULE

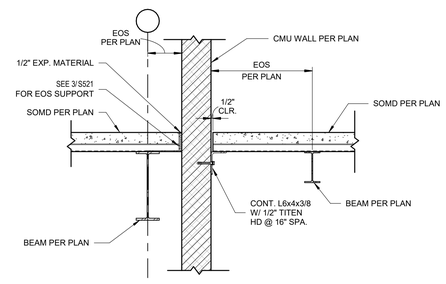
MARK	SECTION	CLEAR OPENING	TYPE	NOTES
L1	W8x15	PER ARCH	A	
L2	W16x31	PER ARCH	A	1/2" THICK CONT. PLATE
L3	W8x15	PER ARCH	A	1/2" THICK CONT. PLATE
L4	W x 16 H (NOMINAL) CMU	PER ARCH	B	

TYPES:



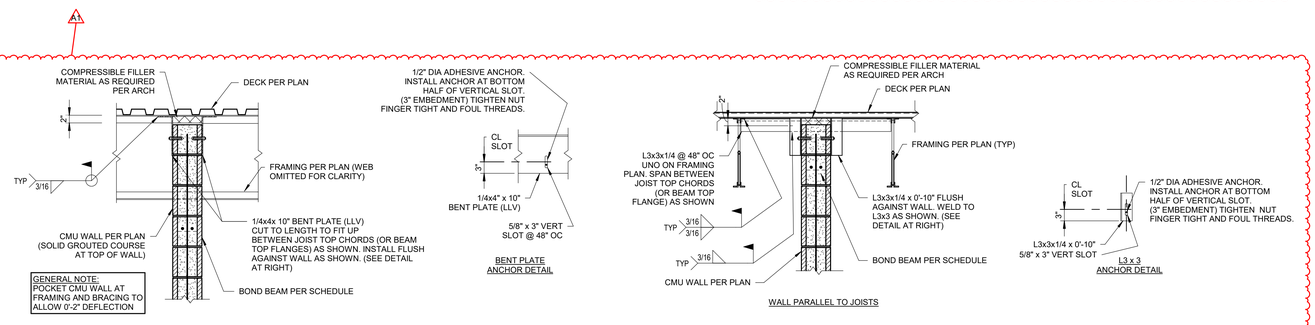
LINTEL SCHEDULE NOTES:

1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS AND SHELF ANGLES IN EXTERIOR WALLS SHALL BE GALVANIZED.
3. BOTTOM PLATES SHALL EXTEND THE FULL LENGTH OF THE LINTEL, INCLUDING BEARING LENGTH, UNO.
4. AT CMU INFILL (SOAPS) AT STEEL LINTELS, PROVIDE METAL ANCHORAGE AT EVERY COURSE @ 16" OC TO TIE CMU TO STEEL.



7 S510 SLAB EDGE AT INTERIOR CMU

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



9 S510 TYPICAL REINFORCING AT CMU WALLS

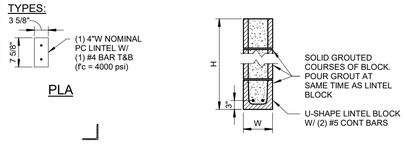
SCALE: 3/4" = 1'-0"

PRESCRIPTIVE LINTEL SCHEDULE

GENERAL NOTE: PROVIDE LINTELS IN THIS SCHEDULE FOR MASONRY OPENINGS WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED. WHERE A SPECIFIC LINTEL (L#) IS INDICATED FOR A PARTICULAR OPENING, PROVIDE THE SPECIFIC LINTEL (L#). FOR OPENINGS BEYOND THE LIMITS AND/OR MATERIALS IDENTIFIED IN THIS SCHEDULE WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED, CONTACT THE STRUCTURAL ENGINEER FOR REQUIRED LINTEL SIZE AND TYPE.

SECTION	CLEAR OPENING	TYPE	NOTES
W x 8 H (NOMINAL) CMU	UP TO 3'-4"	PLB	6", 8", 10", 12" CMU
W x 16 H (NOMINAL) CMU	>3'-4" UP TO 6'-4"	PLB	6", 8", 10", 12" CMU
W x 24 H (NOMINAL) CMU	>6'-4" UP TO 10'-4"	PLB	6", 8", 10", 12" CMU
L3 1/2 x 3 1/2 x 5/16	UP TO 4'-0"	PLC	4" MASONRY VENEER
L5 x 3 1/2 x 5/16 (LLV)	>4'-0" UP TO 6'-0"	PLC	4" MASONRY VENEER
L6 x 3 1/2 x 3/8 (LLV)	>6'-0" UP TO 8'-0"	PLC	4" MASONRY VENEER

TYPES:



PRESCRIPTIVE LINTEL SCHEDULE NOTES:

1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



REVISIONS:	#	Date	Desc.
	A1	07.31.2026	Addendum 1

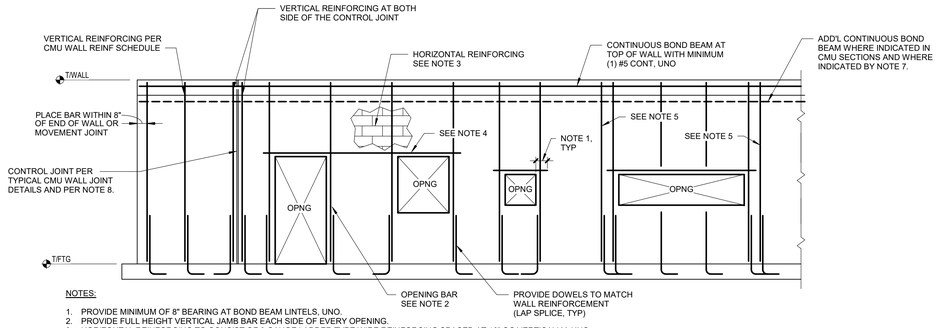
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

MASONRY SCHEDULES, SECTIONS, & DETAILS

S510

PLOT DATE/TIME:7/31/2026 11:55:15 AM

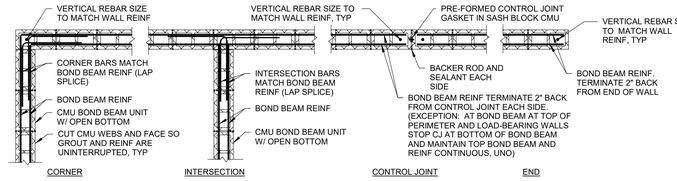


NOTES:

1. PROVIDE MINIMUM OF 8" BEARING AT BOND BEAM LINTELS, UNO.
2. PROVIDE FULL HEIGHT VERTICAL JAMB BAR EACH SIDE OF EVERY OPENING.
3. HORIZONTAL REINFORCING TO CONSIST OF 9 GAUGE LADDER TYPE WIRE REINFORCING SPACED AT 16" OC VERTICALLY, UNO.
4. PROVIDE CONTINUOUS BOND BEAM LINTELS OVER ADJACENT SAME-HEIGHT OPENINGS WITH LESS THAN 2'-8" OF MASONRY BETWEEN OPENINGS.
5. FOR OPENINGS THAT INTERRUPT 2 OR MORE REGULARLY SPACED VERTICAL BARS, PROVIDE ONE ADDITIONAL BAR AT 8" OC ADJACENT TO EACH JAMB FOR EVERY 2 BARS INTERRUPTED BY THE OPENING.
6. CONDITION SHOWN ON THIS DETAIL IS FOR BOND BEAM LINTELS. SEE LINTEL BEARING DETAILS FOR BAR PLACEMENT INFORMATION AT STEEL AND PRECAST LINTELS (WHEN PERMITTED).
7. FOR 6" TO 10" THICK WALLS, WHERE WALL IS GREATER THAN 14' TALL (MEASURED FROM TOP OF FOOTING) PROVIDE ADDITIONAL CONTINUOUS BOND BEAM AT 10'-0" ABOVE FINISH FLOOR AND AT 10'-0" OC MAX. FOR 12" THICK WALLS PROVIDE CONTINUOUS BOND BEAM AT 12'-0" OC MAX.
8. BOND BEAM REINFORCEMENT AT CONTROL JOINTS:
   A. FOR PERIMETER AND LOAD BEARING WALLS:
      a. EXTEND CJ FROM BOTTOM OF CMU WALL TO BOTTOM OF CONT BOND BEAM AT TOP OF WALL, UNO.
      b. EXTEND CJ FROM BOTTOM OF CMU WALL THROUGH BOND BEAM LOCATED NOT AT TOP OF WALL, UNO.
   B. FOR INTERIOR NON LOAD BEARING PARTITION WALLS: EXTEND CJ FULL HEIGHT OF WALL, UNO.

1 S511 TYPICAL REINFORCING AT CMU WALLS

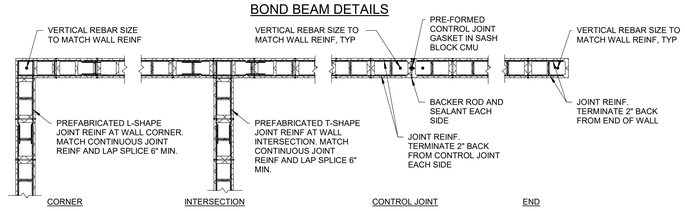
SCALE: 3/4" = 1'-0"



BOND BEAM DETAILS

NOTES:

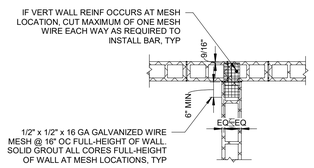
1. VERTICAL REINFORCEMENT INDICATED ON THIS DETAIL IS REQUIRED IN ADDITION TO SCHEDULED VERTICAL REINFORCEMENT, UNLESS SCHEDULED REINFORCEMENT ALREADY OCCURS AT THE INDICATED LOCATIONS.
2. PROVIDE LAPPED DOWELS INTO FOUNDATION AT ALL VERTICAL REINFORCEMENT.
3. PROVIDE HORIZONTAL JOINT REINFORCEMENT AND BOND BEAM REINFORCEMENT IN CMU WALLS IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.



JOINT REINFORCEMENT DETAILS

2 S511 TYPICAL CMU WALL JOINT DETAILS

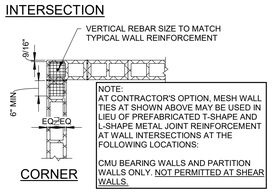
SCALE: 1/2" = 1'-0"



INTERSECTION

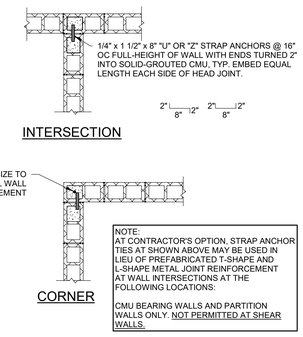
REQUIRED MESH SIZE:
4" CMU: 3" WIDE
6" CMU: 4" WIDE
8" CMU: 6" WIDE
10" CMU: 8" WIDE
12" CMU: 10" WIDE

MESH SHALL BE MWT WIRE MESH BY HOHMANN AND BARNARD OR EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER.



CORNER

ALTERNATE CMU WALL INTERSECTION TIE DETAIL (WIRE MESH)



INTERSECTION

CORNER

ALTERNATE CMU WALL INTERSECTION TIE DETAIL (STRAP ANCHOR)

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. PARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

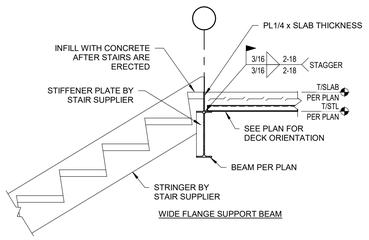
100% CONSTRUCTION DOCUMENTS

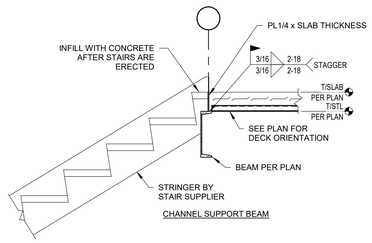
PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

MASONRY SCHEDULES, SECTIONS, & DETAILS

S511

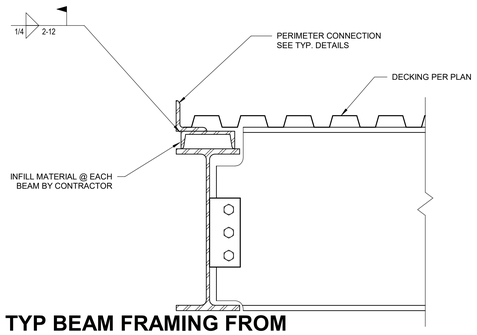
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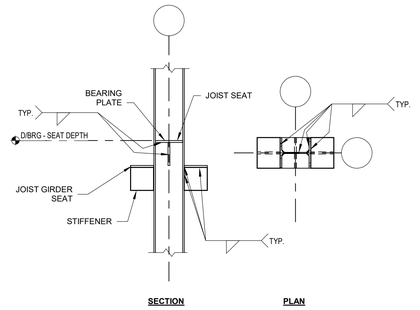
3 S520 STAIR ATTACHMENT DETAIL

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



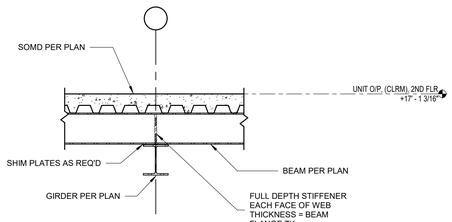
2 S520 TYP BEAM FRAMING FROM BEAM INLINE W/ JOISTS

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



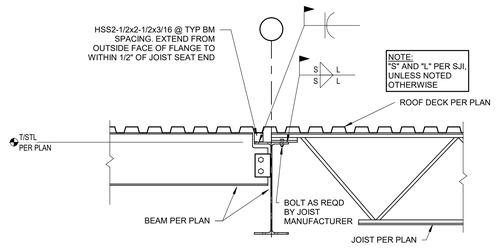
1 S520 TYPICAL COLUMN JOIST AND JOIST GIRDER SEATS

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



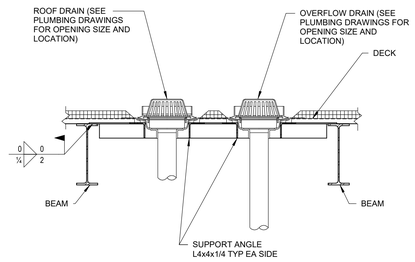
7 S520 BEAM BEARING ON BEAM

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



6 S520 JOIST TO BEAM BEARING ON BEAM

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



NOTES:

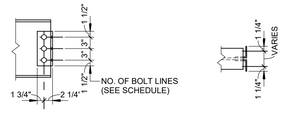
1. COORDINATE QUANTITY AND LOCATION OF ALL ROOF DRAINS WITH PLUMBING AND ARCHITECTURAL DRAWINGS.
2. COORDINATE ROOF DRAIN ASSEMBLIES WITH PLUMBING CONTRACTOR AND PROVIDE AND INSTALL ALL STEEL FRAMING (AND GALVANIZED METAL SUMP PANS IF REQUIRED) AS NECESSARY FOR COMPLETE SUPPORT OF ALL ROOF DRAIN ASSEMBLIES.

5 S520 SECTION @ ROOF DRAIN

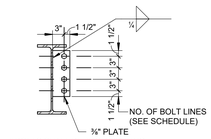
SCALE: 3/4" = 1'-0"

MINIMUM NUMBER OF BOLTS REQUIRED FOR SHEAR CONNECTION

BEAM DEPTH	REQUIRED # OF ROWS
W8 - W12	2
W14 - W18	3
W21-W24	4
W27 - W30	5
W33 - W40	6
W44	7



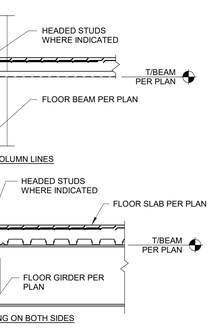
* BOLTS SHALL BE ¾"Ø A325 (UNO)
* SEE PLAN FOR END REACTIONS
* ALL ANGLES USED SHALL BE L4x3x5/16 (UNO)



* BOLTS SHALL BE ¾"Ø A325 (UNO)
* SEE PLAN FOR END REACTIONS
* ALL PLATES ARE ⅜" THICK (UNO)

4 S520 TYP STEEL BEAM CONNECTIONS

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

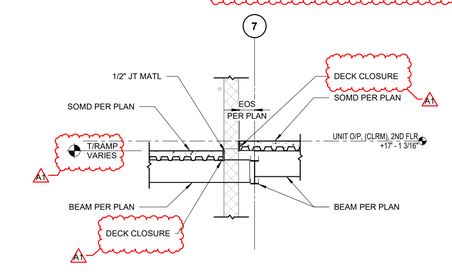


NOTES:

1. REINFORCEMENT SHOWN ON THIS DETAIL IS IN ADDITION TO ALL OTHER INDICATED REINFORCEMENT, UNO.
2. CONCRETE CONTRACTOR SHALL SECURELY CHAIR ALL REINFORCEMENT PRIOR TO CONCRETE PLACEMENT AND MAINTAIN PROPER REINFORCEMENT POSITIONING THROUGHOUT THE CONCRETE PLACEMENT.

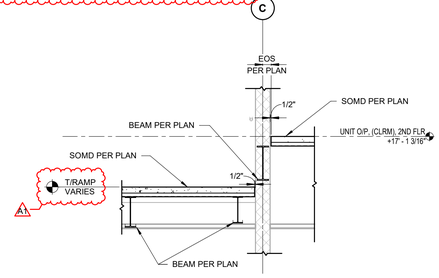
12 S520 TYPICAL SOMD REINFORCING OVER INTERIOR BEAMS AND GIRDERS AT COLUMN LINES

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



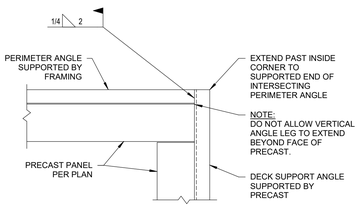
10 S520 SOMD ELEVATION SECTION

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

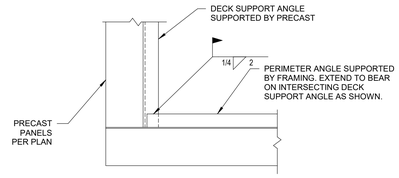


9 S520 SOMD ELEVATION CHANGE

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



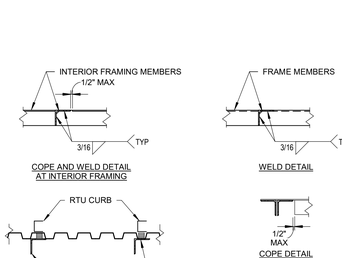
RE-ENTRANT CORNER



OUTSIDE CORNER

8 S520 TYPICAL DECK SUPPORT ANGLES AT CORNERS

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

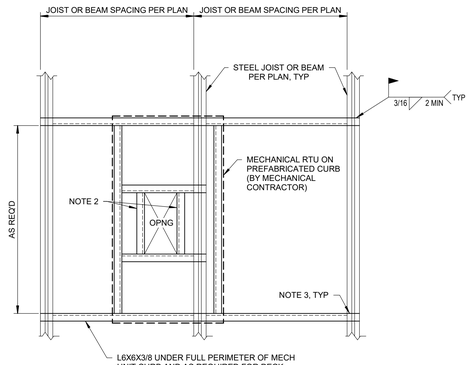


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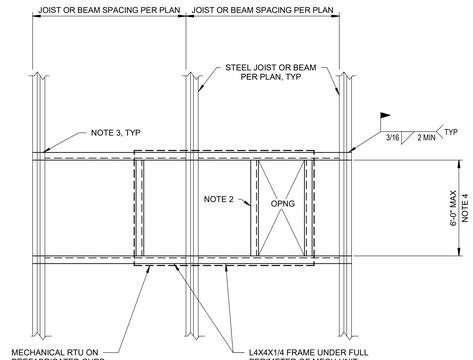
1. COORDINATE UNIT SIZE, LOCATION, AND REQUIRED OPENINGS WITH MECHANICAL CONTRACTOR PRIOR TO FABRICATION. FASTEN DECK TO OPENING FRAME @6" OC MAX AROUND UNIT PERIMETER AND AROUND PERIMETER OF ALL OPENINGS.
2. PROVIDE SUPPLEMENTAL DECK SUPPORT ANGLE AT OPENINGS(AS REQUIRED) IF DECK CANTILEVER SPAN EXCEEDS 1'-0".
3. FOR FRAME ANGLE BEARING LOCATIONS ON STEEL JOISTS THAT DO NOT OCCUR AT PANEL POINTS, SEE "TYPICAL JOIST REINFORCING DETAIL" FOR REINFORCING REQUIREMENTS.
4. PROVIDE INDICATED RTU SUPPORT FRAMING NOT TO EXCEED SPACING INDICATED SPANNING BETWEEN ADJACENT ROOF FRAMING MEMBERS.

11 S520 TYPICAL RTU SUPPORT

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



RTU WITH LONG DIRECTION PARALLEL TO FRAMING



RTU WITH LONG DIRECTION PERPENDICULAR TO FRAMING

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. AYRES
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

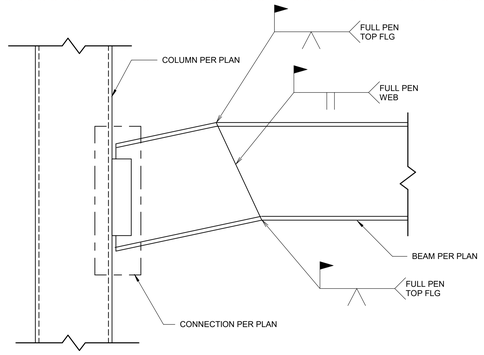
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

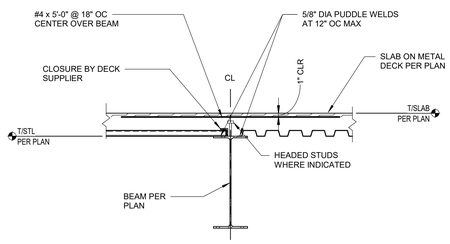
S520

PLOT DATE/TIME: 7/31/2026 11:06:17 AM



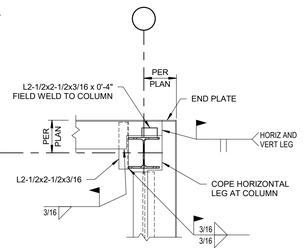
6 S521 TYPICAL BENT BEAM DETAIL

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

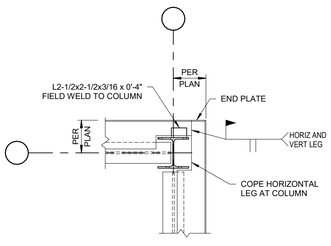


5 S521 CHANGE IN FLOOR DECK SPAN DIRECTION (BEAMS)

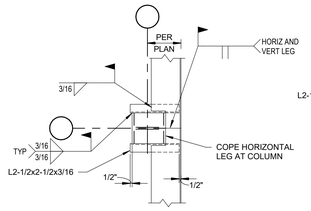
SCALE: 3/4" = 1'-0"



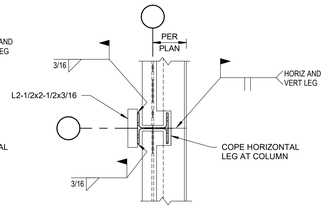
PLAN AT CORNER WITH JOIST SUPPORTED EDGE MEMBER



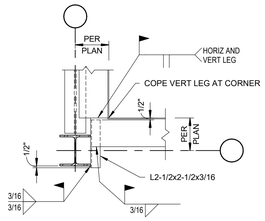
PLAN AT CORNER WITH BEAM SUPPORTED EDGE MEMBER



PLAN AT JOIST SUPPORTED EDGE MEMBER



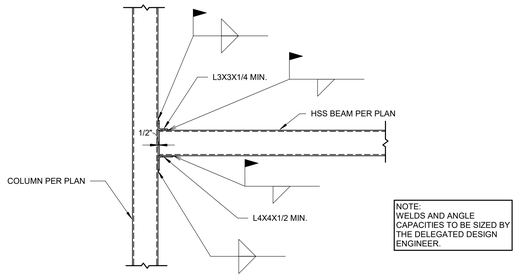
PLAN AT BEAM SUPPORTED EDGE MEMBER



PLAN AT INSIDE CORNER WITH JOIST SUPPORTED EDGE MEMBER

1 S521 TYPICAL EDGE ANGLE/BENT PLATE SUPPORT AT COLUMNS

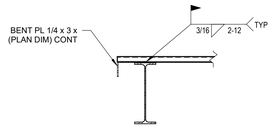
SCALE: 3/4" = 1'-0"



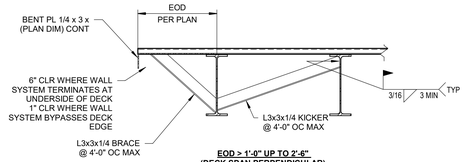
7 S521 TYPICAL HSS BEAM TO COLUMN SHEAR CONNECTION

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

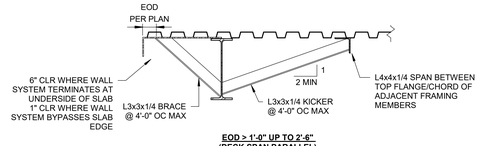
NOTES:
1. FOR EDGE OF DECK DISTANCES EXCEEDING LIMITS SHOWN, CONTACT STRUCTURAL ENGINEER FOR REVIEW AND DO NOT FABRICATE WITHOUT PRIOR REVIEW AND APPROVAL.



EOD ≤ 1'-0"



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PERPENDICULAR)



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PARALLEL)

STEEL SHEAR CONNECTION NOTES

STEEL SHEAR CONNECTION TYPICAL DETAIL GENERAL NOTES:

ALL CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR, UNO. DETAILS INDICATED ON THE STRUCTURAL DRAWINGS ARE PROVIDED TO SHOW CONNECTION CONCEPT ONLY AND ARE NOT TO BE CONSIDERED A FULL DESIGN. THE FABRICATOR'S REGISTERED PROFESSIONAL ENGINEER SHALL DESIGN ALL CONNECTIONS AS REQUIRED TO SAFELY TRANSFER THE DESIGN FORCES AND ALLOW FOR FIELD FIT-UP AND ERECTION TOLERANCE ACCORDING TO THE 14TH EDITION AISC STEEL MANUAL AND THE FOLLOWING:

DOUBLE ANGLE CONNECTIONS:

1. ONLY SINGLE VERTICAL ROW OF BOLTS IS PERMITTED. THE NUMBER OF BOLTS IN THE CONNECTION, n, MUST BE BETWEEN 2 AND 12.
2. STANDARD HOLES (STD) OR SHORT-SLOTTED HOLES TRANSVERSE TO THE DIRECTION OF THE SUPPORTED MEMBER REACTION (SSLT) ARE PERMITTED.
3. WHERE SLOTTED HOLES ARE PARALLEL TO THE DIRECTION OF THE SUPPORTED MEMEBER REACTION, THE CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
4. THE OUTSTANDING LEGS MUST BE BOLTED TO THE SUPPORTING MEMBER WHERE AXIAL LOAD IS PRESENT.
5. THE VERTICAL EDGE DISTANCE, L_{ev}, AND HORIZONTAL EDGE DISTANCE, L_{eh}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS.

CONVENTIONAL SHEAR PLATE CONNECTION NOTES:

1. ONLY SINGLE VERTICAL ROW OF BOLTS IS PERMITTED. THE NUMBER OF BOLTS IN THE CONNECTION, n, MUST BE BETWEEN 2 AND 12.
2. THE WELD BETWEEN THE SINGLE PLATE AND THE SUPPORT SHOULD BE SIZED AS (5/8)L_k, WHICH WILL DEVELOP THE STRENGTH OF EITHER A 36 KSI OR 50 KSI PLATE. FOR SKEWED CONNECTIONS PROVIDE PREQUALIFIED WELDS SHOWN IN TABLE 10-14C OR CJP.
3. THE DISTANCE FROM BOLT LINE TO THE WELD LINE, a, MUST BE EQUAL TO OR LESS THAN 3 1/2".
4. BOLTS AND PLATE MUST BE CHECKED FOR REQUIRED SHEAR WITH AN ECCENTRICITY EQUAL TO e, AS GIVEN IN TABLE 10-9.
5. STANDARD HOLES (STD) OR SHORT-SLOTTED HOLES TRANSVERSE TO THE DIRECTION OF THE SUPPORTED MEMBER REACTION (SSLT) ARE PERMITTED TO BE USED AS NOTED IN TABLE 10-9.
6. THE VERTICAL EDGE DISTANCE, L_{ev}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS. THE HORIZONTAL EDGE DISTANCE, L_{eh}, SHOULD BE GREATER THAN OR EQUAL TO 2d, WHERE d IS THE BOLT DIAMETER.
7. EITHER THE PLATE THICKNESS, t_p, OR THE BEAM WEB THICKNESS, t_w, MUST SATISFY THE MAXIMUM THICKNESS REQUIREMENT GIVEN IN TABLE 10-9.
8. FOR CONNECTIONS TO HSS COLUMNS, THE PLATE THICKNESS, tp, SHALL BE PROPORTIONED TO PREVENT HSS PUNCHING SHEAR SO THAT: $t_p >= (F_v \times L_{ev})/F_{yp}$.
9. CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
10. CONNECTION MAY NOT BE FULLY WELDED UNLESS WRITTEN PERMISSION IS GRANTED BY THE ENGINEER-OF-RECORD.

EXTENDED SHEAR PLATE CONNECTION NOTES:

1. THE NUMBER OF BOLTS IN THE CONNECTION, n, IS UNLIMITED.
2. THE WELD BETWEEN THE SINGLE PLATE AND THE SUPPORT SHOULD BE SIZED AS (5/8)L_k, WHICH WILL DEVELOP THE STRENGTH OF EITHER A 36 KSI OR 50 KSI PLATE. FOR SKEWED CONNECTIONS PROVIDE PREQUALIFIED WELDS SHOWN IN TABLE 10-14c OR CJP.
3. THE DISTANCE FROM BOLT LINE TO WELD LINE, a, IS NOT LIMITED.
4. THE USED OF HOLES MUST SATISFY AISC SPECIFICATIONS SECTION J3.2 REQUIREMENTS.
5. THE HORIZONTAL AND VERTICAL EDGE DISTANCE, L_{eh} AND L_{ev}, MUST SATISFY AISC SPECIFICATIONS TABLE J3.4 REQUIREMENTS.
6. EITHER THE PLATE THICKNESS, t_p, OR THE BEAM WEB THICKNESS, tw, MUST SATISFY THE MAXIMUM THICKNESS REQUIREMENT GIVEN IN AISC MANUAL TO ENSURE PROPER ROTATIONAL DUCTILITY.
7. CONNECTION IS TO BE SLIP CRITICAL (CLASS A) AND CENTERED ON BEAM WEB WHERE AXIAL LOAD IS PRESENT.
8. CONNECTION MAY NOT BE FULLY WELDED UNLESS WRITTEN PERMISSION IS GRANTED BY THE ENGINEER-OF-RECORD.

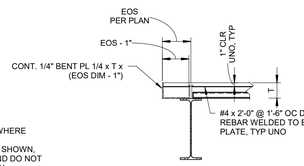
BEAM COPE GENERAL NOTES:

- "CLR" EQUALS DISTANCE FROM COPED BEAM WEB AND GIRDER FLANGE SHALL BE 1/2" MIN
- THETA EQUALS ANGLE OF SKEW FROM PERP

1. COPE LENGTH SHALL BE BASED ON THE GIRDER DIMS AND SHALL BE THE GREATER OF (NEAREST 1/16"):
   A. [(b$_r$ - t$_s$)/2 + CLR]/cos(THETA) + 0.0624"
   B. > A; BASED ON ENGINEERING JUDGMENT
2. COPE DEPTH SHALL BE BASED ON THE BEAM AND GIRDER DIMS AND SHALL BE THE GREATER OF (NEAREST 1/16"):
   A. t$_f$ + 1/2" + 0.0624" +/- ELEV DIFF FROM T/STL OF GIRDER
   B. k$_{det}$ + 0.0624" +/- ELEV DIFF FROM T/STL OF GIRDER

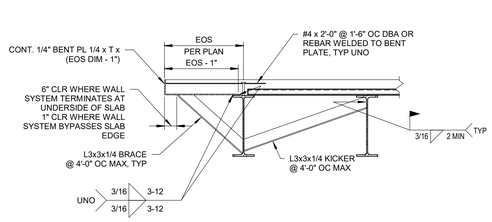
2 S521 PERIMETER EDGE OF DECK SUPPORT

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

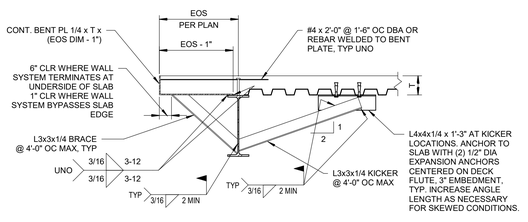


NOTES:
1. DBA / REBAR AS INDICATED IS REQUIRED EXCEPT WHERE SPECIFICALLY NOTED "NO DBA".
2. FOR EDGE OF SLAB DISTANCES EXCEEDING LIMITS SHOWN, CONTACT STRUCTURAL ENGINEER FOR REVIEW AND DO NOT FABRICATE WITHOUT PRIOR REVIEW AND APPROVAL.

EOD ≤ 1'-0"



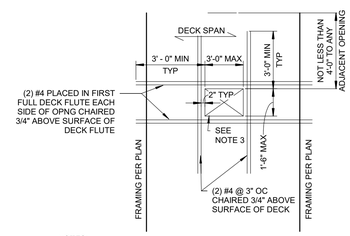
EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PERPENDICULAR)



EOD > 1'-0" UP TO 2'-6"
(DECK SPAN PARALLEL)

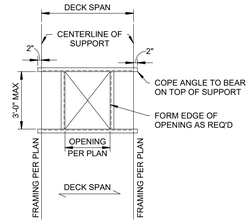
3 S521 PERIMETER EDGE OF SLAB SUPPORT

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



NOTES:
1. WHERE ANY CONDITION DOES NOT CONFORM TO THE LIMITS SHOWN USE A PERMISSIBLE ANGLE-FRAMED OR BEAM-FRAMED OPENING.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED ITS 28-DAY STRENGTH.
3. NOT MORE THAN ONE SUCH OPENING PARALLEL TO DECK SPAN IN ANY SINGLE FRAMING SPACE.

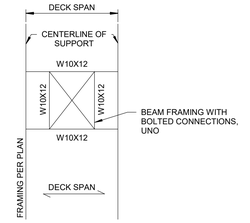
REINFORCED OPENINGS



WELDED ANGLE FRAME
FOR DECK SPAN UP TO 6'-0", USE L4X4X1/4
FOR DECK SPAN >6'-0" UP TO 10'-0", USE L6X4X5/16 (LLV)

NOTES:
1. WHERE ANY CONDITION DOES NOT CONFORM TO THE LIMITS SHOWN USE A PERMISSIBLE ANGLE-FRAMED OR BEAM-FRAMED OPENING.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED A MINIMUM OF 75% OF ITS 28-DAY STRENGTH OR DECK SUPPLIER PROVIDE GAUGE METAL POUR STOP AROUND ENTIRE PERIMETER OF OPENING.

ANGLE-FRAME OPENINGS



NOTES:
1. WHERE CONDITIONS EXCEED THE LIMITATIONS FOR UNREINFORCED, REINFORCED AND ANGLE-FRAME OPENINGS, PROVIDE BEAM-FRAMED OPENING AS SHOWN, UNO.
2. FORM/BLOCK OUT OPENING BUT DO NOT CUT DECK UNTIL CONCRETE HAS REACHED A MINIMUM OF 75% OF ITS 28-DAY STRENGTH OR DECK SUPPLIER PROVIDE GAUGE METAL POUR STOP AROUND ENTIRE PERIMETER OF OPENING.

BEAM-FRAME OPENINGS

4 S521 TYPICAL SLAB ON METAL DECK OPENING DETAILS

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY BARLOW
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

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A1	07.31.2026	Addendum 1	

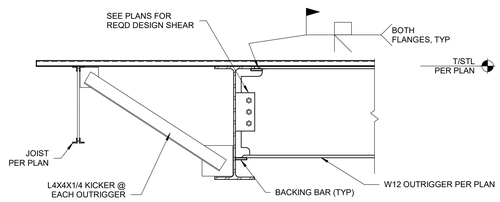
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

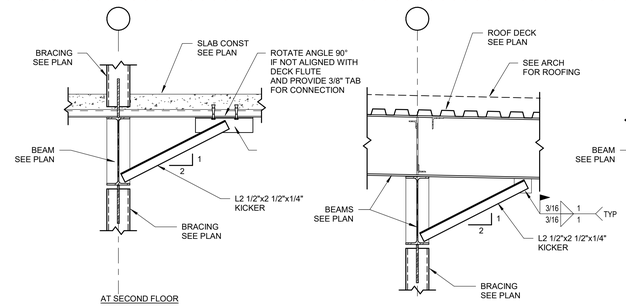
S521

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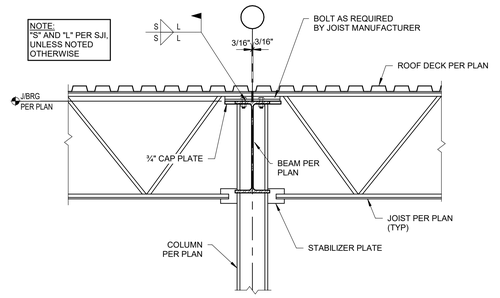
TYP STEEL BEAM MOMENT CONNECTION AT UNEQUAL DEPTH GIRDER

3 / S522 SCALE: 3/4" = 1'-0"



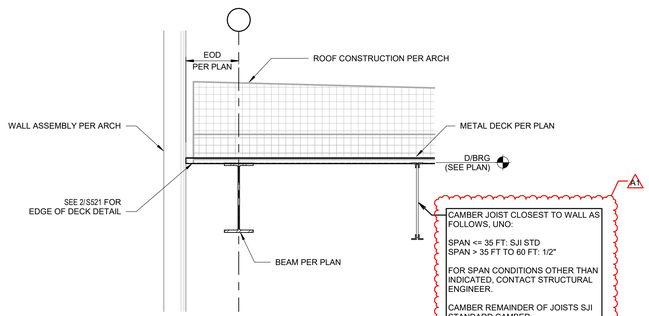
LATERAL BRACING AT BRACE CONNECTIONS

2 / S522 SCALE: 3/4" = 1'-0"



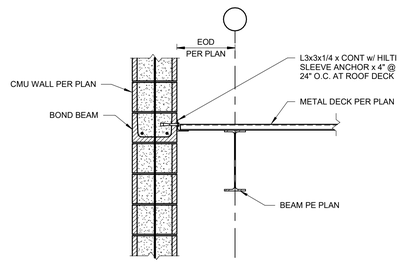
JOIST TO COLUMN DETAIL

1 / S522 SCALE: 3/4" = 1'-0"



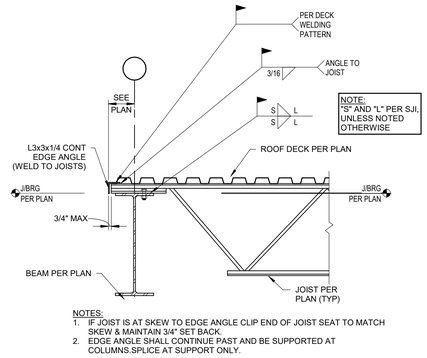
BEAM ELEVATION PARALLEL TO JOIST

7 / S522 SCALE: 3/4" = 1'-0"



DECK BEARING PARALLEL TO JOISTS

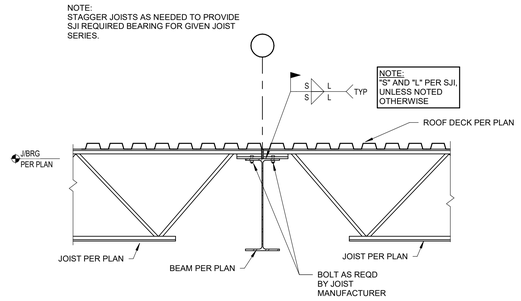
6 / S522 SCALE: 3/4" = 1'-0"



NOTES:
1. IF JOIST IS AT SKEW TO EDGE ANGLE CLIP END OF JOIST SEAT TO MATCH SKEW & MAINTAIN 3/4" SET BACK.
2. EDGE ANGLE SHALL CONTINUE PAST AND BE SUPPORTED AT COLUMNS.SPLICE AT SUPPORT ONLY.

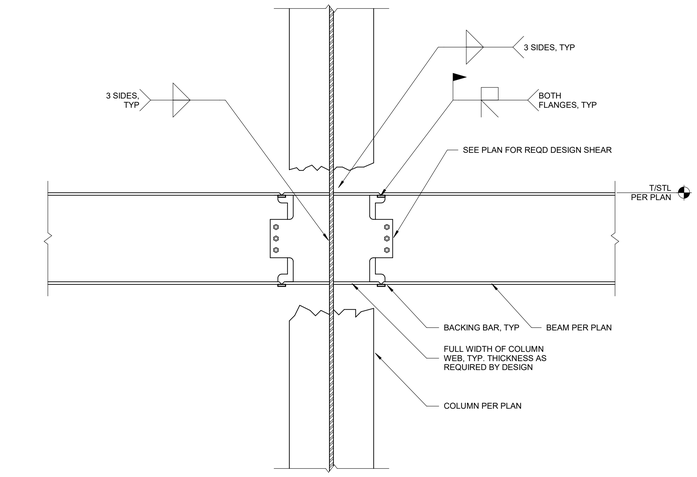
TYPICAL JOIST BEARING AT PERIMETER BEAM

5 / S522 SCALE: 3/4" = 1'-0"



TYPICAL JOIST BEARING AT BEAM

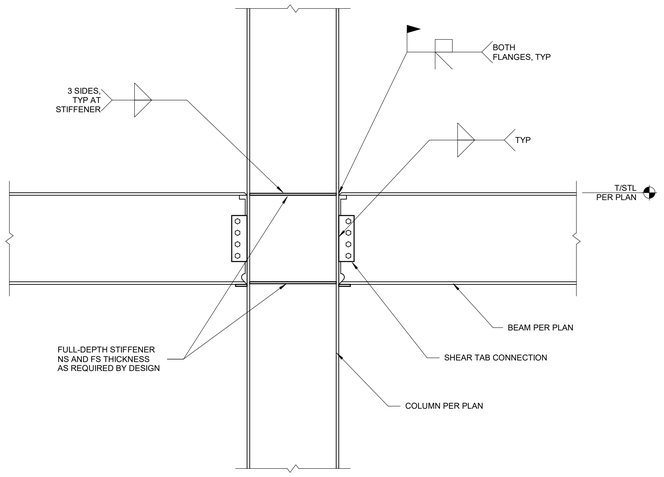
4 / S522 SCALE: 3/4" = 1'-0"



NOTE: STIFFENER PLATES SHALL BE ASTM A572 GRADE 50

TYPICAL BEAM MOMENT CONNECTION TO COLUMN WEB

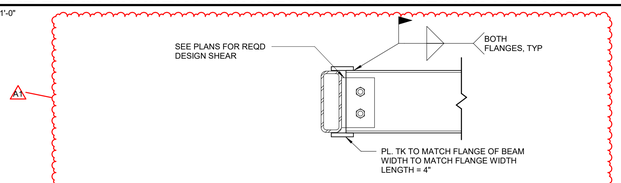
11 / S522 SCALE: 3/4" = 1'-0"



NOTE: STIFFENER PLATES SHALL BE ASTM A572 GRADE 50

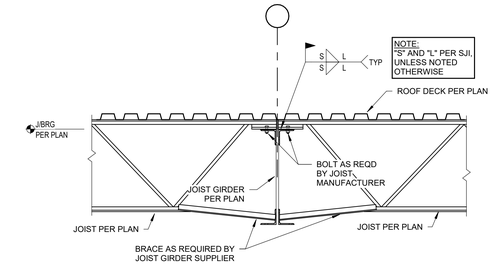
TYPICAL BEAM MOMENT CONNECTION TO COLUMN FLANGE

10 / S522 SCALE: 3/4" = 1'-0"



TYPICAL STEEL BEAM MOMENT CONNECTION AT EQUAL DEPTH GIRDER

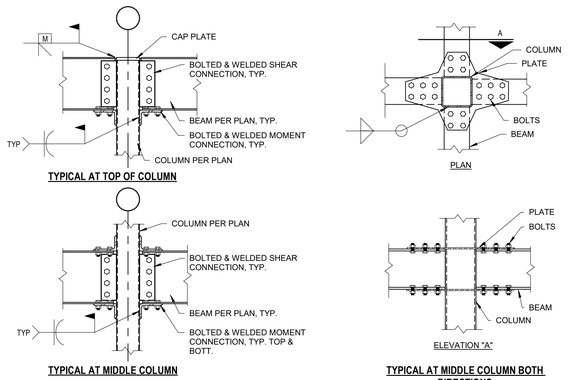
12 / S522 SCALE: 1" = 1'-0"



TYPICAL JOIST BEARING AT JOIST GIRDER

8 / S522 SCALE: 3/4" = 1'-0"

NOTES:
1. CONNECTION DESIGN, INCLUDING WELD SIZES, PER DELEGATED DESIGN ENGINEER.
2. FLOOR AND ROOF DECK NOT SHOWN FOR CLARITY.



TYP HSS COL MOMENT CONN

9 / S522 SCALE: 3/4" = 1'-0"

PLOT DATE/TIME: 7/31/2026 11:50:19 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA K. PARSONS
REGISTERED
No. PE11800818
STATE OF INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

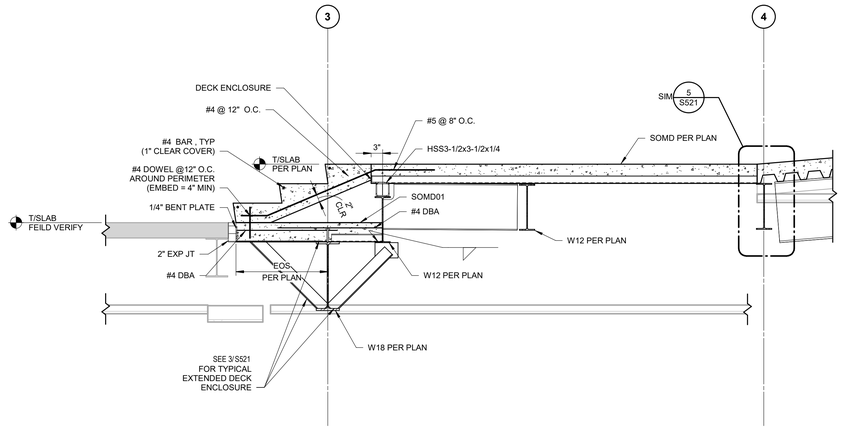
#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

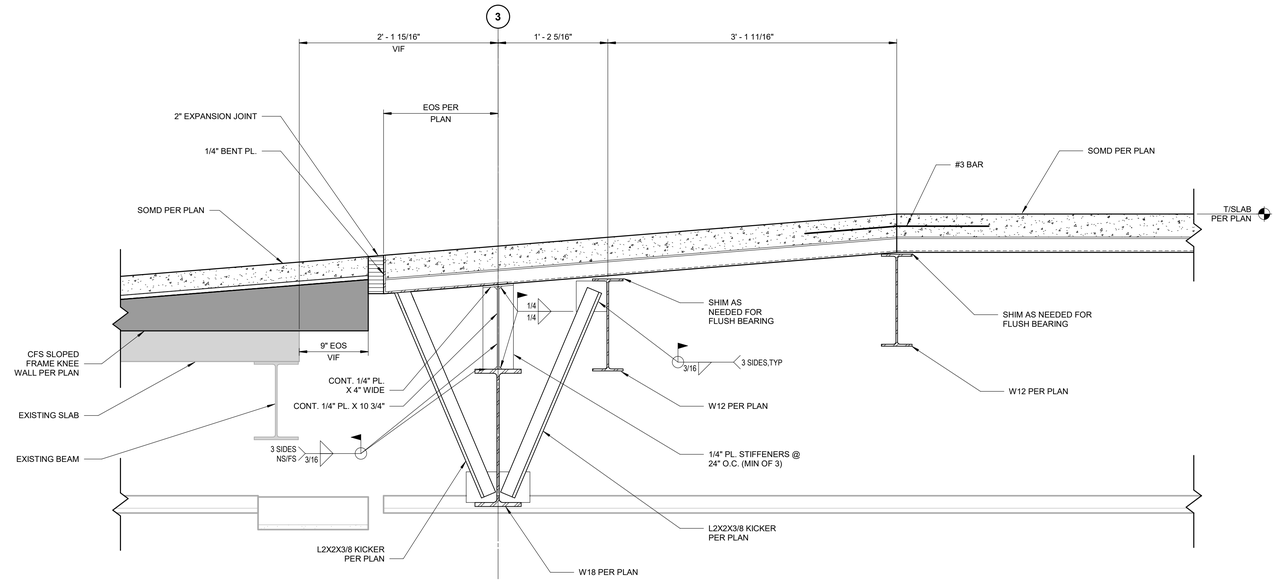
PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

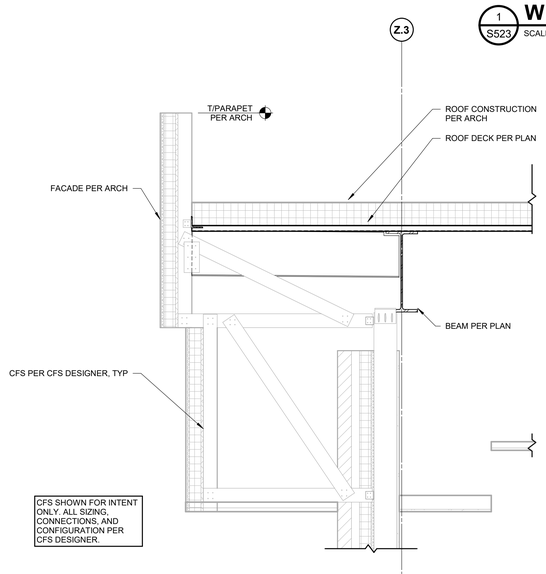
S522



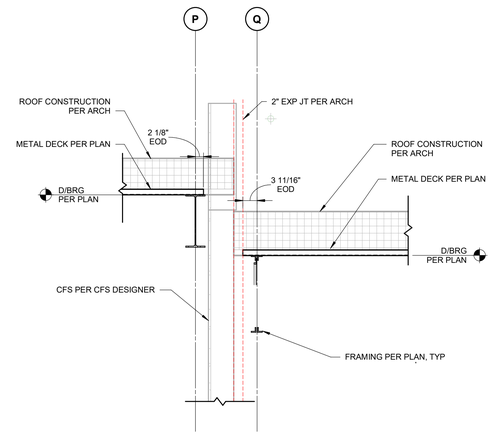
2 WEST RAMP AT STAIR
S523 SCALE: 3/4" = 1'-0"



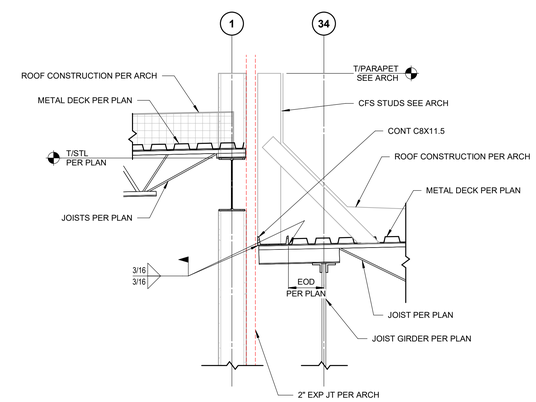
1 WEST RAMP AT EXISTING
S523 SCALE: 1 1/2" = 1'-0"



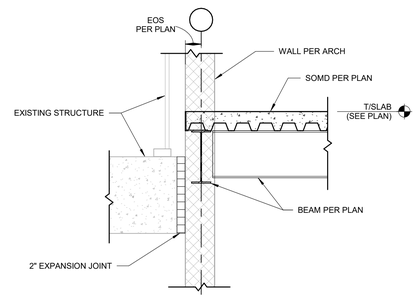
5 EDGE OF DECK AT EAST LOBBY
S523 SCALE: 3/4" = 1'-0"



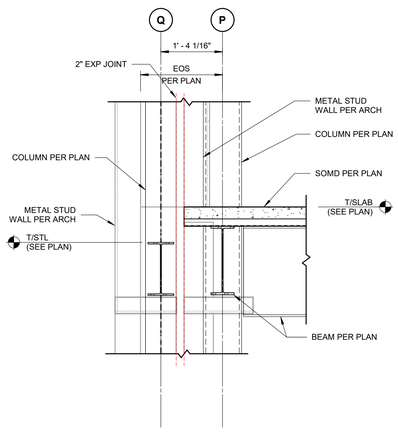
4 EDGE OF DECK AT WEST LOBBY
S523 SCALE: 3/4" = 1'-0"



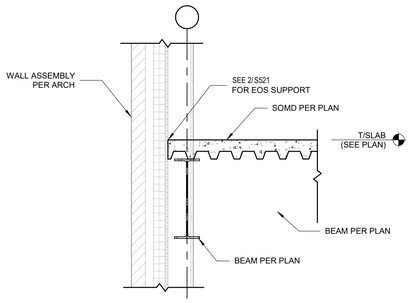
3 EDGE OF DECK AT LOBBY SOUTH
S523 SCALE: 3/4" = 1'-0"



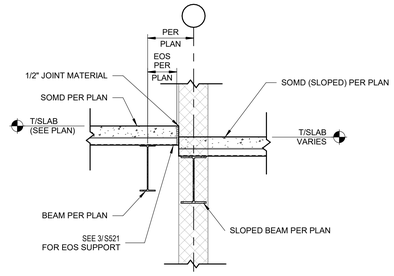
9 SLAB EDGE AT EXISTING PERIMETER
S523 SCALE: 3/4" = 1'-0"



8 EDGE OF SLAB AT WEST LOBBY
S523 SCALE: 3/4" = 1'-0"



7 PERIMETER SLAB EDGE
S523 SCALE: 3/4" = 1'-0"



6 NORTH RAMP SLAB EDGE
S523 SCALE: 3/4" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD



07.10.2026

REVISIONS:		
#	Date	Desc.
A1	07.31.2026	Addendum 1

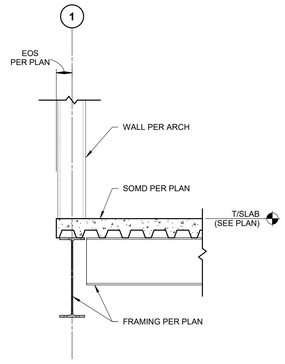
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

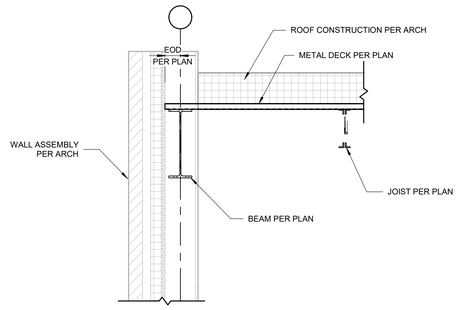
S523

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2 S524 EDGE OF SLAB AT EAST LOBBY

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

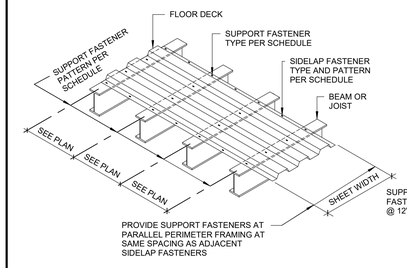


1 S524 ROOF JOIST PARALLEL TO BEAM

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

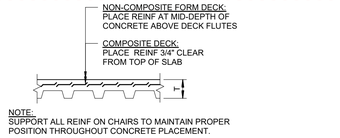
SLAB ON METAL DECK SCHEDULE

MARK	DECK HEIGHT	GAUGE	YIELD STRENGTH Fy	TYPE	FINISH	SLAB T	SLAB REINFORCING	SUPPORT FASTENER TYPE	SUPPORT FASTENER PATTERN	SIDELAP FASTENER TYPE	SIDELAP FASTENER PATTERN	BASIS OF DESIGN DECK (NOTE 6)	NOTES
SOMD01	2"	20 GA	50 KSI	COMPOSITE	PAINTED	5"	6x6-W1.4xW1.4 WWR	5/8" PUDDLE	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 2VLI-36	
SOMD02	0.6"	24 GA	60 KSI	NON-COMPOSITE	PAINTED	3"	6x6-W1.4xW1.4 WWR	#12 TEK	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 0.6C-35	

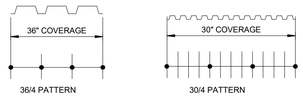


FASTENER PATTERN DIAGRAM

PERIMETER EDGE FASTENING



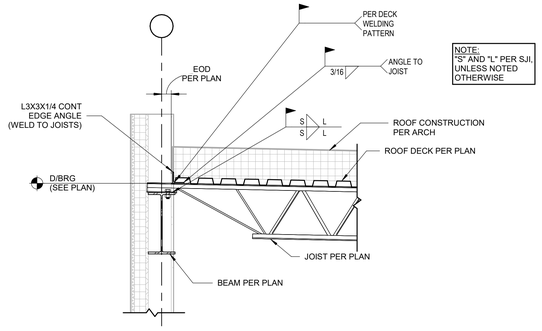
SLAB THICKNESS DEFINITION AND REINF PLACEMENT



SUPPORT FASTENER PATTERN DEFINITION

NOTES:

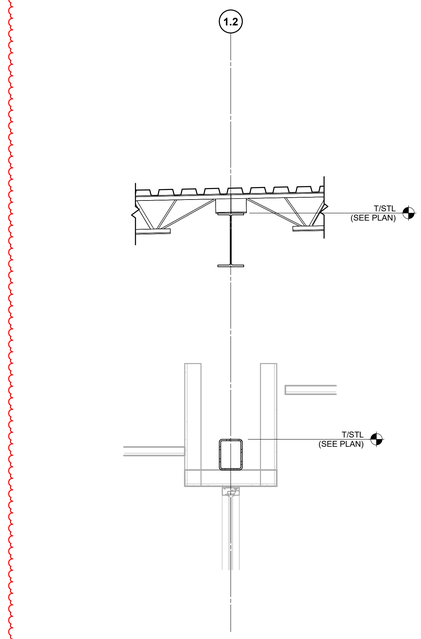
1. CONCRETE TO BE NORMAL WEIGHT, UNO.
2. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
3. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
4. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
5. FOR DECK SPANS 5'-0" OR LESS, PROVIDE ONE SIDELAP FASTENER AT MID-SPAN OF EACH JOIST OR BEAM SPACE. FOR DECK SPANS EXCEEDING 5'-0", PROVIDE SIDELAP FASTENERS AT 3'-0" OC, MAX. USE DECK MANUFACTURER'S RECOMMENDED PUNCHED SIDELAPS FOR COMPOSITE DECK AND NON-NESTING FORM DECK,UNO. USE #10 TEK SCREWS AT DECK WITH NESTED SIDELAPS, UNO.
6. PROVIDE DECK WITH ALL PROPERTIES MEETING OR EXCEEDING THE INDICATED BASIS OF DESIGN DECK.



NOTES:
1. IF JOIST IS AT SKEW TO EDGE ANGLE CLIP END OF JOIST SEAT TO MATCH SKEW & MAINTAIN 3/4" SET BACK.
2. EDGE ANGLE SHALL CONTINUE PAST AND BE SUPPORTED AT COLUMNS.SPLICE AT SUPPORT ONLY.

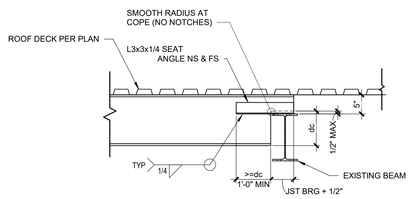
4 S524 JOIST BEARING AT PERIMETER BEAM AT CFS

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



3 S524 STOREFRONT SUPPORT

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



NOTE: FIELD WELD SEAT TO SUPPORTING STEEL WITH 1/4" FILLET WELD x 2" LONG AT EACH SIDE.

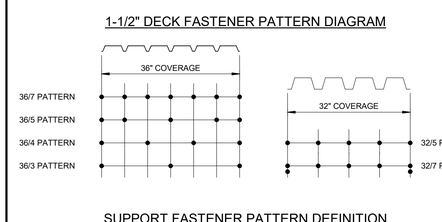
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5 S524 BEAM SEAT SECTION

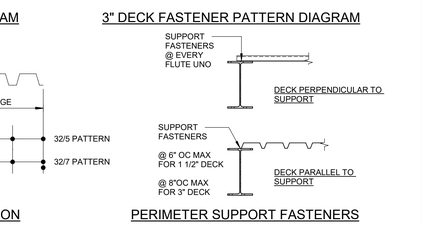
SCALE: 3/4" = 1'-0"

ROOF DECK SCHEDULE

Type Mark	Thickness	Deck Gauge	Deck Type	Deck Finish	Support Fastener Type	Perimeter Support Fastener Pattern	Interior Support Fastener Pattern	Sidelap Fastener Pattern	Sidelap Fastener Type	Remarks
RD01	1 1/2"	22	TYPE B, WR	Painted	5/8" DIA PUDDLE WELDS	SEE BELOW	36/5	#10 TEK SCREWS	5 PER SPAN	



1-1/2" DECK FASTENER PATTERN DIAGRAM



3" DECK FASTENER PATTERN DIAGRAM

SUPPORT FASTENER PATTERN DEFINITION

PERIMETER SUPPORT FASTENERS

NOTES:

1. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
2. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
3. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
4. PROVIDE 36/7 FASTENER PATTERN AT ALL BRACED FRAMES AND MOMENT FRAMES.

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITIONS AND RENOVATION
971 EAST BANTA ROAD

JESSICA KAY PARSON
REGISTERED
No. PE11800818
STATE OF
INDIANA
PROFESSIONAL ENGINEER
07.10.2026

REVISIONS:

#	Date	Desc.
A1	07.31.2026	Addendum 1

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: DWM/CMM

FRAMING SCHEDULES, SECTIONS, & DETAILS

S524

PLOT DATE/TIME:7/31/2026 11:30:23 AM

SPECIAL INSPECTION SERVICES SCHEDULE - STEEL CONSTRUCTION

REFER TO IBC 2012 CHAPTER 17 AND AISC 360-10

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	PERFORM OR OBSERVE	REFERENCE
WELDED MEMBERS				
PRIOR TO WELDING:				
WELDING PROCEDURE SPECIFICATIONS	VERIFY CONTRACTOR MAINTAINS WELDING PROCEDURE SPECIFICATIONS READILY AVAILABLE FOR ALL WELDERS FOR ALL TYPES OF WELDS PERFORMED ON THE PROJECT	Y	PERFORM	AISC 360 TABLE N5.4-1
WELD MATERIAL CERTIFICATIONS	VERIFY MATERIAL CERTIFICATIONS ARE AVAILABLE FOR ALL CONSUMABLE WELDING MATERIALS	Y	PERFORM	AISC 360 TABLE N5.4-1
WELD MATERIAL IDENTIFICATION	VERIFY ALL WELD MATERIALS ARE PROPERLY MARKED WITH VALID TYPE/GRADE IDENTIFICATION	Y	OBSERVE	AISC 360 TABLE N5.4-1
WELDER IDENTIFICATION SYSTEM	VERIFY FABRICATOR/ERECTOR AS APPLICABLE MAINTAINS RECORDS OF WHO WELDED EVERY JOINT	Y	OBSERVE	AISC 360 TABLE N5.4-1
FIT-UP OF GROOVE WELDS	INSPECT FOR PROPER FIT-UP INCLUDING JOINT PREPARATION, DIMENSIONS, CLEANLINESS, TACKING, AND BACKING (WHERE BACKING IS APPLICABLE)	N	OBSERVE	AISC 360 TABLE N5.4-1
ACCESS HOLES	INSPECT FOR CONFIGURATION AND FINISH OF ACCESS HOLES	Y	OBSERVE	AISC 360 TABLE N5.4-1
FIT-UP OF FILLET WELDS	INSPECT FOR PROPER FIT-UP INCLUDING DIMENSIONS, CLEANLINESS, AND TACKING	Y	OBSERVE	AISC 360 TABLE N5.4-1
DURING WELDING:				
QUALIFIED WELDERS	VERIFY USE OF QUALIFIED WELDERS	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING CONSUMABLES	INSPECT FOR PROPER PACKAGING, STORAGE AND PROTECTION	Y	OBSERVE	AISC 360 TABLE N5.4-2
TACK WELDS	VERIFY NO WELDING OCCURS OVER CRACKED TACK WELDS	Y	OBSERVE	AISC 360 TABLE N5.4-2
FIELD CONDITIONS	VERIFY WIND SPEED WITHIN LIMITS AND PROPER PROTECTION/PREPARATION FOR PRECIPITATION AND TEMPERATURE	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING PROCEDURE SPECIFICATION (NOTE 2 - SEE AISC 360)	VERIFY WELDING PROCEDURE SPECIFICATIONS ARE FOLLOWED	Y	OBSERVE	AISC 360 TABLE N5.4-2
WELDING TECHNIQUES	VERIFY EACH PASS MEETS PROFILE LIMITATIONS AND QUALITY REQUIREMENTS, INTERPASS AND FINAL CLEANING	Y	OBSERVE	AISC 360 TABLE N5.4-2
COMPOSITE BEAM HEADED STUD ANCHORS	INSPECT FOR PROPER PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	N	OBSERVE	
AFTER WELDING:				
WELDS CLEANED	VERIFY PROPER CLEANING OF COMPLETED WELDS	Y	OBSERVE	AISC 360 TABLE N5.4-3
SIZE, LENGTH, LOCATION, AND VISUAL ACCEPTANCE CRITERIA (NOTE 3 - SEE AISC 360)	INSPECT WELDS TO CONFIRM PROPER SIZE, LENGTH, LOCATION AND VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT POROSITY) AS FOLLOWS:			AISC 360 TABLE N5.4-3
	VISUALLY INSPECT AND VERIFY ULTRASONIC TESTING IS PERFORMED FOR 100% OF ALL CJP WELDS	N	PERFORM	
	VISUALLY INSPECT 100% OF ALL CJP WELDS	N	PERFORM	
	VISUALLY INSPECT 100% OF WELDS IN LATERAL LOAD RESISTING MOMENT FRAMES AND BRACED FRAMES	N	PERFORM	
	VISUALLY INSPECT 20% OF ALL FILLET WELDS NOT IN LATERAL LOAD RESISTING MOMENT FRAMES AND BRACED FRAMES	Y	PERFORM	
ARC STRIKES	VISUALLY INSPECT TO CONFIRM NO ARC STRIKES	Y	PERFORM	AISC 360 TABLE N5.4-3
"K"-AREA WELDING	VISUALLY INSPECT ALL DOUBLER PLATES, CONTINUITY PLATES AND STIFFENER PLATES WHERE WELDING OCCURS WITHIN THE k-AREA OF THE STEEL SECTION TO CONFIRM NO CRACKS IN THE MEMBER WEB	N	PERFORM	AISC 360 TABLE N5.4-3
BACKING AND WELD TABS REMOVED	VISUALLY INSPECT TO CONFIRM PROPER REMOVAL OF ALL BACKING REMOVED. VERIFY ALL WELD TABS REMOVED (IF REQUIRED)	N	PERFORM	AISC 360 TABLE N5.4-3
REPAIRS	VERIFY APPROVED REPAIRS OF NON-CONFORMING ITEMS (WHEN REQUIRED) ARE PROPERLY COMPLETED	Y	PERFORM	AISC 360 TABLE N5.4-3
DOCUMENTATION	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED CONNECTIONS	Y	PERFORM	AISC 360 TABLE N5.4-3
BOLTED MEMBERS				
PRIOR TO BOLTING:				
MATERIAL CERTIFICATIONS	VERIFY MANUFACTURER'S CERTIFICATIONS ARE AVAILABLE FOR FASTENER MATERIALS	Y	PERFORM	AISC 360 TABLE N5.6-1
FASTENER MARKINGS	VERIFY FASTENERS ARE MARKED PER ASTM STANDARDS	Y	OBSERVE	AISC 360 TABLE N5.6-1
FASTENER SELECTIONS	VERIFY CORRECT GRADE, TYPE, AND SUFFICIENT LENGTH FOR THREADS EXCLUDED FROM THE SHEAR PLANE (ONLY WHERE SPECIFICALLY INDICATED)	Y	OBSERVE	AISC 360 TABLE N5.6-1
BOLTING PROCEDURE	VERIFY PROPER BOLTING PROCEDURE FOR THE JOINT	Y	OBSERVE	AISC 360 TABLE N5.6-1
CONNECTING ELEMENTS	VERIFY CONNECTING ELEMENTS, INCLUDING FAYING SURFACES AND HOLE PREPARATION (IF SPECIFIED) MEET APPLICABLE REQUIREMENTS	Y	OBSERVE	AISC 360 TABLE N5.6-1
PRE-INSTALLATION VERIFICATION	VERIFY PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL IS OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	Y	OBSERVE	AISC 360 TABLE N5.6-1
PROPER STORAGE	VERIFY PROPER STORAGE OF BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	Y	OBSERVE	AISC 360 TABLE N5.6-1
DURING BOLTING:				
PROPER POSITIONING	VERIFY ALL FASTENING ELEMENTS ARE PROPERLY POSITIONED IN THE JOINT PRIOR TO TIGHTENING	Y	OBSERVE	AISC 360 TABLE N5.6-2
BOLT TIGHTENING	VERIFY COMPONENT NOT TURNED BY THE WRENCH IS PREVENTED FROM ROTATING DURING TIGHTENING	Y	OBSERVE	AISC 360 TABLE N5.6-2
PRETENSIONED BOLTS SNUG TIGHTENED	VERIFY ALL BOLTS AT A CONNECTION TO BE PRETENSIONED ARE FIRST BROUGHT INTO SNUG-TIGHT CONDITION PRIOR TO START OF PRE-TENSIONING	N	OBSERVE	AISC 360 TABLE N5.6-2
PRETENSIONED BOLTS TIGHTENING	VERIFY FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS	N	OBSERVE	AISC 360 TABLE N5.6-2
AFTER BOLTING:				
DOCUMENTATION	DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	Y	PERFORM	AISC 360 TABLE N5.6-3
STEEL FRAMING (GENERAL)				
COLUMN BASES	INSPECT INSTALLATION OF ALL BASE PLATES FOR PROPER ANCHORAGE (INCLUDING WELDED PLATE WASHERS WHERE INDICATED) AND GROUTING BENEATH BASE PLATE	Y	PERFORM	
COLUMN SPLICES	INSPECT ALL COLUMN SPLICES TO CONFIRM THAT GAPS BETWEEN BEARING ELEMENTS DO NOT EXCEED 1/16-INCH	N	PERFORM	
BEAM, GIRDER AND COLUMN MEMBERS	INSPECT FOR CONFORMANCE WITH REQUIRED SIZE, SPACING AND CONNECTION REQUIREMENTS	Y	PERFORM	
ROOF AND FLOOR DECK/SLAB EDGE SUPPORTS	INSPECT SUPPORT MATERIALS FOR PROPER SIZE, POSITIONING AND CONNECTIONS	Y	PERFORM	
BRACED FRAMES AND MOMENT FRAMES	INSPECT INSTALLATION OF ALL MEMBERS AND CONNECTIONS IN BRACED FRAMES AND MOMENT FRAMES FOR PROPER SIZE, POSITIONING AND CONNECTIONS	Y	PERFORM	
COMPOSITE STEEL FRAMING	INSPECT COMPOSITE STEEL FRAMING PRIOR TO PLACEMENT OF CONCRETE AS FOLLOWS:			
	VERIFY PROPER PLACEMENT AND INSTALLATION OF STEEL DECK	N	PERFORM	AISC 360 TABLE N6.1
	INSPECT DIAMETER, LENGTH, QUANTITY AND POSITIONING OF STEEL HEADED STUD ANCHORS	N	PERFORM	AISC 360 TABLE N6.1
	RING TEST 100% OF HEADED STUD ANCHORS WITH A 3 LB HAMMER	N	PERFORM	
	BEND TEST QUESTIONABLE HEADED STUD ANCHORS TO 15 DEGREES	N	PERFORM	
	DOCUMENT ACCEPTANCE OR REJECTION OF COMPOSITE STEEL FRAMING ELEMENTS	N	PERFORM	
STEEL GRATING	INSPECT STEEL GRATING AS FOLLOWS:			
	VERIFY PROPER SIZE, TYPE AND FINISH	N	PERFORM	
	VERIFY PROPER ATTACHMENTS TO SUPPORTING STRUCTURE(S)	N	PERFORM	

NOTES:

1. SEE CONTRACT DOCUMENTS FOR WELDING REQUIREMENTS. SEE AISC 360 FOR ADDITIONAL INFORMATION.
2. SEE AISC 360 FOR SPECIFIC REQUIRED ELEMENTS OF WELD PROCEDURE SPECIFICATION.
3. SEE AISC 360 FOR SPECIFIC REQUIRED VISUAL ACCEPTANCE CRITERIA.
4. "OBSERVE" REQUIRES OBSERVATION ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
5. "PERFORM" REQUIRES TASKS TO BE PERFORMED FOR EACH OPERATION, JOINT OR MEMBER AS APPLICABLE.

SPECIAL INSPECTION SERVICES SCHEDULE - OPEN WEB STEEL JOISTS/ JOIST GIRDERS

REFER TO IBC 2015 CHAPTER 17

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
END CONNECTIONS - WELDED OR BOLTED	VERIFY CONNECTIONS ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS	Y	PERIODIC	IBC TABLE 1705.2.3
HORIZONTAL AND DIAGONAL BRIDGING	VERIFY BRIDGING IS INSTALLED IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS	Y	PERIODIC	IBC TABLE 1705.2.3

SPECIAL INSPECTION SERVICES SCHEDULE - COLD-FORMED STEEL DECK

REFER TO IBC 2012, CHAPTER 17

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
PRIOR TO DECK PLACEMENT:				
MATERIAL COMPLIANCE	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES AND BASE METAL THICKNESS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
MATERIAL ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	Y	PERIODIC	
AFTER DECK PLACEMENT:				
STEEL DECK INSTALLATION	VERIFY PROPER INSTALLATION OF STEEL DECK AND ACCESSORIES	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
MATERIAL MILL CERTIFICATIONS	VERIFY DECK MATERIALS ARE REPRESENTED BY APPROPRIATE MILL CERTIFICATIONS	Y	PERIODIC	
INSTALLATION ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES INSTALLATION	Y	PERIODIC	
PRIOR TO WELDING:				
WELDING PROCEDURE SPECIFICATION(S)	VERIFY WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING CONSUMABLES MANUFACTURER CERTIFICATIONS	VERIFY MANUFACTURER'S CERTIFICATIONS ARE AVAILABLE FOR WELDING CONSUMABLES	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING MATERIAL TYPE/GRADE	VERIFY WELDING MATERIAL TYPE/GRADE	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELDING EQUIPMENT	VERIFY WELDING EQUIPMENT IN GOOD WORKING ORDER	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
DURING WELDING:				
QUALIFIED WELDERS	VERIFY USE OF QUALIFIED WELDERS	Y	PERIODIC	AWS D1.3
WELDING CONSUMABLES	VERIFY PROPER CONTROL AND HANDLING OF WELDING CONSUMABLES	Y	PERIODIC	AWS D1.3
ENVIRONMENTAL CONDITIONS	DOCUMENT ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE) ARE ACCEPTABLE	Y	PERIODIC	AWS D1.3
WPS FOLLOWED	VERIFY PROPER WPS IS FOLLOWED DURING WELDING	Y	PERIODIC	AWS D1.3
AFTER WELDING:				
FIELD WELDING	INSPECT FIELD WELDS FOR PROPER SIZE, LOCATION, PATTERN, AND SPACING FOR ALL WELDS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
VISUAL ACCEPTANCE	VERIFY WELDS MEET VISUAL ACCEPTANCE CRITERIA	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
REPAIR ACTIVITIES	VERIFY DEFICIENT WELDS ARE PROPERLY REPAIRED	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
WELD ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	Y	PERIODIC	AWS D1.3, SDI C, NC AND R (AS APPLICABLE)
PRIOR TO MECHANICAL FASTENING:				
MANUFACTURER INSTRUCTIONS	VERIFY MANUFACTURER INSTALLATION INSTRUCTIONS ARE AVAILABLE FOR MECHANICAL FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
PROPER TOOLS	VERIFY PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
FASTENER STORAGE	VERIFY PROPER STORAGE FOR MECHANICAL FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
DURING MECHANICAL FASTENING:				
POSITIONING	VERIFY FASTENERS ARE POSITIONED AS REQUIRED (INCLUDING PROPER PATTERN, SPACING, ETC.)	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
INSTALLATION	VERIFY FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
AFTER MECHANICAL FASTENING:				
SUPPORT FASTENERS	VERIFY PROPER PATTERN, SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
PERIMETER FASTENERS	VERIFY PROPER PATTERN, SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
SIDELAP FASTENERS	VERIFY PROPER SPACING, TYPE AND INSTALLATION	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
REPAIR ACTIVITIES	VERIFY DEFICIENT FASTENERS ARE PROPERLY REPAIRED	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)
FASTENER ACCEPTANCE	DOCUMENT ACCEPTANCE OR REJECTION OF FASTENERS	Y	PERIODIC	SDI C, NC AND R (AS APPLICABLE)

NOTES:

1. "PERIODIC" REQUIRES OBSERVATION ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
2. "CONTINUOUS" REQUIRES TASKS TO BE CONTINUOUSLY PERFORMED FOR EACH OPERATION, CONNECTION OR MEMBER AS APPLICABLE.
3. INSPECT FOR CONFORMANCE WITH CONSTRUCTION DOCUMENTS, INSTALLATION DRAWINGS, SHOP DRAWINGS, DESIGN DOCUMENTS, MANUFACTURER'S INSTRUCTIONS, AND APPLICABLE REFERENCED STANDARDS.

SPECIAL INSPECTIONS BASIC SERVICES - CONCRETE CONSTRUCTION

REFER TO IBC 2012 CHAPTER 17 TABLE 1705.3 AND ACI 318-11

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
REINFORCEMENT	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS (WHERE APPLICABLE) AND VERIFY CORRECT PLACEMENT	Y	PERIODIC	ACI 318 SECTIONS 3.5 AND 7.1 THROUGH 7.7; IBC 1910.4
REINFORCING BAR WELDING	VERIFY WELDABILITY OF BARS OTHER THAN ASTM A706	N	PERIODIC	AWS D1.4, ACI 318 SECTION 3.5.2
ANCHORS AND EMBEDDED ITEMS CAST IN CONCRETE	INSPECT ALL ANCHORS AND EMBEDDED ITEMS FOR PROPER SIZE, TYPE, QUANTITY, LOCATION, POSITION, PROJECTION AND EMBEDMENT	Y	PERIODIC	ACI 318 SECTIONS 3.8.6, 8.1.3, 21.2.8; IBC 1908.5, 1909.1
ANCHORS POST-INSTALLED IN HARDENED CONCRETE	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	Y	PERIODIC	ACI 318 SECTIONS 3.8.6, 8.1.3, 21.2.8; IBC \1909.1
CONCRETE MIX	VERIFY USE OF REQUIRED CONCRETE MIX AT EACH APPLICATION	Y	PERIODIC	ACI 318 CHAPTER 4, SECTIONS 5.2 THROUGH 5.4; IBC 1904.2, 1910.2, 1910.3
CONCRETE TESTING	VERIFY THAT CONCRETE SAMPLING AND TESTING IS PERFORMED IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS	Y	CONTINUOUS	ASTM C172, ASTM C31, ACI 318 5.6, 5.8; IBC 1910.10
CONCRETE PLACEMENT	INSPECT FOR PROPER PLACEMENT TECHNIQUES	Y	CONTINUOUS	ACI 318 SECTIONS 5.9, 5.10; IBC 1910.6, 1910.7, 1910.8
SHOTCRETE PLACEMENT	INSPECT FOR PROPER APPLICATION TECHNIQUES	N	CONTINUOUS	ACI 318 SECTIONS 5.9, 5.10; IBC 1910.6, 1910.7, 1910.8
CONCRETE CURING	VERIFY MAINTENANCE OF PROPER CONCRETE TEMPERATURE AND CURING TECHNIQUES	Y	PERIODIC	ACI 318 SECTIONS 5.11 THROUGH 5.13; IBC 1910.9
PRESTRESSED CONCRETE	INSPECT FOR PROPER APPLICATION OF PRESTRESSING FORCES	N	CONTINUOUS	ACI 318 SECTION 18.20
PRESTRESSED CONCRETE	INSPECT FOR PROPER GROUTING OF BONDED PRESTRESSING TENDONS	N	CONTINUOUS	ACI 318 SECTION 18.18.4
ERECTION OF PRECAST CONCRETE MEMBERS	VERIFY WELDING PROCEDURE SPECIFICATIONS ARE FOLLOWED	N	PERIODIC	ACI CHAPTER 16
ERECTION OF PRECAST CONCRETE MEMBERS	INSPECT ALL CONNECTIONS OF THE PRECAST ELEMENTS TO THE FOUNDATIONS FOR CONFORMANCE TO THE CONTRACT DOCUMENTS	N	PERIODIC	ACI CHAPTER 16
ERECTION OF PRECAST CONCRETE MEMBERS	INSPECT ALL CONNECTIONS OF THE PRECAST ELEMENTS TO THE STRUCTURAL FRAMING FOR CONFORMANCE TO THE CONTRACT DOCUMENTS	N	PERIODIC	ACI CHAPTER 16
IN-SITU CONCRETE STRENGTH - PRE-STRESSING	VERIFY IN-PLACE CONCRETE STRENGTH PRIOR TO STRESSING TENDONS IN POST-TENSIONED CONCRETE	Y	PERIODIC	ACI 318 SECTION 6.2
IN-SITU CONCRETE STRENGTH - FORMS AND SHORES	VERIFY IN-PLACE CONCRETE STRENGTH PRIOR TO REMOVAL OF FORMS AND SHORES FROM BEAMS AND STRUCTURAL SLABS	Y	PERIODIC	ACI 318 SECTION 6.2
FORMWORK	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	Y	PERIODIC	ACI 318 SECTION 6.1.1
WATER STOPS	VERIFY ALL WATER STOPS ARE PROPERLY INSTALLED AND ANCHORED INTO POSITION PRIOR TO PLACEMENT OF CONCRETE	Y	PERIODIC	

SPECIAL INSPECTIONS BASIC SERVICES - SOILS AND EARTHWORK

REFER TO IBC 2012 CHAPTER 17 TABLE 1705.6

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE
BEARING SOILS FOR SHALLOW FOUNDATIONS	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	Y	PERIODIC	
EXCAVATIONS	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	Y	PERIODIC	
FILL MATERIALS	VERIFY CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS IS PERFORMED	Y	PERIODIC	
FILL MATERIAL PLACEMENT	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	Y	CONTINUOUS	
SUBGRADE PREPARATION	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	Y	PERIODIC	
BACKFILL AT BELOW-GRADE WALLS	VERIFY THAT BELOW-GRADE WALLS WITH UNEVEN BACKFILL CONDITIONS ARE NOT BACKFILLED UNTIL FLOOR CONSTRUCTION AT TOPS OF WALLS (OR OTHER PERMANENT BRACING WHERE APPLICABLE) IS COMPLETE OR TEMPORARY BRACING IS PROVIDED	Y	PERIODIC	

SPECIAL INSPECTION SERVICES SCHEDULE - MASONRY CONSTRUCTION LEVEL B INSPECTION

REFER TO IBC 2012 CHAPTER 17 AND ACI 530.1-11 TABLE 4

ITEM	TASK	APPLICABLE TO PROJECT (Y/N)	FREQUENCY	REFERENCE (ACI 530-11)	REFERENCE (ACI 530.1-11)
GENERAL COMPLIANCE	VERIFY MASONRY UNITS AND MATERIALS COMPLY WITH APPROVED SUBMITTALS	Y	PERIODIC		ARTICLE 1.5
TESTING OF SELF-CONSOLIDATING GROUT	VERIFY THAT SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) TESTS ARE PROVIDED FOR SELF-CONSOLIDATING GROUT	Y	PERIODIC		ARTICLE 1.5B.1.b.3
TESTING OF GROUT COMPRESSIVE STRENGTH	WHEN REQUIRED f'm EXCEEDS 2,000 PSI, VERIFY A PRISM STRENGTH TEST OF GROUT IS PERFORMED FOR EACH 5,000 SFT OR LESS OF WALL AREA	N	PERIODIC		ARTICLE 1.4B
AT START OF MASONRY CONSTRUCTION:					
SITE-PREPARED MORTAR	VERIFY PROPORTIONS OF SITE-PREPARED MORTAR ARE IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	Y	PERIODIC		ARTICLES 2.1, 2.6A
MORTAR JOINTS	VERIFY PROPER MORTAR JOINT CONSTRUCTION	Y	PERIODIC		ARTICLE 3.3B
REINFORCEMENT AND CONNECTORS	VERIFY LOCATION OF REINFORCEMENT AND CONNECTORS	Y	PERIODIC		ARTICLE 3.4
PRESTRESSING TENDONS	VERIFY GRADE, TYPE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLE 2.4
PRESTRESSING TENDONS	VERIFY LOCATION OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLES 3.4, 3.6A
PRESTRESSING TECHNIQUE	VERIFY PRESTRESSING TECHNIQUE AND MONITORING IS IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	N	PERIODIC		ARTICLE 3.6B
PRIOR TO GROUTING:					
GROUT SPACE	VERIFY GROUT SPACES ARE PREPARED AND CLEARED PRIOR TO GROUT PLACEMENT	Y	PERIODIC		ARTICLE 3.2D, 3.2F
REINFORCEMENT AND ANCHOR MATERIALS	VERIFY PROPER GRADE, SIZE, AND TYPE OF REINFORCEMENT, ANCHOR BOLTS AND EMBEDDED ITEMS	Y	PERIODIC	SECTION 1.16	ARTICLE 2.4, 3.4
REINFORCEMENT AND ANCHOR PLACEMENT	VERIFY LOCATION, SIZE, QUANTITY, TYPE AND SUPPORT FOR ALL REINFORCEMENT, ANCHOR BOLTS AND EMBEDDED ITEMS	Y	PERIODIC	SECTION 1.16	ARTICLES 3.2E, 3.4
SITE-PREPARED GROUT	VERIFY PROPORTIONS OF SITE-PREPARED GROUT	Y	PERIODIC		ARTICLE 2.6B
MORTAR JOINTS	VERIFY PROPER MORTAR JOINT CONSTRUCTION WITHOUT OBSTRUCTIONS THAT WOULD DETRIMENTALLY AFFECT GROUT PLACEMENT	Y	PERIODIC		ARTICLE 3.3B
PRESTRESSING TENDONS	VERIFY GRADE, TYPE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLE 2.4
PRESTRESSING TENDONS	VERIFY LOCATION OF PRESTRESSING TENDONS AND ANCHORAGES	N	PERIODIC		ARTICLES 3.4, 3.6A
GROUT FOR BONDED TENDONS	VERIFY PROPORTIONS OF PRE-STRESSING GROUT FOR BONDED TENDONS	N	PERIODIC		ARTICLE 2.4 G.1.b
DURING CONSTRUCTION:					
STRUCTURAL ELEMENTS	VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS	Y	PERIODIC		ARTICLE 3.3F
ANCHORAGES	VERIFY TYPE, SIZE AND LOCATION OF ANCHORS INCLUDING DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES AND OTHER CONSTRUCTION	Y	PERIODIC	SECTIONS 1.16.4.3, 1.17.1	
WELDING OF REINFORCEMENT	WHERE SPECIFICALLY PERMITTED, VERIFY WELDING OF REINFORCEMENT CONFORMS TO INDICATED STANDARDS	N	CONTINUOUS	SECTIONS 2.1.7.7.2, 3.3.3.4 (c), 8.3.3.4 (b)	
COLD WEATHER / HOT WEATHER	VERIFY PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40F) AND HOT WEATHER (TEMPERATURE ABOVE 90F)	Y	PERIODIC		ARTICLES 1.8C, 1.8D
PLACEMENT OF GROUT	VERIFY PROPER PLACEMENT AND CONSOLIDATION OF GROUT	Y	CONTINUOUS		ARTICLE 3.5
TEST SPECIMENS	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	Y	PERIODIC		ARTICLES 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4
PRESTRESSING FORCE APPLICATION	VERIFY APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE IS IN CONFORMANCE WITH CONSTRUCTION DOCUMENTS	N	CONTINUOUS		ARTICLE 3.6B
PRESTRESSING GROUT PLACEMENT	VERIFY PLACEMENT OF GROUT FOR BONDED PRESTRESSING TENDONS CONFORMS TO INDICATED REQUIREMENTS	N	CONTINUOUS		ARTICLE 3.6C
AUTOCLAVED AERATED CONCRETE (AAC) MASONRY:					
COMPRESSIVE STRENGTH TEST	VERIFY AAC FAAC PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SFT OF WALL	N	PERIODIC		ARTICLE 1.4B
AAC THIN-BED MORTAR	VERIFY PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	N	NOTE 2		ARTICLE 2.1C
AAC PLACEMENT	VERIFY PROPER PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	N	NOTE 2		ARTICLE 3.3B.8

NOTES:

1. INSPECTION REQUIREMENTS PER THIS TABLE APPLY TO ENGINEERED MASONRY IN RISK CATEGORIES I, II AND III, UNO.
2. FOR AAC MASONRY, INSPECT CONTINUOUS FOR FIRST 5,000 SFT OF AREA, PERIODIC FOR REMAINDER.

SPECIAL INSPECTION

THE OWNER OR OWNER'S AGENT SHALL EMPLOY INDEPENDENT AGENCY(IES) OR INDIVIDUAL(S) TO PROVIDE SPECIAL INSPECTION FOR ITEMS AS INDICATED ON THE DRAWINGS.

SPECIAL INSPECTION IS A MANDATORY REQUIREMENT FOR VERIFYING CONFORMANCE OF THE INDICATED CONSTRUCTION. SPECIAL INSPECTION IS REQUIRED IN ADDITION TO ALL MATERIAL TESTS AND INSPECTIONS IDENTIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON, WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER, FOR INSPECTION OF EACH PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

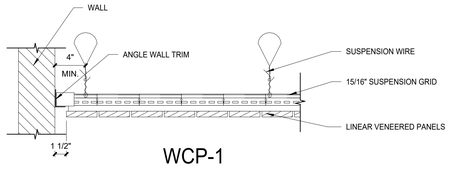
"PERIODIC" SPECIAL INSPECTION IS DEFINED AS "THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK."

"CONTINUOUS" SPECIAL INSPECTION IS DEFINED AS "THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED."

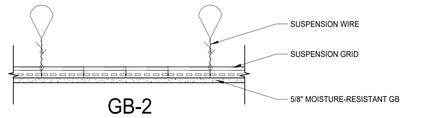
SUBMIT TO THE STRUCTURAL ENGINEER FOR REVIEW A MINIMUM OF 14 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OF ELEMENTS REQUIRING SPECIAL INSPECTION THE FOLLOWING:

1. NAME(S), ADDRESS(ES), TELEPHONE NUMBER(S), EMAIL ADDRESS(ES), AND STATEMENT(S) OF QUALIFICATIONS OF ALL SPECIAL INSPECTOR(S) TO BE ENGAGED ON THE PROJECT.
2. A LISTING OF ALL ITEMS TO RECEIVE SPECIAL INSPECTION, DESIGNATION WHETHER INSPECTIONS WILL BE CONTINUOUS OR PERIODIC AND THE NAME OF THE INDIVIDUAL THAT WILL BE PERFORMING INSPECTION FOR EACH ITEM.

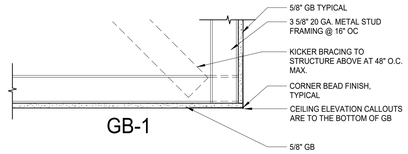
THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR SU



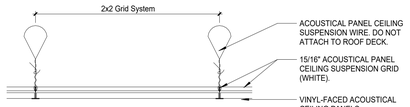
WCP-1



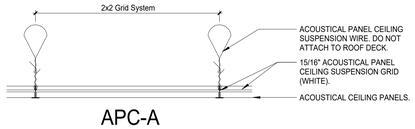
GB-2



GB-1



APC-B



APC-A

1 CEILING TYPES

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

INTERIOR WALL NAMING CONVENTION

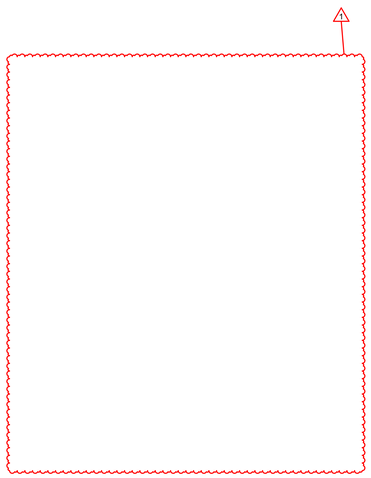
A 4 .1 A

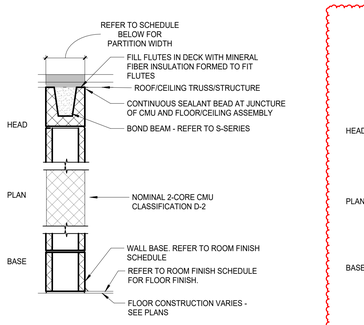
WALL CORE MATERIAL
A - NON-STRUCTURAL METAL STUDS
B - CONCRETE MASONRY UNITS
D - SHAFT WALL (CH STUDS)
F - FURRING WALL
W - WOOD STUDS

THICKNESS OF WALL CORE
NOMINAL DIMENSION OF WALL CORE

WALL CHARACTERISTIC MODIFIER (OPTIONAL)
REF. SHEET A002 FOR ADDITIONAL INFORMATION

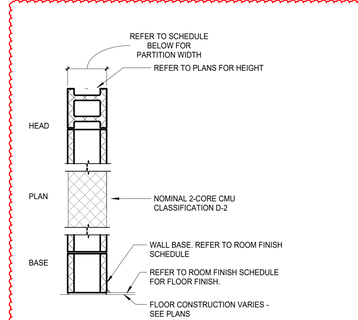
WALL TYPE MODIFIER (OPTIONAL)
.1 - ONE SIDED GYP. WALLBOARD
.2 - WALL STOPS 6" MIN. ABOVE CEIILING
.3 - BOTH LINE ITEMS .1 AND .2
.4 - DOUBLE LAYER OF GYP. BOTH SIDES
.5 - "PONY" WALL, REF. PLANS FOR HEIGHT





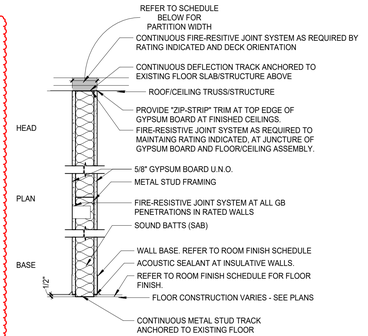
'Bx'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
B6	5 5/8"	5 5/8"				
B8	7 5/8"	7 5/8"		ULC-U905		



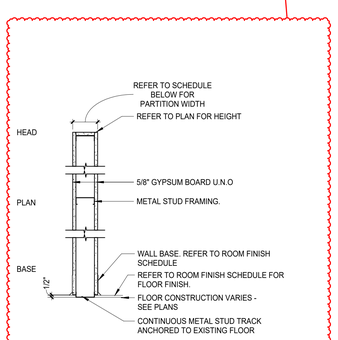
'Bx.5'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
B6.5	5 5/8"	5 5/8"				



'Ax'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
A3	3 3/4"	2 1/2"				
A4	4 7/8"	3 5/8"				
A6	7 1/4"	6"				



'Ax.5'

WALL	WIDTH		FIRE RATING	UL LISTING	STC	STC TEST
	PART	CORE				
A4.5	9 3/8"	3 5/8"				
A6.5	7 1/4"	6"				

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

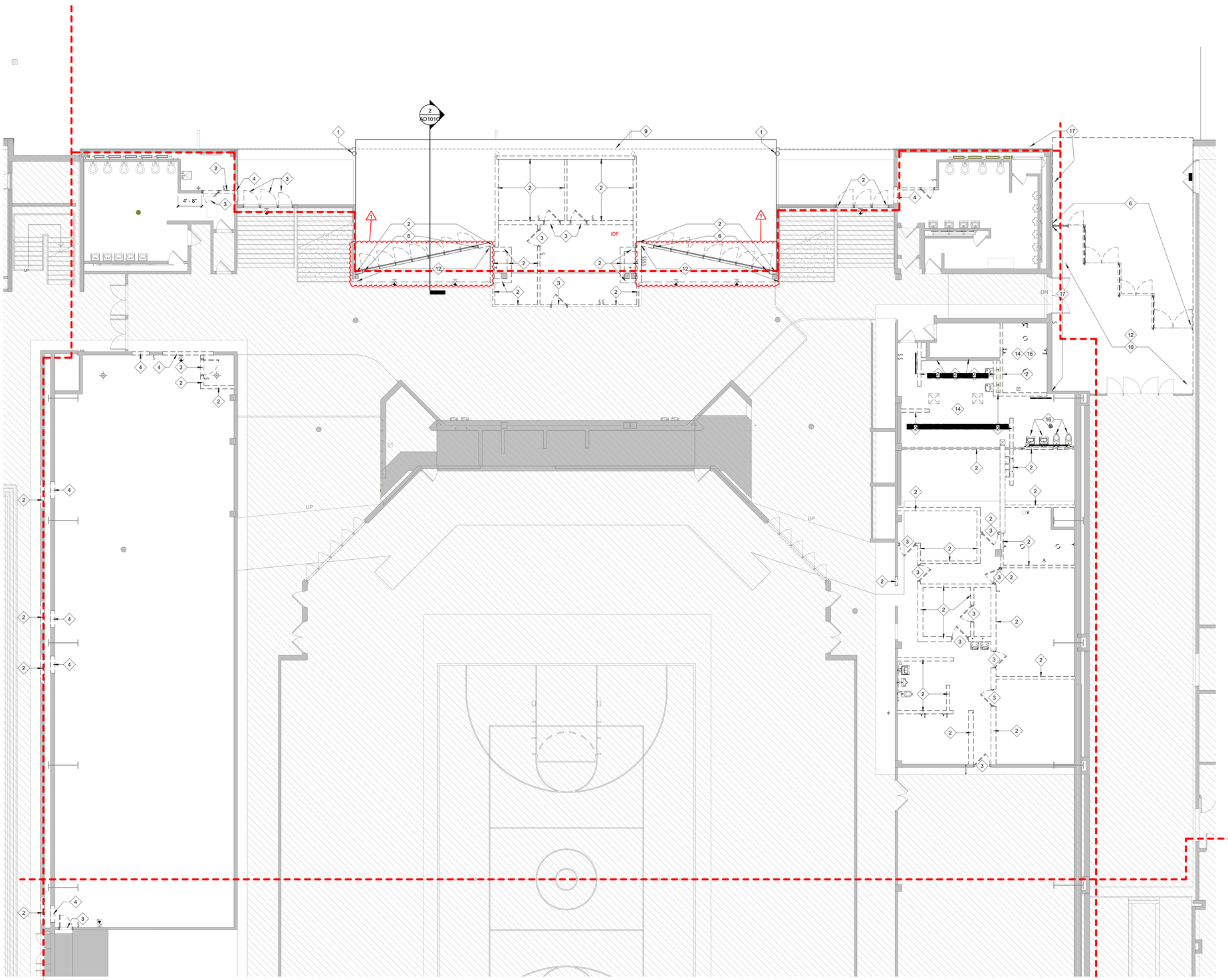
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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: BJZ

INTERIOR TYPES

A002

PLOT DATE/TIME:7/31/2026 11:58:29 AM



1 DEMOLITION PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. DEMOLITION IS TO FOLLOW ESTABLISHED CONSTRUCTION SEQUENCE. CONTRACTOR IS TO VERIFY THEIR WORK IN THE FIELD WITH THE DEMOLITION DRAWINGS, NEW CONSTRUCTION DRAWINGS, AND THE EXISTING IN-FIELD.

B. WALLS TO BE REMOVED SHALL BE REMOVED TO A POINT (2 " MIN) BELOW THE EXISTING FLOOR SLAB UNLESS NOTED OTHERWISE.

C. "FLOORING" DENOTES FLOOR COVERING MATERIALS INCLUDING BACKINGS, ADHESIVE BASES, DOWN TO BUT EXCLUSIVE OF FLOOR SLABS AND STRUCTURAL MATERIALS, UNLESS NOTED OTHERWISE.

D. "CEILING" DENOTES CEILING MATERIALS INCLUDING SUSPENSION SYSTEMS, ADHESIVE, MOLDINGS, UP TO BUT EXCLUSIVE OF STRUCTURAL MATERIALS.

E. AFTER THE DEMOLITION OF MATERIALS, THE RESULTING EXPOSED SURFACE SHALL BE SMOOTH AND FLUSH WITH EXISTING CONDITIONS.

F. COORDINATE THIS WORK WITH DEMOLITION AND NEW WORK ON CIVIL, STRUCTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND TECHNOLOGY SHEETS.

G. MATERIALS OF DEMOLITION SHALL BE DISPOSED OF OFF-SITE UNLESS OTHERWISE DIRECTED BY OWNER. THE OWNER SHALL RESERVE RIGHT TO CLAIM ANY MATERIALS THAT ARE BEING DEMOLISHED PRIOR TO THE CONTRACTOR DISPOSING OF THEM OFF-SITE.

H. "TURNED OVER TO THE OWNER" DENOTES 1) TAG AND IDENTIFY ITEMS; 2) STORE IN AN ORDERLY FASHION IN A LOCATION DESIGNATED BY THE OWNER.

I. OWNER TO REMOVE EXISTING FURNITURE AND MISCELLANEOUS ITEMS NOT SHOWN AND NOT TO BE DEMOLISHED. CONTRACTOR TO NOTIFY OWNER IN ADVANCE WHEN ITEMS NEED TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR OTHER ITEMS TO BE REMOVED.

J. ITEMS TO BE PATCHED: REMOVE ALL LOOSE OR DAMAGED MATERIAL. REFINISH TO LIKE NEW CONDITION, OR IF CONDITION WARRANTS REPLACE IN ENTIRETY.

K. CLEAN, PATCH AND PREP SURFCAES FOR NEW WORK AFTER DEMOLITION

L. PROTECT AREAS ADJACENT TO AREAS OF DEMOLITION. CONTRACTOR IS RESPONIBLE TO REPAIR ADJACENT SURFACES THAT DAMAGED.

OUT OF SCOPE

PLAN NOTES - DEMOLITION

1	EXISTING TO REMAIN.
2	REMOVE WALL COMPLETE OR TO EXTENT OTHERWISE INDICATED.
3	REMOVE DOOR, FRAME AND HARDWARE COMPLETE.
4	CUT NEW DOOR OPENING.
6	REMOVE STOREFRONT/CURTAIN WALL COMPLETE.
8	REMOVE MILLWORK/CASEWORK COMPLETE.
9	REMOVE CEILING COMPLETE.
10	DEMO FLOOR SLAB TO GRADE
11	EXISTING TO REMAIN METAL PANEL
12	REMOVE FLOOR FINISH COMPLETE. PREPARE SLAB TO ACCEPT NEW FINISHES.
13	REMOVE COLUMN. SEE STRUCTURAL.
14	REMOVE ELECTRICAL LIGHTING. SEE ELECTRICAL.
15	REMOVE MECHANICAL EQUIPMENT. SEE MECHANICAL.
16	REMOVE PLUMBING FIXTURE COMPLETE. SEE PLUMBING DWGS.
17	REMOVE METAL SOFFIT AND FASCIA - PANELS AND FRAMING . PATCH, PREP., AND PRIME SURFACE FOR NEW FINISH.
18	REMOVE ROOF COMPLETE

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

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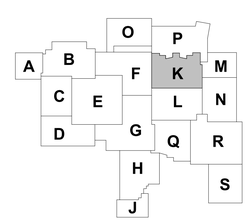
100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

DEMOLITION PLAN - FIRST FLOOR - UNIT K

AD101K

TRUE NORTH



PLOT DATE/TIME: 7/31/2026 11:18:29 AM

GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

G. FOR ALL RESTROOM FACILITIES WITH GYPSUM WALL FINISH REPLACE 5/8" TYPE "X" GYPSUM BOARD WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD, SEE SPECS FOR DETAILS

H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE

PLAN NOTES - FLOOR PLAN

1 SIDEWALK, SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP, SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
5 ADA ACCESS PADDLE. SEE SPECFICIATIONS FOR ADDITIONAL INFORMATION.
6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
8 FACTORY FINISHED RAMP HANDRAIL. SEE DETAIL ON A402.
9 NEW CASEWORK
10 WALL MOUNTED SMART TV
11 WALL MOUNTED VIEWBOARD
12 NEW HOLLOW METAL DOOR AND FRAME CUT INTO EXISTING WALL.
13 OVERHEAD BULKHEAD
14 SEMI-RECESSED FIRE EXTINGUISHER CABINET.
15 ALIGN BOTTOM OF RAMP WITH FACE OF WALL
16 WEAPON DETECTION AREA
17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
19 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS.
20 NEW 12' MARKERBOARD
21 NEW 8' MARKERBOARD
22 INTERNAL ROOF DRAIN, COORDINATE WORK WITH ROOF PLAN AND PLUMBING DWGS.
23 MOP BASIN
24 SERVICE SINK
25 ICE MACHINE
26 HYDRO THERAPY TUB
27 RESIDENTIAL WASHER AND DRYER ON 4" HIGH CONCRETE HOUSEKEEPING PAD
28 REFRIGERATOR
29 ADA SINK WITH CASEWORK
30 ADA COOKTOP WITH CASEWORK
31 12"X12" TWO TIER METAL LOCKER. PROVIDE METAL FILLERS AS NECESSARY. REF. TO INTERIOR ELEVATION 11/A751.
32 GALVANIZED STEEL HANDRAIL, SHOP PRIMED, FIELD PAINTED, COLOR TBD. SEE DETAIL 9 ON A402
33 MOTORIZED WINDOW SHADES, TEX-1.
34 SEMI-RECESS FIRE EXTINGUISHER AND CABINET
35 15"X15"X 60" TWO TIER HDPE PLASTIC LOCKER WITH SLOPED TOP WITH CONCRETE BENCH
36 15"X15" TWO TIER ADA APPROACH HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE CURB
37 6" DIAMTER STEEL BOLLARD, PAINTED, COLOR TBD. 42" TALL.
38 15"X15"X 60" SINGLE TIER HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE BENCH
39 15"X15" SINGLE TIER ADA APPROACH HDPE PLASTIC LOCKER WITH SLOPED TOP ON CONCRETE CURB.

1 FLOOR PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME: 7/31/2026 11:58:39 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

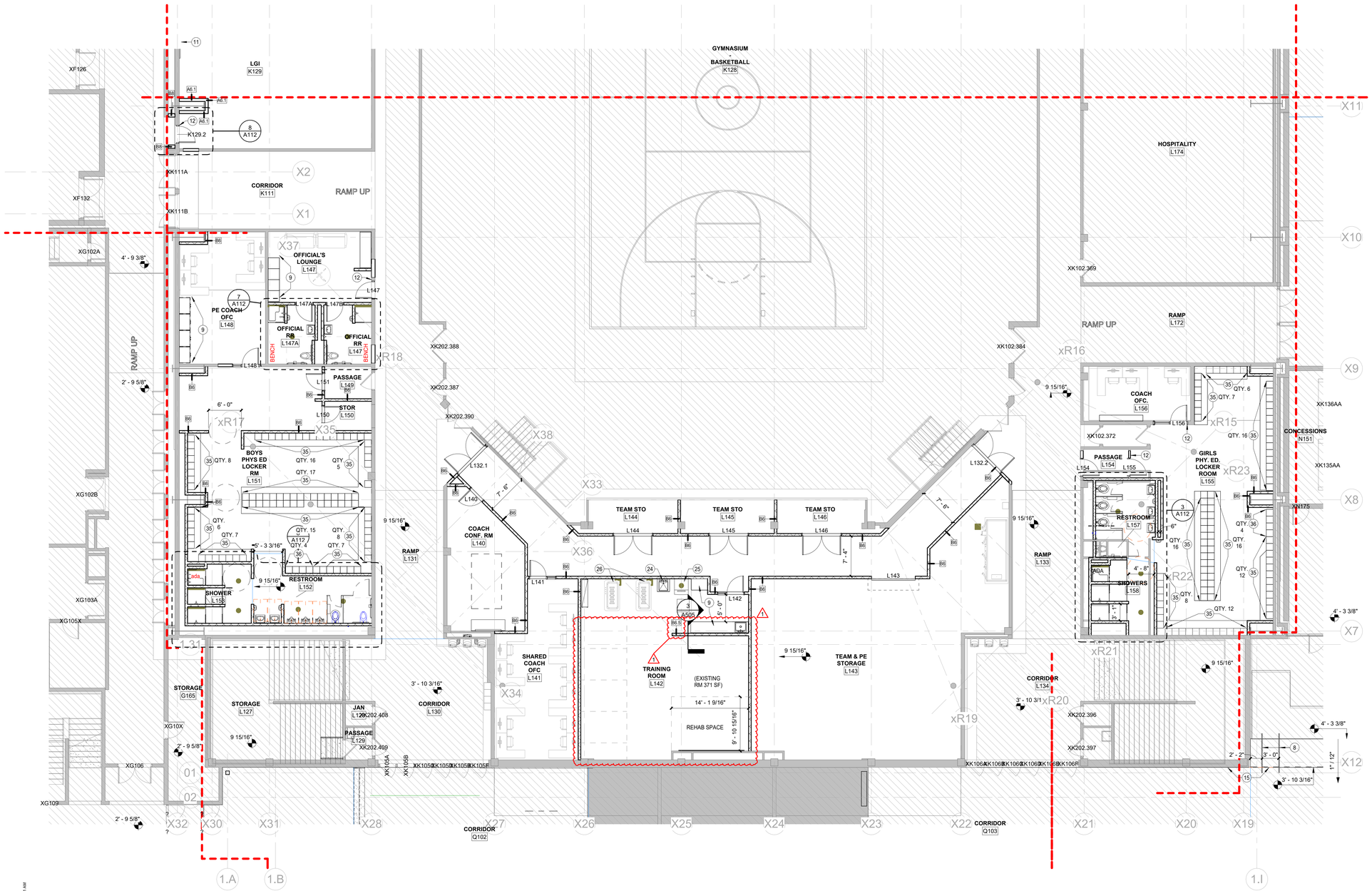
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1	07/31/2026	Addendum #01

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PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

FLOOR PLAN - FIRST FLOOR - UNIT K

A101K



GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

G. FOR ALL RESTROOM FACILITIES WITH GYPSUM WALL FINISH REPLACE 5/8" TYPE "X" GYPSUM BOARD WITH 5/8" MOISTURE RESISTANT GYPSUM BOARD, SEE SPECS FOR DETAILS

H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE

PLAN NOTES - FLOOR PLAN

1 SIDEWALK, SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP, SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
5 ADA ACCESS PADDLE. SEE SPECFICIATIONS FOR ADDITIONAL INFORMATION.
6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
8 FACTORY FINISHED RAMP HANDRAIL. SEE DETAIL ON A402.
9 NEW CASEWORK
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16 WEAPON DETECTION AREA
17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
19 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS.
20 NEW 12' MARKERBOARD
21 NEW 8' MARKERBOARD
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23 MOP BASIN
24 SERVICE SINK
25 ICE MACHINE
26 HYDRO THERAPY TUB
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30 ADA COOKTOP WITH CASEWORK
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N
TRUE NORTH

A B C D E F G H J K L M N O P Q R S

1 FLOOR PLAN - FIRST FLOOR - UNIT L
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME: 7/31/2026 11:58:41 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

FLOOR PLAN - FIRST FLOOR - UNIT L

A101L

PLAN NOTES - FLOOR PLAN

1 SIDEWALK. SEE CIVIL/LANDSCAPE
2 CONCRETE RAMP. SEE CIVIL.
3 CONCRETE RETAINING WALL WITH STEEL HANDRAIL. SEE CIVIL.
4 ACCESS CONTROL READER. SEE SPECS AND TECH DRAWINGS.
5 ADA ACCESS PADDLE. SEE SPECFICIATIONS FOR ADDITIONAL INFORMATION.
6 LINE OF CANOPY ABOVE.
7 FACTORY FINISHED HANDRAIL. SEE DETAIL ON A402.
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17 IN FILL WALL TO MATCH ADJACENT WALL. ALIGN WALL FACES
18 DISPLAY CASE, SEE GLAZING ELEVATIONS AND ENLARGED PLAN.
19 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS
20 NEW 12' MARKERBOARD
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29 ADA SINK WITH CASEWORK
30 ADA COOKTOP WITH CASEWORK
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GENERAL NOTES

A. PROVIDE CORNER GUARDS AT ALL OUTSIDE CORNERS WITH GYPSUM BOARD FINISH.

B. PROVIDE BULL-NOSE FINISH ON ALL OUTSIDE CORNERS OF CMU WALLS

C. SEE ELEVATIONS FOR EXTERIOR MASONRY TYPE AND SIZES

D. PROVIDE SOLID SURFACE WINDOW SILLS @ ALL STOREFRONT GLAZING SILLS ABOVE FINISHED FLOOR HEIGHT. WINDOW SILL TO EXTEND 1" PAST FINISHED WALL SURFACE, TYP. UNLESS NOTED OTHERWISE

E. VIF ALL DIMENSIONS FOR WINDOWS AND CASEWORK

F. INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF MASONRY OR STUDS

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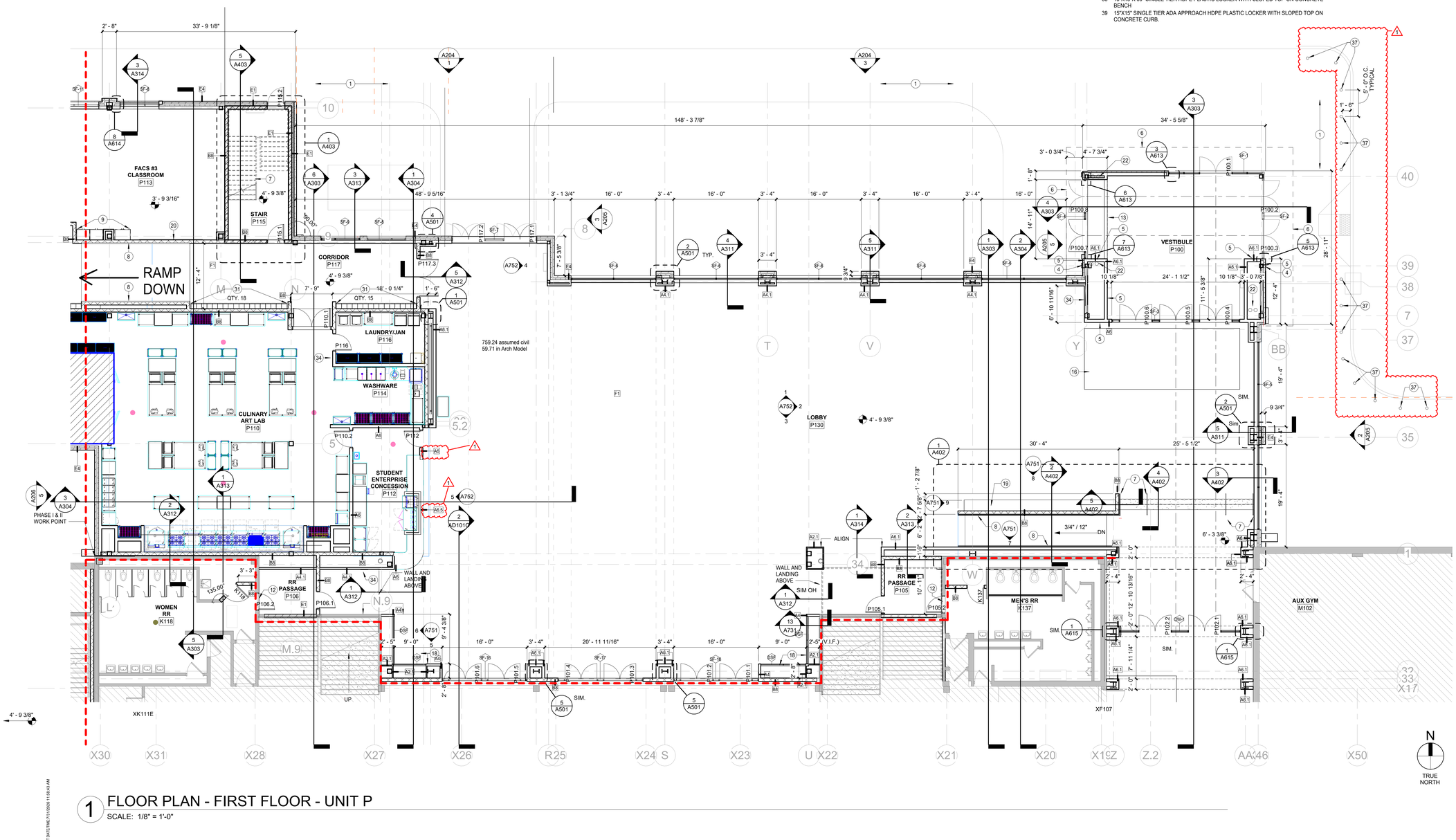
H. WHERE COLUMNS ARE NOT INDICATED TO BE WRAPPED, PAINT PT-1.

I. WALLS TO GO UP TO DECK UNLESS NOTED OTHERWISE

J. PROVIDE WINDOW SHADES AT ALL EXTERIOR PUNCHED OPENINGS, INCLUDING WHERE INDICATED ON PLANS.

K. FURNITURE SHOWN FOR VISUAL REPRESENTATION ONLY, TO BE PROVIDED BY OWNER.

OUT OF SCOPE



1 FLOOR PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"

PLOT DATE/TIME:7/31/2026 11:58:43 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. CRIPE REGISTERED No. 880033 STATE OF INDIANA

REVISIONS:			
#	Date	Desc.	
1	07/31/2026	Addendum #01	

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PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

FLOOR PLAN - FIRST FLOOR - UNIT P

A101P

TYPICAL CEILING TYPES

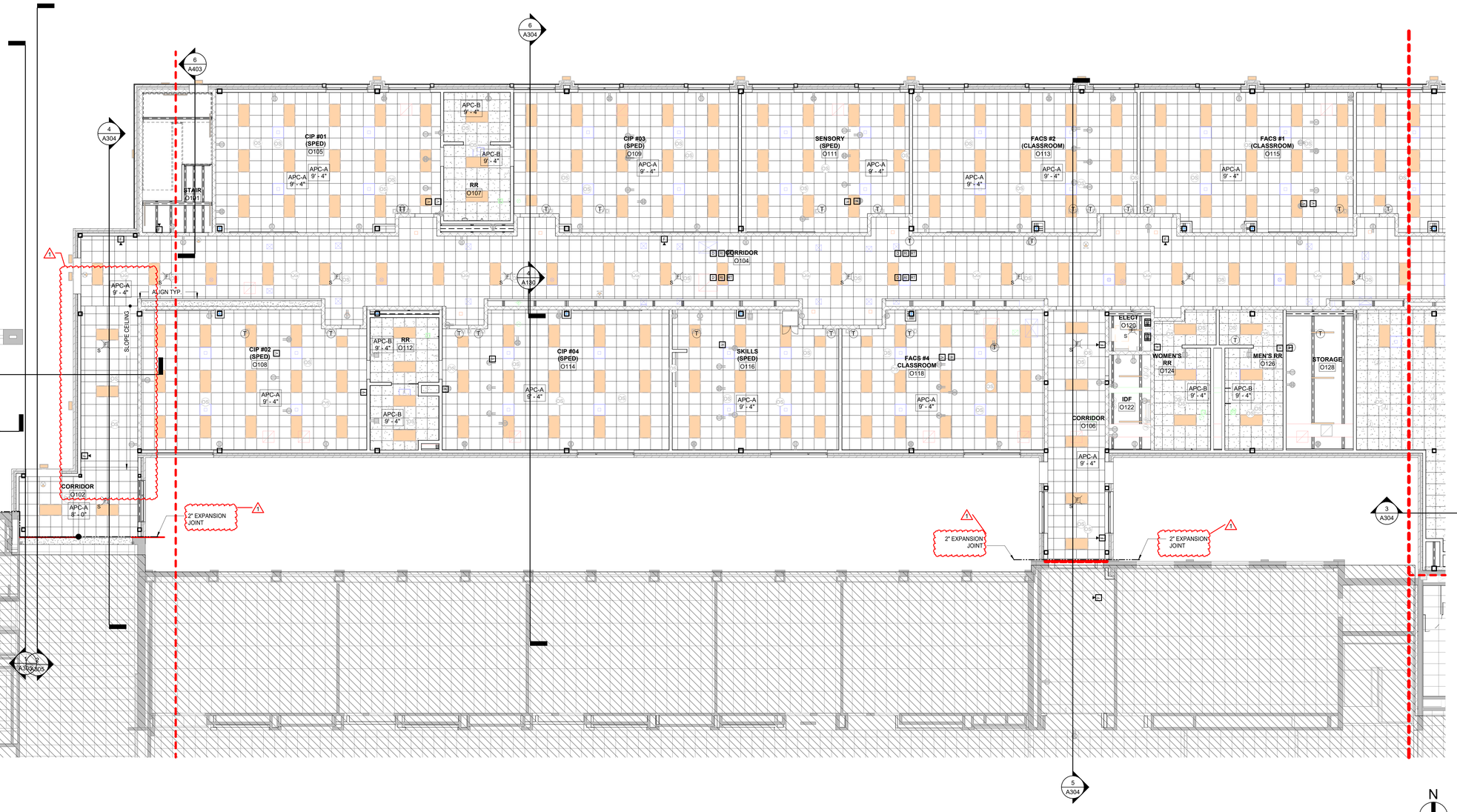
- 2x2 ACOUSTICAL CEILING TILE TYPE A (APC-A)
- 2x2 ACOUSTICAL CEILING TILE TYPE B (APC-B)
- GYPSUM BOARD CEILING
- METAL SOFFIT
- EXPOSED STRUCTURE, PAINT EXPOSED STRUCTURE WHERE INDICATED
- OUT OF SCOPE

GENERAL NOTES

1. ALL INTERIOR CEILINGS AT 9'-4" UNLESS NOTED OTHERWISE.
2. PATCH AND REPAIR WALLS AROUND PIPE PENETRATIONS.

PLAN NOTES - RCP

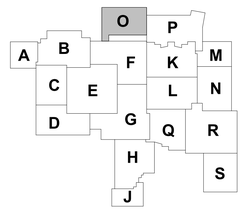
1 GYPSUM BULKHEAD
2 PROVIDE LID TO ROOM WITH 3/4" DECKING ON 6" COLD FORMED METAL FRAMING. PAINT DECKING.
3 LINE OF WALL ABOVE. SEE SECTION.
4 PAINT EXPOSED DECK, STRUCTURAL AND MECHANICAL ELEMENTS, PT-1.
5 PAINT EXPOSED DECK, STRUCTURAL AND MECHANICAL ELEMENTS, PT-3.
6 SUSPENDED ANODIZED ALUMINUM 3D LETTERING. CUSTOM RAL COLOR PAINTED. LETTERS TO BE 5'-4" W X 7'-0" H. PLAN SOUTH END OF LETTERS TO BE DROPPED 5 DEGREES FROM NORTH END OF LETTERS.
7 WOOD VENEERED CEILING PANEL, WCP-1. REFER TO FINISH LEGEND.
8 INFILL ACOUSTIC CEILING TILE AND GRID AS NEEDED. KEEP EXISTING CEILING AS IS.
9 PAINT HORIZONTAL AND VERTICAL SURFACES OF GYPSUM BOARD ACCENT PAINT PT-2. REFER TO FINISH LEGEND.



1 REFLECTED CEILING PLAN - FIRST FLOOR - UNIT O

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

N
TRUE NORTH



PLOT DATE/TIME: 7/31/2026 11:08:47 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#2417SS
DATE:	07/10/2026
DRAWN BY:	Author

REFLECTED CEILING PLAN - FIRST FLOOR - UNIT O

A121O

TYPICAL CEILING TYPES

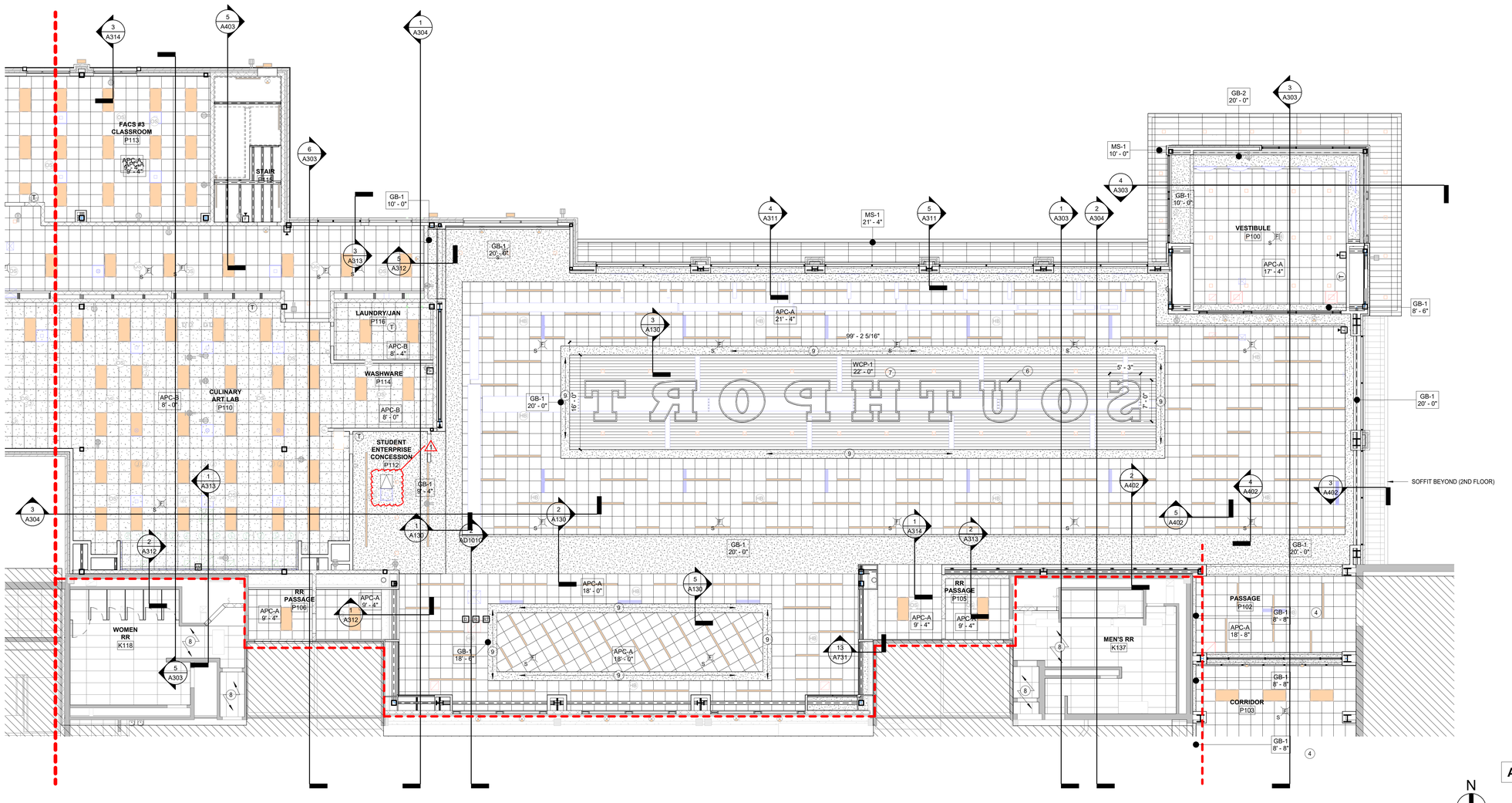
- 2x2 ACOUSTICAL CEILING TILE TYPE A (APC-A)
- 2x2 ACOUSTICAL CEILING TILE TYPE B (APC-B)
- GYPSUM BOARD CEILING
- METAL SOFFIT
- EXPOSED STRUCTURE, PAINT EXPOSED STRUCTURE WHERE INDICATED
- OUT OF SCOPE

GENERAL NOTES

1. ALL INTERIOR CEILINGS AT 9'-4" UNLESS NOTED OTHERWISE.
2. PATCH AND REPAIR WALLS AROUND PIPE PENETRATIONS.

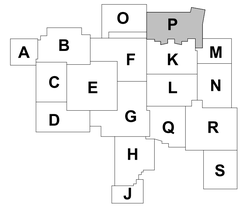
PLAN NOTES - RCP

1 GYPSUM BULKHEAD
2 PROVIDE LID TO ROOM WITH 3/4" DECKING ON 6" COLD FORMED METAL FRAMING. PAINT DECKING.
3 LINE OF WALL ABOVE. SEE SECTION.
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7 WOOD VENEERED CEILING PANEL, WCP-1. REFER TO FINISH LEGEND.
8 INFILL ACOUSTIC CEILING TILE AND GRID AS NEEDED. KEEP EXISTING CEILING AS IS.
9 PAINT HORIZONTAL AND VERTICAL SURFACES OF GYPSUM BOARD ACCENT PAINT PT-2. REFER TO FINISH LEGEND.



1 REFLECTED CEILING PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"

N
TRUE NORTH



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

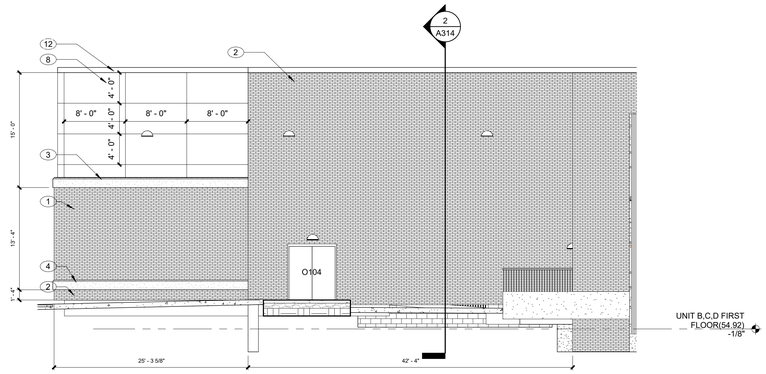
REFLECTED CEILING PLAN - FIRST FLOOR - UNIT P

A121P

PLOT DATE/TIME:7/31/2026 11:58:51 AM

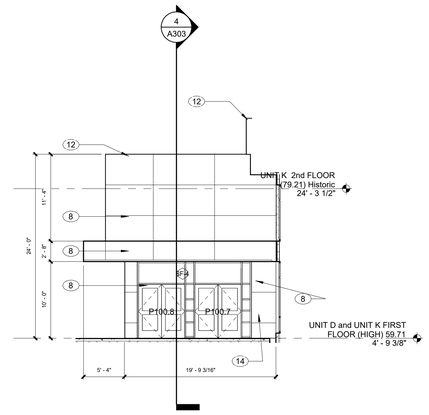
ELEVATION NOTES - EXTERIOR

1	BRICK A. MODULAR BRICK. SEE SPECIFICATIONS.
2	BRICK B. MODULAR BRICK. SEE SPECIFICATIONS.
3	INDIANA LIMESTONE TRIM PROFILE A. SMOOTH CUT, BUFF COLOR
4	INDIANA LIMESTONE TRIM PROFILE B. SMOOTH CUT, BUFF COLOR
6	BRICK CONTROL JOINT
7	MECHANICAL UNIT - SEE MECHANICAL
8	PREFINISHED METAL PANEL - COLOR 'GRAY'
9	PREFINISHED METAL PANEL - COLOR 'BLACK'
10	PREFINISHED METAL PANEL - COLOR 'RED'
12	PREFINISHED ROOF EDGE
14	ACCESS CONTROL
17	PREFINISHED METAL LETTERS 30" TALL. ARIAL FONT. SECURE TO FACE OF BUILDING.
18	BACKLIT METAL SIGN WITH SCHOOL LOGO.
20	FINISHED GRADE, SEE CIVIL.
21	6" CONCRETE RETAINING WALL.
22	CONCRETE SIDEWALK - SEE CIVIL
23	SITE TBD
27	STEEL HANDRAIL WITH VERTICAL POST AT MAX 4'-0". SHOP PRIMED AND FIELD PAINTED.
29	2" BUILDING EXPANSION JOINT



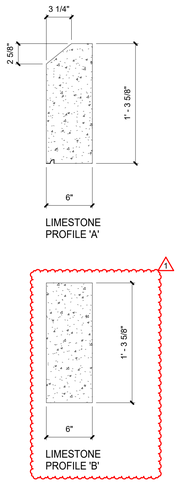
6 Elevation Ph2 West

SCALE: 1/8" = 1'-0" REF. 1 / A101O



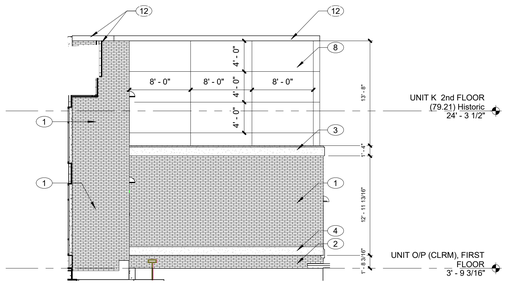
5 Elevation Ph2 West Entry Cube1

SCALE: 1/8" = 1'-0" REF. 1 / A101P



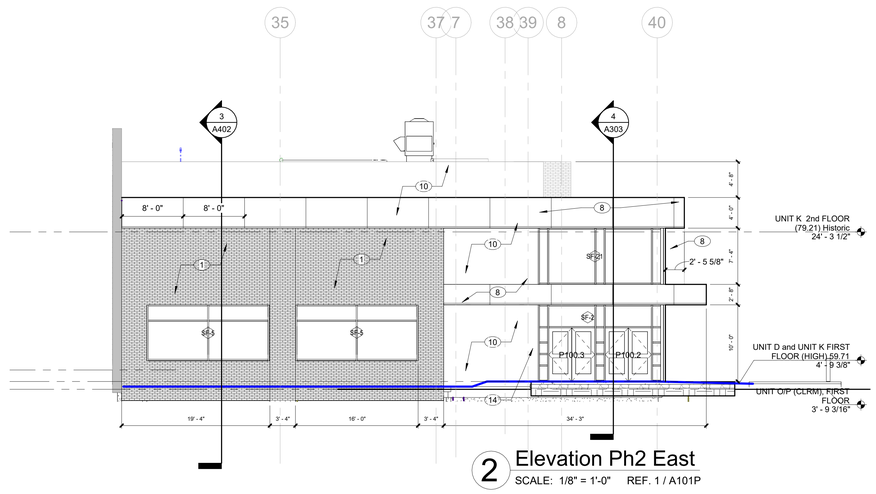
4 LIMESTONE PROFILES.

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



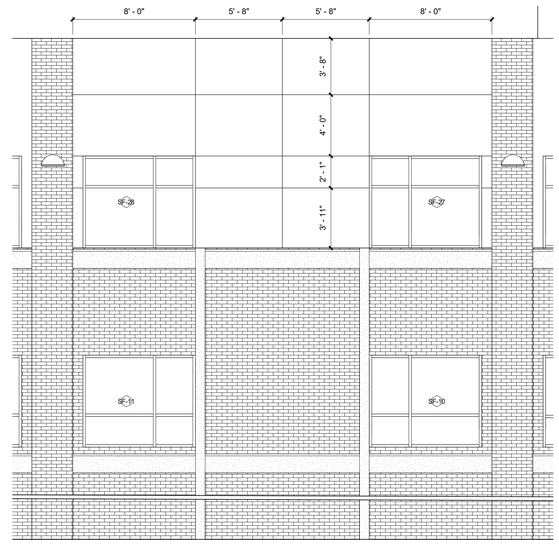
3 Elevation Ph2 East - Partial

SCALE: 1/8" = 1'-0" REF. 1 / A101P



2 Elevation Ph2 East

SCALE: 1/8" = 1'-0" REF. 1 / A101P



1 ENLARGED METAL PANEL ELEVATION

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

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

BRIAN J. ZIMMERMAN
REGISTERED
NO 80003391
STATE OF
INDIANA
REGISTERED ARCHITECT

REVISIONS:			
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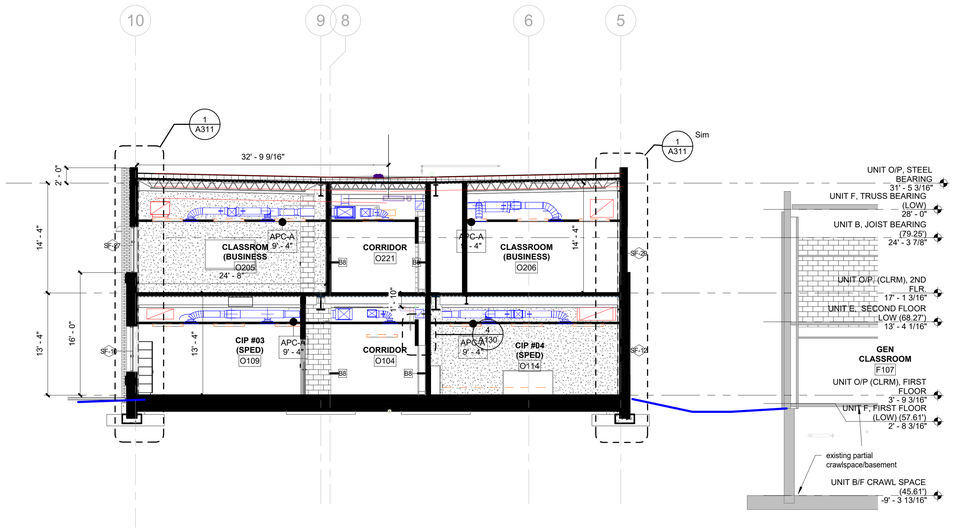
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DATE:	07/10/2026
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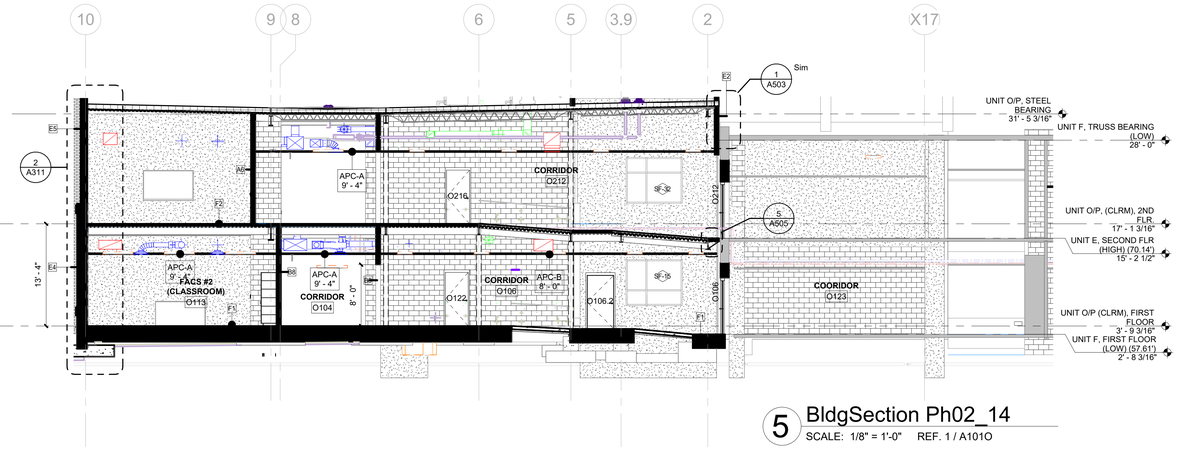
EXTERIOR ELEVATIONS

A205

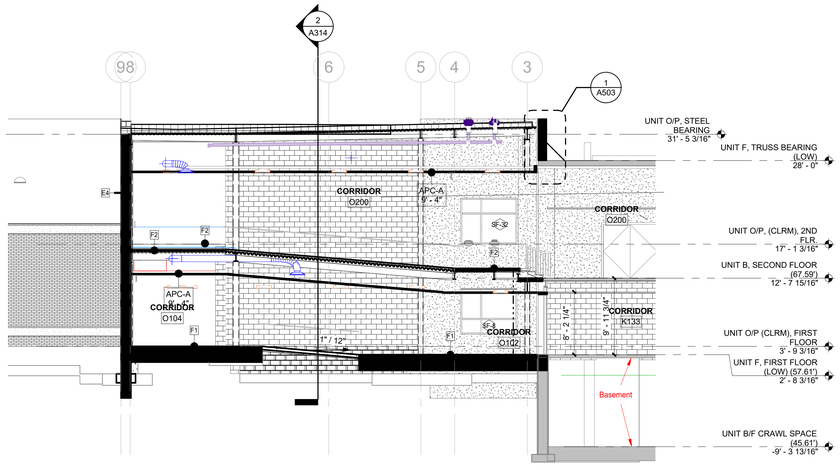
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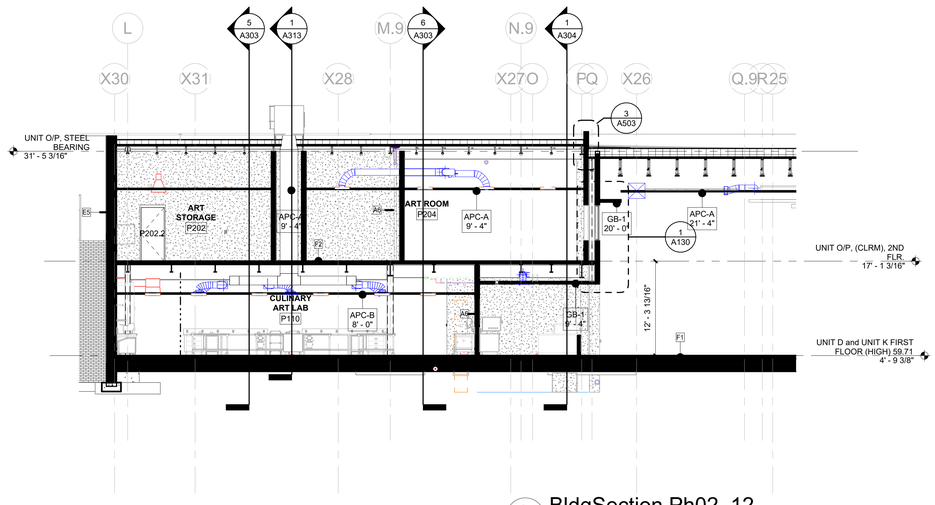
6 BldgSection Ph02_08
SCALE: 1/8" = 1'-0" REF. 1 / A101O



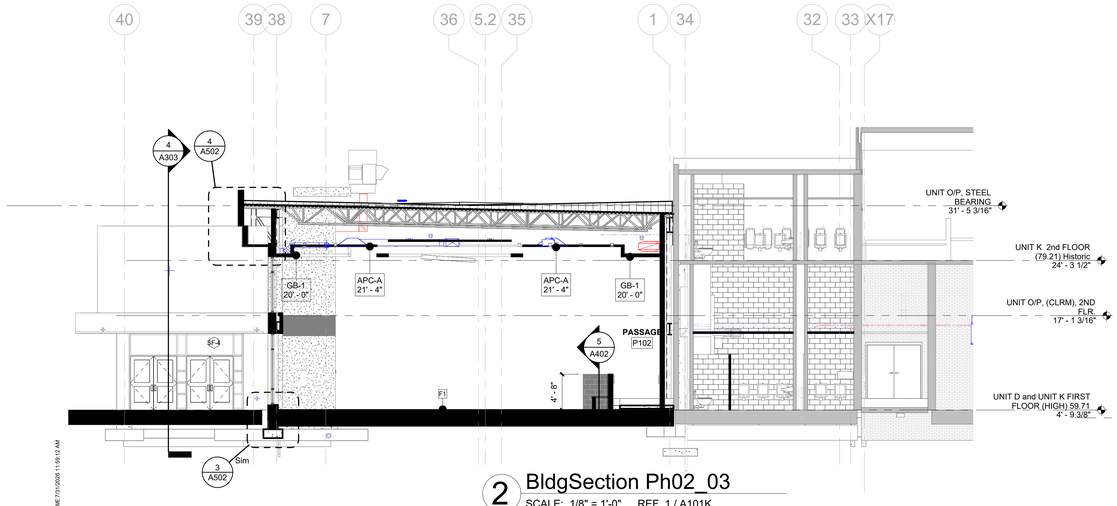
5 BldgSection Ph02_14
SCALE: 1/8" = 1'-0" REF. 1 / A101O



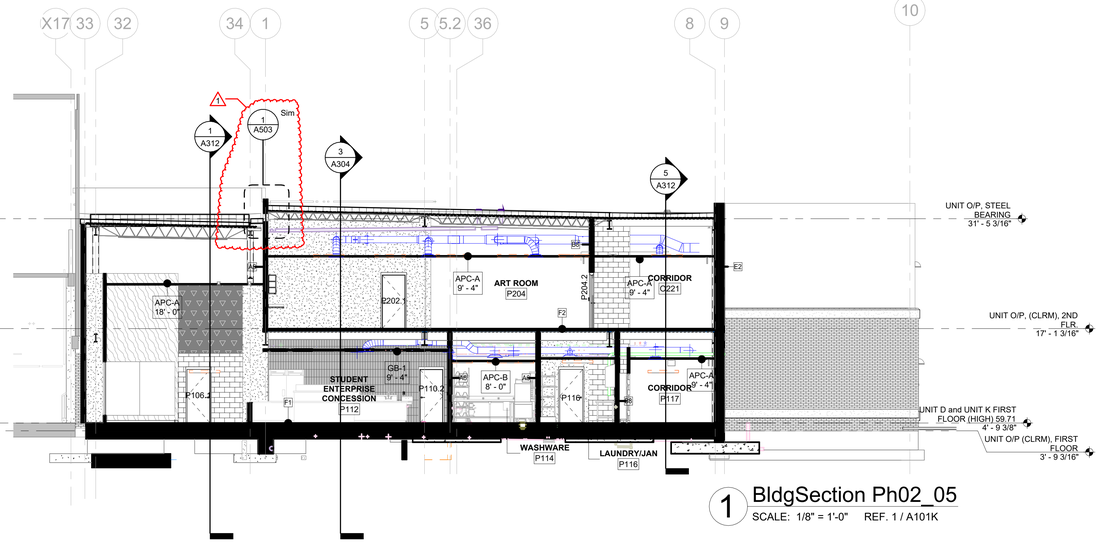
4 BldgSection Ph02_09
SCALE: 1/8" = 1'-0" REF. 1 / A101O



3 BldgSection Ph02_12
SCALE: 1/8" = 1'-0" REF. 1 / A101K



2 BldgSection Ph02_03
SCALE: 1/8" = 1'-0" REF. 1 / A101K



1 BldgSection Ph02_05
SCALE: 1/8" = 1'-0" REF. 1 / A101K

PLOT DATE/TIME:7/31/2026 11:55:12 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



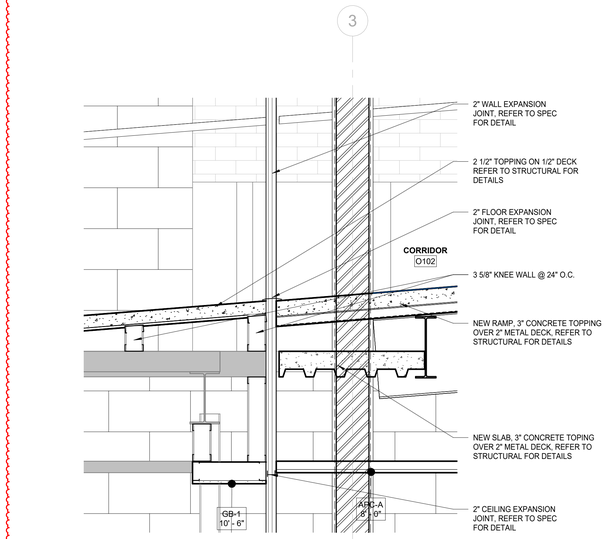
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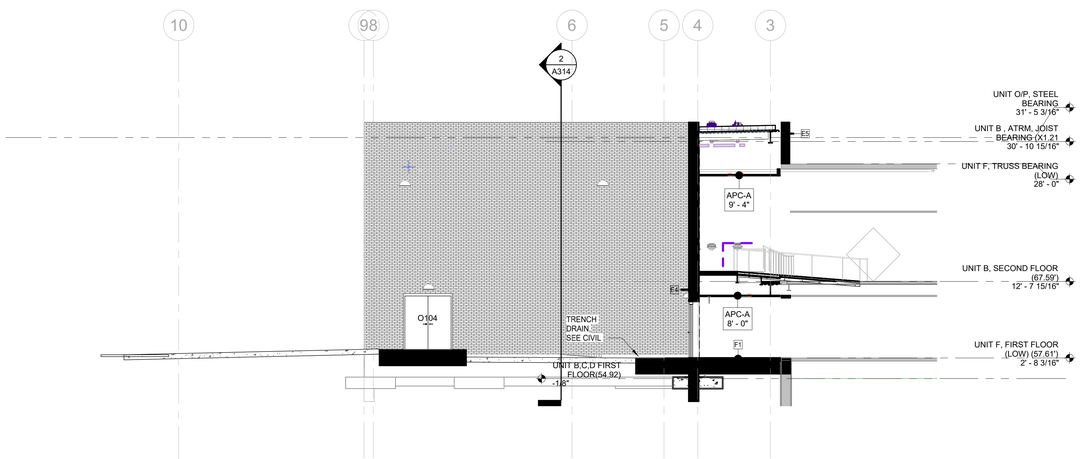
BUILDING SECTIONS

A304



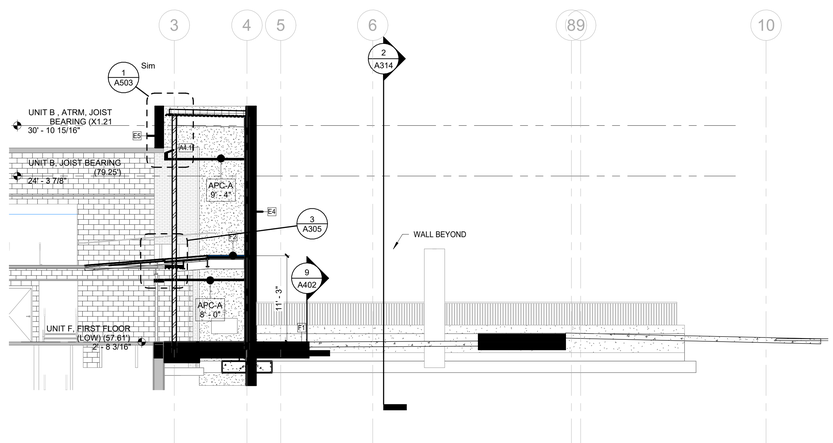
3 DETAIL - RAMP FLOOR EXPANSION JOINT

SCALE: 1" = 1'-0" REF. 1 / A305



2 BldgSection Ph02_16

SCALE: 1/8" = 1'-0" REF. 1 / A101O



1 BldgSection Ph02_18

SCALE: 1/8" = 1'-0" REF. 1 / A101O

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. CRIPPEN REGISTERED No 880033 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

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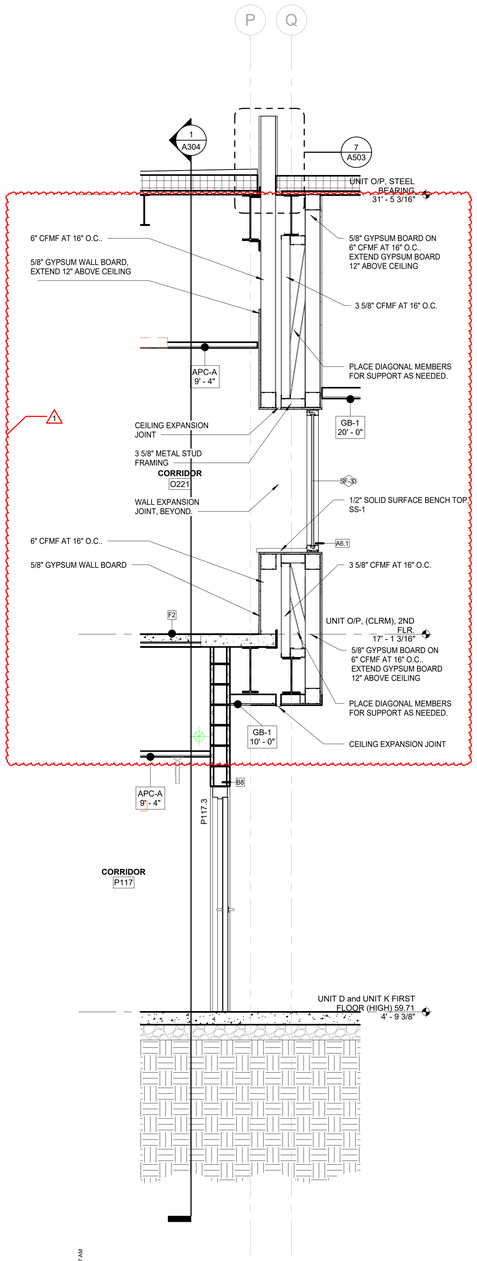
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BUILDING SECTIONS

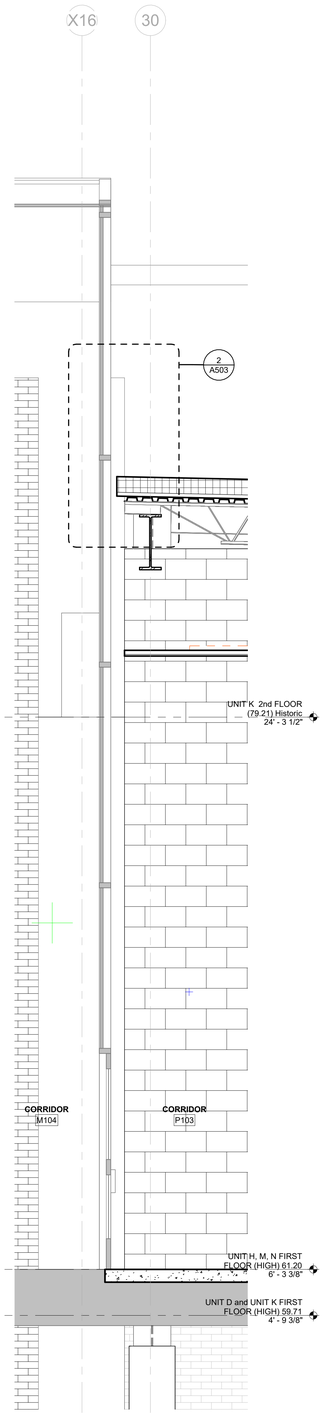
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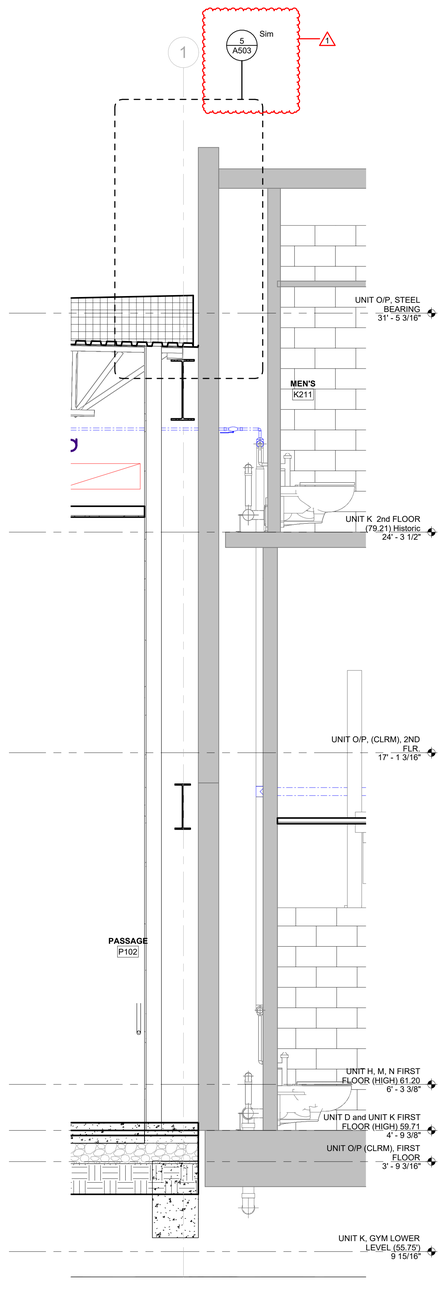
5 WALL SECTION - N CORRIDOR

SCALE: 1/2" = 1'-0" REF. 1 / A101P



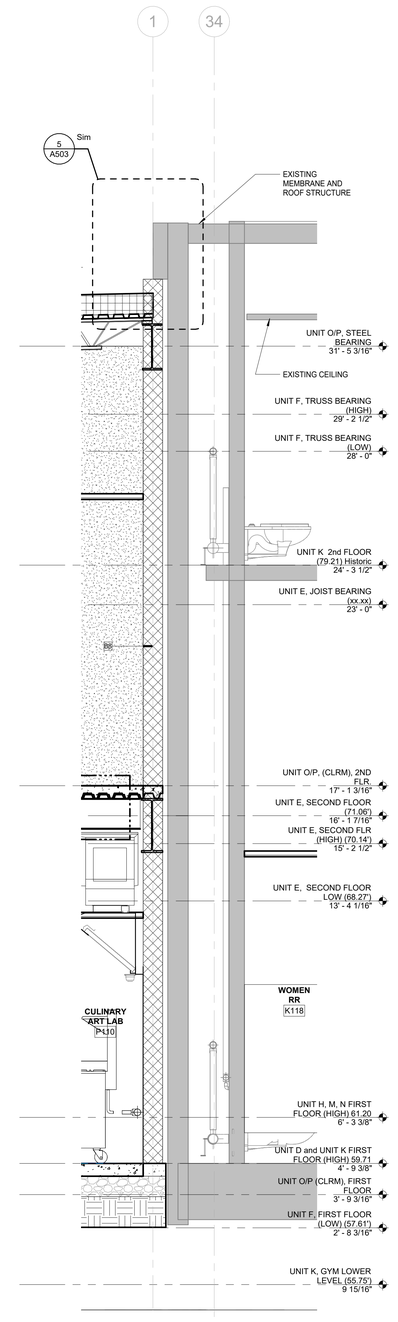
4 WallSection Ph02_09

SCALE: 1/2" = 1'-0" REF. 3 / A303



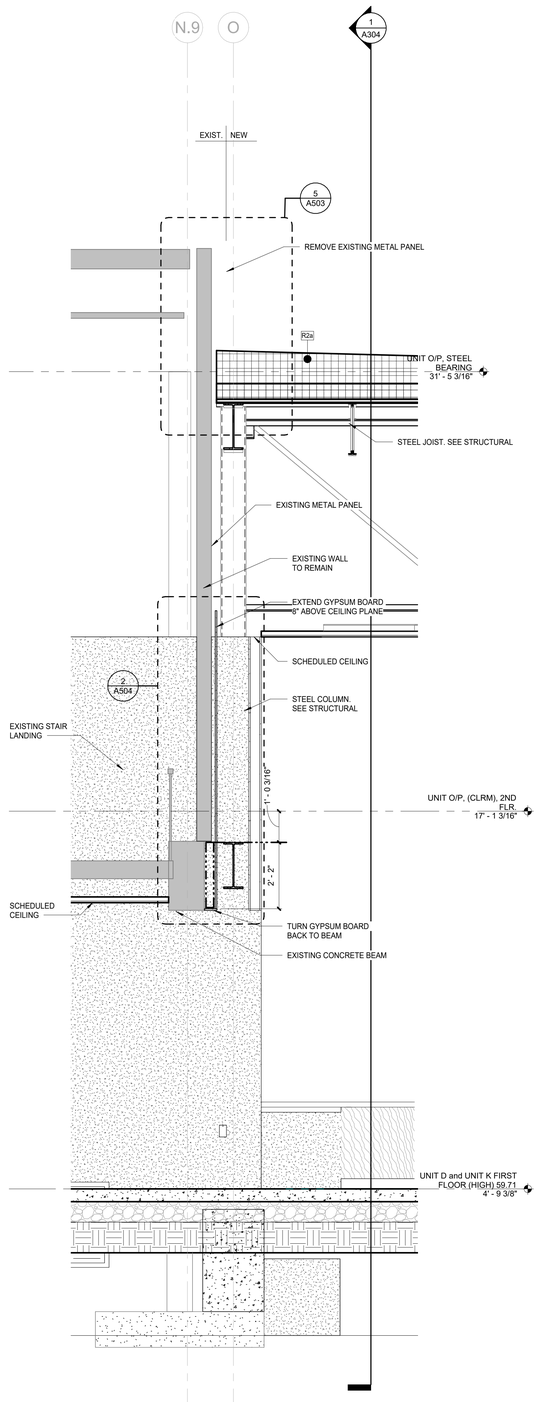
3 WallSection Ph02_06

SCALE: 1/2" = 1'-0" REF. 1 / A303



2 WallSection Ph02_03

SCALE: 1/2" = 1'-0" REF. 1 / A101K



1 WALL SECTION - Exist Fieldhouse STAIR

SCALE: 1/2" = 1'-0" REF. 1 / A101K

PLOT DATE/TIME:7/31/2026 11:59:17 AM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



REVISIONS:

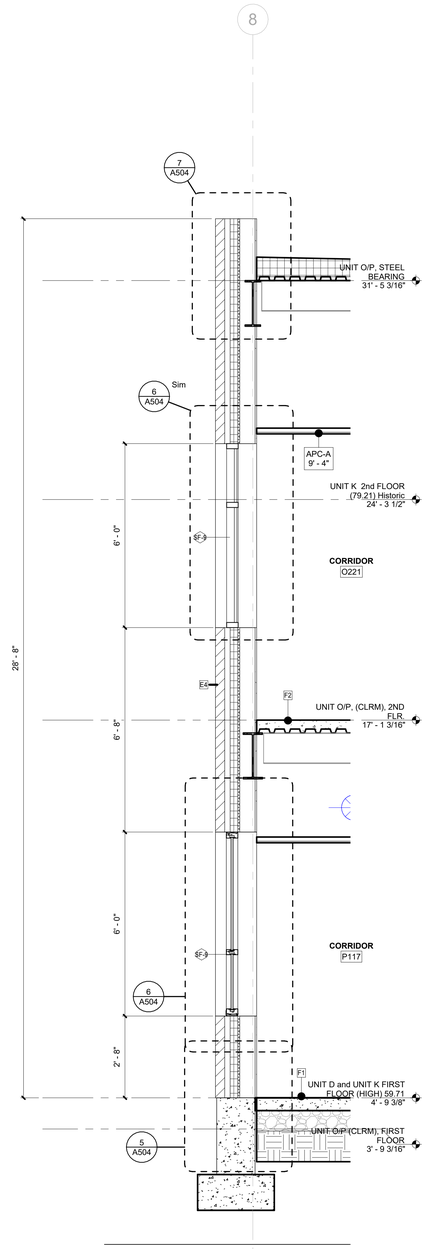
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1	07/31/2026	Addendum #01

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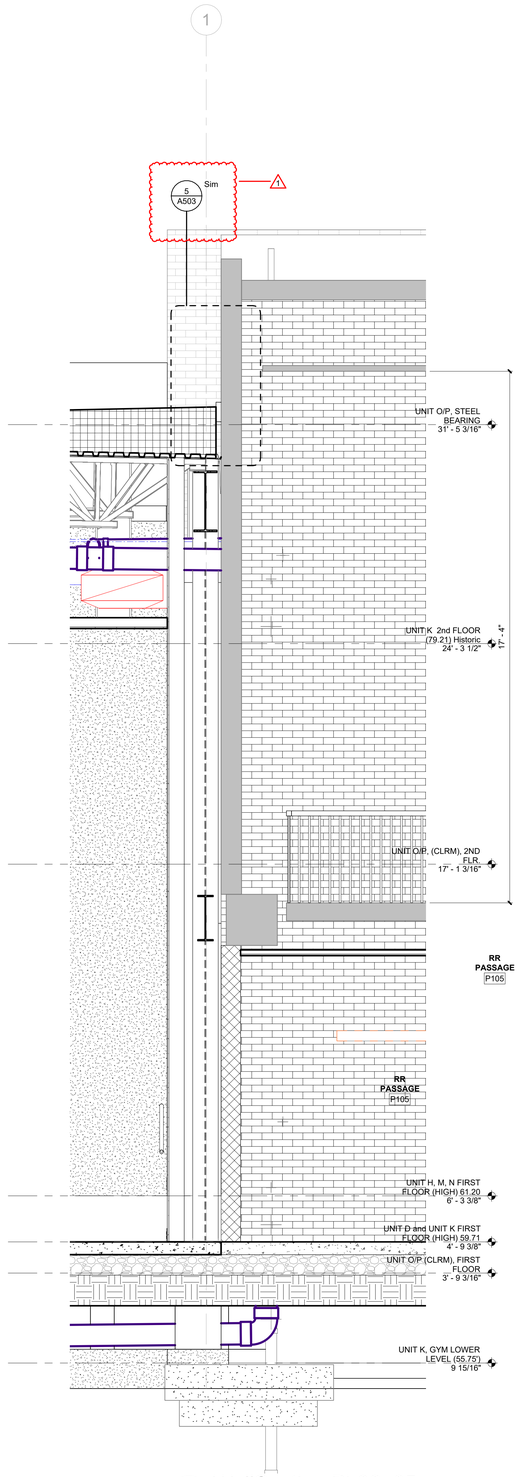
WALL SECTIONS

A312



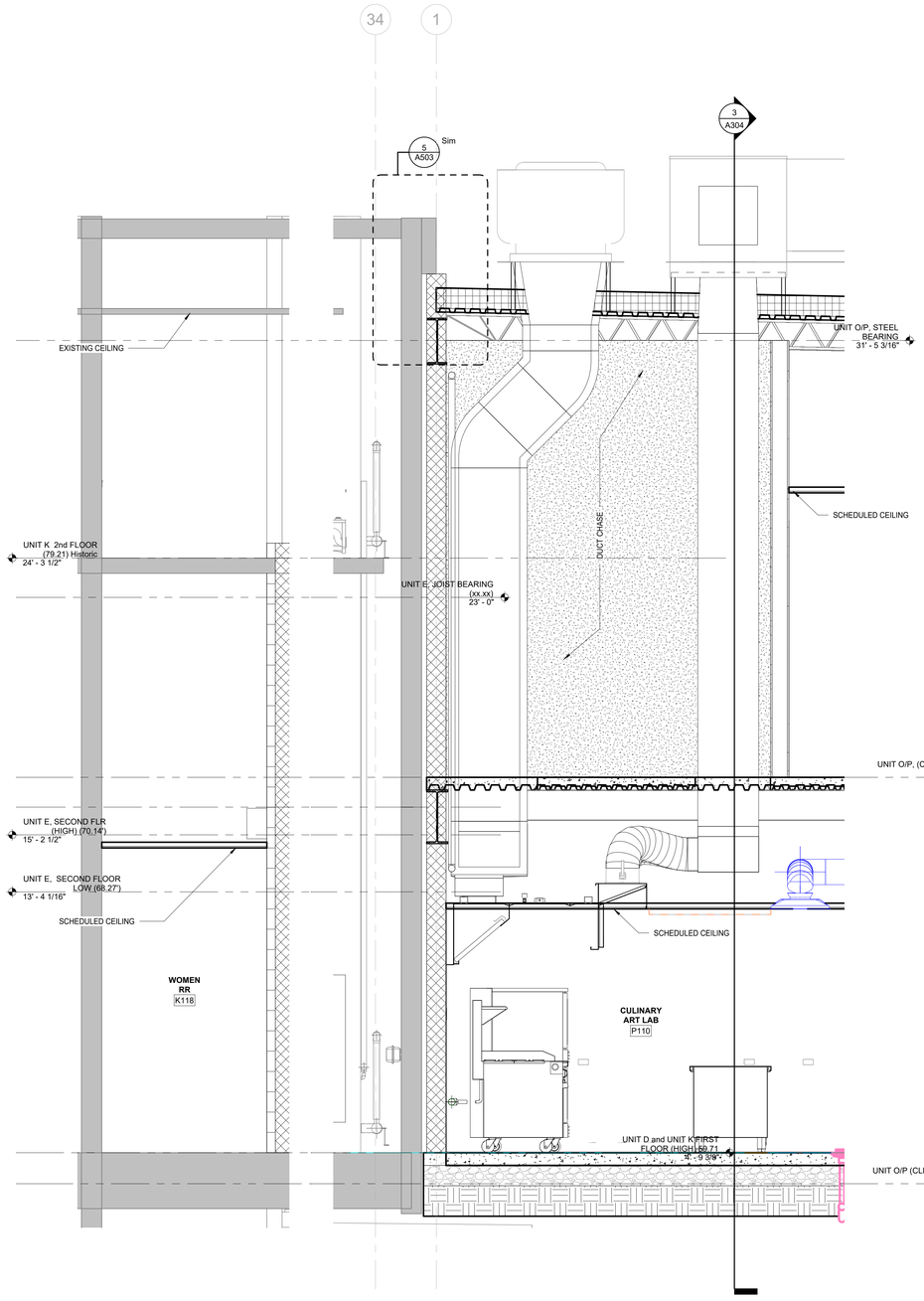
3 BRICK ON MTL STUD WALL SECTION

SCALE: 1/2" = 1'-0" REF. 1 / A101P



2 WallSection Ph02_05

SCALE: 1/2" = 1'-0" REF. 1 / A101K



1 WallSection Ph02_07

SCALE: 1/2" = 1'-0" REF. 1 / A101K

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L CRIPE
REGISTERED
NO.
8800139
STATE OF
INDIANA

REVISIONS:		
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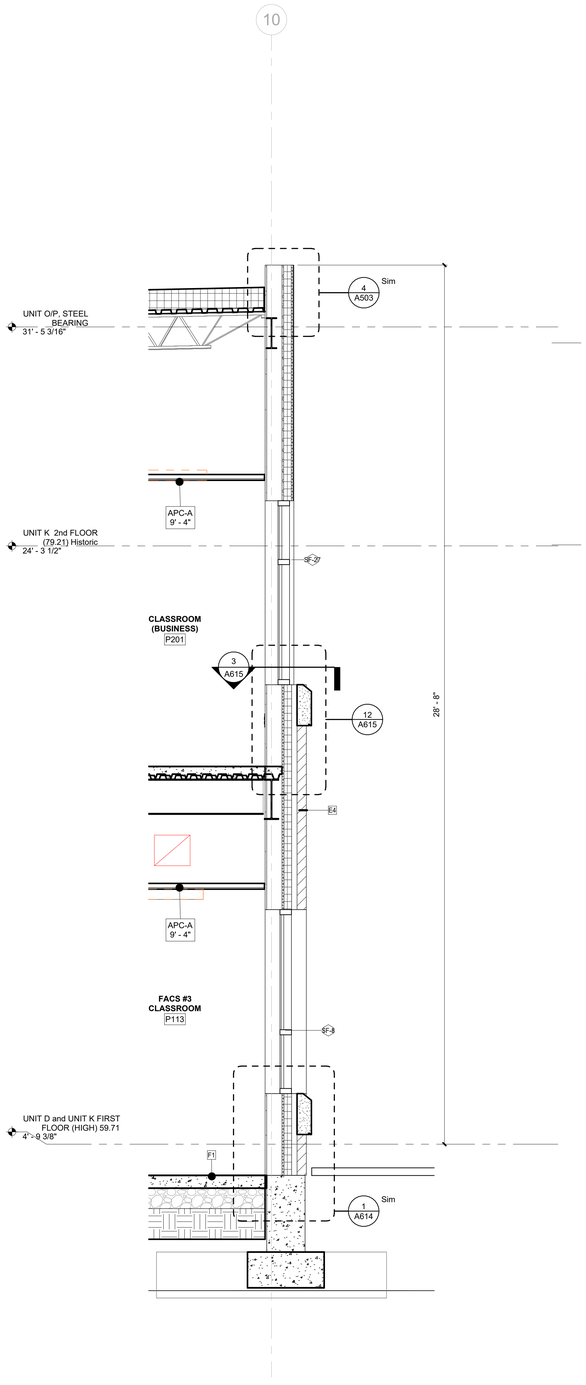
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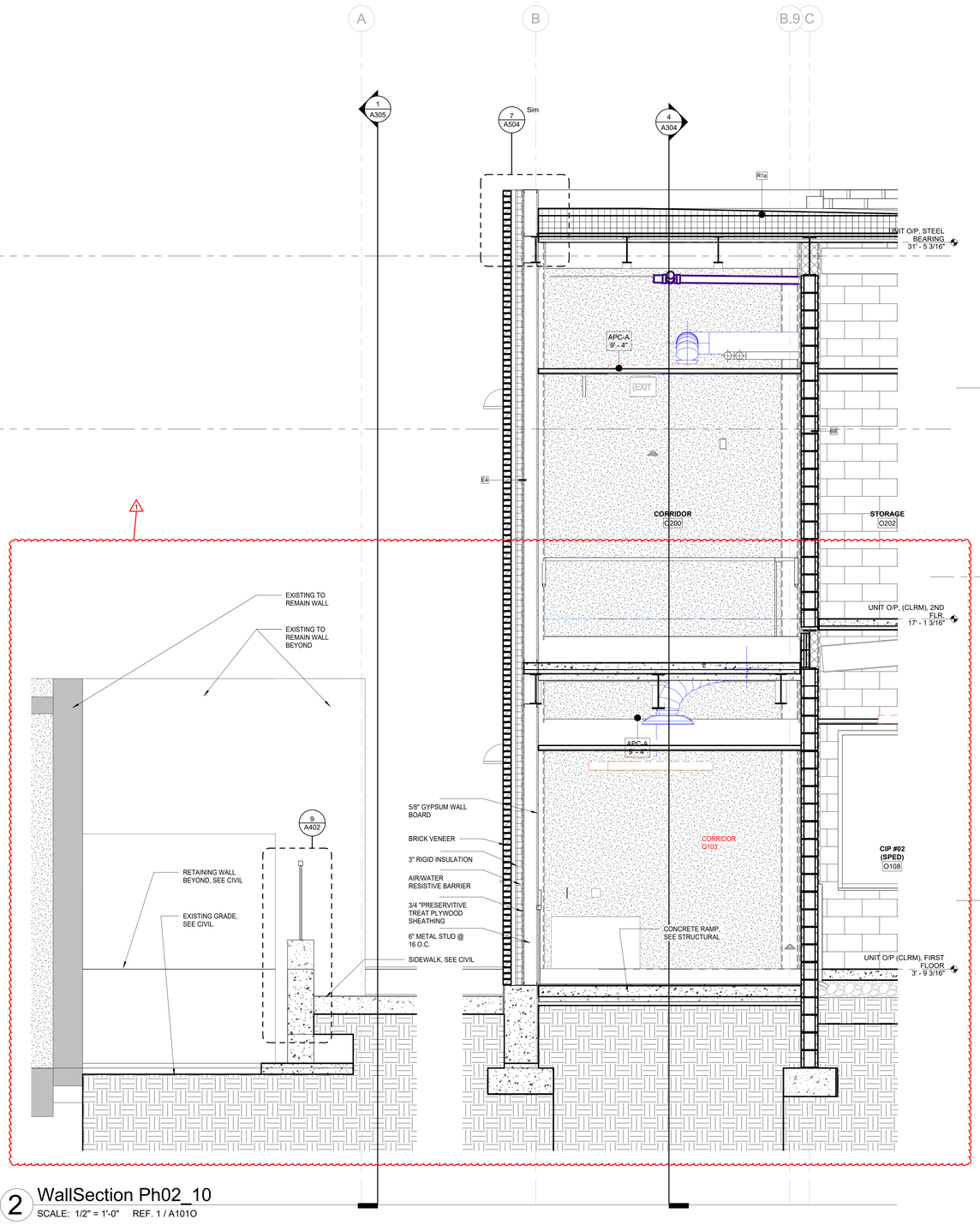
WALL SECTIONS

A313

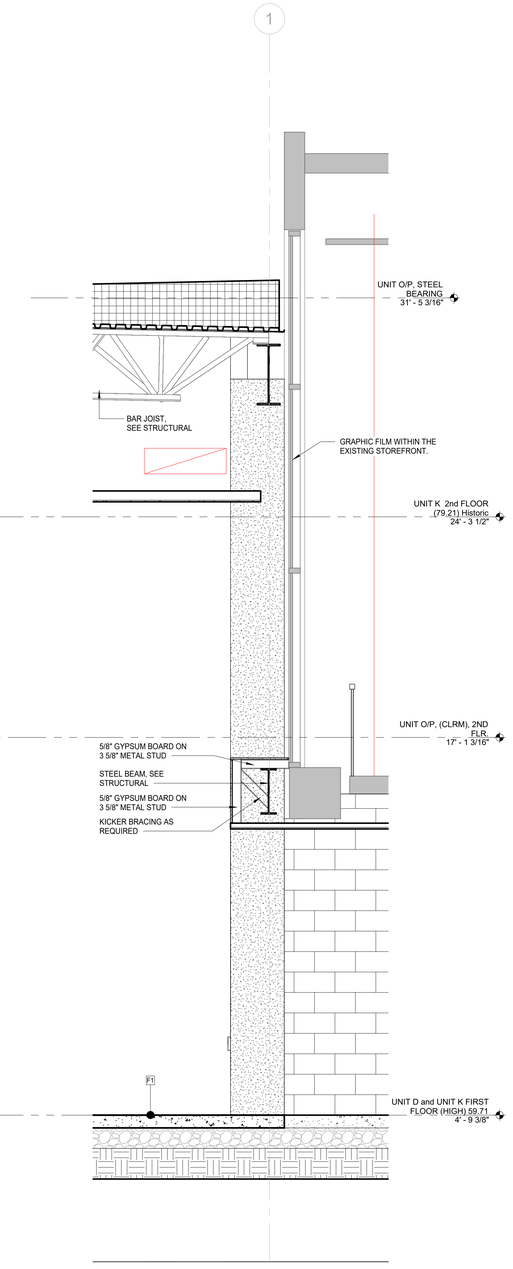
PLOT DATE/TIME:7/31/2026 11:59:21 AM



3 Section 7
SCALE: 1/2" = 1'-0" REF. 1 / A101O



2 WallSection Ph02_10
SCALE: 1/2" = 1'-0" REF. 1 / A101O



1 WallSection Ph02_11
SCALE: 1/2" = 1'-0" REF. 1 / A101K

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERY L. CRIPE
REGISTERED
NO
8800139
STATE OF
INDIANA

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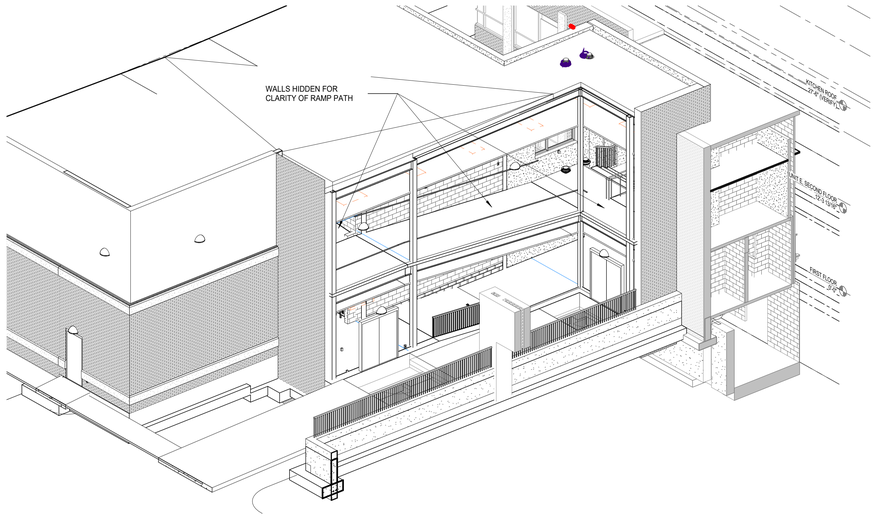
WALL SECTIONS

A314

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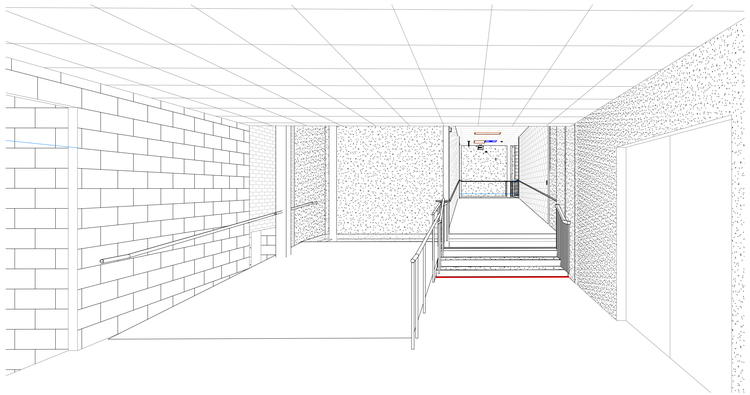
GENERAL NOTES

A. ALL STAIR STRINGERS AND HANDRAILS ARE TO BE PAINTED



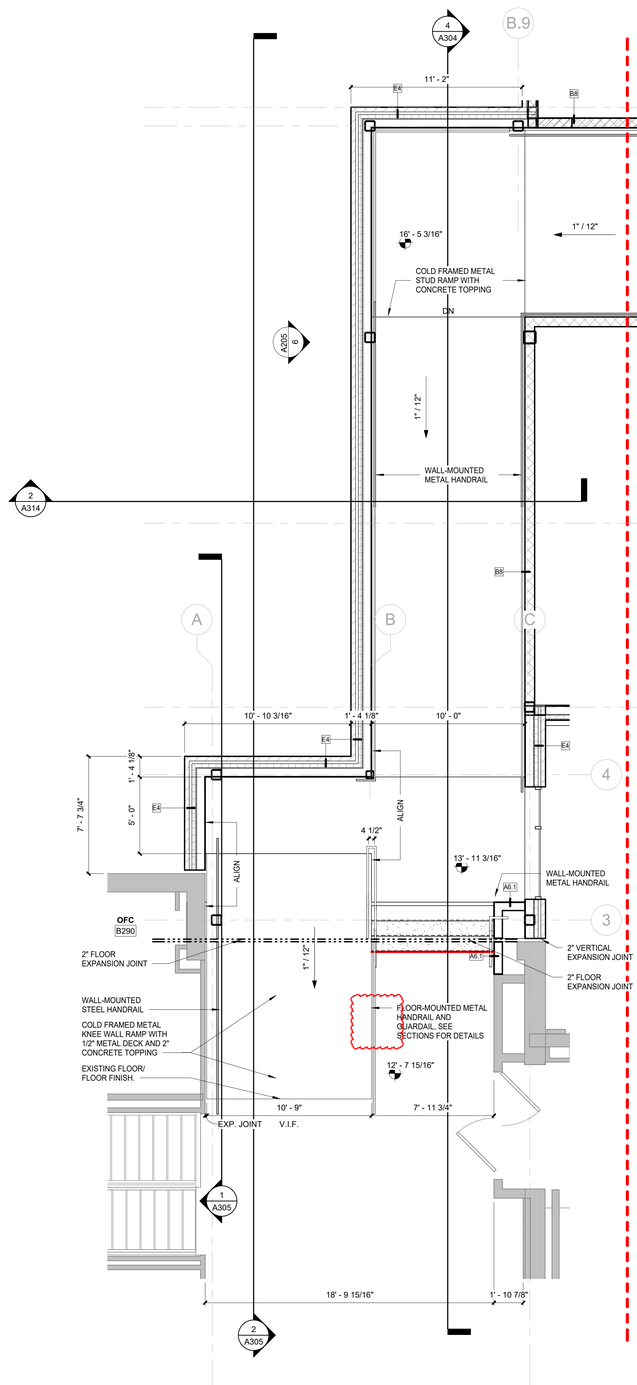
6 WEST RAMP 3D VIEW

SCALE:



2 CORRIDOR O200 PERSPECTIVE

SCALE:



1 ENLG FLR PLAN - RAMP/STAIR O200

SCALE: 1/4" = 1'-0" REF. 1 / A102O

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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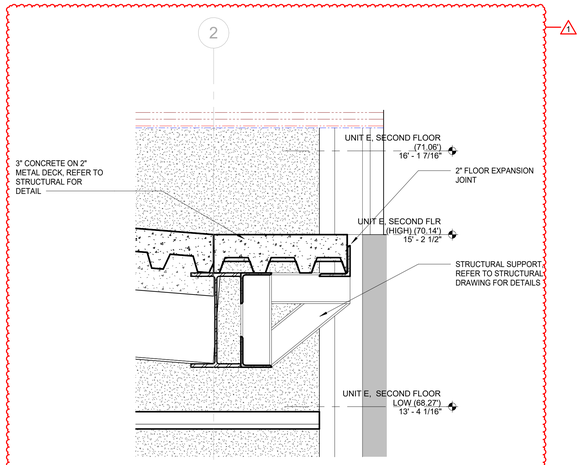
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PROJECT:	#24173S
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VERTICAL CIRCULATION

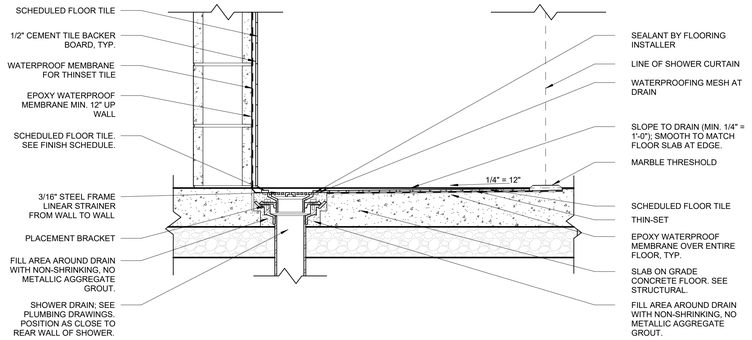
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PLOT DATE/TIME: 7/31/2026 1:11:29 AM



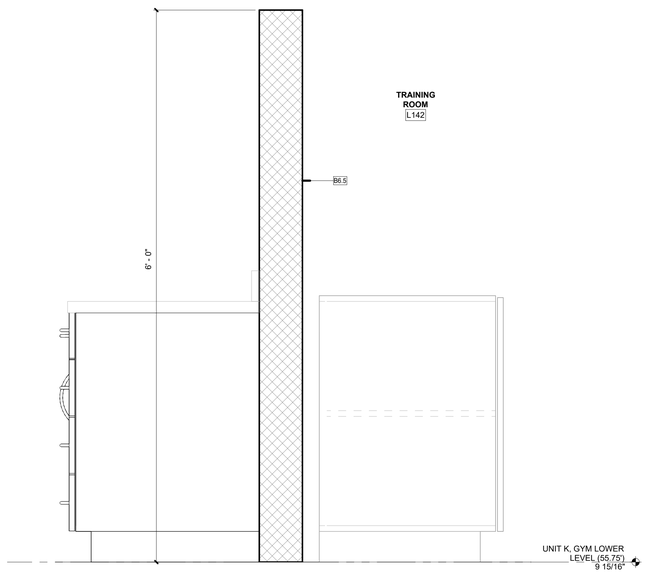
5 EXPANSION JOINT @ RAMP

SCALE: 1 1/2" = 1'-0" REF. 5 / A304



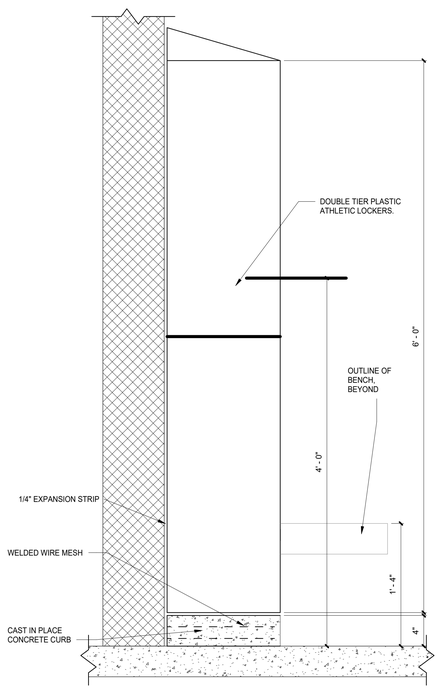
4 TYP. SHOWER DRAIN SLAB ON GRADE

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



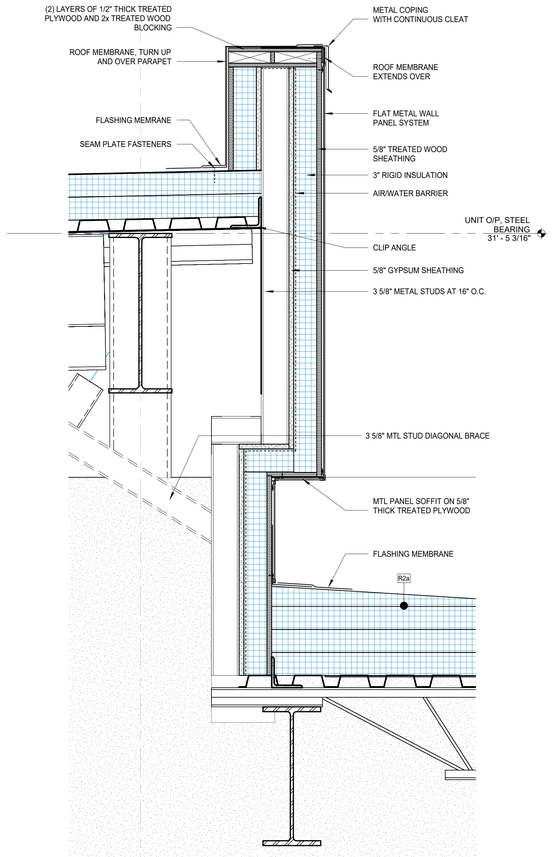
3 TRAINING ROOM DIVIDING WALL

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



2 LOCKER BENCH ADA

SCALE: 1 1/2" = 1'-0" REF. 1 / A113



1 ROOF DETAIL - VESTIBULE P100

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

LANCER ASSOCIATES ARCHITECTURE
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PERRY TOWNSHIP SCHOOLS
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971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

SECTION DETAILS

A505

PLOT DATE/TIME:7/31/2026 1:11:50 AM

GENERAL FINISH PLAN NOTES

A. PRIOR TO INSTALLATION OF NEW FINISHES CONTRACTOR SHALL INSPECT ALL SUBSTRATES. IF A SUBSTRATE IS DEEMED UNACCEPTABLE, THE CONTRACTOR SHALL REPAIR AS NECESSARY FOR SUBSTRATE TO ACCEPT NEW MATERIALS.

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F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

H. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

J. REFER TO FINISH LEGEND FOR INTERIOR FINISH INFORMATION.

K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

L. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

M. REFER TO INTERIOR TRANSITION DETALS SHEET A731 FOR TRANSITION STRIP PRODUCT DETAILS.

N. ALL MECHANICAL CLOSETS TO HAVE A SEALED CONCRETE FLOOR FINISH. PROVIDE RESILIENT REDUCER TO MATCH RB-1 UNDER CENTER OF DOORWAY.

O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

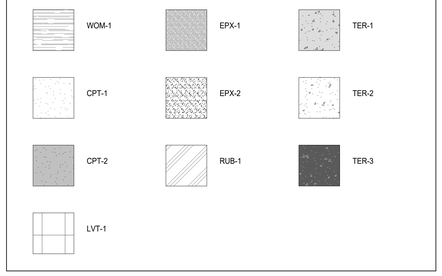
S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.

FLOOR FINISH HATCH LEGEND



FINISH LEGEND

NOTES

ETR EXISTING TO REMAIN

FLOOR COVERING

CARPET TILE

WOM-1: MFG: TARKETT
TYPE: 24" X 24" MODULAR WALK-OFF
PATTERN: ABRASIVE ACTION II
COLOR: CHARCOAL
INSTALL: PER MANF.
LOCATION: VESTIBULES
CONTACT: DOUG EDWARDS, 317-443-9579

CPT-1: MFG: TARKETT
TYPE: 18" X 36" MODULAR CARPET PLANK
PATTERN: AFTERMATH III SD
COLOR: BRINDLE 23522
INSTALL: ASHLAR, REF. PLAN FOR DIRECTION
LOCATION: CORRIDORS, CLASSROOMS
CONTACT: DOUG EDWARDS, 317-443-9579

CPT-2: MFG: TARKETT
TYPE: 18" X 36" MODULAR CARPET PLANK
PATTERN: AFTERMATH III SD
COLOR: RED RINGER 23523
INSTALL: ASHLAR, REF. PLAN FOR DIRECTION
LOCATION: CORRIDORS, CLASSROOMS
CONTACT: DOUG EDWARDS, 317-443-9579

RESINOUS FLOORING

EPX-1: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MACKERAL - 1/4" FLAKE
INSTALL: MONOLITHIC, 4" INTEGRAL COVE BASE REF. SPECS
LOCATION: RESTROOMS
CONTACT: HANK MEINKING, 314-281-7485

EPX-2: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: CUSTOM MIX - 1/4" FLAKE
F1410 GRANITE - 19%
F9959 ANTIQUE WHITE - 19%
F1050 BLACK - 19%
F5114 EBONY - 19%
F1820 WHITE - 19%
F9978 TOMATO - 5%
INSTALL: MONOLITHIC, 4" INTEGRAL COVE BASE REF. SPECS
LOCATION: LOCKER ROOMS
REMARKS: SUBMIT PHYSICAL COLOR SAMPLES FOR DESIGNER APPROVAL. MIX COLORS ARE SUBJECT TO CHANGE.
CONTACT: HANK MEINKING, 314-281-7485

RESILIENT FLOOR

RUB-1: MFG: NORA
TYPE: INTEGRAL RUBBER STAIR TREAD AND RISER; RUBBER TILE
PATTERN: NORAMENT 926 SATURA HAMMERED
COLOR: ARCTURUS 5116
INSTALL: DIRECTIONAL
LOCATION: STAIRS, REF. FINISH PLAN
CONTACT: ROB GROM 317-764-9025
REMARKS: TARKETT ADDITIONAL APPROVED MANUFACTURER RUBBER FLOORING TO BE USED AT LANDINGS.

LVT-1: MFG: TARKETT
TYPE: 18" X 18" MODULAR VINYL TILE
PATTERN: COLOR + LIGHT
COLOR: CHROMA DUST 12179
INSTALL: QUARTER-TURN
LOCATION: REF. FINISH PLAN
CONTACT: DOUG EDWARDS, 317-443-9579

TERRAZZO

TER-1: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: LUNGREN NEUTRAL (MATRIX), 10% BLENDED TAN #2 40% GEORGIA WHITE #2 25% GEORGIA WHITE #1 10% MONTGOMERY WHITE #2 15% MONTGOMERY WHITE #1
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: LOBBY - REF. FINISH PLANS

TER-2: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: LANTERN WHITE (MATRIX), 25% GEORGIA WHITE #1 45% GEORGIA WHITE #2 10% BLENDED TAN #2 10% MONTGOMERY WHITE #2 10% MONTGOMERY WHITE #1
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: LOBBY - REF. FINISH PLANS

TER-3: MFG: TERROXY, OR SIMILAR
TYPE: VITRIFIED EPOXY TERRAZZO
COLOR: RED 186 (MATRIX), 30% CLEAR GLASS #0 50% CLEAR GLASS #1 20% CLEAR GLASS #2
INSTALL: REF. SPECS; METAL TRANSITION STRIP TO BE USED AT ALL TRANSITIONS
LOCATION: RED ACCENT - LOBBY- REF. FINISH PLAN

CONCRETE

S-CON: TYPE: SEALED CONCRETE, REF. SPECS

SS-CON: TYPE: STAINED AND SEALED CONCRETE, REF. SPECS
STAIN: TBD

SP-CON: TYPE: SEALED AND POLISHED CONCRETE REF. SPECS
REMARKS: EXISTING SLAB TO BE PREPPED

WALL BASE

RESILIENT BASE

RB-1: MFG: TARKETT JOHNSONITE
TYPE: 4" H COVE RESILIENT WALL BASE
COLOR: 40 BLACK
LOCATION: TYPICAL UNLESS NOTED OTHERWISE, USED WITH **ALL** CASEWORK LOCATIONS

EPOXY BASE

EB-1: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MATCH EPX-1 MIX
INSTALL: MONOLITHIC, 4" H INTEGRAL COVE BASE, REF. SPECS
LOCATION: REF. TO ROOM FINISH TAG ON PLANS
CONTACT: HANK MEINKING, 314-281-7485

EB-2: MFG: SHERWIN WILLIAMS HIGH PERFORMANCE FLOORING
TYPE: RESUFLOR DECO FLAKE BC EPOXY SYSTEM
COLOR: MATCH EPX-2 MIX
INSTALL: MONOLITHIC, 4" H INTEGRAL COVE BASE, REF. SPECS
LOCATION: REF. TO ROOM FINISH TAG ON PLANS
CONTACT: HANK MEINKING, 314-281-7485

TERRAZZO BASE

TERB-1: MFG: TERROXY, OR SIMILAR
TYPE: 4" INTEGRAL WALL BASE, VITRIFIED EPOXY TERRAZZO
COLOR: MATCH TER-1 MIX
INSTALL: REF. SPECS
LOCATION: LOBBY

PAINT/WALL FINISH

PAINT

PT-1: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH STANDARD WALL
LOCATION: TYPICAL
REMARKS: EPOXY PAINT TO BE USED IN LOCKER ROOM AND RESTROOMS WALLS - REFER TO FINISH PLAN KEYNOTES

PT-2: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH SCHOOL LOGO RED
LOCATION: ACCENT - REF. FINISH PLANS

PT-3: MFG: PPG
TYPE: REF. SPECS
COLOR: MATCH SW GRIZZLE GRAY
LOCATION: HM DOORS AND FRAMES (UNLESS NOTED OTHERWISE); ACCENT

PT-4: MFG: PPG
TYPE: REF. SPECS
COLOR: BLACK - MATCH SCHOOL STANDARD
LOCATION: ACCENT

WALL COVERING

WC-1: TYPE: TYPE II VINYL WALL COVERING
PATTERN: CUSTOM GRAPHIC
LOCATION: REF. FINISH PLAN AND/OR INTERIOR ELEVATIONS
REMARKS: GRAPHIC DESIGN TO BE COORDINATED DIRECTLY WITH OWNER

WALL TILE

WT-1: MFG: DALTILE
TYPE: 4"X12" GLAZED CERAMIC WALL TILE
PATTERN: COLOR WHEEL - LINEAR
COLOR: CURRENT - GLOSSY
GROUT: TBD
INSTALL: VERTICAL STACKED
LOCATION: RESTROOMS - REF. FINISH PLAN
REMARKS: RUN DIRECTLY TO TOP OF EPOXY BASE. USE SCHLUTER PIECE TO TRANSITION TO ADJACENT SURFACES
CONTACT: ROBIN BRADFORD 317-946-0823

WT-2: MFG: DALTILE
TYPE: 4"X12" GLAZED CERAMIC WALL TILE
PATTERN: COLOR WHEEL - LINEAR
COLOR: ARTIC WHITE - MATTE
GROUT: TBD
INSTALL: VERTICAL STACKED
LOCATION: RESTROOMS - REF. FINISH PLAN
REMARKS: RUN DIRECTLY TO TOP OF EPOXY BASE. USE SCHLUTER PIECE TO TRANSITION TO ADJACENT SURFACES
CONTACT: ROBIN BRADFORD 317-946-0823

PLASTIC LAMINATE/SOLID SURFACE

PLASTIC LAMINATE

PL-1: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: MANITOBA MAPLE 7911-60
INSTALL: MONOLITHIC
LOCATION: TYPICAL UNLESS NOTED OTHERWISE

PL-2: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: GRAPHITE
INSTALL: MONOLITHIC
LOCATION: ATHLETIC AREAS

PL-3: MFG: WILSONART
TYPE: HIGH PRESSURE LAMINATE
COLOR: NATURAL RECON
INSTALL: MONOLITHIC
LOCATION: LOBBY

SOLID SURFACE

SS-1: MFG: WILSONART
TYPE: 1/2 " SOLID SURFACE
COLOR: FROSTY WHITE MIRAGE
INSTALL: MONOLITHIC
LOCATION: COUNTERTOP, WINDOW SILLS (TYP.)
REMARKS: EASED EDGE & MITERED

SS-2: MFG: REF. SPECS
TYPE: EPOXY SOLID SURFACE, REF. SPECS
COLOR: BLACK
INSTALL: MONOLITHIC
LOCATION: ART ROOM COUNTERTOPS

MISCELLANEOUS

CORNER GUARDS

CG-1: MFG: CS ACROVYN OR SIMILAR
TYPE: SSM 20N OR SIMILAR
COLOR: MATCH PT-1 (TYPICAL)
INSTALL: FROM TOP OF WALL BASE TO 7'-4" A.F.F.
LOCATION: PROVIDE AT ALL OUTSIDE DRYWALL CORNERS (TYPICAL, INCLUDING ALL INSTANCES NOT SPECIFICALLY NOTED)
CONTACT: AMY FEHRIBACH 317-407-2534

ACOUSTICAL PANEL

AWP-1: MFG: TURF
TYPE: PET ACOUSTICAL WALL PANEL, OR SIMILAR
PRODUCT: TORRENT WALL TILE
SIZE: 30"W X 30"H
COLOR: DAMASCUS 09
LOCATION: LOBBY, REF. INTERIOR ELEV. FOR SPECIFIC TILE ORDERING AND LAYOUT
REMARKS: Z-CLIP INSTALL. REF. MANF. INSTALL GUIDE

CEILING

WCP-1: MFG: ARMSTRONG
TYPE: WOOD VENEER CEILING PANEL - WOODWORKS LINEAR
SIZE: 24"W X 96"L X 3/4"H - 4" WIDE PLANKS
FINISH: PLAIN SLICE WHITE OAK (NOK)
LOCATION: LOBBY - CEILING ACCENT
CONTACT: MEGAN FOULKE 765-891-3672

LOCKERS

LR-1: MFG: ASI OR SIMILAR
TYPE: HDPE PLASTIC 1 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: FULL LATTICE MESH
COLOR: BLACK (STANDARD - CLASS A FIRE RATED)
TOP: SLOPE TOP
LOCK: PADLOCK
LOCATION: VARISTY LOCKER ROOMS

LR-2: MFG: ASI OR SIMILAR
TYPE: HDPE PLASTIC 2 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: FULL LATTICE MESH
COLOR: RED (STANDARD - CLASS A FIRE RATED)
TOP: SLOPE TOP
LOCK: PADLOCK
LOCATION: PE LOCKER ROOMS

LR-3: MFG: ASI
TYPE: METAL 2 TIER STANDARD
PRODUCT: REF. SPECS
VENTING: STANDARD SLOT
COLOR: BLACK
TOP: FLAT TOP
LOCK: COMBINATION
LOCATION: CORRIDORS

TEXTILES

TEX-1: MFG: SWF CONTRACT OR SIMILAR
TYPE: MANUAL/AUTOMATED ROLLER SHADES - 3% OPENNESS
PATTERN: CROSSHATCH R
COLOR: DESIGNER TO SELECT COLOR FROM MANF. STANDARD
LOCATION: ALL NEW WINDOWS WITHIN SCOPE OF WORK, REF. ARCH FLOOR PLAN FOR TYPE

TEX-2: MFG: DUVALTEX, GUILFORD OF MAINE
TYPE: TACKABLE FABRIC
PATTERN: FR701
COLOR: FLANNEL 795
LOCATION: DISPLAY CASES

TOILET PARTITIONS

TP-1 MFG: BOBRICK OR SIMILAR
TYPE: CL PHENOLIC
PRODUCT: DURALINE SERIES
COLOR: BLACK 909-58, DESIGNER TO APPROVE
LOCATION: RESTROOMS, LOCKER ROOMS
CONTACT: AMY FEHRIBACH 317-407-2534

WOOD DOORS

WD-1 TYPE: WOOD DOORS
SPECIES: MAPLE
FINISH: CUSTOM STAIN TO MATCH EXISTING SCHOOL STANDARD - DESIGNER TO APPROVE

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L. CRIPE REGISTERED No 800133 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

FINISH LEGEND

A720

PLOT DATE/TIME: 7/31/2026 11:39:24 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

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I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

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K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

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M. REFER TO INTERIOR TRANSITION DETALS SHEET A731 FOR TRANSITION STRIP PRODUCT DETAILS.

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O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

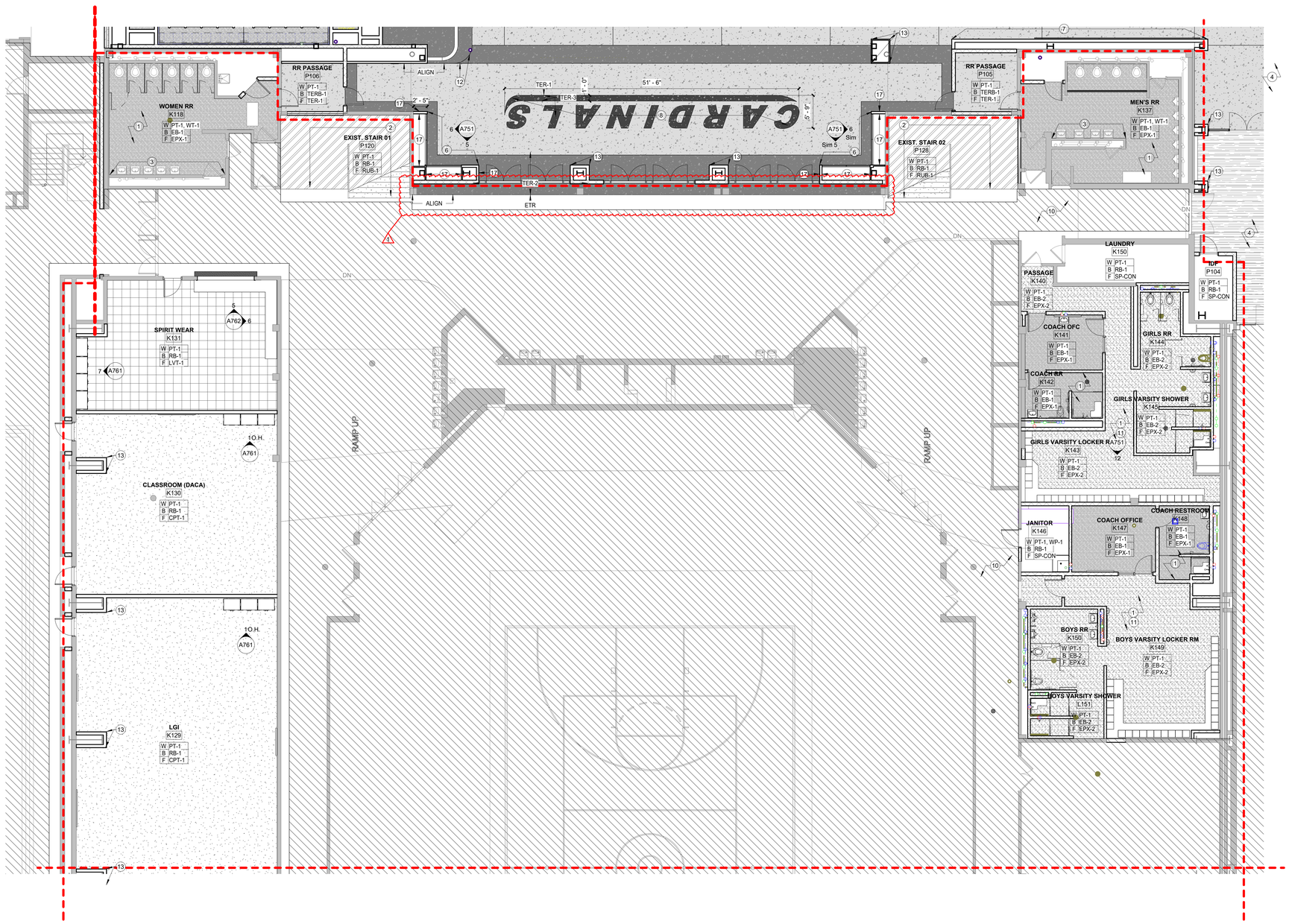
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S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.

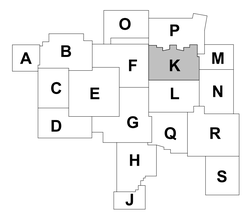


PLAN NOTES - FINISH PLAN

1 EPOXY PAINT ON ALL WALLS
2 RUBBER STAIRTREAD/RISER RUB-2
3 WALL TILE WT-1 AT THIS LOCATION. INSTALL FROM TOP OF WALL BASE TO CEILING.
4 EXISTING AND/OR NEW BRICK MASONRY FINISH DOES NOT RECEIVE PAINT
5 TERRAZZO PRE-CAST STAIRTREADS/RISERS, TER-1, INCLUDE VISIBILITY STRIP WITH GRIT.
6 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS ELEVATIONS.
7 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1. REFER TO FINISH LEGEND AND INTERIOR ELEVATION.
8 CUSTOM TERRAZZO DESIGN, TER-3. FINAL DESIGN TO BE APPROVED WITH OWNER BEFORE INSTALL.
9 FLOORING DIRECTION CHANGE. FLOOR TILES TO BE AT A 45 DEGREE ANGLE. INSTALLER TO COORDINATE ANGLE WITH DESIGNER ON SITE BEFORE INSTALL.
10 PATCH PAINT AS NEEDED IN COORDINATION WITH NEWLY CONSTRUCTED AREAS.
11 LOCKER ROOMS TO HAVE ACCENT PAINT PT-2 AND PT-4 PAINTED ON WALLS. REFER TO TYPICAL INTERIOR ELEVATION 12/A751.
12 PROVIDE METAL STRIP FOR TERRAZZO FOR DESIGN INTENT AS NOTED ON FINISH PLANS. ALSO, INCLUDE TYPICAL METAL STRIPS FOR CONSTRUCTABILITY AS LISTED IN SPECS.
13 PROVIDE CORNER GUARD AT THIS LOCATION, CG-1. REFER TO FINISH LEGEND.
14 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
15 CORRIDOR CARPET TO BE MITER CUT AT WALL'S CORNER. FOLLOW FLOORING DIRECTIONAL ARROW AND INSTALL METHOD AS INDICATED.
16 WALL TILE WT-2 AT THIS LOCATION. REFER TO INTERIOR ELEVATIONS FOR HEIGHT.
17 PLASTIC LAMINATE, PL-3 FINISHED WALL. REFER TO FINISH LEGEND.
18 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

1 INTERIOR FINISH PLAN - FIRST FLOOR - UNIT K
SCALE: 1/8" = 1'-0"

N
TRUE NORTH



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L CRITES
REGISTERED
NO 880033
STATE OF INDIANA

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - FIRST FLOOR - UNIT K

A721K

PLOT DATE/TIME:7/31/2026 11:59:37 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

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F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

H. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

J. REFER TO FINISH LEGEND FOR INTERIOR FINISH INFORMATION.

K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

L. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

M. REFER TO INTERIOR TRANSITION DETALS SHEET A731 FOR TRANSITION STRIP PRODUCT DETAILS.

N. ALL MECHANICAL CLOSETS TO HAVE A SEALED CONCRETE FLOOR FINISH. PROVIDE RESILIENT REDUCER TO MATCH RB-1 UNDER CENTER OF DOORWAY.

O. ALL WALLS AND CEILINGS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

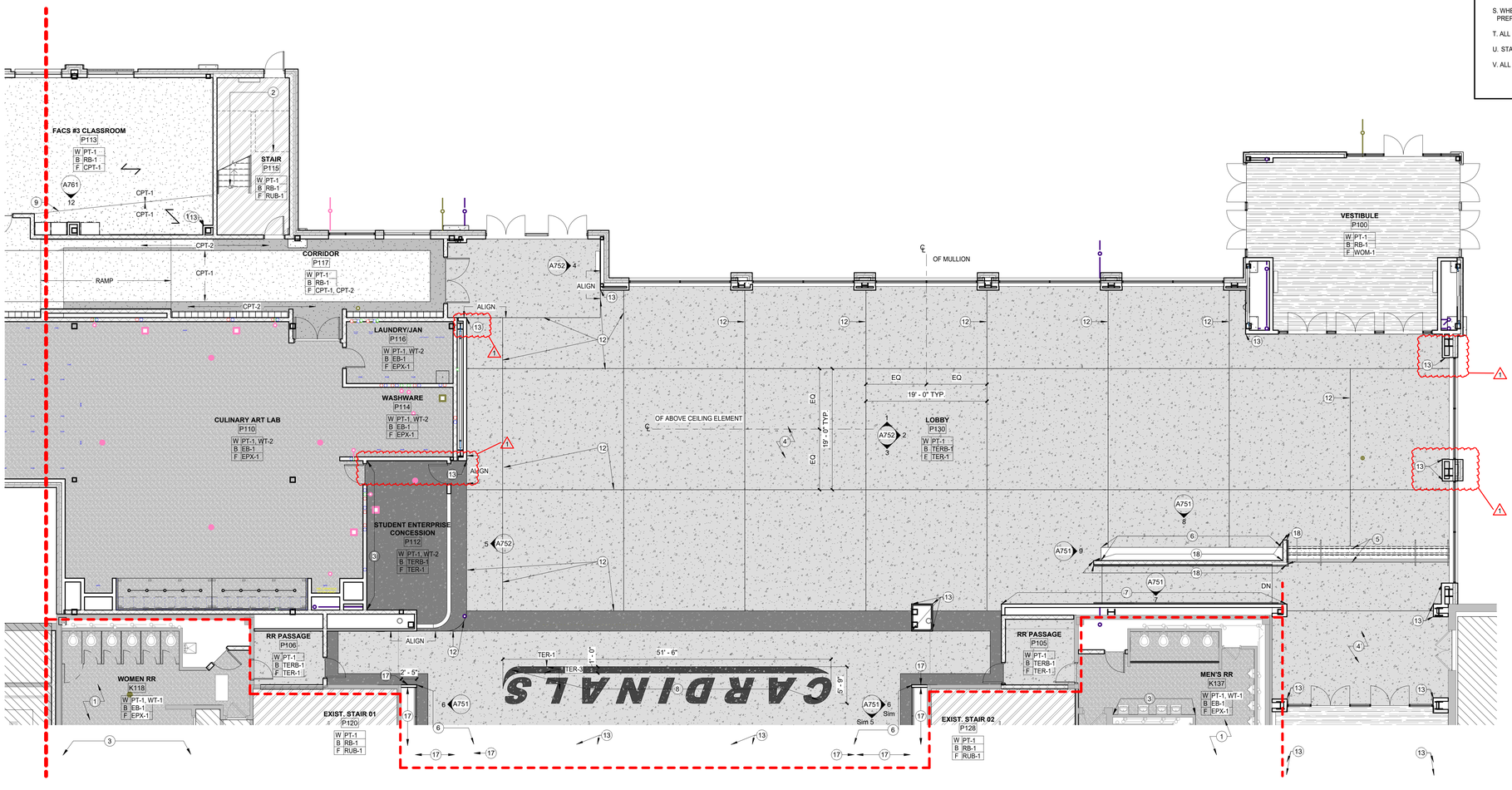
R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

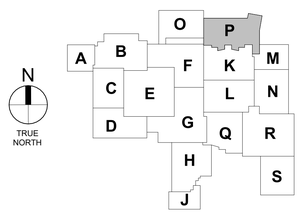
T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.



1 INTERIOR FINISH PLAN - FIRST FLOOR - UNIT P
SCALE: 1/8" = 1'-0"



N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - FIRST FLOOR - UNIT P

A721P

PLOT DATE/TIME:7/31/2026 11:59:42 AM

FLOOR FINISH HATCH LEGEND

WOM-1	EPX-1	TER-1
CPT-1	EPX-2	TER-2
CPT-2	RUB-1	TER-3
LVT-1		

PLAN NOTES - FINISH PLAN

1 EPOXY PAINT ON ALL WALLS
2 RUBBER STAIRTREAD/RISER RUB-2
3 WALL TILE WT-1 AT THIS LOCATION. INSTALL FROM TOP OF WALL BASE TO CEILING.
4 EXISTING AND/OR NEW BRICK MASONRY FINISH DOES NOT RECEIVE PAINT
5 TERRAZZO PRE-CAST STAIRTREADS/RISERS, TER-1. INCLUDE VISIBILITY STRIP WITH GRIT.
6 BENCH SEAT WITH SOLID SURFACE TOP AND PLASTIC LAMINATE FINISH FRONT AND SIDES. SEE INTERIORS ELEVATIONS.
7 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1. REFER TO FINISH LEGEND AND INTERIOR ELEVATION.
8 CUSTOM TERRAZZO DESIGN, TER-3. FINAL DESIGN TO BE APPROVED WITH OWNER BEFORE INSTALL.
9 FLOORING DIRECTION CHANGE. FLOOR TILES TO BE AT A 45 DEGREE ANGLE. INSTALLER TO COORDINATE ANGLE WITH DESIGNER ON SITE BEFORE INSTALL.
10 PATCH PAINT AS NEEDED IN COORDINATION WITH NEWLY CONSTRUCTED AREAS.
11 LOCKER ROOMS TO HAVE ACCENT PAINT PT-2 AND PT-4 PAINTED ON WALLS. REFER TO TYPICAL INTERIOR ELEVATION 12/A751.
12 PROVIDE METAL STRIP FOR TERRAZZO FOR DESIGN INTENT AS NOTED ON FINISH PLANS. ALSO, INCLUDE TYPICAL METAL STRIPS FOR CONSTRUCTABILITY AS LISTED IN SPECS.
13 PROVIDE CORNER GUARD AT THIS LOCATION, CG-1. REFER TO FINISH LEGEND.
14 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
15 CORRIDOR CARPET TO BE MITER CUT AT WALLS CORNER. FOLLOW FLOORING DIRECTIONAL ARROW AND INSTALL METHOD AS INDICATED.
16 WALL TILE WT-2 AT THIS LOCATION. REFER TO INTERIOR ELEVATIONS FOR HEIGHT.
17 PLASTIC LAMINATE, PL-3 FINISHED WALL. REFER TO FINISH LEGEND.
18 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

GENERAL FINISH PLAN NOTES

A. PRIOR TO INSTALLATION OF NEW FINISHES CONTRACTOR SHALL INSPECT ALL SUBSTRATES. IF A SUBSTRATE IS DEEMED UNACCEPTABLE, THE CONTRACTOR SHALL REPAIR AS NECESSARY FOR SUBSTRATE TO ACCEPT NEW MATERIALS.

B. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND REPAIR ALL EXISTING WALLS, SLAB, AND CEILINGS TO A CONDITION SUITABLE FOR ACCEPTING NEW FINISHES AS PER MANUFACTURER'S RECOMMENDED INSTALLATION METHODS. MINIMUM LEVEL 4 FINISH ON EXISTING AND NEW WALLS, UNLESS NOTED OTHERWISE.

C. ALL FLOORING TRANSITIONS TO COMPLY WITH ADA GUIDELINES AND TO OCCUR UNDER CENTOR OF DOORWAYS, AND OR AT CENTERLINE OF WALL. UNLESS INDICATED DIFFERENTLY ON FINISH PLANS.

D. CONTRACTOR TO PROVIDE PROTECTION AS NEEDED DURING CONSTRUCTION, IF ANY TO PRESERVE NEW FINISHES WHILE COMPLETING CONSTRUCTION.

E. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFACTION OF DIMENSIONS AND JOB CONDITIONS. ANY DEVIATION FROM WHAT IS INDICATED ON THE FINISH PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS AND DESIGNERS.

F. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

G. WHERE WALLS ARE INDICATED TO RECEIVE PAINT FINISH, PAINT ALL PRIMED GRILLES, FIRE EXTINGUISHER CABINERS, AND OTHER ITEMS EMBEDDED IN WALL CONSTRUCTION TO MATCH SURFACE ON WHICH THEY OCCUR UNLESS NOTED OTHERWISE.

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I. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS.

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K. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

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P. WHERE WINDOW SILLS ARE LOCATED, SILL TO BE SOLID SURFACE SS-1.

Q. ALL HM DOOR FRAMES, NEW AND EXISTING, IN THEIR ENTIRETY ARE TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

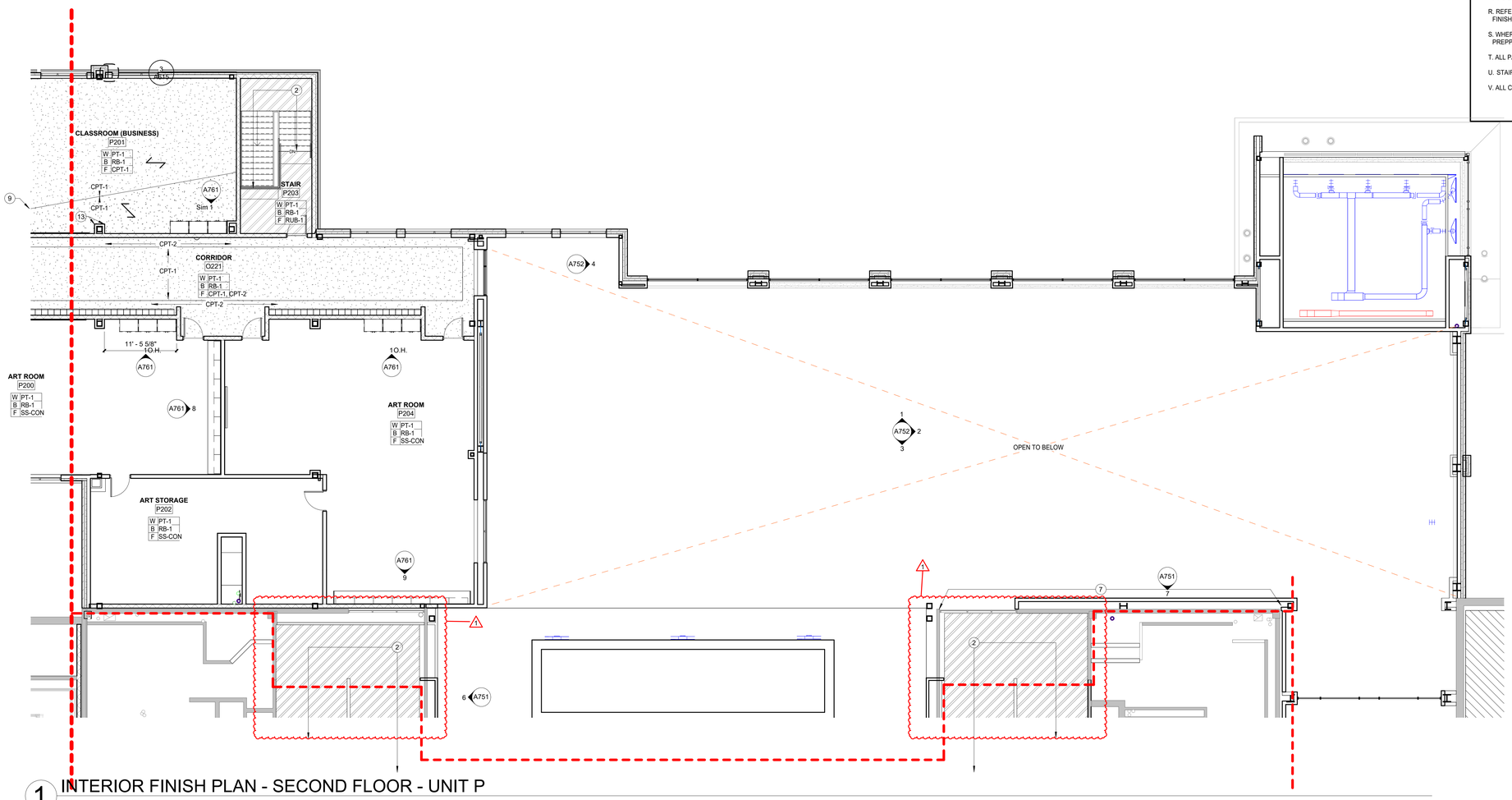
R. REFERENCE ELEVATIONS FOR CUSTOM WALL GRAPHICS, MURALS OR CHANGE IN WALL FINISHES

S. WHERE ALL SS-CON FINISH OCCURS, SURFACE IS TO BE CLEANED, PATCHED, AND PREPPED FOR STAIN AND SEAL.

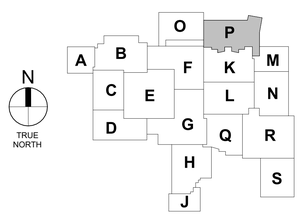
T. ALL PAINT IN RESTROOMS AND LOCKER ROOMS TO BE EPOXY PAINT.

U. STAIR RAILINGS AND STRINGERS TO BE PAINTED PT-3 UNLESS NOTED OTHERWISE.

V. ALL COLUMNS TO BE PAINTED PT-3, UNLESS NOTED OTHERWISE.



1 INTERIOR FINISH PLAN - SECOND FLOOR - UNIT P
SCALE: 1/8" = 1'-0"



N
TRUE NORTH

LANCER ASSOCIATES ARCHITECTURE
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INDIANAPOLIS, IN 46204

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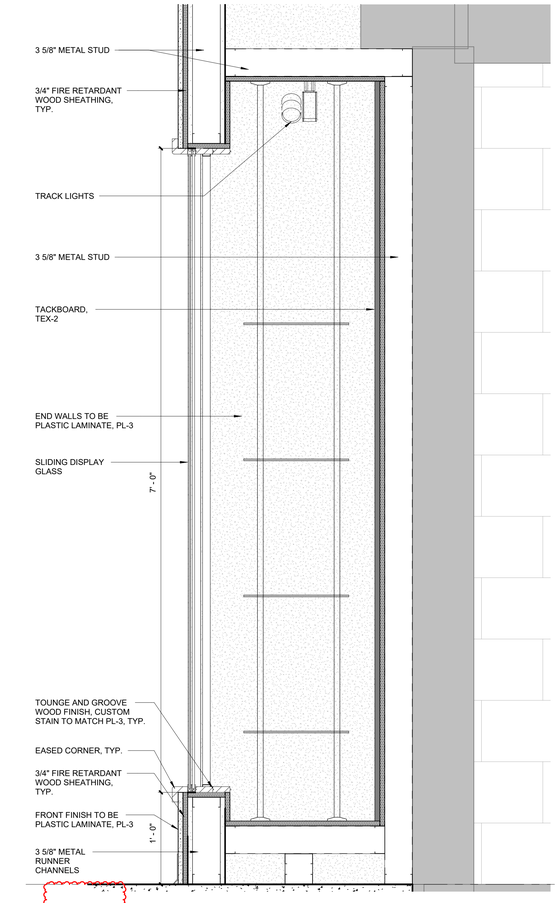
100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR FINISH PLAN - SECOND FLOOR - UNIT P

A722P

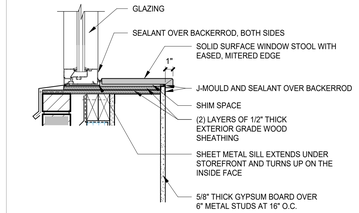
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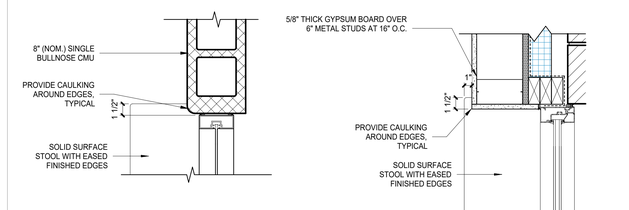
13 DISPLAY CASE SECTION

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

SECTION VIEW

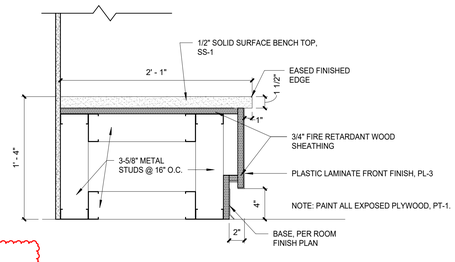


PLAN VIEW



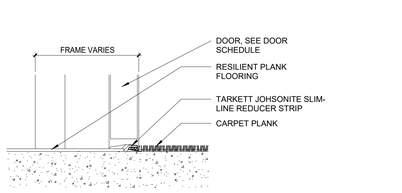
14 INTERIOR WINDOW SILL DETAIL TYPICAL

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



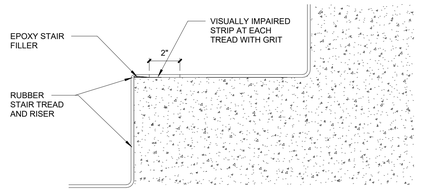
12 INTERIOR BENCH DETAIL

SCALE: 1 1/2" = 1'-0" REF. 2 / A402



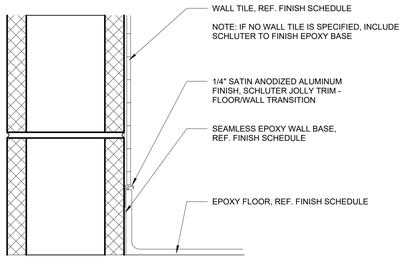
11 DETAIL-RESILIENT FLOOR TO CARPET

SCALE: 3" = 1'-0"



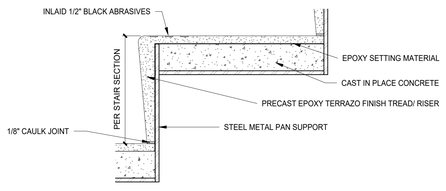
10 DETAIL - TYPICAL RUBBER STAIRS

SCALE: 3" = 1'-0"



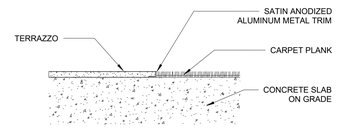
9 DETAIL - EPOXY BASE TO WALL TILE

SCALE: 3" = 1'-0"



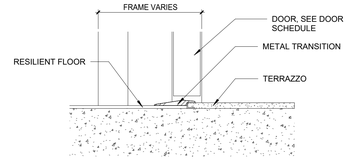
8 PRECAST TERRAZZO STAIR TREADS

SCALE: 3" = 1'-0"



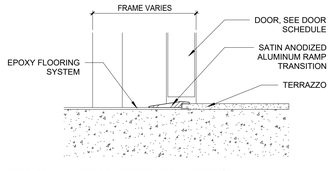
7 TERRAZZO TO CARPET

SCALE: 3" = 1'-0"



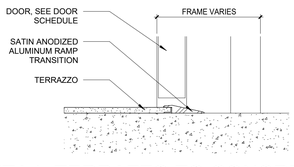
6 DETAIL- RESILIENT TO TERRAZZO

SCALE: 3" = 1'-0"



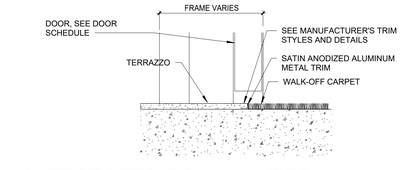
5 EPOXY TO TERRAZZO

SCALE: 3" = 1'-0"



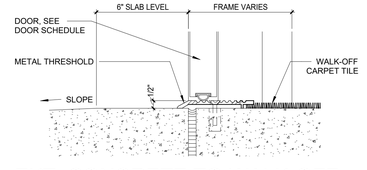
4 DETAIL-TERRAZZO TO CONCRETE

SCALE: 3" = 1'-0"



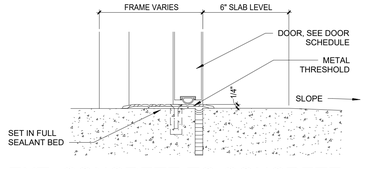
3 TERRAZZO TO WALK OFF

SCALE: 3" = 1'-0"



2 EXT. CONCRETE TO WALK-OFF

SCALE: 3" = 1'-0"



1 EXT. CONCRETE TO CONCRETE

SCALE: 3" = 1'-0"

LANCER ASSOCIATES ARCHITECTURE
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INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227



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1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

INTERIOR DETAILS

A731

PLOT DATE/TIME:7/31/2026 11:09:48 AM

GENERAL NOTES

A. CONTRACTOR TO PROVIDE SCHLUTER EDGE WHERE TILE MEETS DISSIMILAR MATERIALS. REFER TO FINISH MATERIAL LEGEND AND INTERIOR ELEVATIONS FOR FURTHER DETAILS. LS

B. DO NOT INSTALL GYPSUM BOARD BEHIND TILE BACKER BOARD LOCATIONS.

C. CONTRACTOR TO PROVIDE DRYWALL REVEAL JOINT WHERE DRYWALL MEETS DISSIMILAR MATERIALS.

E. IF ONLY PAINT IS INDICATED AS THE FINISH, REFER TO ARCHITECTURAL FLOOR PLANS FOR SUBSTRATE INFORMATION.

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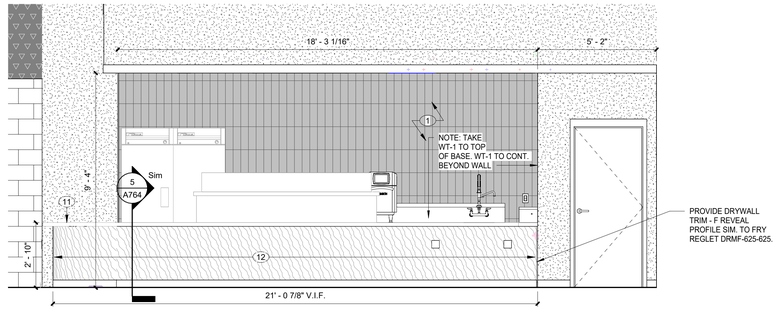
G. ALL DIMENSIONS SHOWN ARE TO FACE OF FINISH MATERIAL, UNLESS INDICATED OTHERWISE ON PLANS.

H. ALL EXPOSED METAL SURFACES, SUCH AS GRILLES, FIRE EXTINGUISHER CABINETS, ETC., THAT ARE NOTED TO BE PAINTED ARE TO BE PAINTED MATCH WALL COLOR.

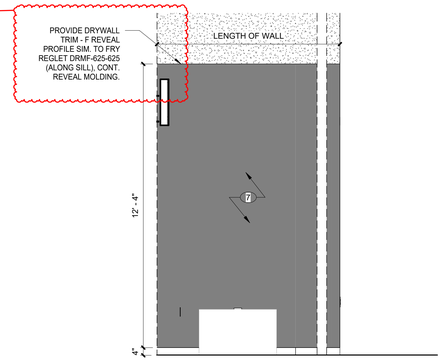
I. ALL WALLS TO BE PAINTED PT-1, UNLESS NOTED OTHERWISE.

ELEVATION NOTES - INTERIOR

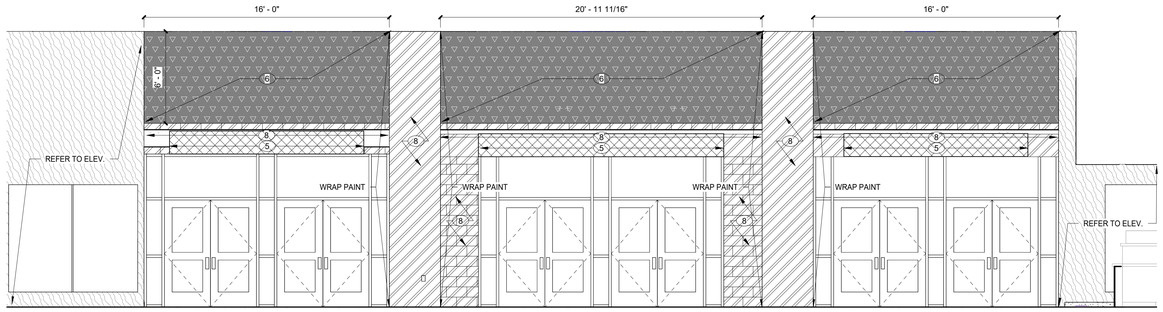
1 WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2 DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3 SOLID SURFACE SS-1 TOP
4 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1, AWP-2, & AWP-3.
5 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6 CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9 WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10 PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
11 SOLID SURFACE, SS-1 COUNTERTOP (REF. ELEV. FOR BACKSPLASH) AT THIS LOCATION. REFER TO FINISH LEGEND.
12 PLASTIC LAMINATE, PL-3. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AS NEEDED.
13 ACOUSTICAL WALL PANEL, AWP-1. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AND INSTALL GUIDE. DESIGNER TO BE ON-SITE DURING INSTALL.
14 PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.



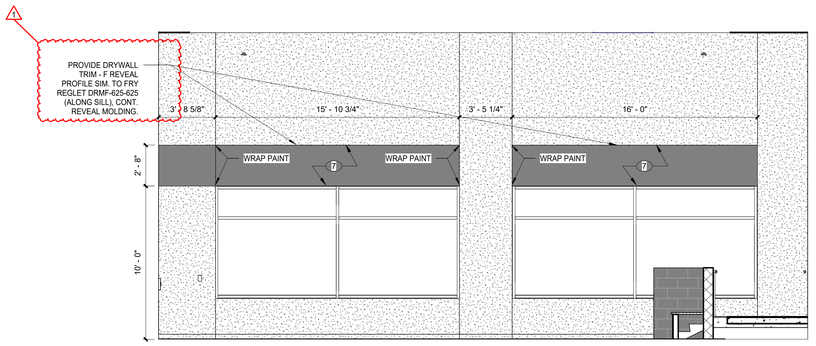
5 INT. ELEV. - STUDENT ENTERPRISE OUTSIDE WALL
SCALE: 3/8" = 1'-0" REF. 1 / A101K



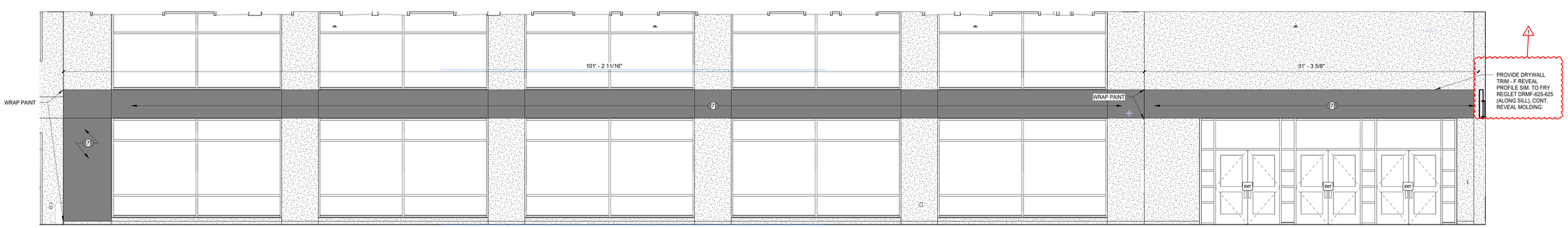
4 INT. ELEV. - LOBBY P130 E 2
SCALE: 3/8" = 1'-0" REF. 1 / A101P



3 INT. ELEV. - P101 LOBBY S
SCALE: 1/4" = 1'-0" REF. 1 / A101K



2 INT. ELEV. - P101 LOBBY E
SCALE: 1/4" = 1'-0" REF. 1 / A101K



1 INT. ELEV. - P101 LOBBY N
SCALE: 1/4" = 1'-0" REF. 1 / A101P

PLOT DATE/TIME:7/31/2026 11:59:5 AM

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ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L. CRIPPEN REGISTERED No. 880033 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
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100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

INTERIOR ELEVATIONS

A752

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

2. PROVIDE ALL NECESSARY FURRING AND GROUNDS FOR WOODWORK AND FINISH ITEMS. COORDINATE LOCATION OF BLOCKING WITHIN FRAMED WALLS AS NECESSARY FOR ITEMS TO BE SECURED TO SURFACE. ALL FASTENERS SHALL BE CONCEALED.

3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

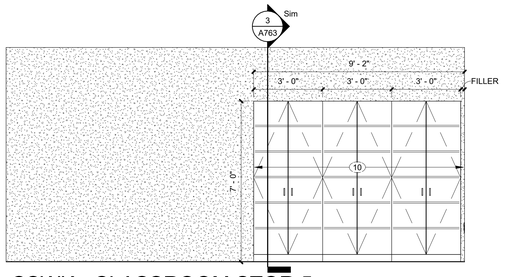
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

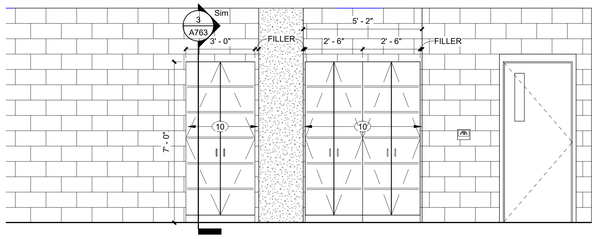
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.

ELEVATION NOTES - INTERIOR

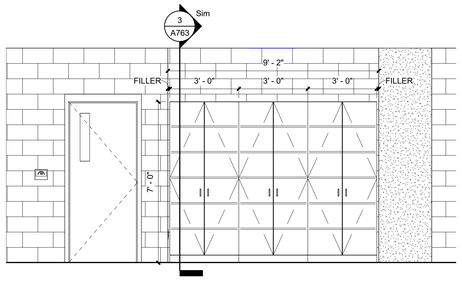
1 WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2 DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3 SOLID SURFACE SS-1 TOP
4 CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1, AWP-2, & AWP-3.
5 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6 CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7 ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8 ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9 WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10 PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
11 SOLID SURFACE, SS-1 COUNTERTOP (REF. ELEV. FOR BACKSPLASH) AT THIS LOCATION. REFER TO FINISH LEGEND.
12 PLASTIC LAMINATE, PL-3. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AS NEEDED.
13 ACOUSTICAL WALL PANEL, AWP-1. FOLLOW SEAM DESIGN AND LAYOUT AS INDICATED. USE MANF. RECOMMENDED TRIM AND INSTALL GUIDE. DESIGNER TO BE ON-SITE DURING INSTALL.
14 PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.



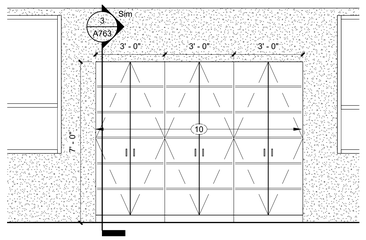
13 CSWK - CLASSROOM STOR 5
SCALE: 3/8" = 1'-0" REF. 1 / A722O



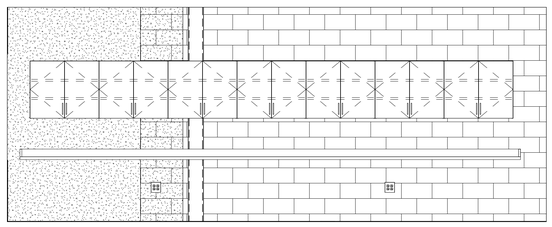
12 CSWK - CLASSROOM STOR 4
SCALE: 3/8" = 1'-0" REF. 1 / A721K



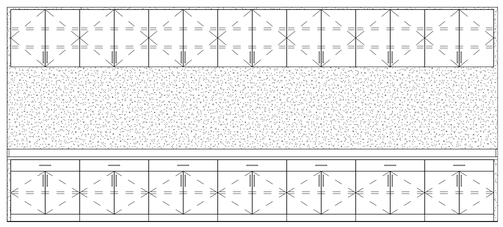
11 CSWK - CLASSROOM STOR 3
SCALE: 3/8" = 1'-0" REF. 1 / A721K



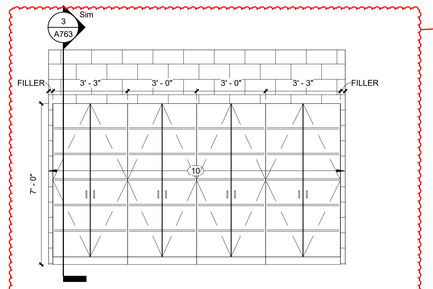
10 CSWK - CLASSROOM STOR 2
SCALE: 3/8" = 1'-0" REF. 1 / A721K



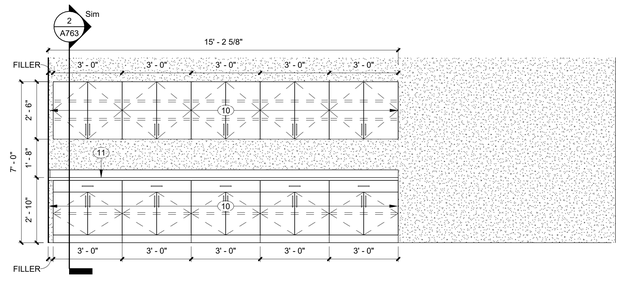
9 CSWK - ART ROOM P204 S
SCALE: 3/8" = 1'-0" REF. 1 / A722P



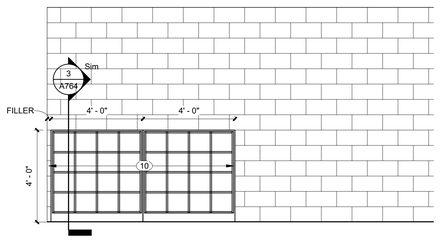
8 CSWK - ART ROOM P200 E
SCALE: 3/8" = 1'-0" REF. 1 / A722P



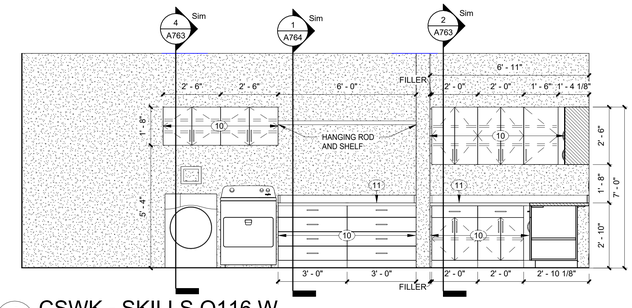
7 CSWK - SPIRIT WEAR K131 W
SCALE: 3/8" = 1'-0" REF. 1 / A721K



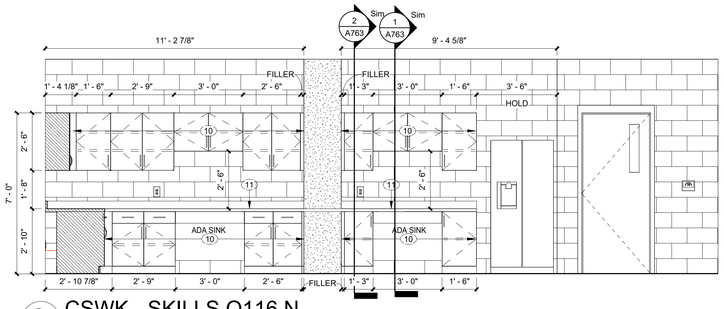
6 CSWK - WORKROOM STORAGE
SCALE: 3/8" = 1'-0" REF. 1 / A721O



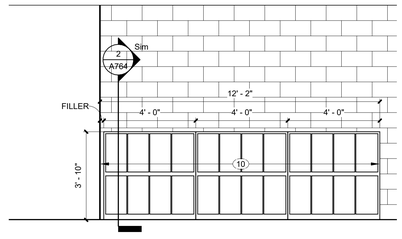
5 CSWK - SENSORY STOR
SCALE: 3/8" = 1'-0" REF. 1 / A721O



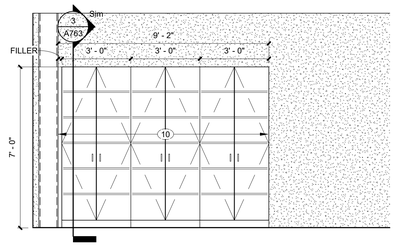
4 CSWK - SKILLS O116 W
SCALE: 3/8" = 1'-0" REF. 1 / A721O



3 CSWK - SKILLS O116 N
SCALE: 3/8" = 1'-0" REF. 1 / A721O



2 CSWK - SPED TYP. STOR
SCALE: 3/8" = 1'-0" REF. 1 / A721K



1 CSWK - CLASSROOM STOR 1
SCALE: 3/8" = 1'-0" REF. 3 / A403

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

TERRY L. KRIEG
REGISTERED
NO
88003.33
STATE OF
INDIANA
ARCHITECT

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: Author

CASEWORK ELEVATIONS

A761

PLOT DATE/TIME:7/31/2026 12:00:00 PM

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

2. PROVIDE ALL NECESSARY FURRING AND GROUNDS FOR WOODWORK AND FINISH ITEMS. COORDINATE LOCATION OF BLOCKING WITHIN FRAMED WALLS AS NECESSARY FOR ITEMS TO BE SECURED TO SURFACE. ALL FASTENERS SHALL BE CONCEALED.

3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

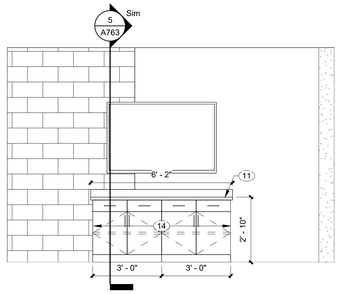
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

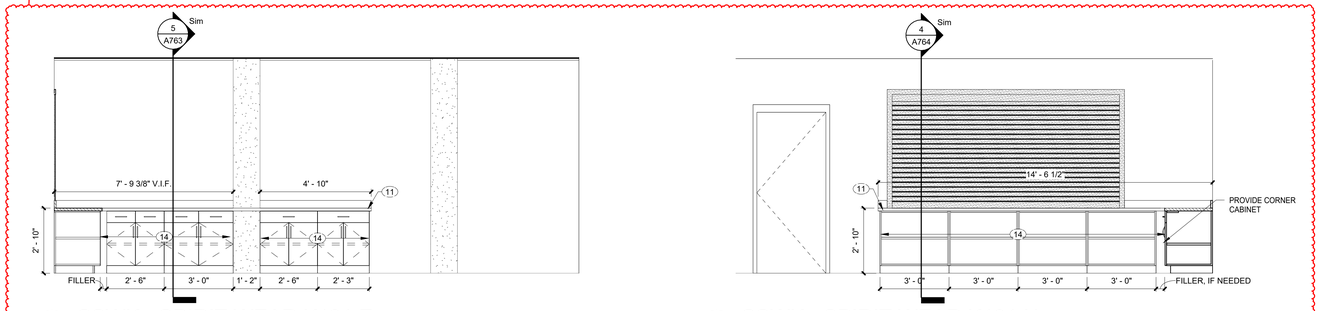
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.

ELEVATION NOTES - INTERIOR

1. WALL TILE WT-1 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
2. DISPLAY CASE - TACKABLE SURFACE/TECTILE ON BACK WALL, 1/2" STAINED WOOD PLYWOOD ON INSIDE WALLS; ADJUSTABLE GLASS SHELVING SYSTEM
3. SOLID SURFACE SS-1 TOP
4. CUSTOM ACOUSTICAL WALL PANEL COLLAGE, AWP-1, AWP-2, & AWP-3.
5. 18"HIGH X 1" DEEP 3D ACRYLIC LETTERING. TITLE AND FONT TO BE DETERMINED BY OWNER.
6. CUSTOM WALL GRAPHIC, WC-1 ON CMU. FINAL DESIGN TO BE COORDINATED WITH OWNER.
7. ACCENT PAINT, PT-2 AT THIS LOCATION. REFER TO FINISH LEGEND.
8. ACCENT PAINT, PT-3 AT THIS LOCATION. REFER TO FINISH LEGEND.
9. WALL TILE WT-2 AT THIS LOCATION. ALL EDGES TO BE FINISHED WITH SCHLUTER JOLLY TRIM INCLUDING CORNER TRANSITIONS AND FLOOR TO WALL TRANSITIONS.
10. PLASTIC LAMINATE, PL-1 AT THIS LOCATION. REFER TO FINISH LEGEND.
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14. PLASTIC LAMINATE, PL-2 AT THIS LOCATION. REFER TO FINISH LEGEND.

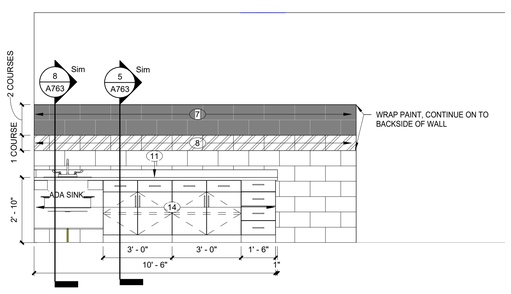


7 CSWK - CONF. ROOM L140 S
SCALE: 3/8" = 1'-0" REF. 1 / A721L

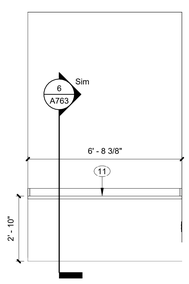


6 CSWK - SPIRIT WEAR K131 E
SCALE: 3/8" = 1'-0" REF. 1 / A721K

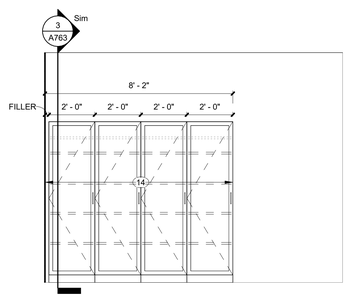
5 CSWK - SPIRIT WEAR K131 N
SCALE: 3/8" = 1'-0" REF. 1 / A721K



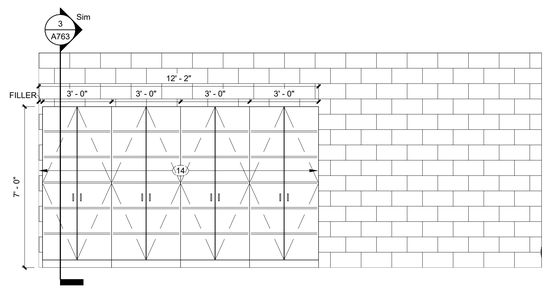
4 CSWK - TRAINING L142 S
SCALE: 3/8" = 1'-0" REF. 1 / A721L



3 CSWK - OFF. LOUNGE L147 E
SCALE: 3/8" = 1'-0" REF. 1 / A721L



2 CSWK - OFFICIAL'S LOUNGE L147 W
SCALE: 3/8" = 1'-0" REF. 1 / A721L



1 CSWK - PE COACH L148 W
SCALE: 3/8" = 1'-0" REF. 1 / A721L

PLOT DATE/TIME:7/31/2026 1:12:03 PM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JERRY L CRIDER REGISTERED NO. 880133 STATE OF INDIANA

REVISIONS:		
#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

CASEWORK ELEVATIONS

A762

GENERAL CASEWORK NOTES

1. FABRICATE WOODWORK/ MILLWORK ITEMS TO ACTUAL FIELD DIMENSIONS. CONTRACTOR SHALL SUBMIT FOR DESIGNERS APPROVALS SHOP DRAWING SAMPLES OR MANUFACTURER'S LITERATURE FOR ALL ITEMS. SHOP DRAWINGS SHALL SHOW SUFFICIENT DETAIL TO DETERMINE COMPLIANCE WITH STANDARDS AND DESIGN INTENT.

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3. FINISH ALL SIDES AND BACK OF MILLWORK/ CASEWORK

4. PROVIDE GROMMETS IN COUNTERTOPS ABOVE ALL ELECTRICAL RECEPTICALS AND TELEPHONE DATA ROUTINGS.

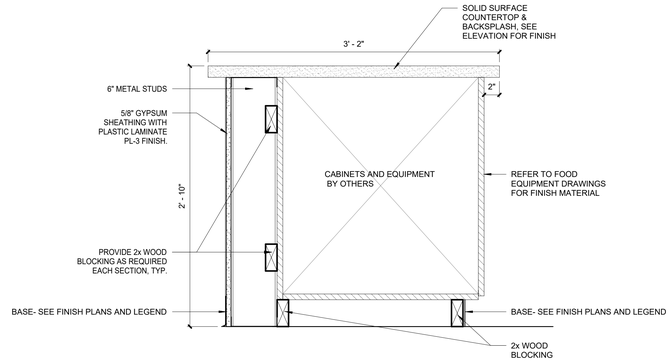
5. ALL PULLS TO BE 4" SATIN NICKEL SOLID WIRE PULL

6. PROVIDE LOCKS FOR ALL STORAGE CASE CABINETS/ TALL STORAGE CABINETS, ALL DRAWERS AND DOORS, ALL UPPER WALL CABINETS AND ALL DISPLAY CASE SLIDING GLASS PANELS.

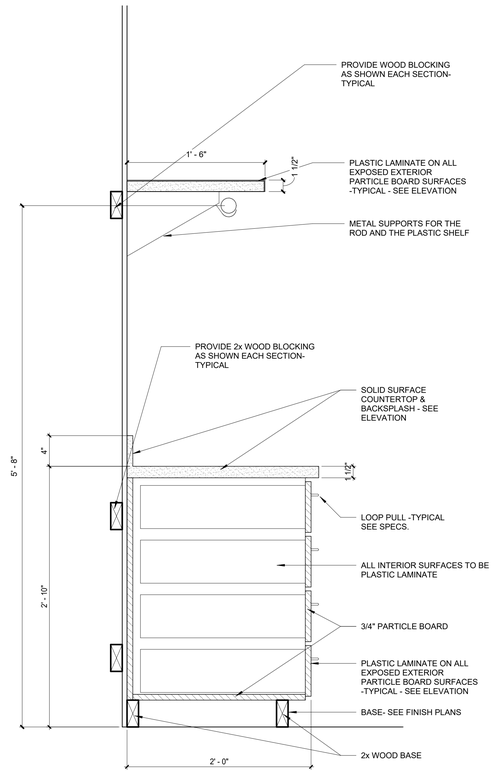
7. ALL PLASTIC LAMINATE SURFACES ON EXTERIOR OF CABINETS SHALL BE A STANDARD COLOR AS LISTED ON THE FINISH SCHEDULE.

8. ALL INTERIORS BEHIND DOORS/ DRAWERS AND NOT VISIBLE SHALL BE WHITE. ALL SOLID SURFACE COUNTERTOPS SHALL BE A STANDARD COLOR AS SELECTED BY THE ARCHITECT

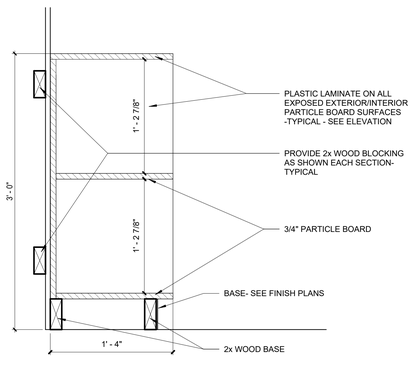
9. SEE ELEC. DWGS FOR ELECTRICAL DEVICES.



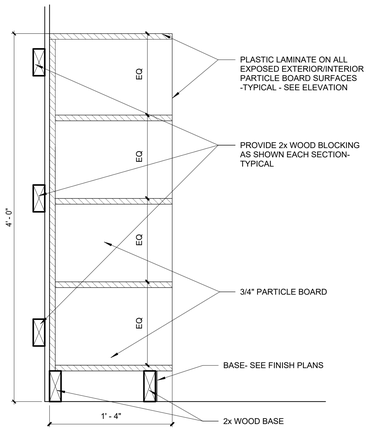
5 CSWK - STUDENT POS COUNTER
SCALE: 1 1/2" = 1'-0" REF. 5 / A752



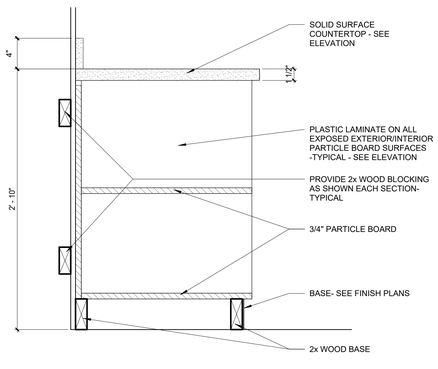
1 CSWK - 4 DRAWER BASE W/ HANGING ROD
SCALE: 1 1/2" = 1'-0" REF. 4 / A761



2 CSWK - 2 TIER CUBBY SECTION
SCALE: 1 1/2" = 1'-0" REF. 2 / A761



3 CSWK - 4 TIER CUBBY SECTION
SCALE: 1 1/2" = 1'-0" REF. 5 / A761



4 CSWK - OPEN SHELVES BASE SECTION 24"D
SCALE: 1 1/2" = 1'-0" REF. 5 / A762

PLOT DATE/TIME 7/31/2026 12:00:04 PM

LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

PERRY TOWNSHIP SCHOOLS
ADDITION AND RENOVATIONS
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

JUSTIN L. CRIPE
REGISTERED
NO
8908139
STATE OF
INDIANA
REGISTERED ARCHITECT

REVISIONS:

#	Date	Desc.
1	07/31/2026	Addendum #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	Author

CASEWORK SECTIONS

A764

GENERAL SITE NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

C PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT.

SITE PLAN NOTES

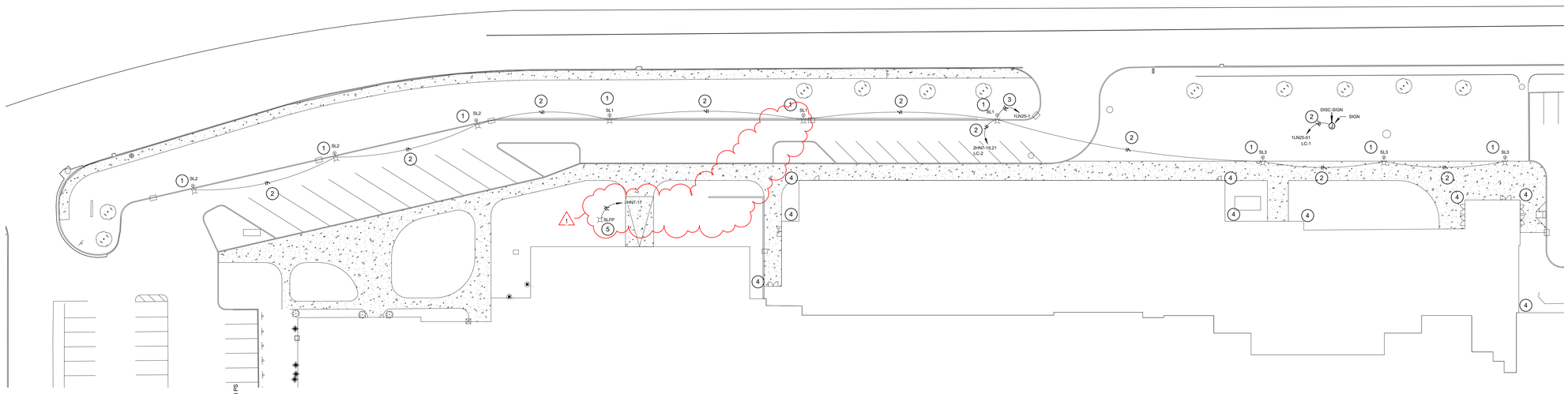
1 REFER TO DETAILS 9 AND 10 ON SHEET E-502 FOR POLE BASE INSTALLATION INFORMATION.

2 PROVIDE SITE LIGHTING CIRCUIT IN 1" CONDUIT.

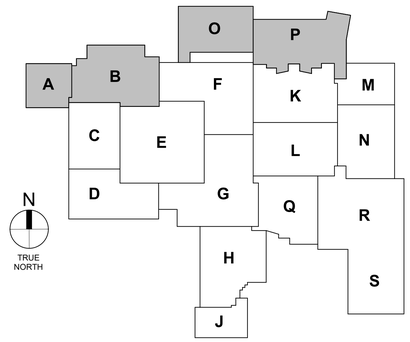
3 PROVISION SITE LIGHT POLE FOR LICENSE PLATE READER. PROVIDE CIRCUIT SHOWN IN 1" CONDUIT AND REFER TO TECHNOLOGY PLANS FOR DATA CABLING REQUIREMENTS FOR LICENSE PLATE READER.

4 GROUND BUILDING STEEL PER DETAIL 3 ON SHEET E-503.

5 MOUNT FLAGPOLE LIGHT TO POLE BY OTHERS. PROVIDE FLAGPOLE BASE WITH REQUIRED CIRCUIT FOR FLAGPOLE LIGHT.



1 ELECTRICAL SITE PLAN
1" = 30'-0"



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

creative engineering solutions
mechanical • electrical • plumbing
602 N. Capitol Ave, Suite 200
Indianapolis, IN 46204 • 463.259.9799
www.cecengr.com

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

DAVID L. JONES II REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL SITE PLAN

ES101

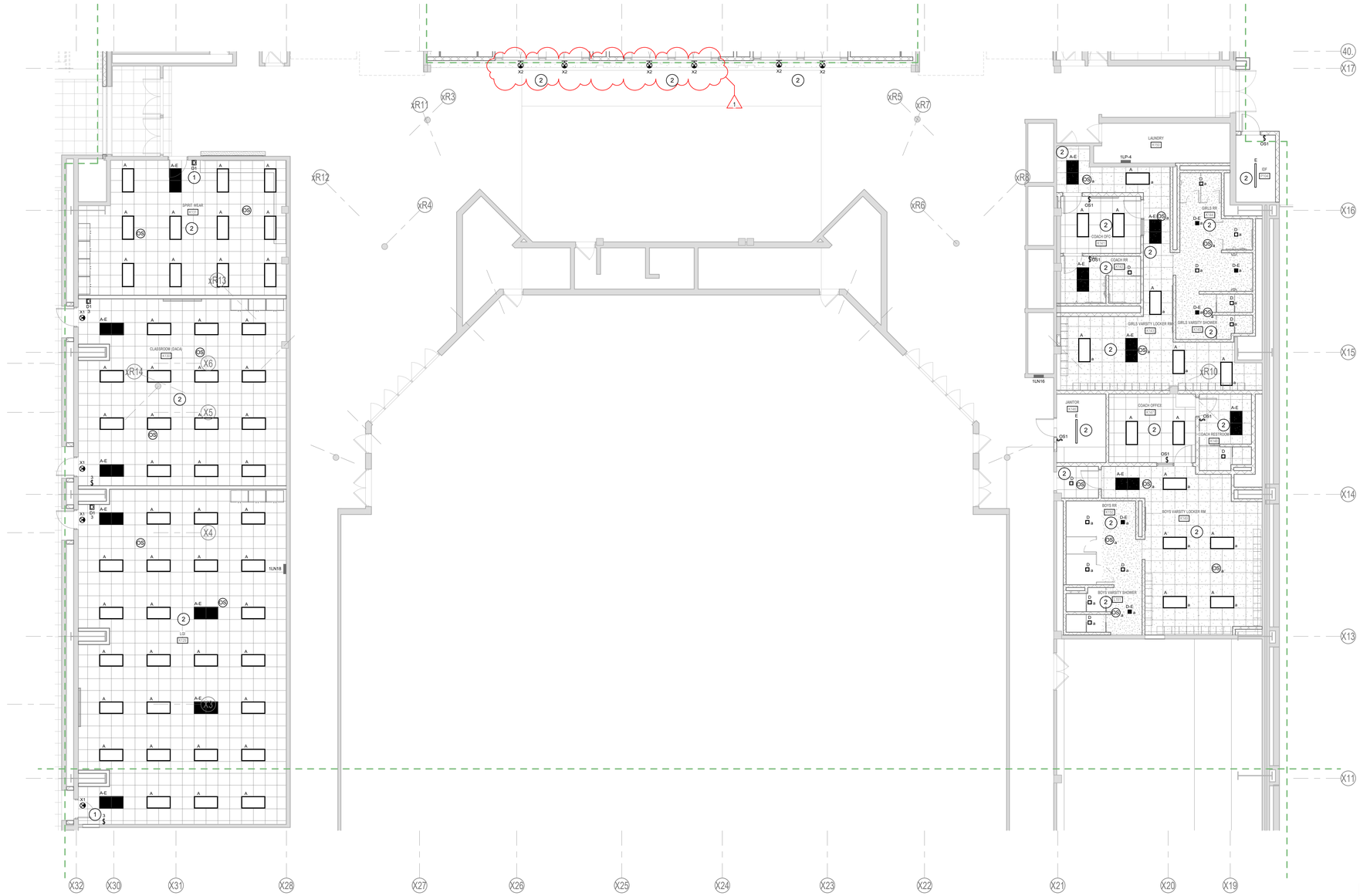
PLOT DATE/TIME: 7/29/2026 3:33:19 PM

GENERAL LIGHTING NOTES

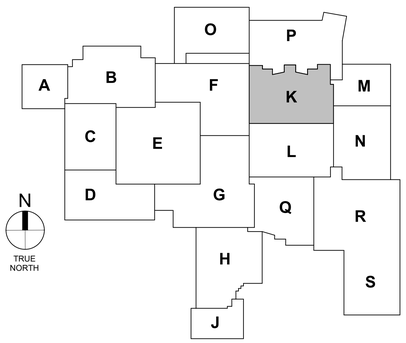
A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.
B COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT AND INTERIOR DESIGNER.
C PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT.
D NOT ALL PLAN NOTES ARE USED ON THIS SHEET.

◯ LIGHTING PLAN NOTES

1 PROVIDE NEW LIGHT SWITCH IN EXISTING BOX.
2 CONNECT LIGHT FIXTURES TO LIGHTING CIRCUIT THAT WAS MAINTAINED DURING DEMOLITION.
3 MOUNT STAIRWELL LIGHT FIXTURE +8'-0" ABOVE APPLICABLE, FLOOR, LANDING, OR STAIR TREAD.
4 PROVIDE NEW LIGHT SWITCH IN NEW BOX AT THIS NEW LOCATION.
5 PROVIDE (2) 3/4" CONDUITS WITH PULLSTRINGS FROM DISPLAY CASE LIGHTING CAVITY TO ABOVE LOBBY CEILING FOR FUTURE POWER AND CONTROL WIRING.
6 CONNECT NEW LIGHT SWITCH TO EXISTING LIGHTING IN THIS SPACE.



1 **ELECTRICAL LIGHTING FIRST FLOOR PLAN - UNIT K**
1/8" = 1'-0"



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DAVID L. JONES, III
REGISTERED
NO. PE12100175
STATE OF INDIANA
PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	AMN

ELECTRICAL LIGHTING FIRST FLOOR PLAN - UNIT K

EL101

PLOT DATE/TIME: 7/29/2026 2:57:48 PM

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.

C COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT AND INTERIOR DESIGNER.

D PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT.

E NOT ALL PLAN NOTES ARE USED ON THIS SHEET.

POWER PLAN NOTES

1 PROVIDE NEW RECEPTACLE IN EXISTING BOX.

2 PROVIDE DUAL CHANNEL RACEWAY FOR RECEPTACLES SHOWN. REFER TO TECHNOLOGY DRAWINGS FOR REQUIRED DATA LOCATIONS.

3 CONNECT DOOR POWER SUPPLY TO CIRCUIT INDICATED.

4 CONNECT AUTO DOOR OPERATOR POWER SUPPLY TO CIRCUIT INDICATED AND PROVIDE WIRING AND PUSHBUTTONS FOR OPERATION AS INDICATED.

5 CONNECT RECEPTACLE TO CIRCUIT MAINTAINED DURING DEMOLITION.

6 PROVIDE GROUNDING BUSBAR, CABLES, AND CONNECTIONS PER TECHNOLOGY DRAWINGS. CONNECT GROUNDING BUSBAR TO NEAREST PANELBOARD.

7 PROVIDE RECEPTACLE IN SHARED DATA BOX FOR GAME CLOCK. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.

8 PROVIDE (2) 1-1/4" CONDUITS PIPED TO ABOVE CEILING FOR DATA AND A/V CABLING.

9 PROVIDE (2) SINGLE GANG BOXES WITH 3/4" CONDUIT STUBBED ABOVE WALL FOR FUTURE RACK RECEPTACLES.

10 REFER TO TECHNOLOGY PLANS FOR REQUIRED VIDEO BOARD POWER LOCATION. PROVIDE RECEPTACLE IN FSR BOX AND CONNECT TO CIRCUIT INDICATED.

11 REFER TO TECHNOLOGY PLANS FOR REQUIRED HARDWIRED CONNECTION TO FSR BOX.

12 CONNECT EXHAUST FAN TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

13 MOUNT EXHAUST FAN MOTOR STARTER ADJACENT TO THE EXHAUST FAN.

14 PROVIDE NEW RECEPTACLE IN SURFACE RACEWAY.

15 EXTEND EXISTING CIRCUIT FOR AHU-K1 FROM PANEL 1HN8 TO VFD LOCATION.

16 CONNECT BOTH AHU-K2 MOTOR STARTERS TO EXISTING CIRCUIT FOR AHU-K2 FROM PANEL 1HN8. MOUNT MOTOR STARTERS ON WALL ABOVE CEILING.

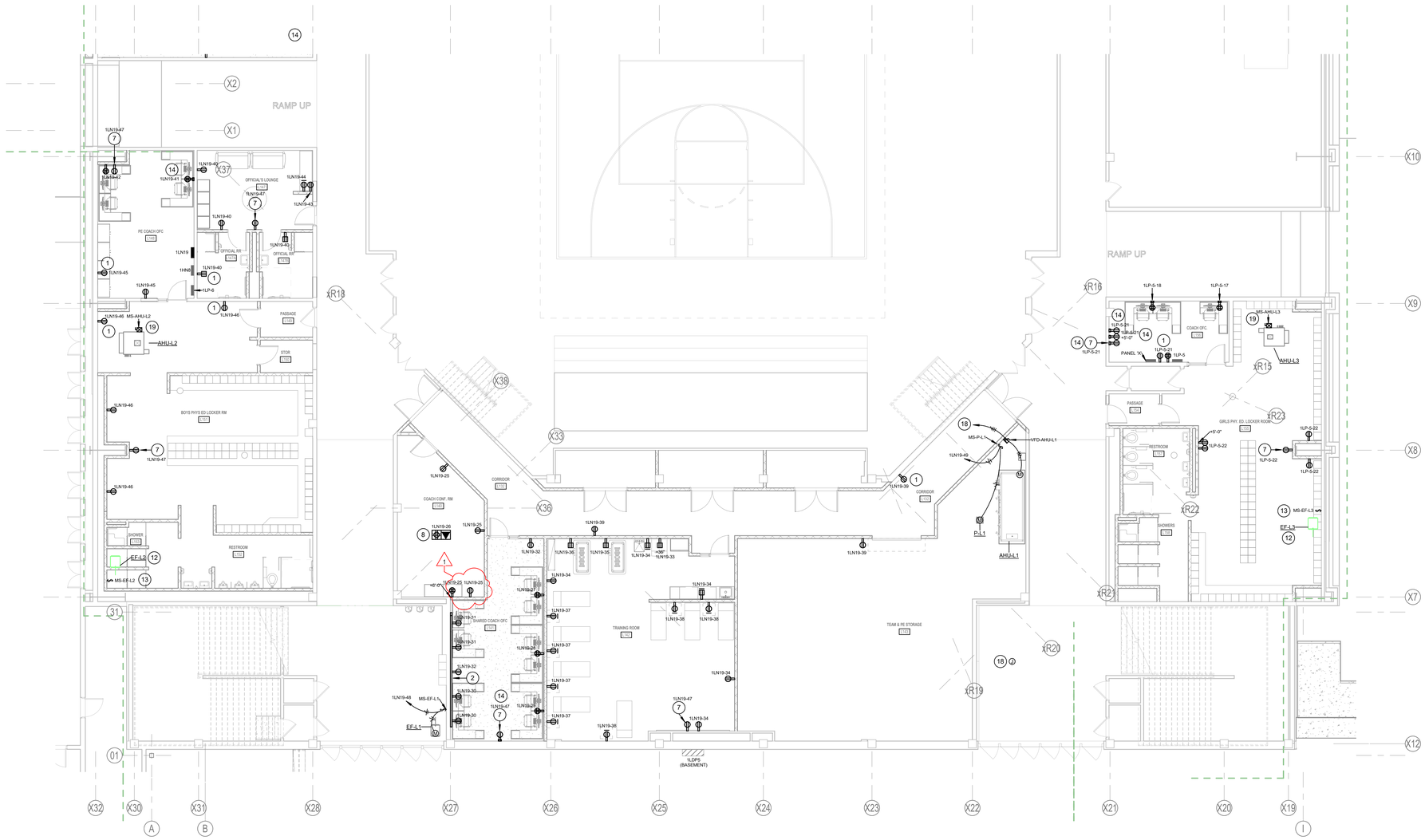
17 MOUNT PUMP STARTER ABOVE CEILING ON OR NEAR PUMP.

18 EXTEND EXISTING CIRCUIT FOR AHU-L1 FROM PANEL 1HN8 TO VFD LOCATION.

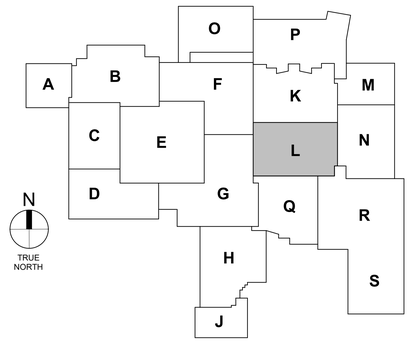
19 CONNECT AHU TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

20 CONNECT HOOD ANSUL SYSTEM TO CONVECTION OVEN SHUNT TRIP BREAKERS IN PANEL 1HN13.

21 INDOOR SPLIT SYSTEM UNIT IS POWERED BY THE ASSOCIATED CONDENSING UNIT (CU) ON THE ROOF. PROVIDE ALL NECESSARY WIRING AND CONNECTIONS TO THE INDOOR UNIT.



1 **ELECTRICAL POWER FIRST FLOOR PLAN - UNIT L**
1/8" = 1'-0"



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DAVID L. JONES III
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PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT:	#24173S
DATE:	07/10/2026
DRAWN BY:	AMN

ELECTRICAL POWER FIRST FLOOR PLAN - UNIT L

EP102

PLOT DATE/TIME: 7/30/2026 3:57:50 PM

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.

C COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT AND INTERIOR DESIGNER.

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◯ POWER PLAN NOTES

1 PROVIDE NEW RECEPTACLE IN EXISTING BOX.

2 PROVIDE DUAL CHANNEL RACEWAY FOR RECEPTACLES SHOWN. REFER TO TECHNOLOGY DRAWINGS FOR REQUIRED DATA LOCATIONS.

3 CONNECT DOOR POWER SUPPLY TO CIRCUIT INDICATED.

4 CONNECT AUTO DOOR OPERATOR POWER SUPPLY TO CIRCUIT INDICATED AND PROVIDE WIRING AND PUSHBUTTONS FOR OPERATION AS INDICATED.

5 CONNECT RECEPTACLE TO CIRCUIT MAINTAINED DURING DEMOLITION.

6 PROVIDE GROUNDING BUSBAR, CABLES, AND CONNECTIONS PER TECHNOLOGY DRAWINGS. CONNECT GROUNDING BUSBAR TO NEAREST PANELBOARD.

7 PROVIDE RECEPTACLE IN SHARED DATA BOX FOR GAME CLOCK. REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.

8 PROVIDE (2) 1-1/4" CONDUITS PIPED TO ABOVE CEILING FOR DATA AND A/V CABLING.

9 PROVIDE (2) SINGLE GANG BOXES WITH 3/4" CONDUIT STUBBED ABOVE WALL FOR FUTURE RACK RECEPTACLES.

10 REFER TO TECHNOLOGY PLANS FOR REQUIRED VIDEO BOARD POWER LOCATION. PROVIDE RECEPTACLE IN FSR BOX AND CONNECT TO CIRCUIT INDICATED.

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12 CONNECT EXHAUST FAN TO EXISTING CIRCUIT MAINTAINED DURING DEMOLITION. CONNECT CIRCUIT THROUGH NEW MOTOR STARTER AT THIS LOCATION.

13 MOUNT EXHAUST FAN MOTOR STARTER ADJACENT TO THE EXHAUST FAN.

14 PROVIDE NEW RECEPTACLE IN SURFACE RACEWAY.

15 EXTEND EXISTING CIRCUIT FOR AHUK-1 FROM PANEL 1HN8 TO VFD LOCATION.

16 CONNECT BOTH AHU-K2 MOTOR STARTERS TO EXISTING CIRCUIT FOR AHU-K2 FROM PANEL 1HN8. MOUNT MOTOR STARTERS ON WALL ABOVE CEILING.

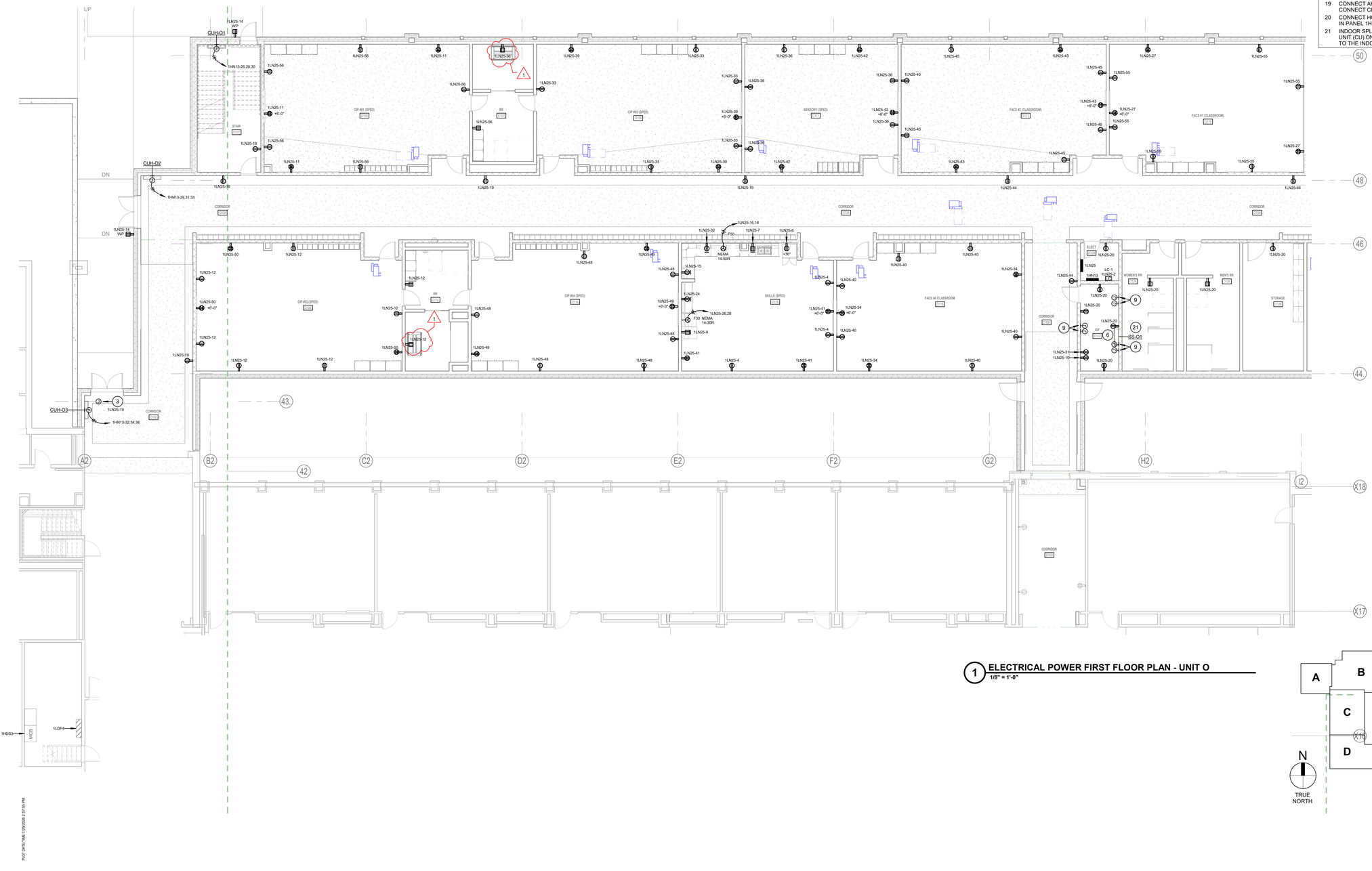
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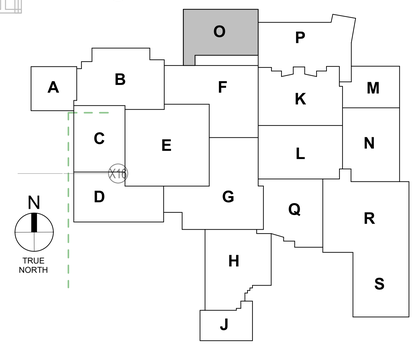
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1 **ELECTRICAL POWER FIRST FLOOR PLAN - UNIT O**
1/8" = 1'-0"



PLOT DATE/TIME: 7/29/2026 2:57:59 PM

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DAVID L. JONES II REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL POWER FIRST FLOOR PLAN - UNIT O

EP103

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

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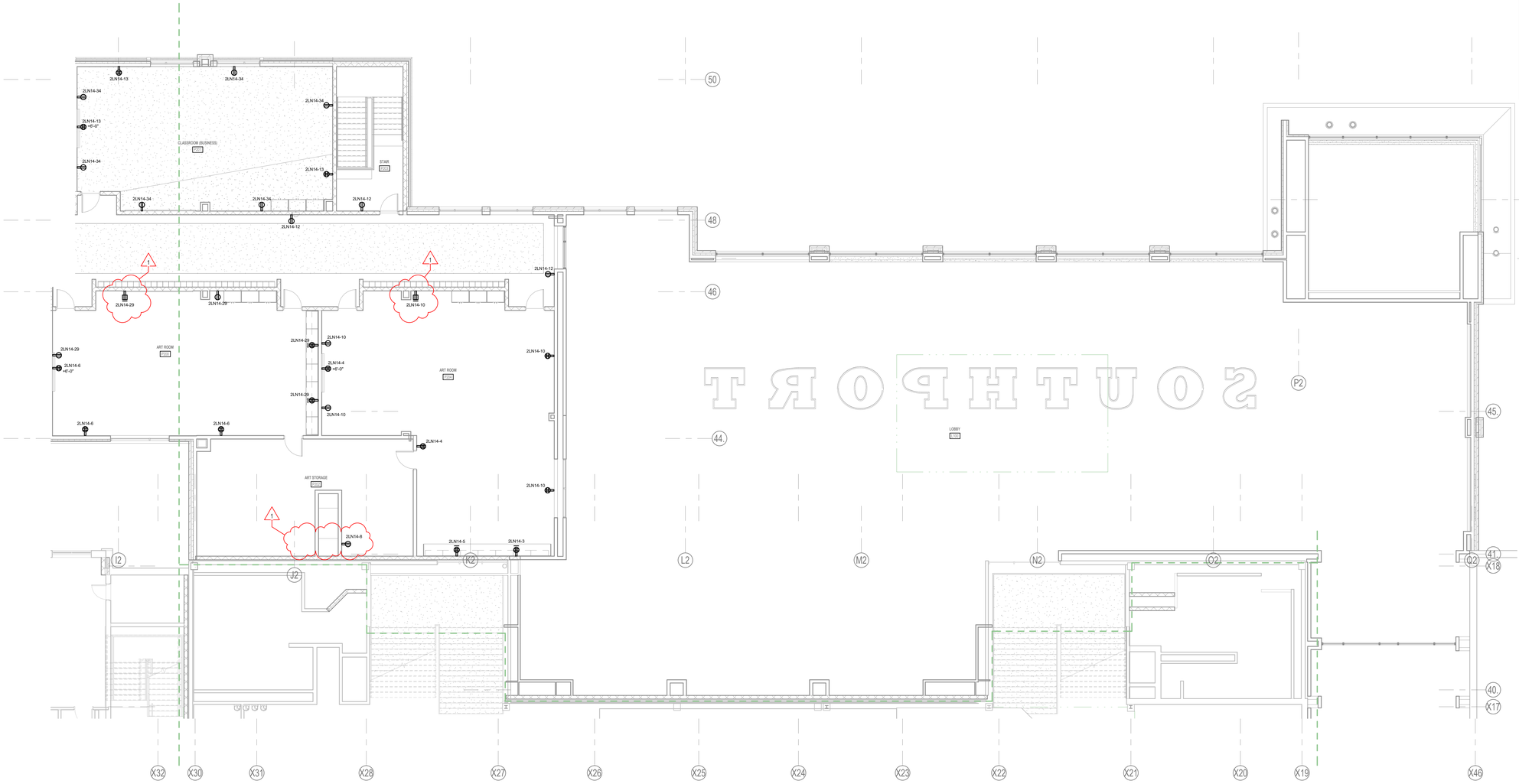
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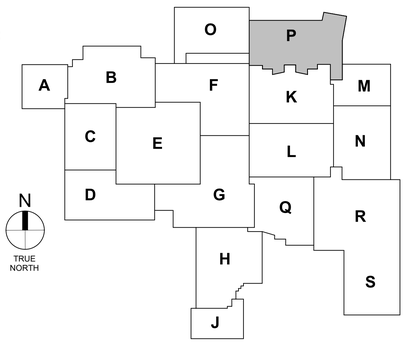
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20 CONNECT HOOD ANSUL SYSTEM TO CONVECTION OVEN SHUNT TRIP BREAKERS IN PANEL 1HN13.

21 INDOOR SPLIT SYSTEM UNIT IS POWERED BY THE ASSOCIATED CONDENSING UNIT (CU) ON THE ROOF. PROVIDE ALL NECESSARY WIRING AND CONNECTIONS TO THE INDOOR UNIT.



1 **ELECTRICAL POWER SECOND FLOOR PLAN - UNIT P**
1/8" = 1'-0"



PLOT DATE/TIME: 7/29/2026 2:57:58 PM

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DAVID L. JONES II REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS:

#	Date	Desc.
1	07/31/2026	ADDENDUM #01

100% CONSTRUCTION DOCUMENTS

PROJECT: #24173S
DATE: 07/10/2026
DRAWN BY: AMN

ELECTRICAL POWER SECOND FLOOR PLAN - UNIT P

EP106

LIGHTING CONTACTORS SCHEDULE

LABEL	EQUIPMENT RATINGS					COIL CIRCUIT			CONTROL	CIRCUIT(S) CONTROLLED	REMARKS
	VOLTAGE	AMPERAGE	POLES	NEMA ENCL	ACCESSORIES	VOLTAGE	PANEL	CIRCUIT			
LC-1	600 V	30 A	2	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	120 V	1LN25	2	TEMPERATURE CONTROL SYSTEM	1LN25-51	
LC-2	600 V	30 A	4	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	120 V	2LN14	1	TEMPERATURE CONTROL SYSTEM	2HN7-17 2HN7-19,21	

ENCLOSED SWITCHES & CIRCUIT BREAKERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS						ACCESSORIES		REMARKS
		VOLTAGE	POLES	AMPERAGE	FUSED	FUSE SIZE	NEMA ENCL	AUX. CONTACTS	SOLID NEUTRAL	
DISC-CU-O1	CU-O1	240 V	2	30 A	Yes	30A	3R	(1) N.O. / N.C.	Yes	
DISC-CU-O2	CU-O2	240 V	2	30 A	Yes	30A	3R	(1) N.O. / N.C.	Yes	
DISC-E12	DISHWASHER - E12	600 V	3	30 A	No	N/A	4X	(1) N.O. / N.C.	Yes	
DISC-SIGN	EXTERIOR SIGN	120	1	30 A	Yes	20A	3R	(1) N.O. / N.C.	Yes	

ENCLOSED & VARIABLE-FREQUENCY MOTOR CONTROLLERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS					STARTER		DISCONNECT SWITCH		REMOTE CAPACITOR	REMARKS
		VOLTAGE	PHASE	HP	FLA	NEMA ENCL	TYPE	NEMA SIZE	TYPE	FUSE SIZE		
MS-AHU-K2-SF1	AHU-K2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-K2-SF2	AHU-K2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-L2	AHU-L2	480 V	3	1-1/2	3.0 A	1	FVNR	1	FUSIBLE	5.6	-	
MS-AHU-L3	AHU-L3	480 V	3	1	2.1 A	1	FVNR	1	FUSIBLE	4	-	
MS-EF-K1	EF-K1	120 V	1	3/4	13.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L1	EF-L1	120 V	1	1/4	5.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L2	EF-L2	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-L3	EF-L3	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-O1	EF-O1	120 V	1	1/6	4.4 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-EF-O2	EF-O2	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-P-K1	P-K1	120 V	1	3/4	13.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
MS-P-L1	P-L1	120 V	1	1/2	9.8 A	-	-	-	-	-	-	HORSEPOWER RATED TOGGLE WITH MOTOR OVERLOADS. PROVIDE DRY CONTACTS FOR DIVISION 23 CONTROL.
VFD-AHU-E1-RF	AHU-E1	480 V	3	15	21.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-E1-SF1	AHU-E1	480 V	3	20	27.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-E1-SF2	AHU-E1	480 V	3	20	27.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-F2	AHU-F2	480 V	3	40	52.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-1	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-2	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-3	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G1-4	AHU-G1	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-1	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-2	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-3	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-G2-4	AHU-G2	480 V	3	25	34.0 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-K1	AHU-K1	480 V	3	5	7.6 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.
VFD-AHU-L1	AHU-L1	480 V	3	3	4.8 A	-	VFD	-	-	-	-	PROVIDED BY DIVISION 23, CONNECTED BY DIVISION 26.

GENERAL LIGHT FIXTURE SCHEDULE NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE VIBRATION DAMPERS FOR ALL ALUMINUM AND STEEL POLES 10'-0" AND ABOVE.

C PROVIDE SELF-DIAGNOSTICS AND SELF-TESTING FOR ALL LIFE SAFETY FIXTURES (EXIT FIXTURES, WALL PACKS, INVERTERS BALLASTS, ETC.)

D PROVIDE 0-10V ELECTRONIC DIMMING DRIVER DOWN TO 10% UNLESS OTHERWISE NOTED.

E PROVIDE A MINIMUM OF ONE CLIP PER SIDE UP TO 4' AND CABLE SUPPORTS FOR EACH LIGHT FIXTURE.

F REFER TO ARCHITECTURAL PLANS FOR CEILING TYPE.

G SUBMIT LIGHTING PER APPROPRIATE SPECIFICATION SECTION.

INTERIOR/EXTERIOR/EMERGENCY & EXIT LIGHT FIXTURES SCHEDULE

LABEL	DESCRIPTION	VOLTAGE	SOURCE				MOUNTING	LENS/REFLECTOR	CERTIFICATIONS	ACCEPTABLE MANUFACTURERS	LABEL
			TYPE	LUMENS	WATTS	CCT					
A	2X4 LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	5,000 LM	40 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA CFP24 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	A
A-E	2X4 LED FLAT PANEL. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	5,000 LM	40 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA CFP24 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	A-E
B	2X2 LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	2,500 LM	20 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA CFP22 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	B
B-E	2X2 LED FLAT PANEL. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	2,500 LM	20 W	4000 K, 80 CRI	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA CFP22 LITHONIA CPX DAY-BRITE FLUXPANEL 2FPZ	B-E
C	4' VANDAL RESISTANT LED STAIRWELL FIXTURE. INTEGRAL OCCUPANCY SENSOR. INTEGRAL BATTERY INVERTER.	120/277 V	LED	4,000 LM	36 W	4000 K, 80 CRI	SURFACE/WALL	OPAL POLYCARBONATE	DLC	COLUMBIA ESL LITHONIA BLWP METALUX SNX DAY-BRITE FLUXSTREAM FSS	C
D	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING.	120/277 V	LED	2,000 LM	22 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	D
D-E	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	2,000 LM	22 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	D-E
E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	5,400 LM	45 W	4000 K, 80 CRI	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED LENS	N/A	METALUX SNLED COLUMBIA MPS LITHONIA ZL1D DAY-BRITE FLUXSTREAM FSS	E
E-X	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH. INTEGRAL BATTERY INVERTER.	120/277 V	LED	5,400 LM	45 W	4000 K, 80 CRI	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED LENS	N/A	METALUX SNLED COLUMBIA MPS LITHONIA ZL1D DAY-BRITE FLUXSTREAM FSS	E-X
EM1	LED EMERGENCY WALL LIGHT. DIE-CAST ALUMINUM HOUSING. NORMALLY OFF WITH INTEGRAL BATTERY. PROVIDE BATTERY HEATER FOR -22 DEGREE F OPERATION. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	635 LM	11 W	4000 K, 80 CRI	WALL MOUNTED	WIDE THROW	DLC	LITHONIA AFF DUALLITE PG EVENLITE WEATHERLITE EXITRONIX NFT	EM1
F	LED WALL LIGHT. DIE-CAST ALUMINUM HOUSING. HINGED DOOR FRAME. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	5,300 LM	59 W	4000 K, 80 CRI	WALL MOUNTED	TYPE III DISTRIBUTION	N/A	RAB WFLED LUMECON BLS-UTWP RAYON SWPK LITHONIA WPR2 ENVOY EWPT-LKFS	F
G	4"X4' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	3,000 LM	32 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	G
H	4"X6' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	4,500 LM	46 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	H
I	4"X8' EXTRUDED ALUMINUM LED. 0-10V DIMMING.	120/277 V	LED	6,000 LM	62 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	I
I-E	4"X8' EXTRUDED ALUMINUM LED. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	6,000 LM	62 W	4000 K, 80 CRI	RECESSED IN GRID	FLUSH SATIN LENS	N/A	FOCAL POINT FSM4LS FINELITE HP-4D MARK ARCHITECTURAL SLOT 4 ALW LIGHTPLANE 4	I-E
J	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. 0-10V DIMMING.	120/277 V	LED	3,000 LM	30 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE WILLIAMS 6DS	J
J-E	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. 0-10V DIMMING. PROVIDE WITH EMERGENCY BATTERY INVERTER.	120/277 V	LED	3,000 LM	30 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE WILLIAMS 6DS	J-E
K	6" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. U.L. LISTED WET LOCATION. 0-10V DIMMING.	120/277 V	LED	1,000 LM	11 W	4000 K, 80 CRI	RECESSED	DIFFUSE IMPACT RESISTANT POLYCARBONATE LENS	N/A	PORTFOLIO LDSQ6B PRESCOLITE LTR-6SQD LITHONIA LDN6 SQUARE LIGHTOLIER P6S	K
SL1	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	20,300 LM	167 W	4000 K, 80 CRI	20' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE II DISTRIBUTION	N/A	McGRAW-EDISON GLEON LED BEACON VPS LITHONIA DSX1 LED GARDCO OPF-M	SL1
SL2	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	20,500 LM	167 W	4000 K, 80 CRI	20' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	McGRAW-EDISON GLEON LED BEACON VPS LITHONIA DSX1 LED GARDCO OPF-M	SL2
SL3	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. POST TOP MOUNT. U.L. LISTED WET LOCATION. 480V SINGLE PHASE. WHITE FINISH. SQUARE, STRAIGHT, ALUMINUM, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	12,600 LM	123 W	4000 K, 80 CRI	15' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	INVUE ARBOR POST TOP KIM OURO LUMINAIRE LUSSO LARGE VERSALED PT6-Q	SL3
SLFP	FLAG POLE LED LIGHT, WET-LOCATION RATED. LENSED, DIE-CAST ALUMINUM HOUSING. ROTATIONAL YOKE. TENON ADAPTER. 6 INCH TALL TENON POLE BRACKET.	120/277 V	LED	2,700 LM	28 W	4000 K, 80 CRI	VERTICAL SURFACE	NARROW SPOT 10 DEGREE THROW	N/A	LUMENBEAM MEDIUM LBM MODEL 1057 COMMERCIAL GARDCO CSFS INSIGHT LIGHTING PROSPOT 9 KIM KFL1	SLFP
X1	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF-POWERED. NICKEL-CADMIUM BATTERY. SELF-DIAGNOSTIC/SELF-TESTING MODULE.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE EXITRONIX 400EX	X1
X2	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF-POWERED. NICKEL-CADMIUM BATTERY. SELF-DIAGNOSTIC/SELF-TESTING MODULE.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE EXITRONIX 400EX	X2

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DAVID L. JONES III
REGISTERED
NO.
PE12100175
STATE OF
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PROFESSIONAL ENGINEER

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1	07/31/2026	ADDENDUM #01

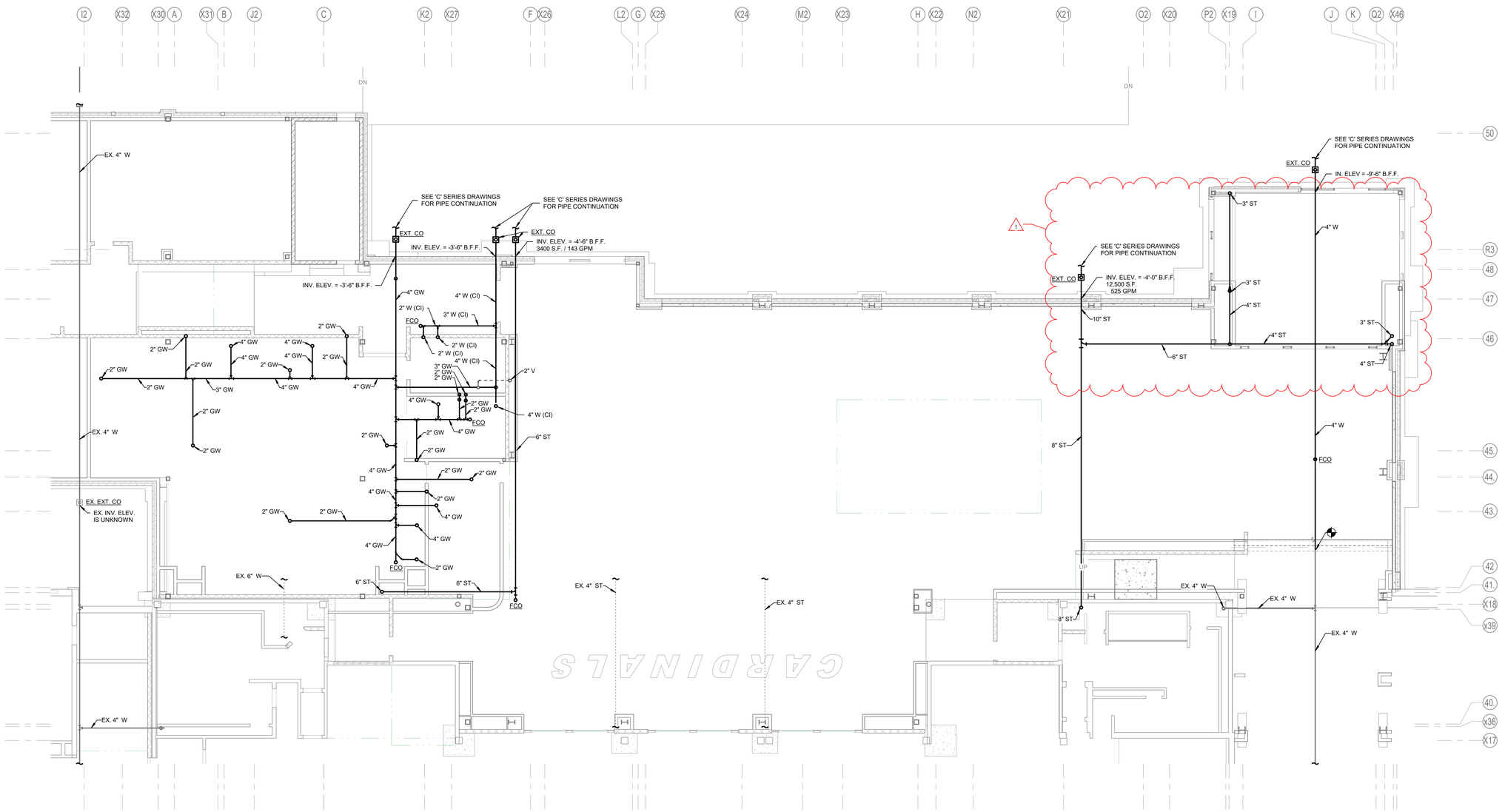
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ELECTRICAL EQUIPMENT SCHEDULES

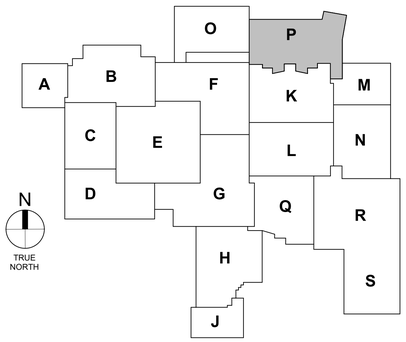
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GARDINALS

1 **PLUMBING FOUNDATION PLAN - UNIT P**
1/8" = 1'-0"



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GABRIEL S. CURRIER
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PROFESSIONAL ENGINEER

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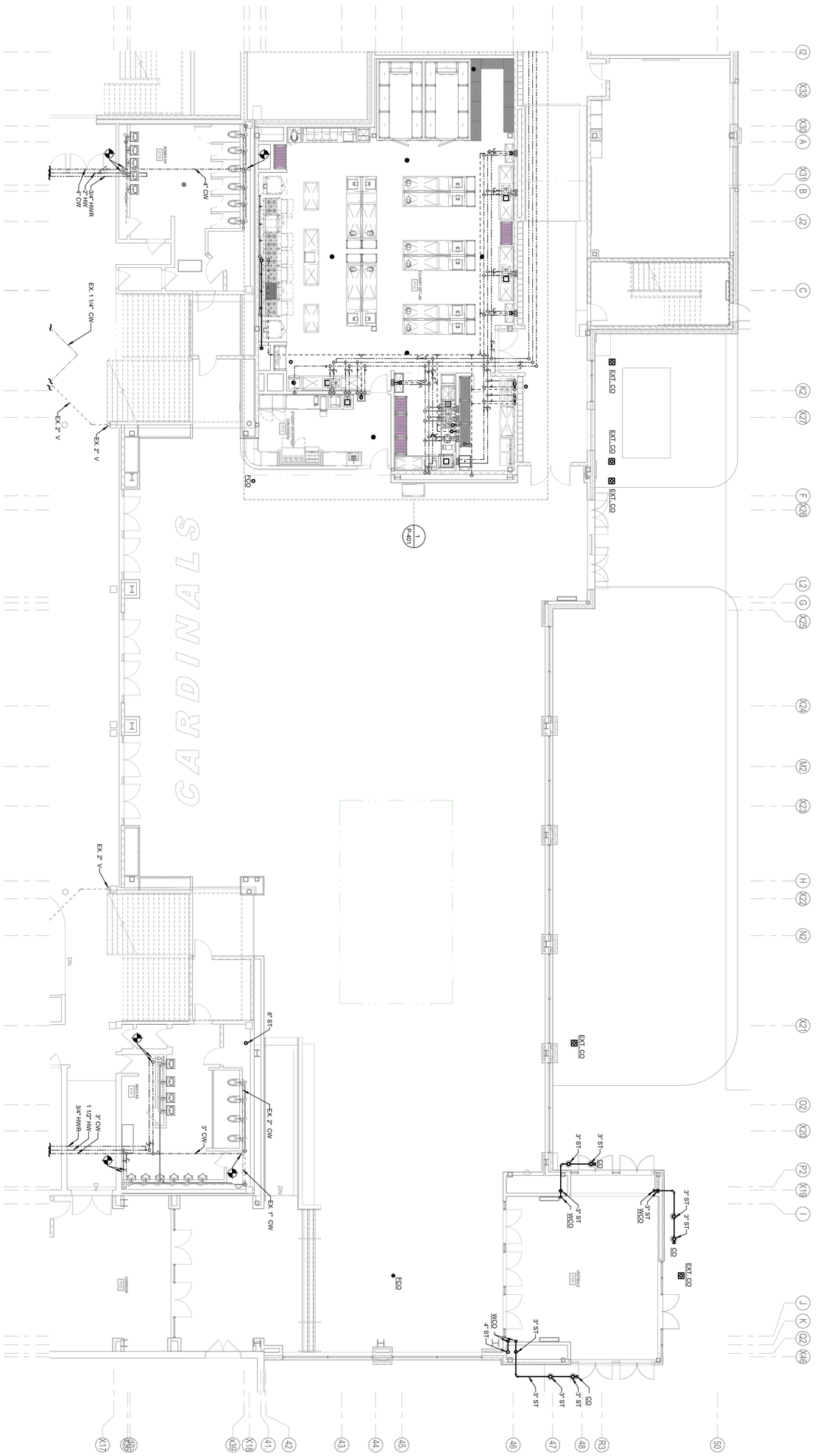
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PLUMBING FOUNDATION PLAN - UNIT P

PF105

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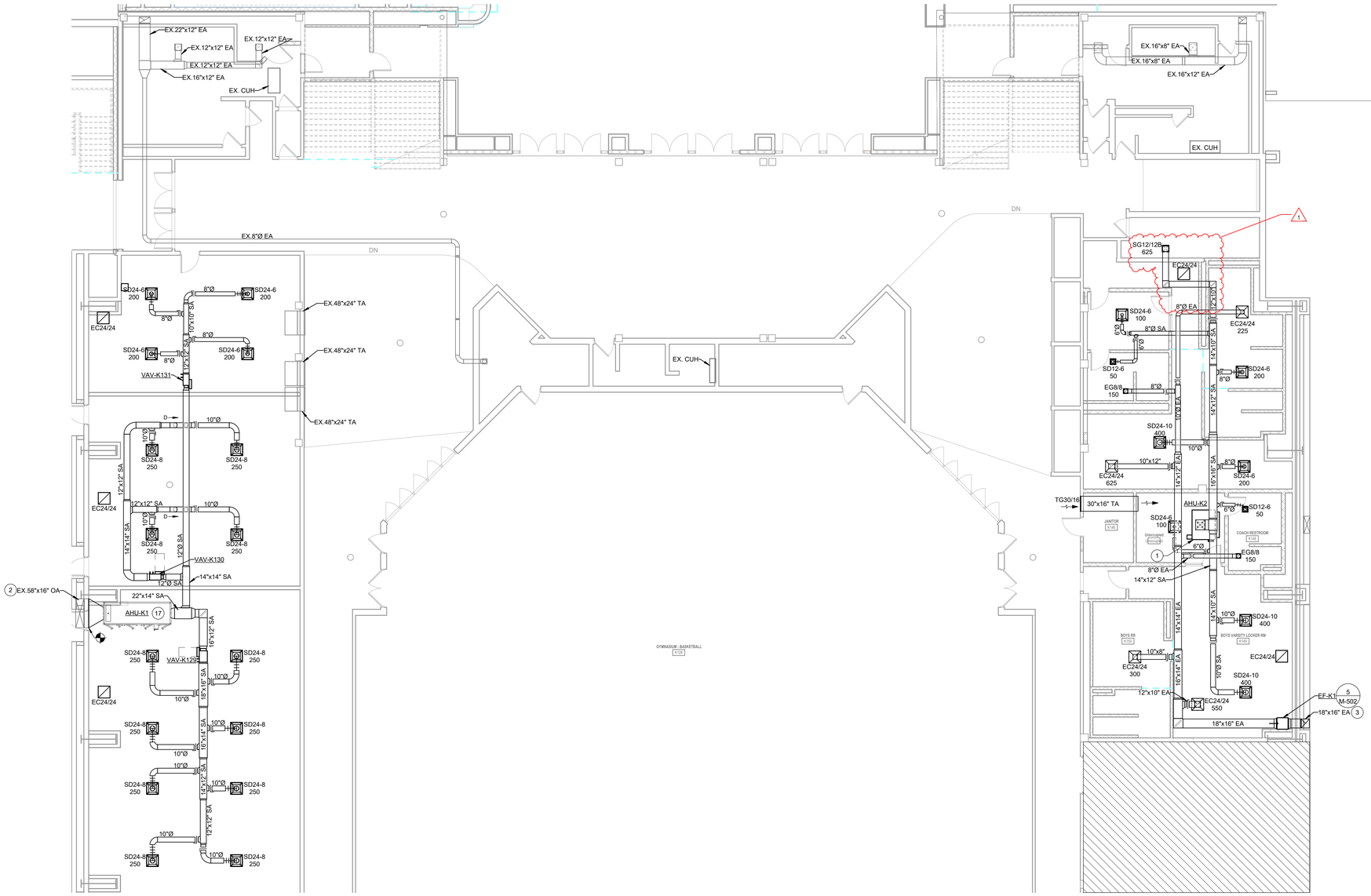

EX. 1 1/4" CW
EX. 2" V
EX. 2" V
4" CW
2" HW
4" CW
3/4" HWR
1 1/2" HW
3/4" HWR
3" CW
3" CW
EX. 2" CW
EX. 1" CW
8" ST
EXT. CO
EXT. CO
EXT. CO
EXT. CO
3" ST
3" ST
3" ST

GENERAL MECHANICAL NOTES

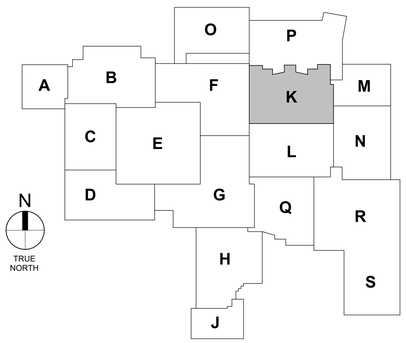
A DARK LINES INDICATE NEW WORK.
B LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.

MECHANICAL HVAC PLAN NOTES

1 AIR HANDLING UNIT SUSPENDED FROM CEILING. SEE DETAIL '15/M502'.
2 CONNECT OUTSIDE AIR INTAKE TO EXISTING DUCT ROUTED THROUGH CHASE TO ROOF.
3 ROUTE DUCT THROUGH EXISTING CHASE AND ROOF PENETRATION ON ROOF.
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4 ROUTE DUCT UP AND OVER PIPING AND CABLE TRAYS. DROP DUCT BEFORE ENTERING ROOM UNDER BEAM.
5 ROUTE DUCT UP AND OVER 14"X10" SUPPLY DUCT.
6 DUCT ROUTED BETWEEN JOIST.
7 DUCT ROUTED UP THROUGH CHASE TO ROOF.
8 TRANSFER GRILL INSTALLED IN WALL, ABOVE DOORS.
9 DUCT ROUTED UP TO RTU ON ROOF.
10 INSTALL LOUVER HIGH ENOUGHT THAT ITS ABOVE CEILING IN ROOMS WITH CEILING.
11 PROVIDE DAMPER IN VERTICAL DUCT.
12 CONNECT SUPPLY AIR DUCT FROM BOTTOM OF 26"x16" MAIN.
13 CONNECT EXHAUST DUCTS TO DRYERS.
14 INSTALL RETURN GRILLE AT AN ELEVATION OF 9' 6".
15 PROVIDE 4" WALL VENT WITH BIRD SCREEN. DO NOT PROVIDE WITH BACKDRAFT DAMPER.
16 PROVIDE NEW ACTUATOR DAMPERS. SEE M-704 FOR CONTROLS SEQUENCE.
17 SUPPORT AIR HANDLER FROM EXISTING STRUCTURE.
18 PROVIDE BMS INTERFACE FOR CONTROL OF LIGHTING CONNECTORS.



1 **MECHANICAL HVAC FIRST FLOOR PLAN - UNIT K**
1/8" = 1'-0"



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MECHANICAL HVAC FIRST FLOOR PLAN - UNIT K

MH101

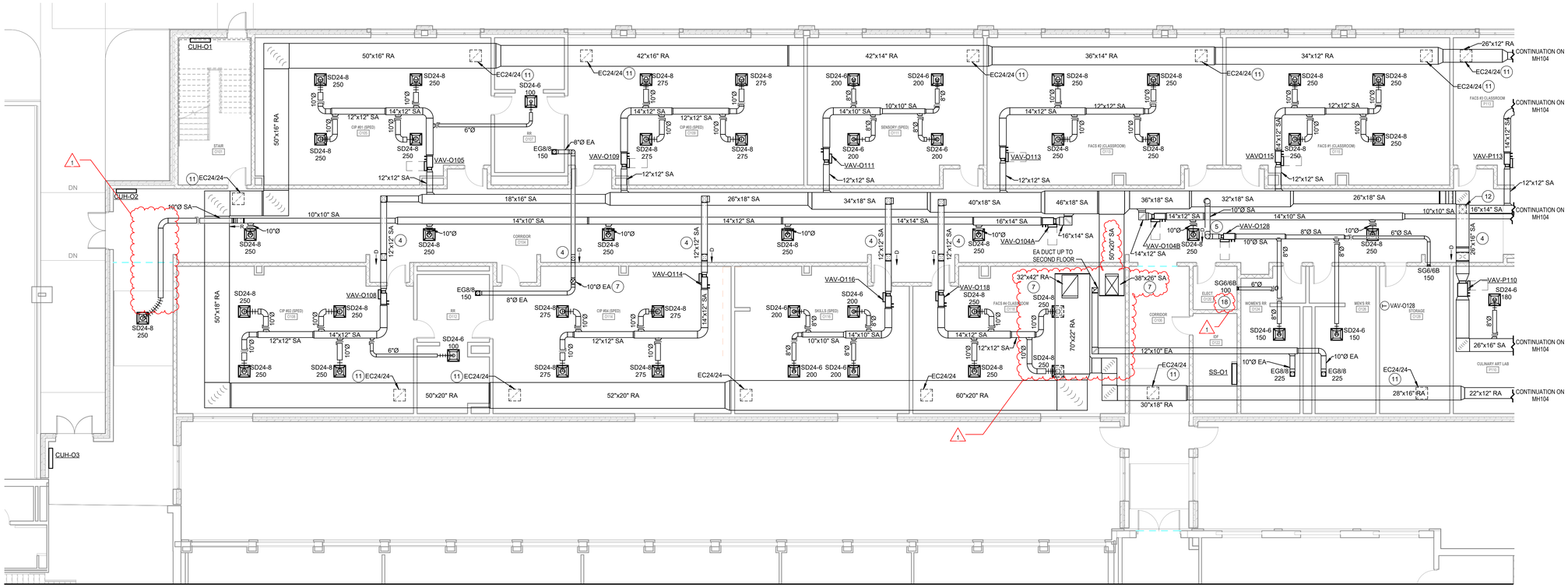
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GENERAL MECHANICAL NOTES

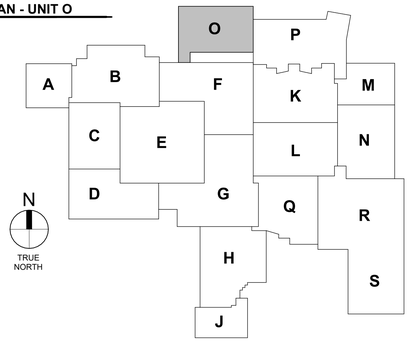
A DARK LINES INDICATE NEW WORK.
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1 **MECHANICAL HVAC FIRST FLOOR PLAN - UNIT O**
1/8" = 1'-0"



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MECHANICAL HVAC FIRST FLOOR PLAN - UNIT O

MH103

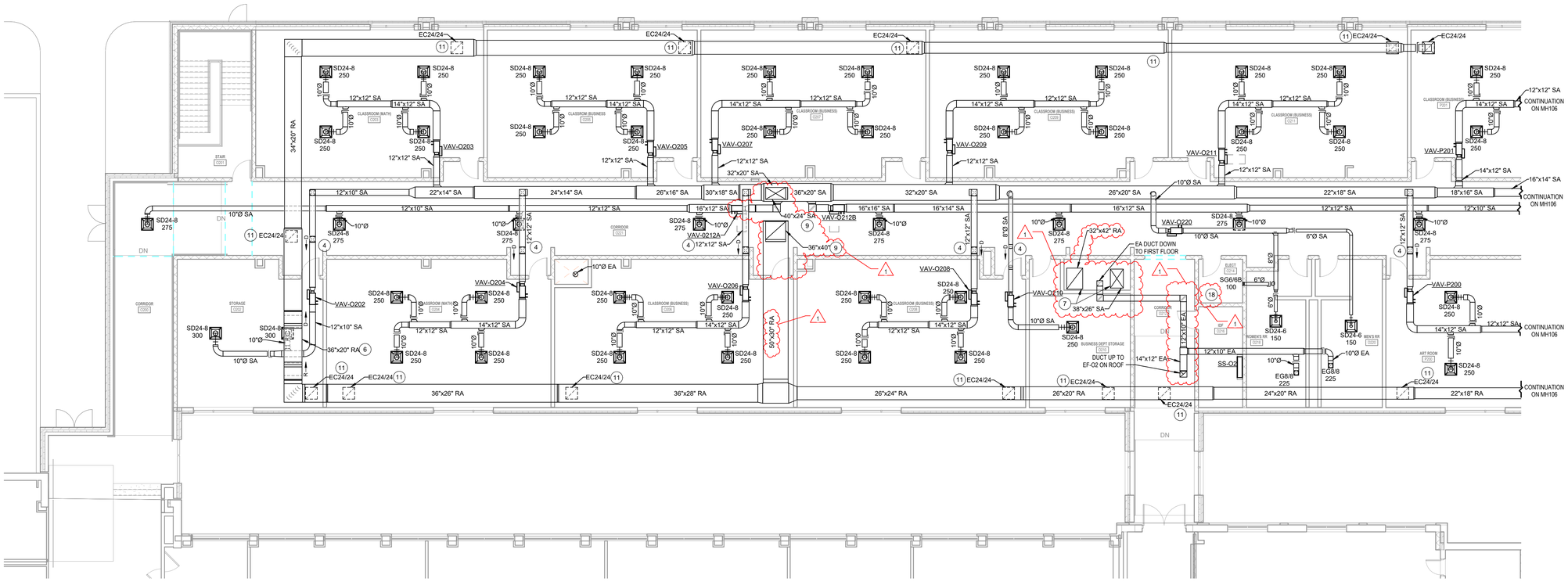
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GENERAL MECHANICAL NOTES

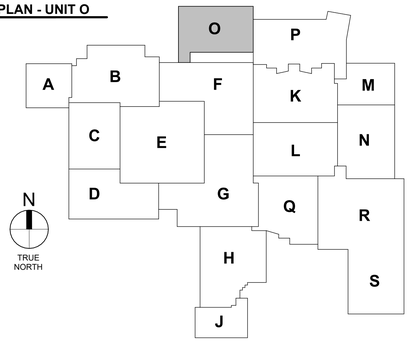
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1 **MECHANICAL HVAC SECOND FLOOR PLAN - UNIT O**
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MECHANICAL HVAC SECOND FLOOR PLAN - UNIT O

MH107

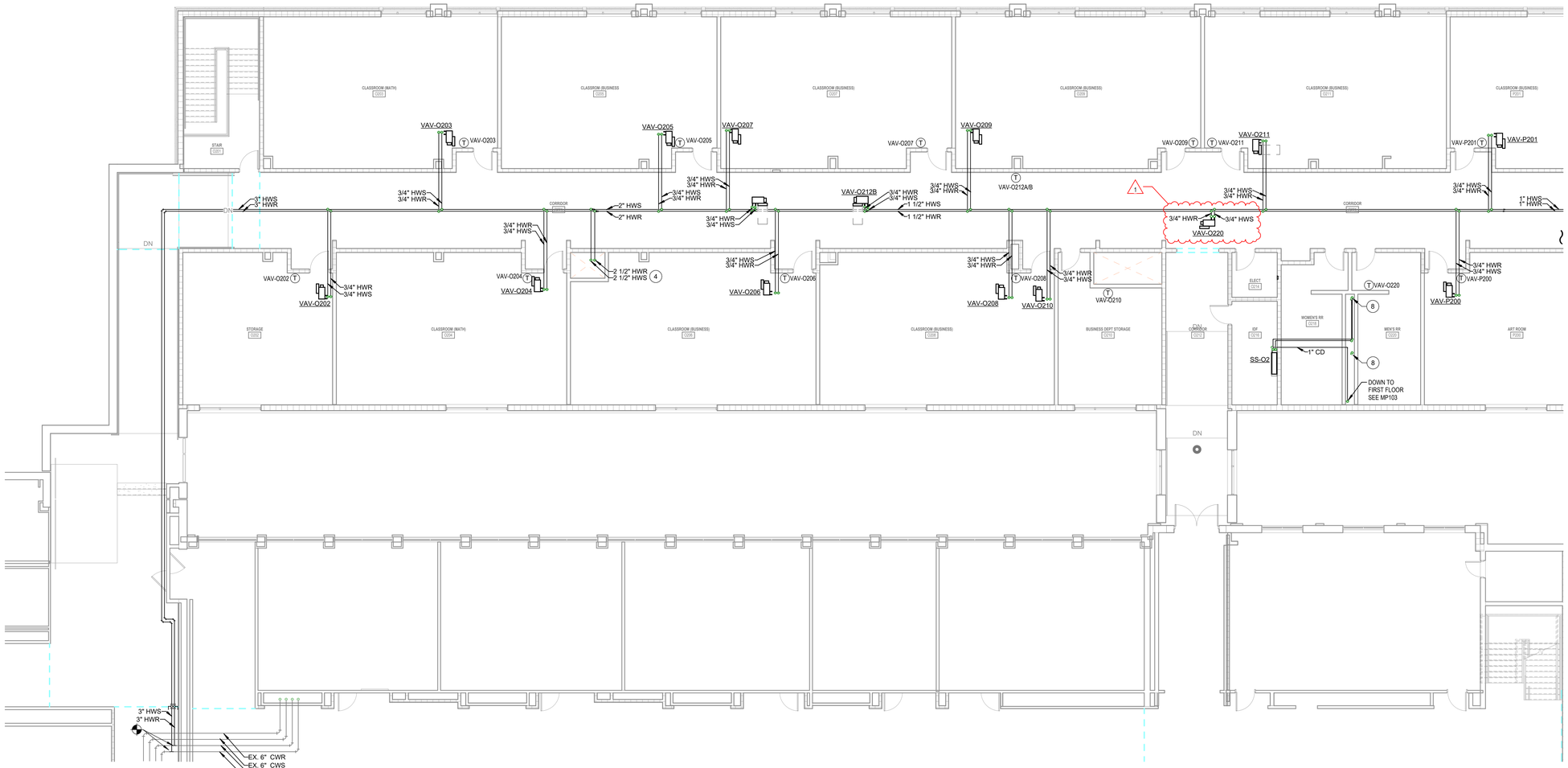
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GENERAL PIPING NOTES

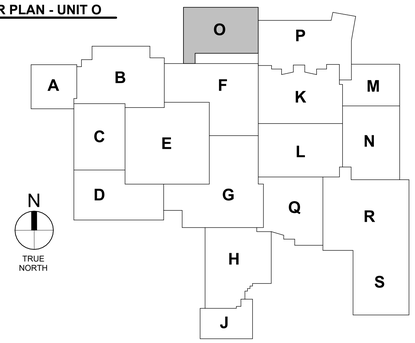
A DARK LINES INDICATE NEW WORK.
B LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.
C PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.
D NEW SHUTOFF VALVES SHALL BE INSTALLED FOR ALL NEW HYDRONIC EQUIPMENT.

MECHANICAL PIPING PLAN NOTES

1 ROUTE PIPING UP TO AHU-G2 ON ROOF. 6" CWR/CWS PIPING TEES VERTICALLY TO UNIT.
2 ROUTE PIPING DOWN TO LOWER LEVEL OF GYM, INTO BOYS PE LOCKER ROOM.
3 ROUTE PIPING ALONG CEILING OF STORADE ROOM, DROP AS REQUIRED.
4 HWS/R PIPING DOWN TO FIRST FLOOR. REFER TO DRAWING MP103 FOR CONTINUATION.
5 ROUTE PIPING HIGH ENOUGH FOR CIRCULATION PUMP ISTALLATION ABOVE CHILLED WATER PIPES.
6 PIPING CONTINUES UP TO SECOND FLOOR UNIT G. SEE SHEET MP107.
7 REINSTALL JACE PANEL AT THIS LOCATION. RE-CONNECT ALL CONTROL WIRING AND ENSURE INTEGRATION OF AL POINTS INTO BUILDING AUTOMATION SYSTEM AS BEFORE.
8 REFRIGERANT PIPING UP TO CONDENSING UNIT ON ROOF.
9 CONDENSATE DRAIN PIPING UP TO SS-O2 ON SECOND FLOOR.
10 ROUTE CONDENSATE PIPING TO MOP BASIN.
11 ROUTE CONDENSATE PIPING TO FLOOR DRAIN.



1 **MECHANICAL PIPING SECOND FLOOR PLAN - UNIT O**
1/8" = 1'-0"



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145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

creative engineering solutions
mechanical • electrical • plumbing
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Indianapolis IN 46204 • 463.233.9199
www.cecengineering.com

PERRY TOWNSHIP SCHOOLS
SOUTHPORT HIGH SCHOOL ADDITION AND RENOVATION
971 EAST BANTA ROAD, INDIANAPOLIS, IN 46227

GABRIEL S. CURRIER
REGISTERED
NO. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

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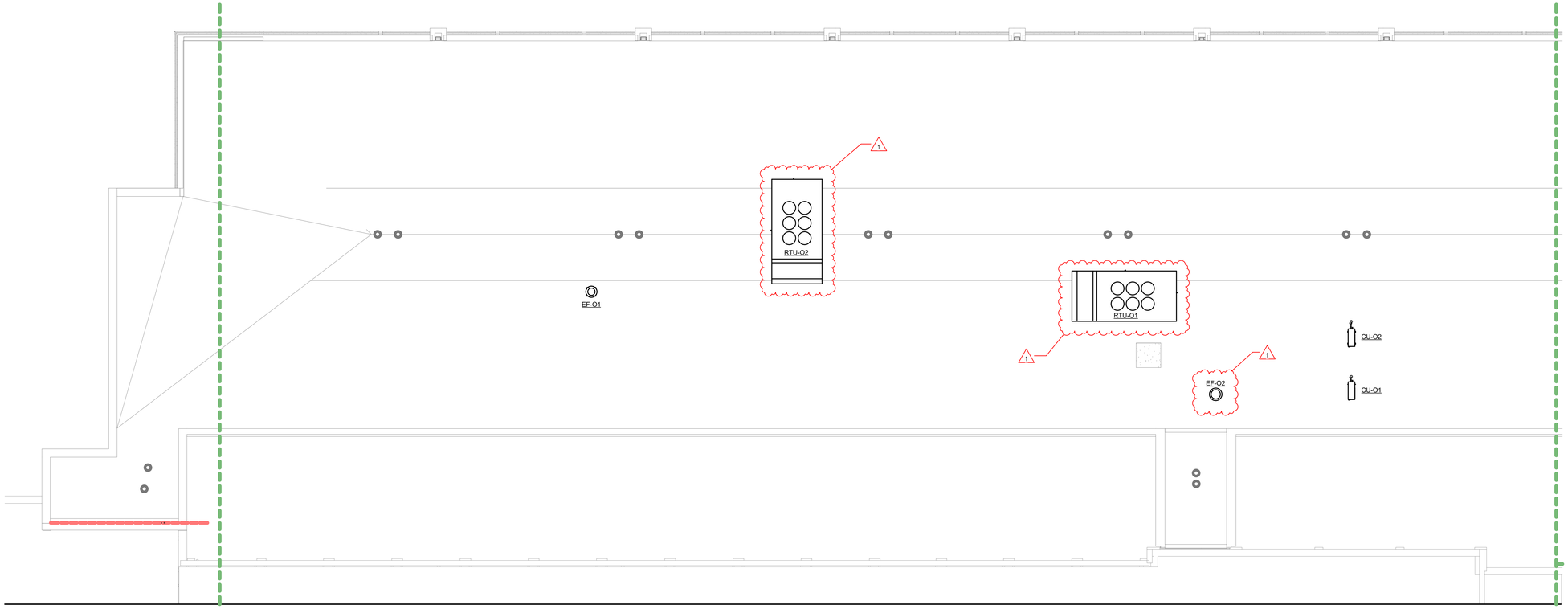
MECHANICAL PIPING SECOND FLOOR PLAN - UNIT O

MP105

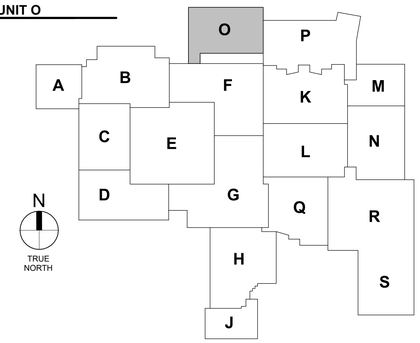
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MECHANICAL ROOF PLAN NOTES

1. CONNECT TO EXISTING ABOVE ROOF.
2. PROVIDE 2" FIBERGLASS BOARD INSULATION WITH FIELD APPLIED JACKET PER SPECIFICATIONS. RE-INSULATE ALL DUCT ON ROOF INCLUDING EXISTING DUCT THATS BEING CONNECTED TO.
3. PROVIDE SEPERATE, FACE PLATE TYPE, SPACE TEMPERATURE, SPACE HUMIDITY, AND SPACE CO2 SENSORS IN AUDITORIUM IN SAME LOCATION AS EXISTING. FEILD VERIFY EXISTING LOCATION.
4. VFD FOR EACH FAN AND TCP IN UNIT VESITUBLE FURNISHED BY TCC, INSATLLED BY DIVISION 26.
5. PROVIDE 2kW ELECTRIC HEATER, FURNISHED BY TCC, INSTALLED BY DIV 26.
6. 36"x36"x5'-0" LONG SOUND ATTENUATOR FOR RETURN DUCT 11,600 CFM. MAXIMUM PRESSURE DROP OF .08" WITH MINIMUM INSERTION LOSS OF 24 DB AT 3RD OCTAVE BAND AT FACE VELOCITY OF 2,000 FPM.
7. 36"x36"x5'-0" LONG SOUND ATTENUATOR FOR SUPPLY DUCT 12,800 CFM. MAXIMUM PRESSURE DROP OF .72" WITH MINIMUM INSERTION LOSS OF 23 DB AT 3RD OCTAVE BAND AT FACE VELOCITY OF 2,000 FPM.
8. PLACE UNIT ON EXISTING STRUCTURE.
9. PROVIDE A NEW SUPPORT STRUCTURE FOR UNIT.



1 **MECHANICAL ROOF PLAN - UNIT O**
1/8" = 1'-0"



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MECHANICAL ROOF PLAN - UNIT O

MR104

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SEQUENCE OF OPERATION

AHU-G1 AND AHU-G2 ARE A SINGLE ZONE VARIABLE AIR VOLUME UME (VAV), CUSTOM AIR HANDLING UNIT (AHU) WITH MIXING BOX WITH RA AND OA DAMPER, RELEIF DAMPER, FILTRATION, HYDRONIC PREHEAT COIL, HYDRONIC COOLING COIL, HYDRONIC REHEAT COIL, AND RETURN FAN FOR ZONE TEMPERATURE AND HUMIDITY CONTROL.

OCCUPIED COOLING MODE: SUPPLY FAN SHALL START (SF-C) AT FULL COOLING DEMAND WITH OUTDOOR AIR DAMPER AT MINIMUM POSITION (UNLESS ECONOMIZER IS ENABLED) AND FAN (SF-O) AT 100% SPPED. DECREASES IN COOLING DEMAN SHALL DECREASE FAN SPEED FROM FULL SPEED DOWN TO MINIMUM SPEED (50% OF FULL SPEED). FURTHER DECREASES IN COOLING DEMAND SHALL BE WITH THE FAN SPEED AT MINIMUM AND THE CHILLED WATER CONTROL VALVE (CLG-VLV) POSITION MODULATING IN RESPONSE TO THE ZONE SET POINT (ZN-T). OCCUPIED COOLING SETPOINT SHALL BE 74F (ADJ).

UNOCCUPIED COOLING MODE: SUPPLY FAN SHALL START AT 60% SPEED WITH THE OUTSIDE AIR DAMPERS CLOSED (UNLESS ECONOMIZER IS ENABLED). DECREASES IN COOLING DEMAND SHALL DECREASE FAN SPEED FROM 60% DOWN TO MINIMUM SPEED (50% OF FULL SPEED). FURTHER DECREASES IN COOLING DEMAND SHALL BE WITH THE FAN SPEED AT MINIMUM AND THE CHILLED WATER CONTROL VALVE (CLG-VLV) POSITION MODULATING IN RESPONSE TO THE ZONE SETPOINT. UNOCCUPIED COOLING SETPOINT SHALL BE 78F(ADJ)

OCCUPIED HEATING MODE: SUPPLY FAN SHALL START AT FULL HEATING DEMAND WITH OUTDOOR AIR DAMPER OPEN AT MINIMUM POSITION AND FAN AT 100% SPEED. DECREASES INN HEATING DEMAND SHALL BE WITH THE FAN AT 100% SPEED AND THE PREHEAT COIL (PH-VLV/PH-F&B) MODULATING IN RESPONSE TO THE ZONE SETPOINT. DISCHARGE AIR TEMPERATURE SHALL NOT EXCEED 95F. OCCUPIED HEATING SETPOINT SHALL BE 70F (ADJ).

UNOCCUPIED HEATING MODE: SUPPLY FAN SHALL START AT 60% SPEED WITH OUTSIDE AIR DAMPERS CLOSED. DECREASES IN HEATING DEMAND SHALL BE WITH THE FAN SPEED AT 60% AND THE PREHEAT COIL MODULATING IN THE SAME MANNER AS IN OCCUPIED HEATING MODE. UNOCCUPIED HEATING SETPOINT SHALL BE 64F (ADJ).

RETURN FAN START/STOP: WHEN THE SUPPLY FAN IS ENERGIZED, THE RETURN FAN (RF-C) WILL BE ENABLED. IF THE RETURN FAN STATUS (RF-S) DOES NOT MATCH THE COMMANDED VALUE, AN ALARM WILL BE GENERATED AT THE USER INTERFACE.

RETURN FAN SPEED CONTROL: THE RETURN FAN SPEED (RF-O) WILL MODULATE VIA VFD TO MAINTAIN RETURN AIR DUCT STATIC PRESSURE SET POINT OF 0.5" WG (ADJ), AS SENSED BY RETURN AIR DUCT PRESSURE SENSOR (RA-SP). RETURN AIR DUCT STATIC PRESSURE SETPOINT WILL BE DETERMINED AT THE TIME OF SYSTEM BALANCING. SETPOINT WILL BE DETERMINED AT FULL ECONOMIZER MODE WITH RELIEF AIR DAMPER (RLF-DPR) FULLY OPEN. ADJUST SET POINT AS NECESSARY UNTIL THE BUILDING STATIC PRESSURE SETPOINT IS REACHED.

ECONOMIZER CONTROL (DRY BULB): WHEN THE OUTSIDE AIR TEMPERATURE (OA-T) IS BELOW 55F, THE ECONOMIZER MODE WILL BE ENABLED. WHEN ECONOMIZER MODE IS ENABLED, THE OUTDOOR AIR DAMPER (OA-DPR) AND RETURN AIR DAMPER (RA-DPR) WILL MODULATE IN SEQUENCE TO MAINTAIN SUPPLY AIR TEMPERATURE (SA-T) SETPOINT.

BUILDING PRESSURE CONTROL: RELIEF AIR DAMPERS (RLF-DPn - QTY (9)) WILL MODULATE TO MAINTAIN BUILDING STATIC PRESSURE SETPOINT OF 0.05" WG (ADJ), WITH RESPECT TO OUTDOOR AMBIENT CONDITIONS, AS SENSED BY DIFFERENTIAL PRESSURE TRANSMITTER (PLE-SP).

RETURN AIR HUMIDITY CONTROL: IF THE RETURN AIR HUMIDITY (RA-H) RISES ABOVE 55% RH, THE COOLING COIL CONTROL VALVE (CC-VLV) WILL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE OF 52F (ADJ). WHEN THE RETURN AIR HUMIDITY (RA-H) FALLS BELOW 53% RH (ADJ), THE RETURN AIR HUMIDITY CONTROL CYCLE WILL BE DISABLED AND SUPPLY AIR TEMPERATURE CONTROL WILL BE ENABLED.

SYSTEM SAFETIES: SYSTEM SAFETIES WILL BE MANUALLY RESET PRIOR TO RESTARTING THE SYSTEM. UPON ACTIVATION OF ANY SYSTEM SAFETIES, THE SYSTEM WILL SHUTDOWN AND AN ALARM WILL BE INITIATED AT THE USER INTERFACE. THE FOLLOWING SYSTEM SAFETIES WILL BE INCLUDED.
-SMOKE DETECTION DEVICE (SA-SD, RA-SD), THE SUPPLY AND RETURN FANS SHALL BE DE-ENERGIZED VIA HARD-WIRED CONNECTION
-TEMPERATURE LOW LIMIT SWITCH (LT-ALM)

SYSTEM SHUTDOWN: WHEN THE UNIT IS SHUTDOWN VIA MANUAL STOP COMMAND OR SYSTEM SAFETY STATUS, THE UNIT WILL BE SET AS FOLLOWS:

SUPPLY FAN IS DE-ENERGIZED
RETURN FAN IS DE-ENERGIZED
OUTSIDE AIR DAMPER IS CLOSED
RETURN AIR DAMPER IS OPEN
COOLING COIL CONTROL VALVE IS CLOSED
PREHEAT COIL CONTROL VALVE IS OPEN

POINTS LIST: THE FOLLOWING REPRESENTS THE MINIMUM POINTS TO BE PROVIDED AND DISPLAYED AT THE USER INTERFACE SYSTEM GRAPHICS. PROVIDE, AND DISPLAY AT THE USER INTERFACE, ANY ADDITIONAL POINTS NECESSARY TO ACHIEVE THE SEQUENCE OF OPERATION OF THE SYSTEM.

BINARY INPUTS

SUPPLY FAN STATUS (SF-S)
SMOKE DETECTORS (SA-SD, RA-SD)

BINARY OUTPUTS

SUPPLY FAN START/STOP (SF-C)

ANALOG INPUTS

OUTSIDE AIR TEMPERATURE (OA-T)
OUTSIDE AIR HUMIDITY (OA-H)
MIXED AIR TEMPERATURE (MA-T)
RETURN AIR TEMPERATURE (RA-T)
RETURN AIR HUMIDITY (RA-H)
SUPPLY AIR TEMPERATURE (SA-T)
COOLING COIL DISCHARGE TEMPERATURE (CC-T)
PREHEAT COIL DISCHARGE TEMPERATURE (PH-T)
STATIC PRESSURE (PLE-SP)

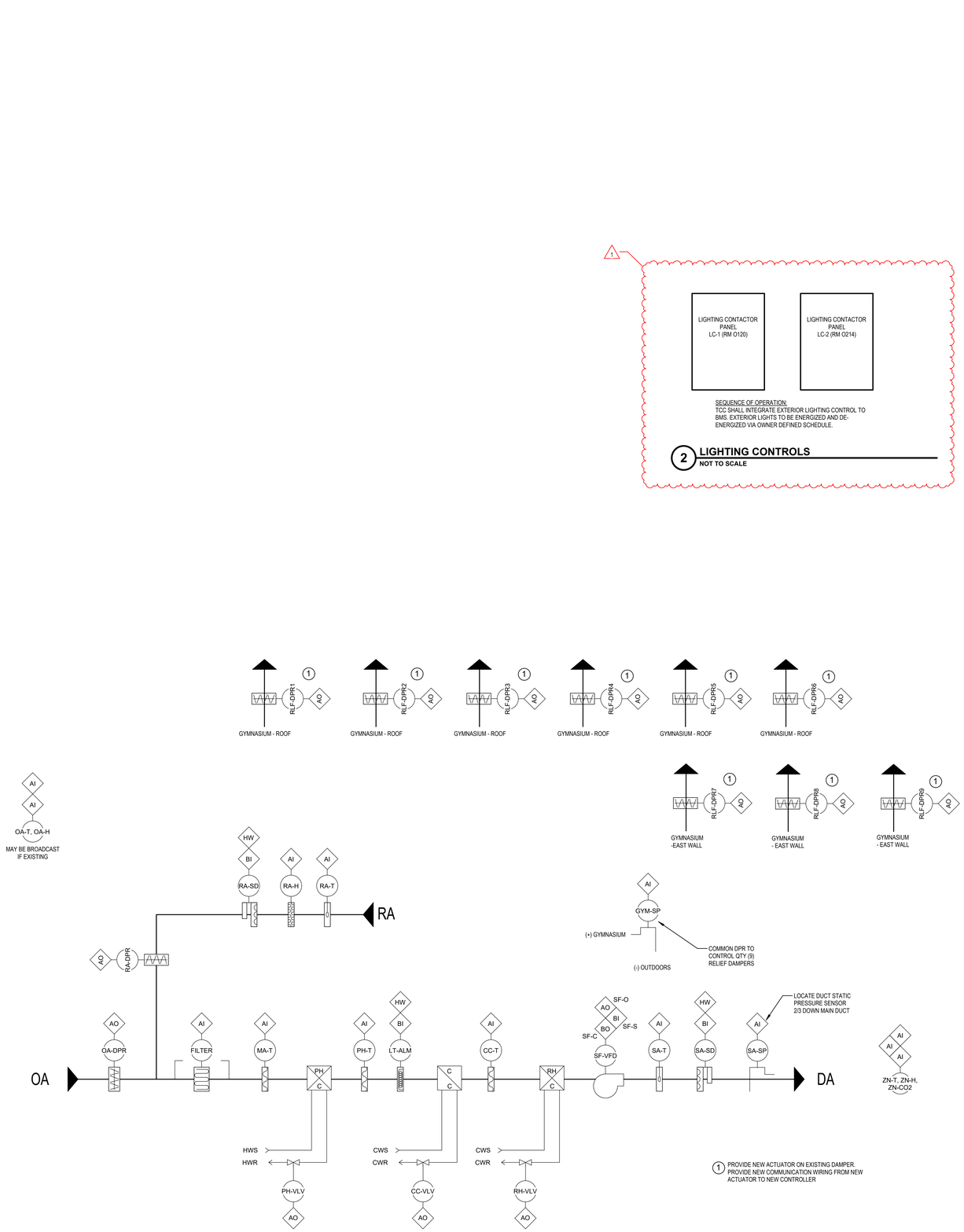
ANALOG OUTPUTS

SUPPLY FAN SPEED (SF-O)
OUTDOOR AIR DAMPER POSITION (OA-DPR, LINKED WITH RA-DPR)
PREHEAT COIL VALVE POSITION (PH-VLV)
COOLING COIL VALVE POSITION (CC-VLV)
REHEAT COIL VALVE POSITION (RH-VLV)

ANALOG/MULTI-STATE VALUES:

OCCUPIED COOLING SETPOINT
UNOCCUPIED COOLING SETPOINT
OCCUPIED HEATING SETPOINT
UNOCCUPIED HEATING SETPOINT
RETURN AIR HUMIDITY SETPOINT
ALARM VALUE
OCCUPANCY MODE

2 **LIGHTING CONTROLS**
NOT TO SCALE



1 **VARIABLE AIR VOLUME AHU - AHU-G1, AHU-G2**
NOT TO SCALE

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TEMPERATURE CONTROLS SCHEMATICS

M-704