

MICHIGAN STATE
U N I V E R S I T Y

INFRASTRUCTURE PLANNING AND FACILITIES
PLANNING, DESIGN AND CONSTRUCTION

January 19, 2024

TITLE OF PROJECT: Wharton – Masonry Restoration to SW Exterior Stairs (FY24)

PROJECT ISSUE DATE: December 1, 2023

PROJECT NUMBER: CP23026

ADDENDUM NO: 01

GENERAL

This Addendum is issued prior to receipt of Proposals to amend the Contract Documents identified as Wharton – Masonry Restoration to SW Exterior Stairs (FY24).

Except as otherwise specifically mentioned, the general character of the work required by this Addendum shall be the same as originally specified, and all incidentals required in connection with the work hereinafter described shall be included even though not specifically mentioned. When an item is mentioned with additional specifications given, reference shall be made to the original specifications.

Drawing(s) accompanying this Addendum include: DA-1, A-1, A-3, S-1, P-1, P-2

TRADES – N/A

ITEM NO. DESCRIPTION

1. Addendum No. 1 from Fishbeck Architects with RFI responses.
2. Fishbeck report of existing conditions.
3. Pre-bid walk-thru sign-in sheet.
4. Drawing Sheets DA-1, A-1, A-3, S-1, P-1, P-2 (issued).
 - i. Changing the floor drain from two (2) to one (1) trench drain.

End of Addendum

ADDENDUM
PAGE 1 OF 2

OWNER:	Michigan State University 113 Student Services East Lansing, MI 48824
ARCHITECT:	Fishbeck 39500 MacKenzie Drive, Suite 100 Novi, MI 48377
DRAWING REVISION NO.:	A1
ISSUED HEREWITH:	
SPECIFICATION SECTIONS:	07 21 00
SHEETS:	DA-1, A-1, A-3, S-1, P-1, P-2
BIDS DUE:	January 24, 2024
This Addendum is issued to all Bid Set Holders, is a part of the Contract Documents, and modifies the previously issued Bidding Documents. Acknowledge receipt of this Addendum in the space provided on the Bid form; failure to do so may result in rejection of the Bid.	

ITEM NO. 1: Clarified Under Slab Insulation
Section: 07 21 00 – Thermal Insulation (issued)
Sheets: AD-1 – Architectural Demolition Plans (reissued)
A-1 – Architectural Plans (reissued)
A-3 – Schedules and Details (reissued)

- A. Added new Specification Section 07 21 00.
- B. Clarified in architectural drawings the location of under slab insulation to be replaced.
- C. Clarified in architectural demolition drawings the location of under slab insulation to be removed.

ITEM NO. 2: Revised Top Landing Plumbing Drain Layout
Sheets: AD-1 – Architectural Demolition Plans (reissued)
A-1 – Architectural Plans (reissued)
S-1 – Structural Plans (reissued)
P-1 – Plumbing Plans (reissued)
P-2 – Schedules and Information (reissued)

- A. Revised architectural, structural, and plumbing drawings to remove two (2) AD-1, area drains, replace with one (1) TD-1, trench drain, and revise associated sanitary pipe. Revise Fixture Schedule to remove AD-1 and add TD-1.
- B. Clarified in structural drawings that if landing elevations or field conditions differ from what is illustrated within the drawings to notify engineer and to not proceed with drain installation.
- C. Clarified in architectural drawings the location of under slab insulation to be replaced.

ITEM NO. 3:
Questions Received from Potential Bidders:

- A. **Question:** Is it acceptable to quote aluminum railing with a bronze powder coat finish instead of anodized aluminum. The bronze powder coat is very similar in color to bronze anodizing.
Response: MSU desires an anodized finish and does not want to proceed with a powder coat finish/quote for the aluminum railing.
- B. **Question:** Do you have any pictures of the roof? Or could you provide insight on attachment points for the exterior control joints alternate.
Response: There are no roof pictures available at this time. There are no anchor points on the Wharton Roof.

ADDENDUM
PAGE 2 OF 2

- C. **Question:** Clarify that the landing floor drains (2) should be changed to a single trench drain.
Response: Trench drain to be provided in lieu of two area drains. Refer to revised drawings within Addendum No. 1.
- D. **Question:** Clarify that there are no changes to the wiring of the new wall light and it still ties into the emergency panel.
Response: This is correct. Refer to Sheets E-1 and E-2 for lighting layout and requirements.

END OF ADDENDUM

SECTION 072100 – THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Perimeter insulation under concrete slabs.
- B. Related Sections include the following:
 - 1. Division 07 Section SELF-ADHERING SHEET WATERPROOFING for membrane waterproofing installed below insulation.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: Full-size units for each type of exposed insulation indicated.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for insulation products.
- D. Research/Evaluation Reports: For foam-plastic insulation.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.
- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Surface-Burning Characteristics: ASTM E 84.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

- B. Protect plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
 - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 FOAM-PLASTIC BOARD INSULATION

- A. Extruded-Polystyrene Panels: ASTM C 578.
 - 1. Available Manufacturers:
 - a. Dow Chemical Company.
 - b. Owens Corning.
 - 2. Thermal resistance
 - a. Below grade installation: minimum R5

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and for other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation or vapor retarders, including removing projections capable of puncturing vapor retarders or of interfering with insulation attachment.

3.3 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.
- C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. For preformed insulating units, provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF UNDER-SLAB INSULATION

- A. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

3.5 PROTECTION

- A. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100



Capital Project Meeting Sign-in Sheet

Project Name: WHARTON CENTER - MASONRY RESTORATION TO SW EXT. STAIRS
 Capital Project Number: CP23 026
 Date & Time: 1/9/24 @ 11:00 AM Location: WHARTON CENTER

Name	Company	Cell Phone	E-mail Address
Tom Ward	DC Byers	734-770-3691	tward@dcbyersdetroit.com
Copper Moore	Moore Truiper	517-242-0496	Info@mooretruiper
Tim Marshall	F+B	810-869-0960	tmarshall@fossbrdawn.com
Matthew Borlean	Pullman	734-313-3380	MBorlean@Pullman-services.com
Josh Pellac	Bornor Restoration	517-894-1386	JoshP@Bornor.com
Dan Vance	Cusacks Masonry	989-981-6625	Mail@CusacksMasonry.com
Steve Bolen	John E Green	517-898-1972	stevebolen@johnegreen.com
Drew Norton	Whiting-Turner	313-597-6097	drew.norton@whiting-turner.com
MIKE McEwan	Nielsen	577-898-1910	
Dan Canedo	RAM	734-564-3305	dcanedo@ramservices.com
DAVE LIVERMAN	3D Electric	989-289-3019	3delectric@3delectricinc.net
Adam Pathfinder	Demarin	(248)982-2268	adam@demarabuild.com
Eriz Doolittle	MSU		

Project Visitation

PROJECT NAME:	MSU Wharton Center Restoration Preliminary Design Visits	DATE OF VISITS:	June 22, June 28, and July 6, 2023
PREPARED BY:	Matthew W. Polhemus, CDT, BECxP, CxA+BE	PROJECT NO.:	231032
ATTENDING:	MSU – Justin Morse, Tonino Pacifico Fishbeck – Matthew Polhemus	DISTRIBUTED DATE:	July 14, 2023
DISTRIBUTION:	Attendees Fishbeck – Kristen Nyht	Attachments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

If information contained herein is thought to be inaccurate or incorrect, please contact writer at once for resolution.

Preliminary design site visits were performed on June 22, June 28, and July 6, 2023, for the Michigan State University (MSU) Wharton Center Restoration project. The following presents the observations and recommendations to be addressed in the restoration design.

Existing Conditions

Exterior Stairs

Wharton Center for Performing Arts was constructed in 1980 with much of the building consisting of a brick masonry veneer with a CMU back wall system. This project is to address ongoing issues with an egress stairway located on the south elevation along Wilson Road. The egress stair connects the first floor of Wharton Center to ground level as the south elevation first-floor does not meet ground level. Additionally, a secondary egress door is located at ground level directly below the first-floor plaza landing of the stairway. This secondary egress door connects to the egress stairs inside the building that lead to the basement mechanical room. Adjacent to the secondary egress door on ground level is a set of louvers that are at the end of a plenum space built under the egress stair into the basement mechanical room. Most of the back wall supporting the stairs and plenum are cast-in-place concrete with only a small segment of wall having a CMU back-up.

Overall, the stairway exhibits many signs of distress and water damage, as well as numerous repairs made to the stairway to remedy issues. The exterior brick veneer on the outside of the stairway has multiple areas where cracks are present either in the mortar joints or through brick courses. The lintel that spans the opening to the secondary egress door on ground level is corroded and the brick covering the ends of the lintel are cracked. The stairs have been coated as one of the repairs made to remedy issues with the stair system, but both landings have multiple cracks through the coating and in some cases in the concrete plaza deck under the coating. At the secondary egress door and adjacent louvre there is a soffit system installed to cover the ceiling area. The soffit has been damaged from water intrusion from the drain piping from the first-floor landing drain and where the plaza deck meets the Wharton Center wall. This soffit will need to be replaced completely due to corrosion and water damage. The first-floor plaza deck protrudes into the building behind the secondary egress door on ground level. The ceiling directly inside the secondary egress door is spalling with the rebar reinforcement exposed and corroded.

During the preliminary visit, some design flaws were identified from the original construction. Masonry weeps where the building meets the stairs exist up until the first-floor plaza deck. From there, no weeps are present in any of the masonry walls flanking the perimeter of the first-floor plaza deck. The outside brick veneer of the stairway has no weeps installed either, as well as the parapet wall on the stairs themselves nor above the ground level lintel. In conversations with Justin Morse, the discovery that prior to the concrete coating being applied over the stairs, the first-floor plaza deck was ground down to create better slope for water to the single drain on the plaza deck. Prior to the slope adjustment, water would pond near the building doorways and not run to the drain.

Plenum

Mechanical plenum is located under the stairs where the first-floor plaza deck meets the stairs to the middle of the landing in the stairs. The plenum acts as an outside air intake for mechanical units in the basement of the Wharton Center. Access to the plenum is limited to a small opening in some ceiling ductwork in the basement mechanical room. Water damage is present in the plenum where the plenum ends at the stairway landing. A small corrosion spot is present on the ceiling under the stairs, as well as the junction of where the landing meets the building. The drain piping for the first-floor plaza deck runs through the plenum towards the main building, but the top section of the pipe has corroded away leaving just the bottom portion of pipe to control water flow into the building. Drain pipe at the building junction appears to be in good shape to splice in new pipe with the restoration work.

Masonry Opening Observations

A total of five masonry openings were made by Justin Morse.

- Two locations on the exterior stair wall that runs parallel to Wilson Road.
- One location on the parapet wall of the plaza landing.
- One location at the top of the stairs in the building wall of Wharton Center.
- One location at the end of the lintel that spans the ground level opening to the exterior louvers.

All the openings showed varying widths (<0.5"-1.25") of open space between the brick veneer and back wall structures. The back wall structures were sound when tested with light taps from a hammer and could be reused when reconstructing the stairway.

The exterior stair wall opening in the upper corner revealed that the brick tie system is using a brick ladder reinforcement that has not been coated with any corrosion resistant covering. The reinforcement is breaking off from the back wall structure where the wall is deteriorating due to excessive corrosion. None of the other openings were able to expose more of the brick tie system to confirm this occurrence everywhere. Multiple openings did show that the brick is cracking through the middle due to crush forces in those areas, which may indicate brick tie loss or settlement issues are causing distress to these deteriorated brick areas.

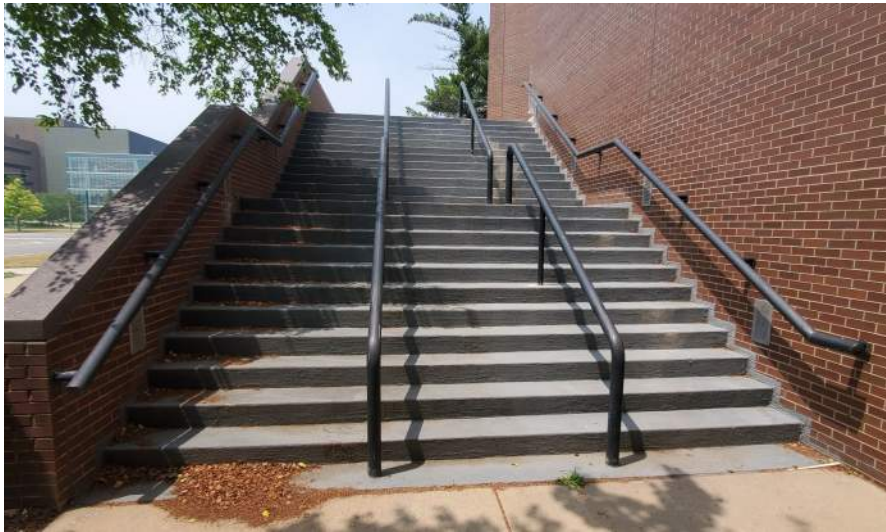
The second exterior opening along Wilson Road exposed that the plenum concrete ceiling was poured before the stairs were poured. To joint the two pours, a cold joint was installed between the concrete to bond the two pours. The cold joint consists of brick and sand. These materials do not perform well as a cold joint due to their water absorption properties. Any water that enters the cold joint is trapped and encapsulated, as well as sucked into the joint space. This opens to problems of freeze/thaw cycles and water saturation leaking into the plenum. This cold joint needs to be replaced by removing the stairs and plenum ceiling to repour both together.

The masonry openings did provide clarity that the brick veneer will need to be redone to use proper brick ties, allow for water to pass behind the brick veneer, and install control joints to allow for uneven movement in some areas. There may not be enough of the existing brick to salvage to remake the exterior brick walls. Additionally, MSU staff indicate there is very limited amounts of brick from original construction remaining. A different brick color maybe required in order to build back the exterior stair in a new brick veneer.

Design Recommendations

Items that will need to be addressed with the restoration design are as follows:

1. Total replacement of stairs and plenum ceiling to remove cold joint construction.
2. Keep existing wall support structure.
3. Save marble coping caps to use with new stairs.
4. Remove entire brick veneer system on the west and south elevations of the exterior egress stair.
5. Install weep and through wall flashing system at Wharton Center walls adjacent to the stairs.
6. Install new lintel for secondary opening at ground level.
7. Install new soffit system, including lights, with access panels for secondary entry space at ground level.
8. Install new brick veneer (different brick color) with weeps in new stair exterior walls.
9. Replace lights that flank both sides of the stairs.
10. Replace handrails with a smaller diameter handrail system.
11. New first-floor plaza to have two drains with sloped surface.
12. Replace drain piping in plenum space.
13. Repair corrosion areas in the portions of the plenum to remain.
14. Install control joint in brick veneer where plenum ends at the lower stair section.
15. Repoint areas of the Wharton Center walls adjacent to the stairs.
16. Install isolation joints with the new stair and plaza deck at the building wall interface.



Wharton Center stair overview.



Wharton Center stair overview.



Wharton Center stair overview.



Wharton Center Plaza overview.



Wharton Center Plaza overview.



Plaza drain overview.



Cracked coating in the stair landing and repairs to the stairs.



Deteriorated brick and mortar around lights.



Deteriorated mortar at the top of the stair exterior wall.



Damaged soffit under Plaza.



Damaged ceiling in the utility stairway under the Plaza.



Corroded reinforcement in the utility stairway ceiling.



Plenum under the stairway overview.



Overview of the plenum into the basement mechanical room.



Overview of the plenum behind the exterior louver.



Water staining along the back plenum wall under stair landing,



Corroded Plaza drain pipe in the plenum.



Plaza drain pipe drains into Wharton Center through plenum.



Damaged ceiling intersection of plenum where stairs meet the building.



Damaged ceiling Intersection of plenum where stairs meet the building,



Small spot of reinforcement corrosion in the plenum ceiling.



Drain leaking through soffit opening.



Soffit structure and light corroded from drain water.



Water staining where the plaza intersects with the building.



Building insulation has fallen in the soffit space.



Brick walls under plaza, around louvers stop at the soffit paneling.



Corrosion in the ceiling structure above soffit space.



Plaza drain pipe is insulated in the soffit space, but not the plenum space.



Opening in the parapet wall overview.



Brick in the parapet wall is cracked through the middle.



CMU back wall in sound state.



Exterior stair wall opening overview.



Brick ties are corroded and broken from back wall.



Less than a half inch gap between brick veneer and CMU back wall.



Exterior stair wall opening overview.



Large open void between CMU back wall and concrete stair.



Brick and sand used as a cold joint between Plenum ceiling and stair.



One inch gap between brick veneer and cast-in-place concrete back wall.



Exterior building wall opening at stairs overview.



One and a quarter inch gap between building insulation and brick veneer.



Overview where the ground level opening lintel meets Wharton Center.



Lintel end vertical leg is heavily corroded.



Lintel is about six inches short of sitting on structural CMU back wall.



No flashing installed over lintel vertical leg.



Lintel end opposite the masonry opening is corroded and damaging area.



Small areas of damaged brick where the stairs meet Wharton Center.



Railing used for stairway is very large and not able to fully grasp.



Granite coping cap is in good shape and can be reused.

PLOT_INFO: Z:\2023\231032\CAD\CIVIL\DA1_231032.DWG LAYOUT: DA-1 DATE: 1/18/2024 TIME: 2:59:06 PM USER: LFINNEY

DEMOLITION SYMBOL LEGEND

- EXISTING WALLS TO REMAIN
- EXISTING WINDOW TO BE REMOVED
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE REMOVED

fishbeck
engineers
scientists
architects
constructors

Proj. No.: 231032
 Desg. By: CLF
 Designer: CLF
 Reviewer: MTV
 Manager: KN

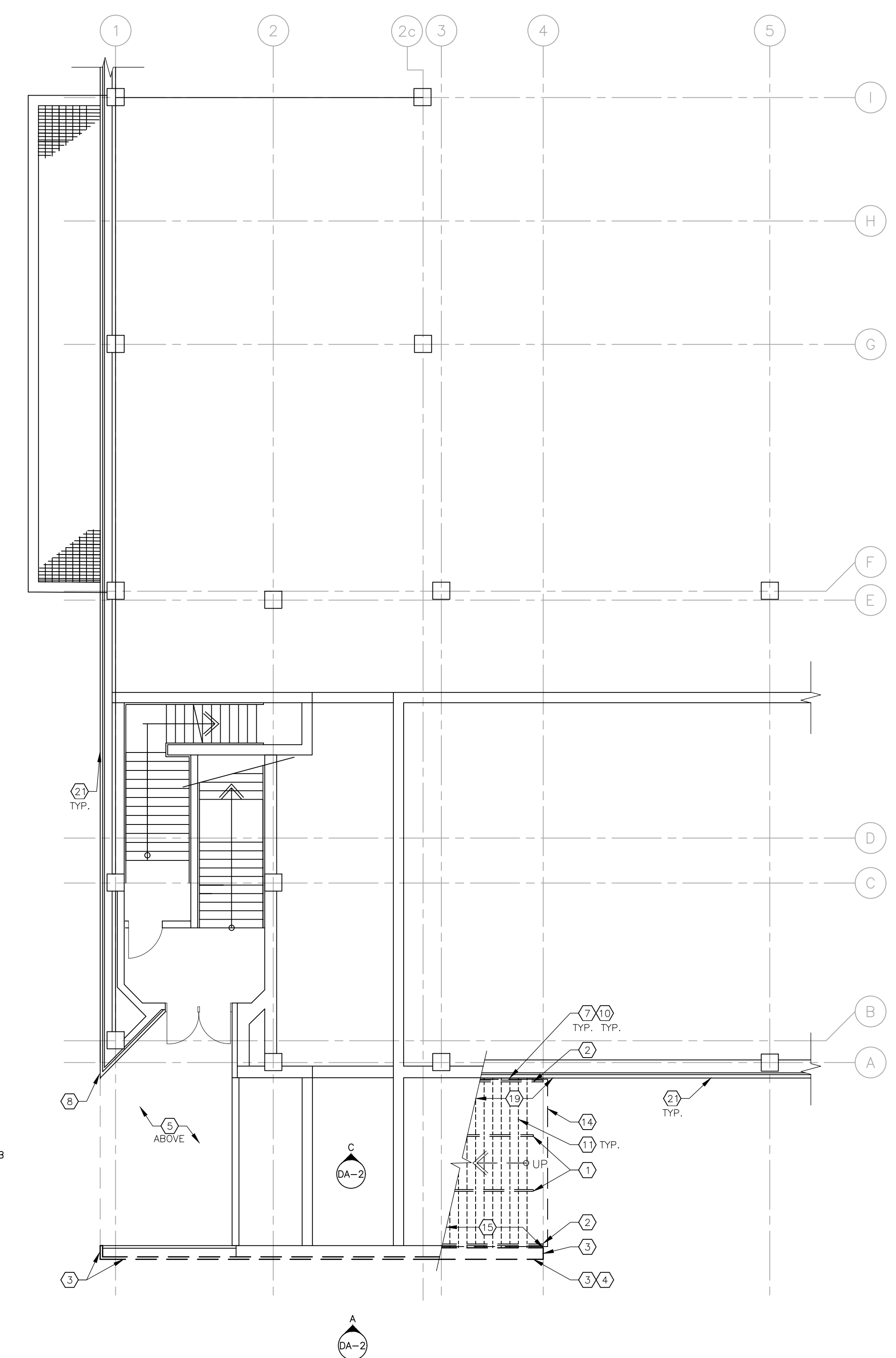
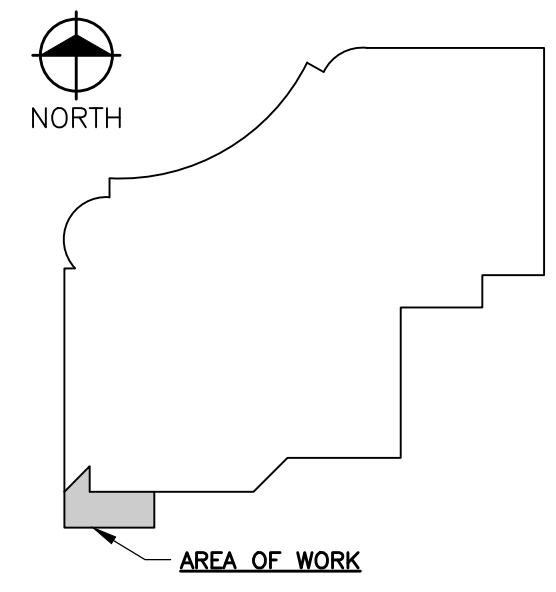
DEMOLITION GENERAL NOTES

1. GENERAL DEMOLITION NOTES, KEYED DEMOLITION NOTES AND SPECIFICATIONS (DIVISION 2 - SITE DEMOLITION) APPLY TO ARCHITECTURAL DEMOLITION PLANS INCLUDED WITHIN THIS DOCUMENT SET.
2. THESE DEMOLITION NOTES AND PLANS DO NOT FULLY REPRESENT ALL DEMOLITION WORK REQUIRED TO INSTALL NEW WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS, BUT ARE INTENDED TO SERVE AS GENERAL DEMOLITION GUIDELINES.
3. COORDINATE AND PHASE DEMOLITION IN ACCORDANCE WITH PLANS AND SPECIFICATIONS IN ORDER TO MAINTAIN BUILDING SECURITY, WEATHER TIGHTNESS, AND CONTINUING OPERATIONS FOR OWNER.
4. ALL WORK INDICATED WITH SOLID LINES IS EXISTING TO REMAIN, UNLESS OTHERWISE NOTED.
5. WHERE ITEMS ARE REMOVED, SEE NEW WORK DOCUMENTS FOR PATCH AND REPAIR REQUIREMENTS.
6. ALL ITEMS NOT PART OF THE SCOPE OF DEMOLITION ARE TO BE PRESERVED AND PROTECTED THROUGHOUT THE DURATION OF DEMOLITION AND CONSTRUCTION.
7. UPON REMOVAL CONCRETE AND / OR MASONRY, CONTRACTOR TO NOTIFY OWNER AND ARCHITECT IN WRITING, IF CONDITION OF EXISTING LINTELS AND / OR SUPPORT BEAMS ARE DETERIORATED (INCLUDING BUT NOT LIMITED TO EXCESS, EXTENSIVE RUST, EXTENSIVE CORROSION OF STEEL THICKNESS, ETC.).
8. SAWCUTTING OF ALL BRICK FOR REMOVAL SHALL OCCUR AT MASONRY JOINTS (HAND AND BED).

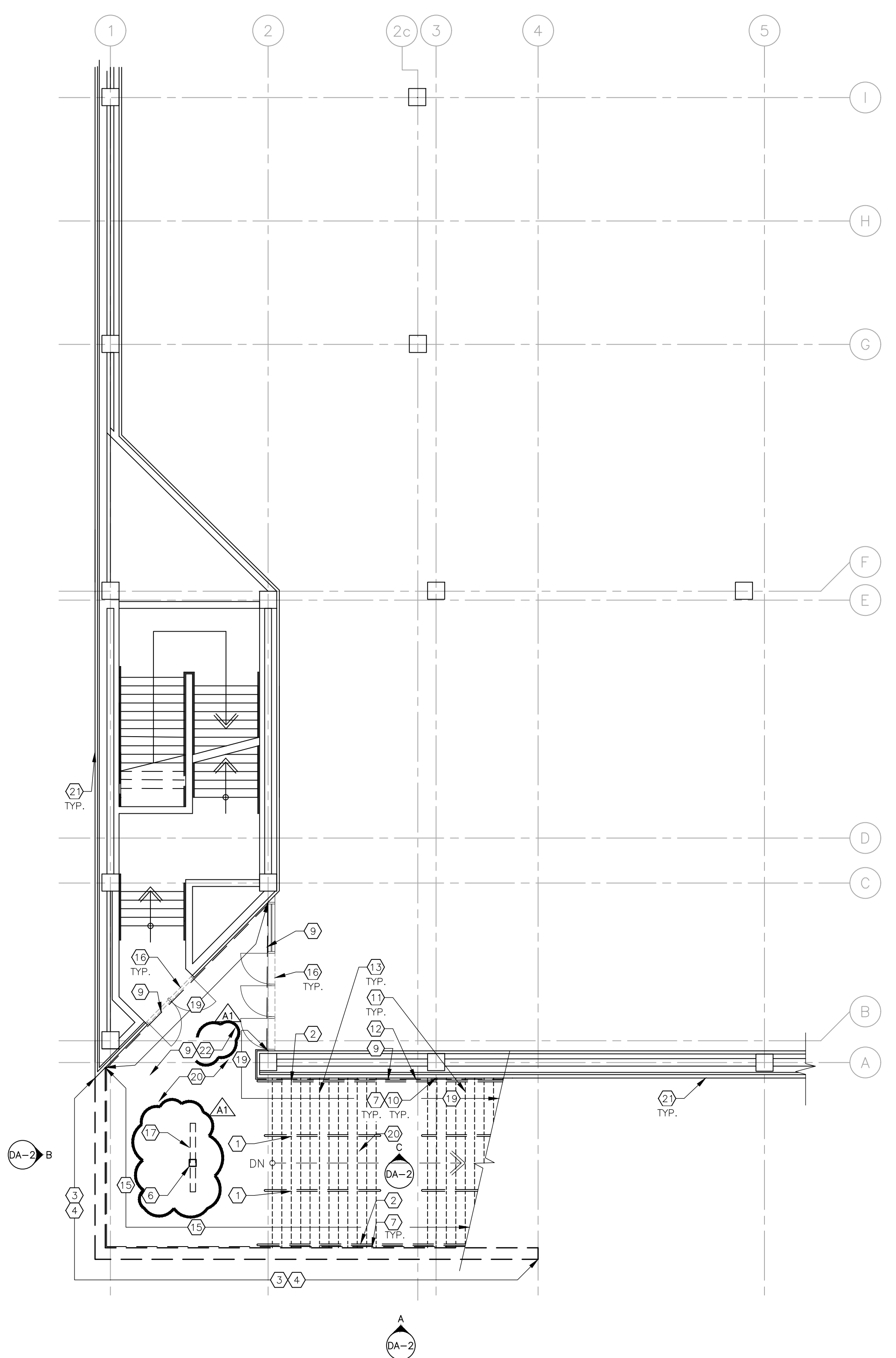
DEMOLITION KEY NOTES

- (DEMOLITION KEY NOTES ARE NOT APPLICABLE TO EACH SHEET)
1. REMOVE EX. FLOOR / STEP MOUNTED HANDRAIL, INCLUDING BRACKETS AND ANCHORS, IN ITS ENTIRETY.
 2. REMOVE EX. WALL MOUNTED HANDRAIL, INCLUDING BRACKETS AND ANCHORS, IN ITS ENTIRETY.
 3. REMOVE EX. BRICK VENEER, (SALVAGE AND REMOVE MORTAR FROM BRICK AS NECESSARY FOR BRICK VENEER INFILL WHERE NOTED) IN ITS ENTIRETY AT EXTERIOR SIDE OF STAIR SILL WALL.
 4. REMOVE, SALVAGE AND REMOVE MORTAR FROM EX. STONE CAP AT STAIR SILL WALL.
 5. REMOVE EX. GYPSUM BOARD CEILING IN ITS ENTIRETY.
 6. REMOVE EX. AREA DRAIN, REFER TO PLUMBING FOR EXTENT OF AREA DRAIN REMOVAL.
 7. REMOVE ALL EX. RECESSED 'STAIR' WALL SCONCES, REFER TO ELECTRICAL FOR EXTENT OF LIGHTING REMOVAL.
 8. SAWCUT AND REMOVE EX. BRICK VENEER AS REQUIRED FOR NEW BRICK VENEER TOOTH-IN WHERE BRICK VENEER WAS REMOVED FOR PRE-DESIGN INVESTIGATION.
 9. REMOVE CONCRETE LANDING IN ITS ENTIRETY, SUB-SLAB BELOW CONCRETE LANDING TO REMAIN; REFER TO STRUCT. FOR ADDITIONAL DETAILS AND INFORMATION.
 10. SAWCUT AND REMOVE EX. BRICK VENEER AS REQUIRED FOR NEW BRICK VENEER TOOTH-IN AROUND EX. RECESSED 'STAIR' WALL SCONCE OPENINGS.
 11. REMOVE EX. CONCRETE STAIR ON GRADE IN ITS ENTIRETY, REFER TO STRUCT. FOR ADDITIONAL DETAILS AND INFORMATION.
 12. REMOVE EX. CONCRETE LANDING ON GRADE IN ITS ENTIRETY, REFER TO STRUCT. FOR ADDITIONAL DETAILS AND INFORMATION.
 13. REMOVE EX. CONCRETE STAIR IN ITS ENTIRETY, SUB-SLAB BELOW CONCRETE STAIR TO REMAIN; REFER TO STRUCT. FOR ADDITIONAL DETAILS AND INFORMATION.
 14. REMOVE EX. CONCRETE SLAB ON GRADE IN ITS ENTIRETY, GRADE BEAM FOR SLAB TO REMAIN, REFER TO STRUCT. FOR ADDITIONAL DETAILS AND INFORMATION.
 15. REMOVE EX. BRICK VENEER, (SALVAGE AND REMOVE MORTAR FROM BRICK AS NECESSARY FOR BRICK VENEER INFILL WHERE NOTED) IN ITS ENTIRETY AT INTERIOR SIDE OF STAIR SILL WALL PARAPET.
 16. SELECTIVELY REMOVE AND SALVAGE DOOR THRESHOLD AS REMOVED FOR REMOVAL OF CONCRETE LANDING.
 17. SELECTIVELY REMOVE / CHIP OUT EX. CONCRET SUB-SLAB AS REQ'D. FOR NEW LINEAR AREA DRAIN, REFER TO NEW WORK DRAWINGS FOR LAYOUT AND INFORMATION.
 18. SAWCUT AND REMOVE EX. BRICK VENEER AT BRICK LOCATIONS WITH ABANDON ANCHORS / PENETRATIONS FROM REMOVED STAIR HANDRAIL.
 19. SAWCUT AND REMOVE EX. EPOXY COATED BRICK VENEER AT COURSES ABOVE STAIRS / LANDINGS.
 20. REMOVE WATERPROOFING MEMBRANE (LOCATED BETWEEN EX. TO REMAIN SUB-SLAB AND REMOVED CONCRETE STAIRS / LANDINGS) IN ITS ENTIRETY.
 21. ALTERNATE NO. 1: CUT AND REMOVE ALL DAMAGED, CRACKED AND FAILING SEALANT FROM EXISTING BRICK VENEER CONTROL JOINTS AROUND ENTIRE EXTERIOR PERIMETER OF WHARTON CENTER.
 22. REMOVED EX. SLAB INSULATION (INSULATION BELOW CONCRETE LANDING) IN ITS ENTIRETY, SUB-SLAB BELOW CONCRETE LANDING TO REMAIN.

KEYPLAN



PARTIAL FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



PARTIAL SECOND FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

CAPITAL PROJ. NO. CP23026	
PR. MGR.	T. PACIFICO
ARCH.	B. CHARLAND
MECH.	
ELEC.	K. HOWARD
CIVIL	
L.A.	
STRUCT.	S. LAUGHLIN
CONST. REP.	
APPR.	
DATE	AS NOTED
SCALE	AS NOTED
REVISIONS	
12/1/2023	BIDS & CONST.
1/18/2024	ADDENDUM NO. 1

PLOT_INFO: Z:\2023\231032\CAD\CIVIL_231032.DWG LAYOUT: A-1 DATE: 1/18/2024 TIME: 2:59:39 PM USER: LEINNEY

FLOOR PLAN SYMBOL LEGEND

- EXISTING WALL TO REMAIN
- EXISTING WINDOW UNIT
- EXISTING DOOR

**engineers
scientists
architects
constructors**

Proj. No.: 231032

Des. By: CLF

Design: CLF

Reviewer: MTV

Manager: KN

NEW WORK GENERAL NOTES

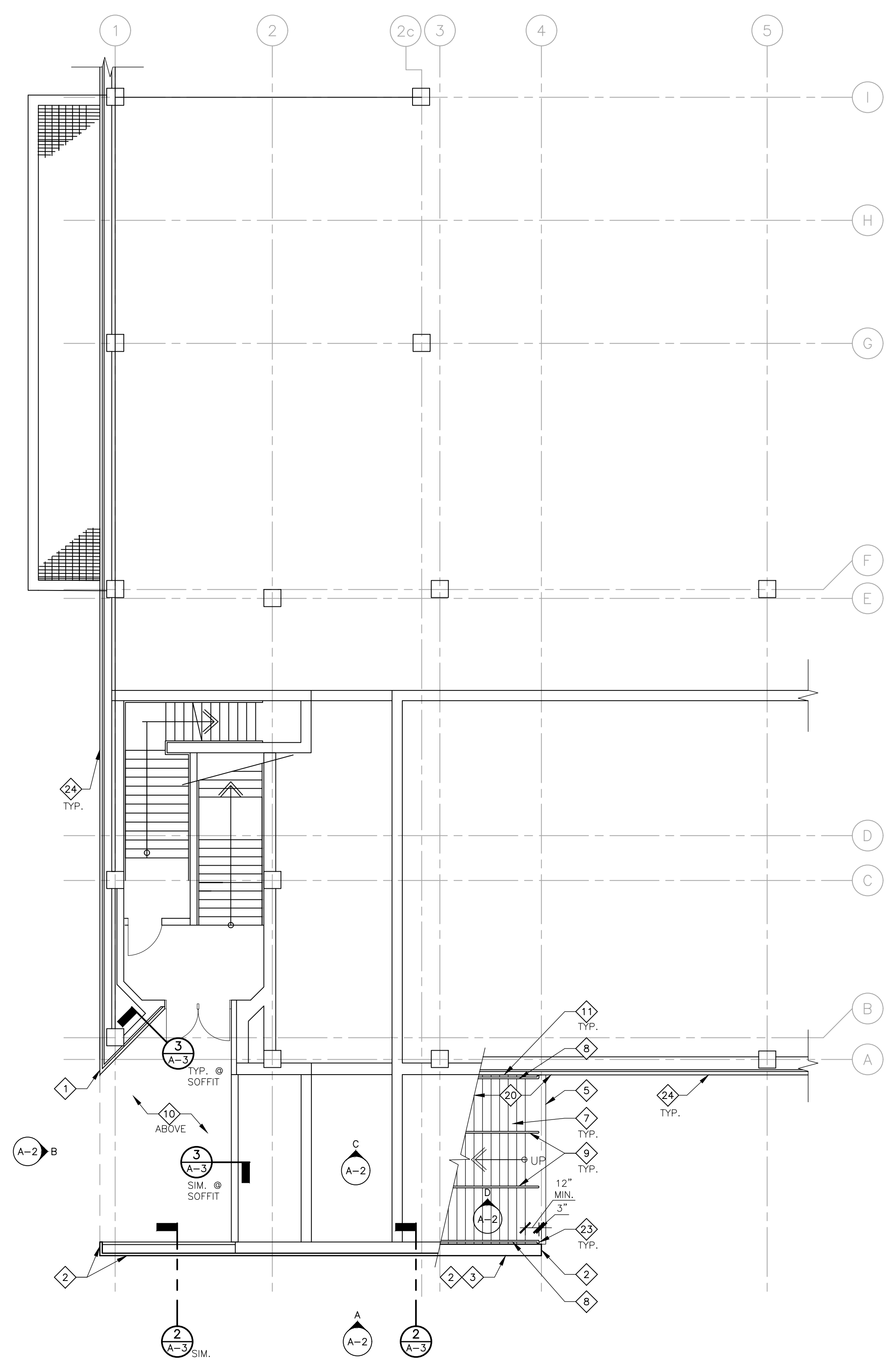
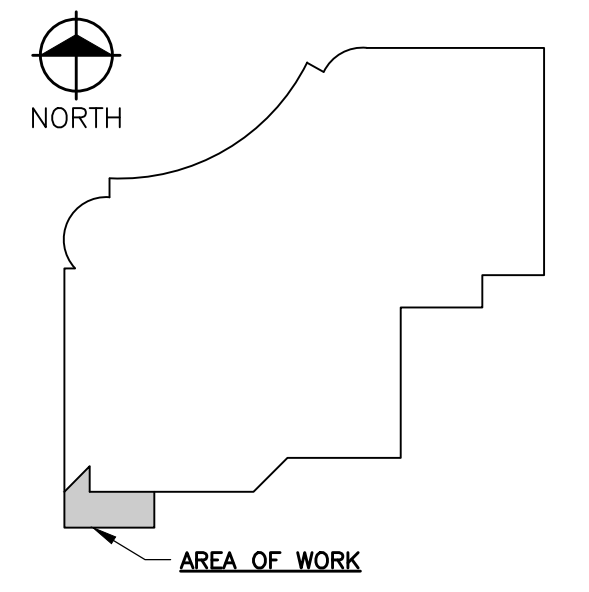
1. COORDINATE ALL WORK INDICATED PER THE PROJECT MANUAL AND DRAWINGS - NOTE: THE MOST STRINGENT REQUIREMENT OR MORE COSTLY WORK SHALL GOVERN WHERE CONFLICTS OCCUR.
2. CONTRACTOR SHALL COORDINATE PHASING AND SEQUENCING OF THE WORK TO MAINTAIN BUILDING SECURITY AND WEATHER TIGHTNESS.
3. PROVIDE INTERIOR AND/OR EXTERIOR SHORING, BRACING, OR SUPPORT AS REQUIRED TO PREVENT MOVEMENT, SETTLEMENT, DAMAGE, OR COLLAPSE OF THE STRUCTURE WHERE WORK OCCURS.
4. ALL DIMENSIONS AND FIELD CONDITIONS INDICATED ON DRAWINGS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION; COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.
5. IF AREAS WITHIN THE BUILDING ARE TO REMAIN OCCUPIED, CONTRACTOR TO PROVIDE AND MAINTAIN CONSTRUCTION BARRIER BETWEEN CONSTRUCTION AND OCCUPIED AREA.
6. ALL DIMENSIONS ON FLOOR PLANS ARE SHOWN TO FINISHED FACE OF WALL, UNLESS OTHERWISE NOTED. SEE ENLARGED FLOOR PLANS, SECTIONS, AND DETAILS FOR OTHER DIMENSIONS.
7. PROVIDE PROTECTION OF EXTERIOR DOORS OR FINISHES WITHIN AREA OF WORK DURING DEMOLITION AND CONSTRUCTION ACTIVITIES TO PROTECT EXISTING FINISHES AND MATERIALS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MODIFICATION/REPAIR/REPLACEMENT OF EXISTING CONSTRUCTION AND FINISHES THAT ARE REQUIRED TO BE REMOVED FOR COMPLETION OF NEW WORK.

NEW WORK KEY NOTES

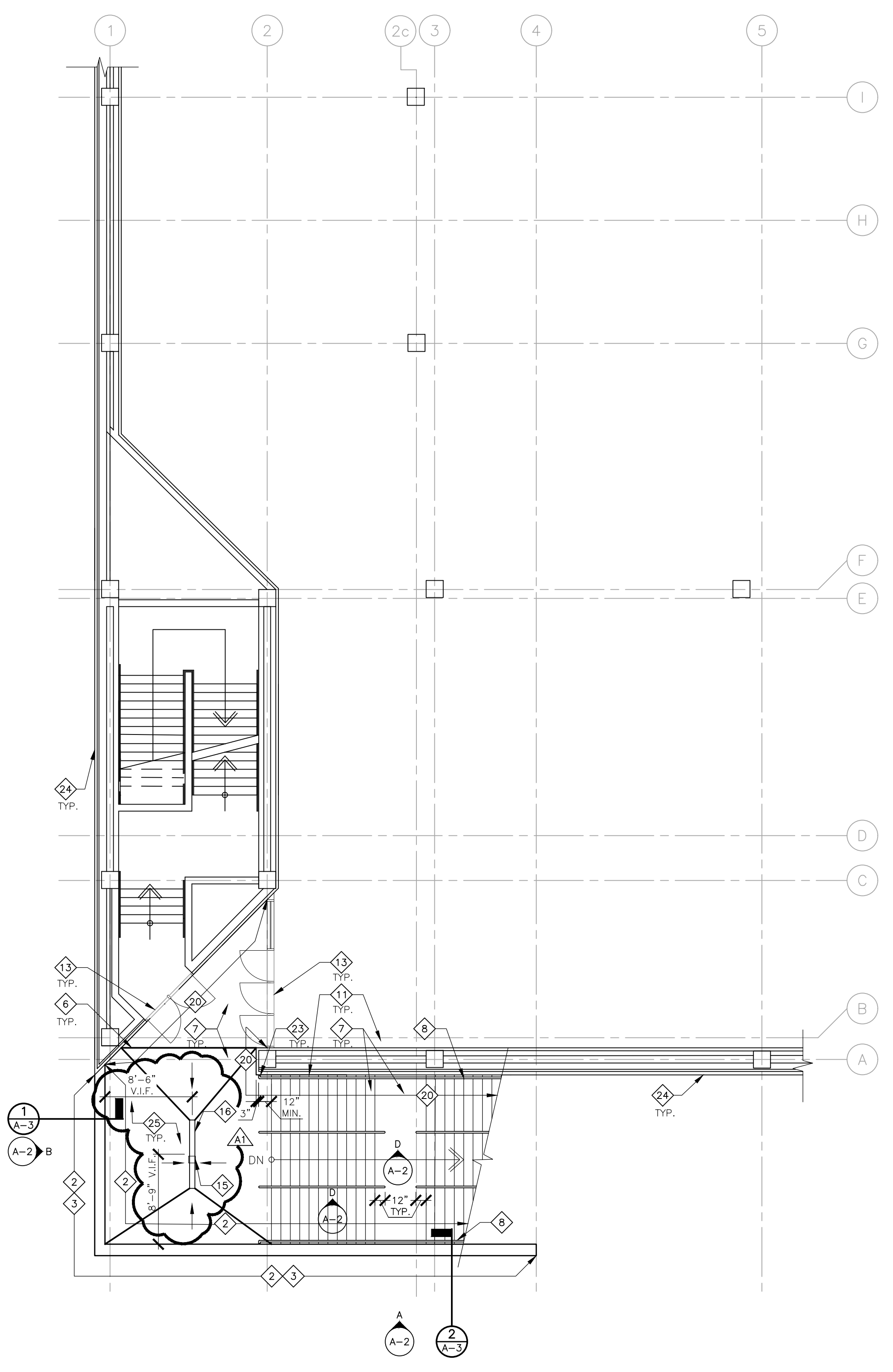
(NEW WORK KEY NOTES ARE NOT APPLICABLE ON EACH SHEET)

1. TOOTH-IN SALVAGED BRICK VENEER WHERE BRICK WAS REMOVED FOR PRE-DESIGN INVESTIGATION.
2. NEW BRICK VENEER.
3. REINSTALLED STONE CAP.
4. BRICK VENEER CONTROL JOINT.
5. NEW REINFORCED CONCRETE SLAB WITH CLEAR SEALER ON GRADE, REFER TO STRUCT. FOR SLAB INFORMATION, DETAILS AND CONNECTION TO EXISTING GRADE BEAM.
6. SLOPE NEW CONCRETE TO AREA DRAIN. CONCRETE LANDING PERIMETER TO MATCH ELEVATION OF EX. REMOVE CONCRETE LANDING PERIMETER, AREA DRAIN TO BE SET 3/4" BELOW HEIGHT OF PERIMETER CONCRETE ELEVATION.
7. NEW REINFORCED CONCRETE STAIRS AND LANDING WITH CLEAR SEALER. STAIR DIMENSIONS AND LAYOUT (RISER, TREADS AND LANDINGS) IS TO MATCH EX. REMOVE CONCRETE STAIR / LANDING ELEVATIONS, DIMENSIONS AND LAYOUT; STAIR RISE TO BE 7" MAX., RUN TO BE 12" MAX. V.I.F.) REFER TO STRUCT. FOR STAIR INFORMATION AND DETAILS.
8. NEW 2" DIA. BRONZE ANODIZED ALUM. WALL MOUNTED HANDRAIL W/ COVER PLATE OVER WALL BRACKET ANCHORS.
9. NEW 2" DIA. BRONZE ANODIZED ALUM. FLOOR MOUNTED HANDRAIL W/ COVER PLATE OVER ANCHORS.
10. NEW DIRECT-APPLIED EXTERIOR FINISH SYSTEM SOFFIT WITH SUPPORT FRAMING.
11. TOOTH-IN SALVAGED BRICK WHERE EX. RECESSED 'STAIR' WALL SCOTCH WAS REMOVED.
12. CUT AND REMOVE BRICK HEAD JOINT FOR NEW PVC CELL VENT / WEEP (PROVIDE CONT. BUTYL BEAD AROUND VENT / WEEP AND INSERT INTO HEAD JOINT - DO NOT BLOCK VENT OPENINGS); REMOVE HEAD JOINT AT FIRST FULL BRICK COURSE ABOVE LANDINGS @ 24" O.C.; REMOVE HEAD JOINT AT FIRST FULL BRICK COURSE ABOVE STEPS (EVERY OTHER STEP) AND AT FIRST STEP AT GRADE.
13. REINSTALL SALVAGED THRESHOLD AT DOORS WHERE THRESHOLD WAS REMOVED, SET THRESHOLD IN 3 CONT. BEADS OF BUTYL SEALANT.
14. GALVANIZED STEEL LINTEL, REFER TO STRUCT.
15. INFILL SUB-SLAB WHERE EX. AREA DRAIN WAS REMOVED, REFER TO STRUCT.
16. NEW LINEAR AREA DRAIN, FIELD VERIFY DRAIN LOCATION SO AS TO NOT LOCATE AT SUB-SLAB BEAM / STRUCT., REFER TO PLUMB. FOR ADDITIONAL INFORMATION AND REFER TO AND STRUCT. FOR EXISTING CONDITION REQUIREMENTS ADDITIONAL PROCEDURAL REQUIREMENTS.
17. TOOTH-IN SALVAGED BRICK WHERE EX. BRICK (AT REMOVED STAIR HANDRAIL ANCHORS / PENETRATIONS) WAS REMOVED.
18. NEW SURFACE MOUNTED LIGHT FIXTURE WITH PAINTED (COLOR TO MATCH MORTAR COLOR) SURFACE MOUNTED CONDUIT, REFER TO ELECTRICAL. FIXTURE TO BE CENTERED ON STAIR LANDING AND CENTERED ON MASONRY BED JOINT (15'-0" A.F.F., V.I.F.).
19. EX. CONTROL JOINT TO REMAIN.
20. TOOTH-IN SALVAGED BRICK WHERE EX. EPOXY COATED BRICK WAS REMOVED AT COURSES ABOVE STAIRS / LANDINGS.
21. NEW WATERPROOFING MEMBRANE BETWEEN SUB-SLAB AND AND STAIR / LANDING SLAB.
22. TURN WATERPROOFING DOWN AT OUTSIDE EDGE OF SUB-SLAB. HANDRAIL RETURN TO WALL.
24. ALTERNATE NO. 1: CLEAN AND RESEAL ALL BRICK VENEER CONTROL JOINTS AROUND ENTIRE EXTERIOR PERIMETER OF WHARTON CENTER WHERE DAMAGED, CRACKED AND FAILING SEALANT WAS REMOVED.
25. NEW 2" RIGID SLAB INSULATION, INSTALL INSULATION AT SAME LANDING LOCATIONS AS REMOVED INSULATION (ABOVE EX. SLAB TO REMAIN AND BELOW NEW CONCRETE LANDING).

KEYPLAN



PARTIAL FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



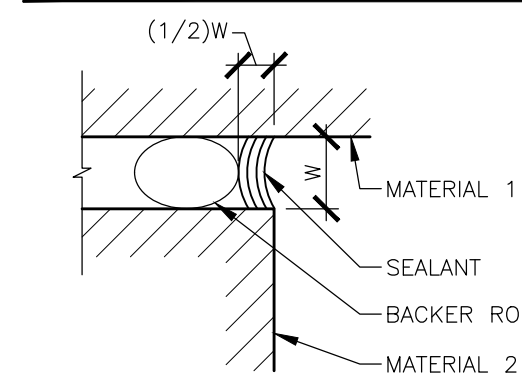
PARTIAL SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

CAPITAL PROJ. NO.
CP23026

PR. MGR.	T. PACIFICO
ARCH.	B. CHARLAND
MECH.	
ELEC.	K. HOWARD
CIVIL	
L.A.	
STRUCT.	S. LAUGHLIN
CONST. REP.	
APPR.	
DATE	AS NOTED
SCALE	
REVISIONS	
12/1/2023	BIDS & CONST.
1/18/2024	ADDENDUM NO. 1

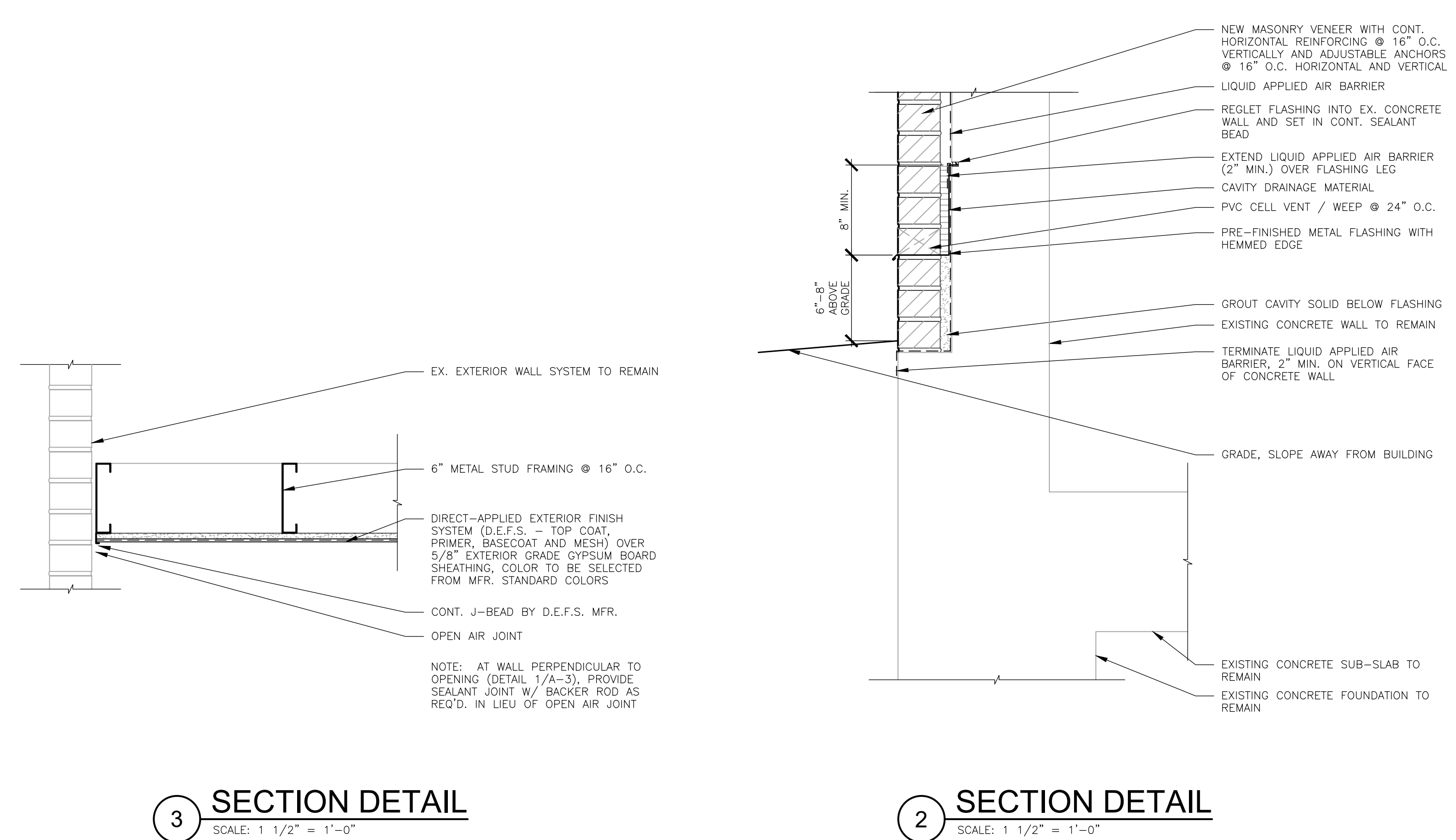
ARCHITECTURAL
PLANS

STANDARD DETAILS

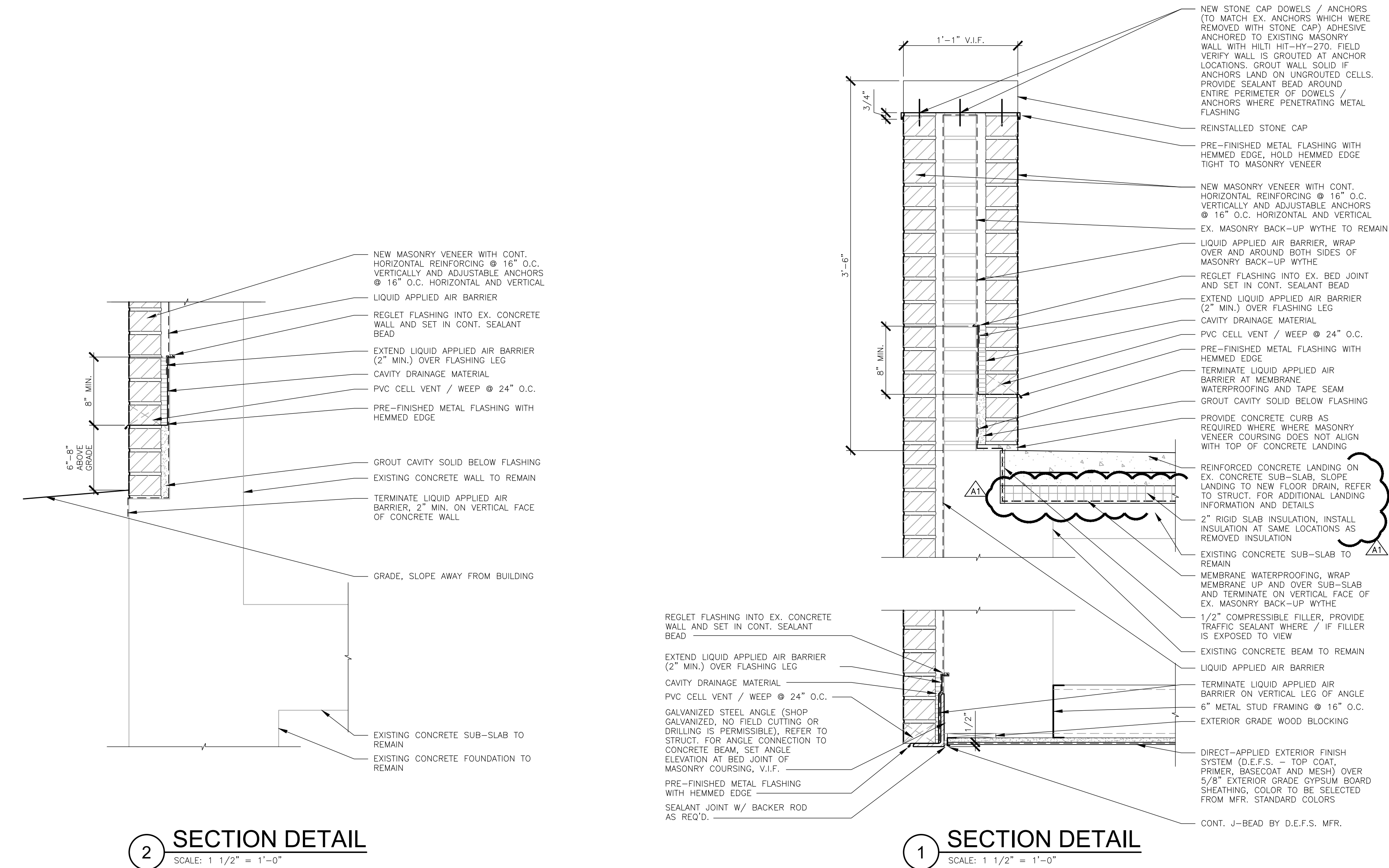


NOTE:
 CLEAN AND PREPARE SURFACE
 TO RECEIVE SEALANT.
 TEST JOINT TO ENSURE
 PROPER BONDING.

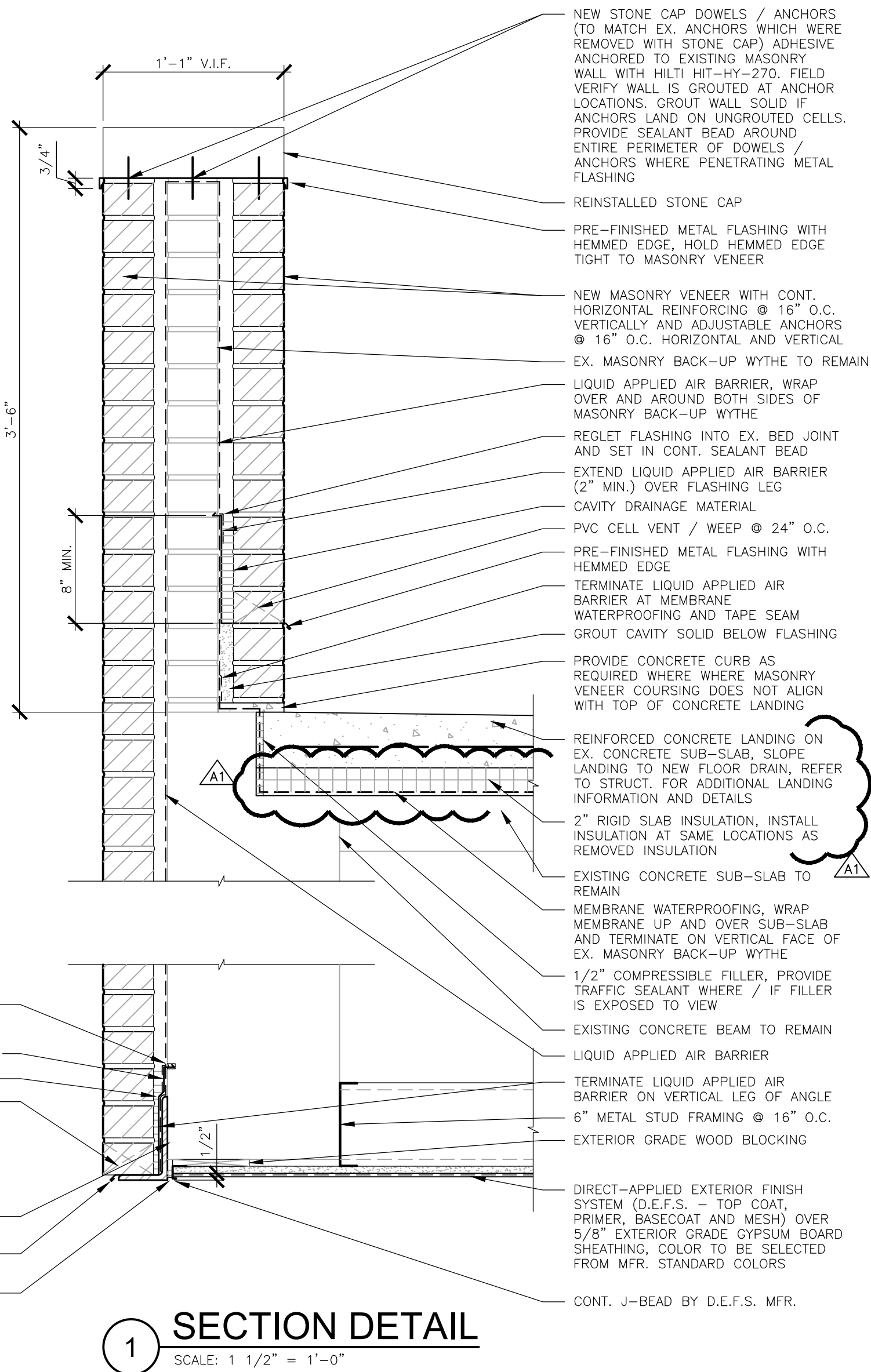
TYPICAL SEALANT JOINT
 BETWEEN DISSIMILAR MATERIALS
 NOT TO SCALE



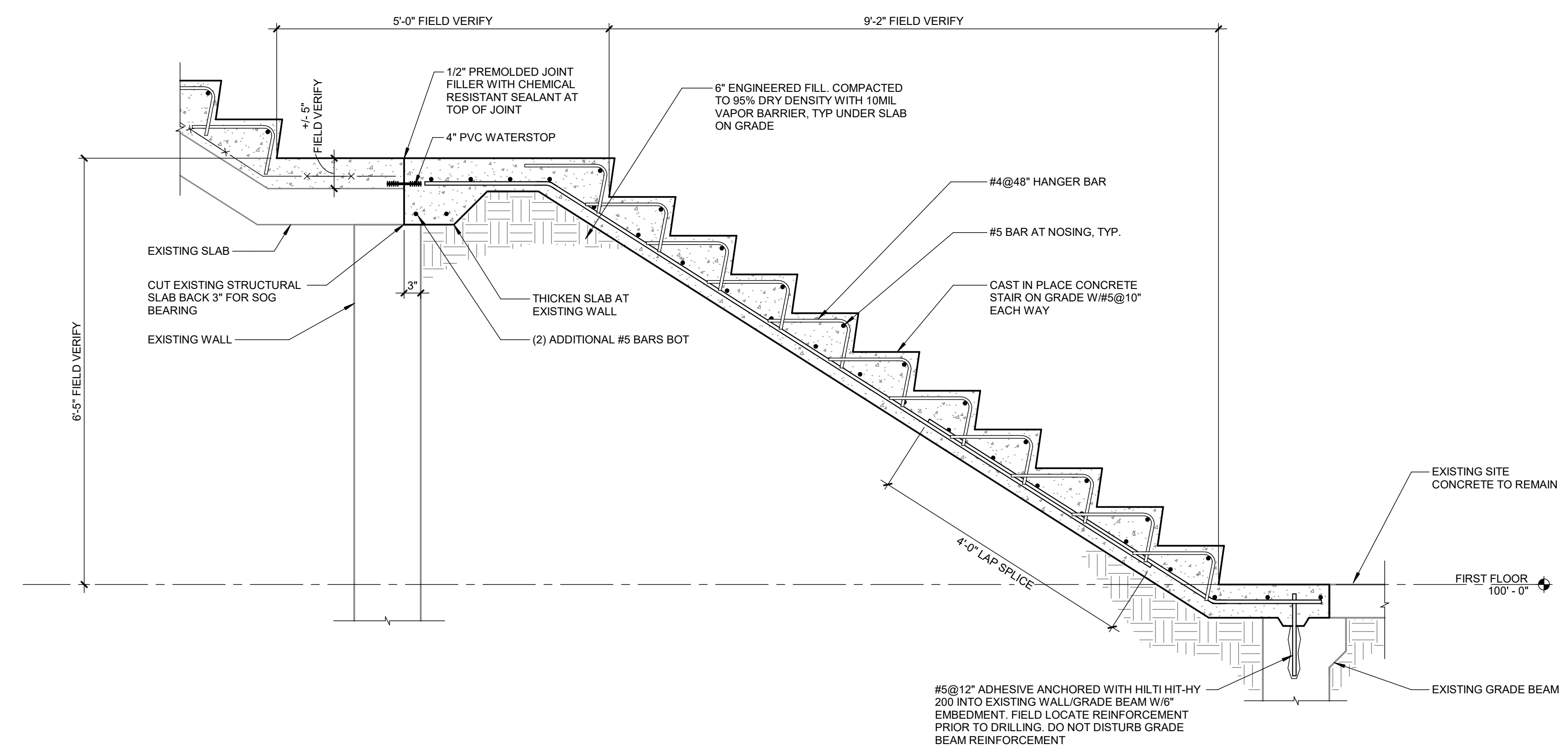
3 SECTION DETAIL
 SCALE: 1 1/2" = 1'-0"



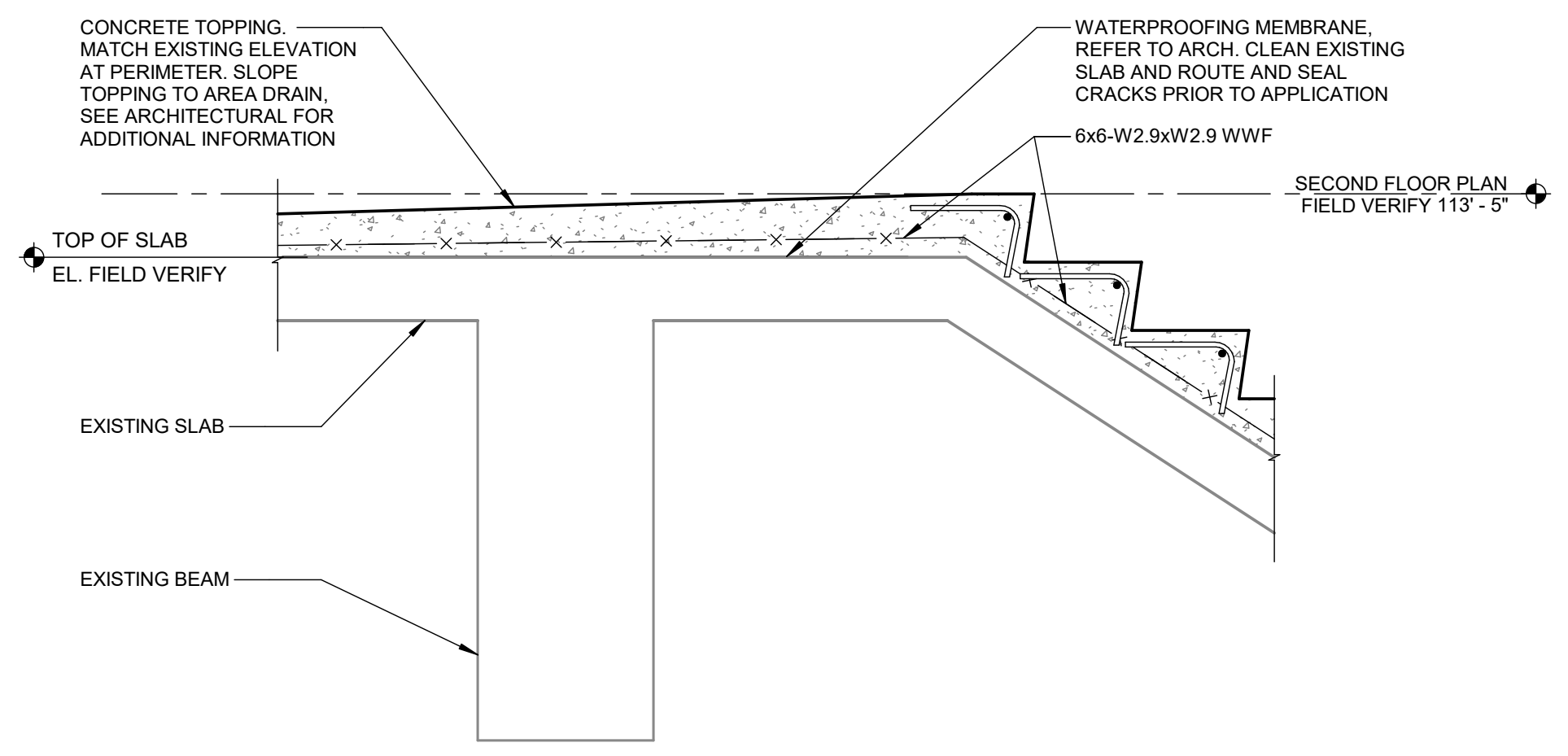
2 SECTION DETAIL
 SCALE: 1 1/2" = 1'-0"



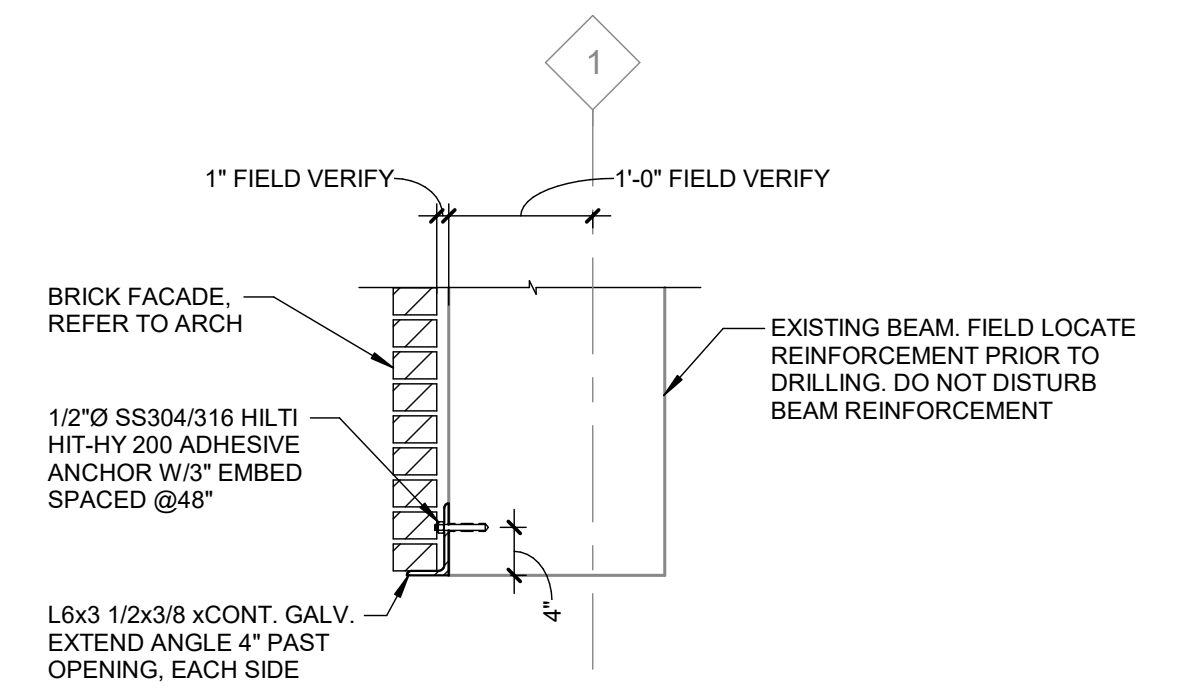
1 SECTION DETAIL
 SCALE: 1 1/2" = 1'-0"



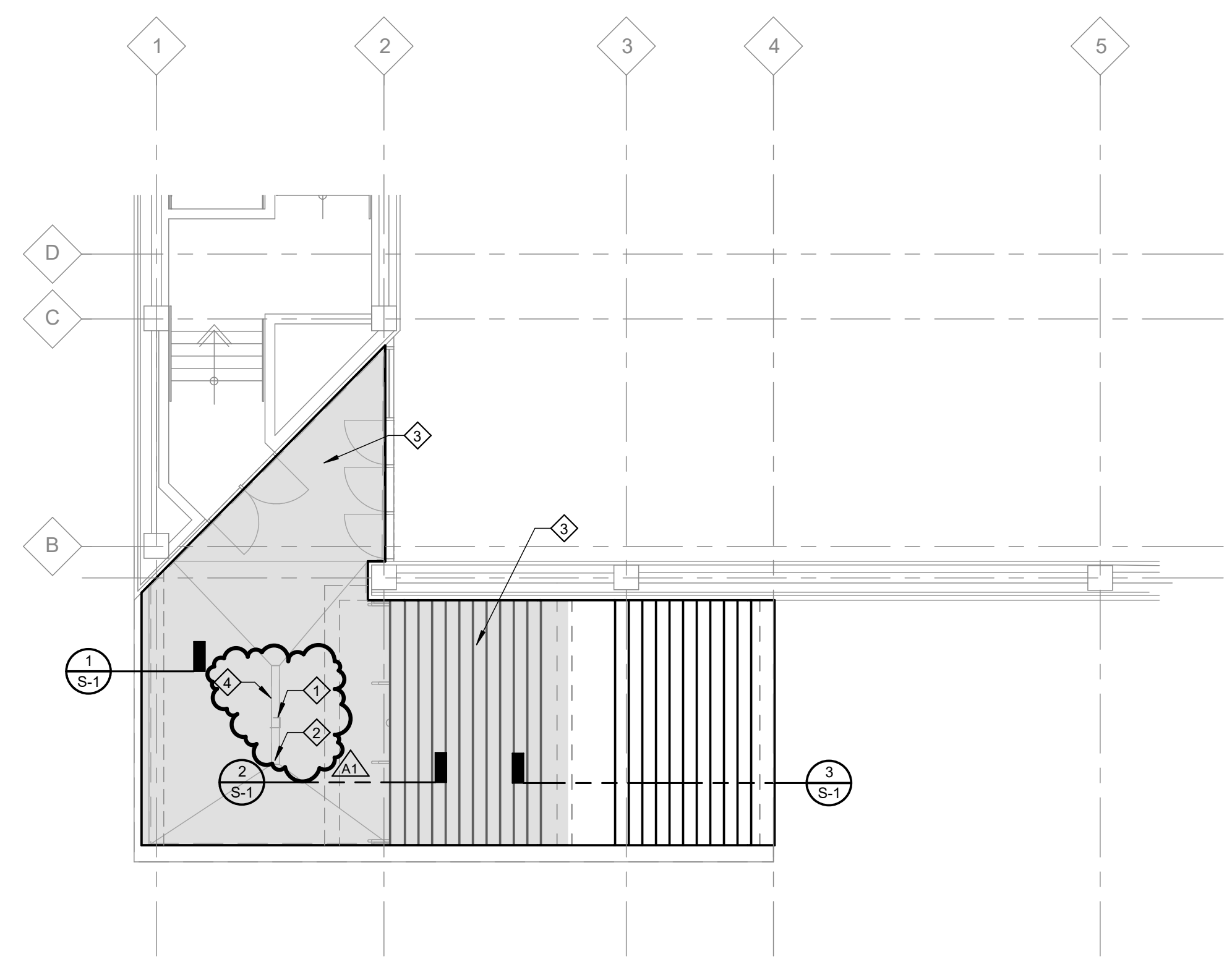
3 SECTION
 SCALE: 3/4" = 1'-0"



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



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



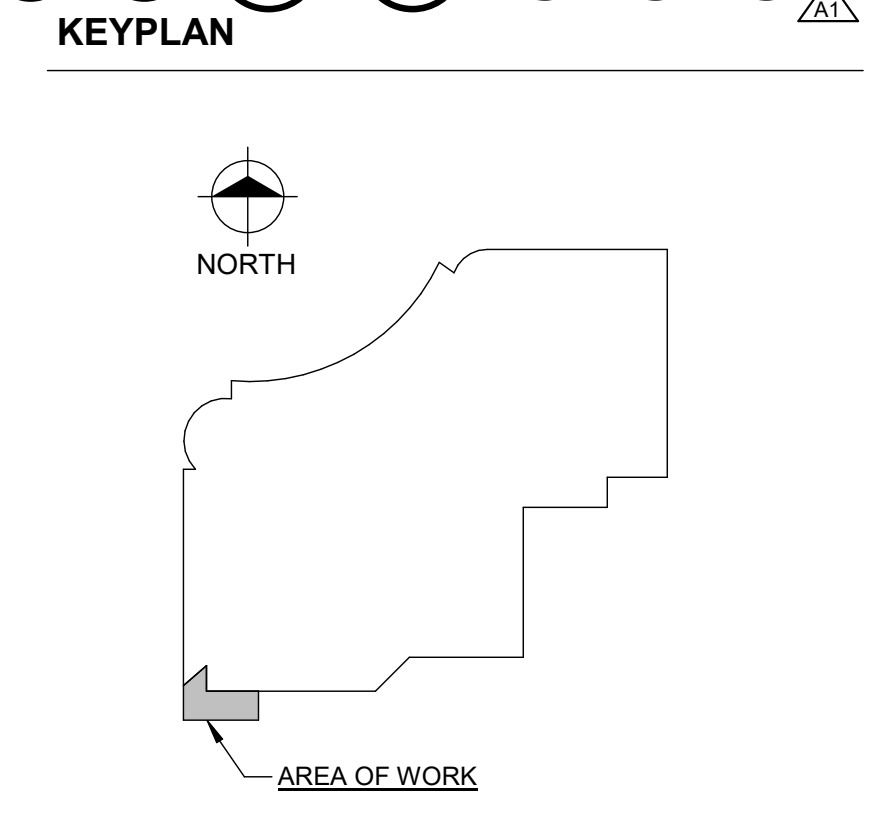
PARTIAL SECOND FLOOR PLAN
 SCALE: 1/8" = 1'-0"

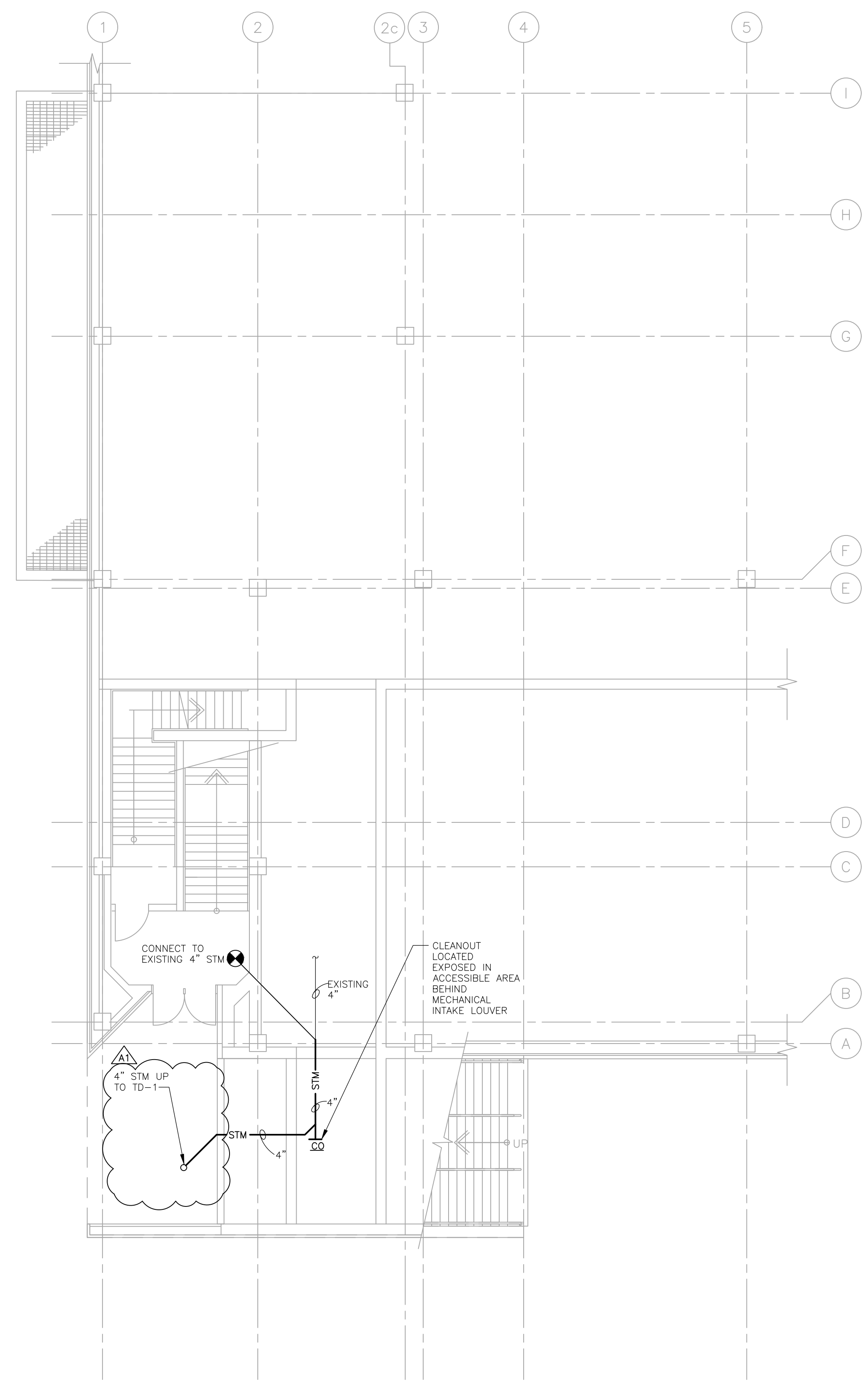
DESIGN DATA

BUILDING CODE	2015 MICHIGAN BUILDING CODE
RISK CATEGORY	II
ALLOWABLE SOIL PRESSURE	1,500 PSF (ASSUMED)
DESIGN STRESSES	
CONCRETE REINFORCING	Fy = 60,000 PSI
WELDED WIRE FABRIC	Fy = 65,000 PSI
STRUCTURAL STEEL	
ANGLES	Fy = 36,000 PSI
CONCRETE	
SLAB ON GRADE/TOPPING	fc = 4,000 PSI
MASONRY	fm = 2,000 PSI
DESIGN LOADS	
LIVE LOADS	
ELEVATED STAIR	100 PSF
SLAB ON GRADE	100 PSF
OR NON-CONCURRENT CONCENTRATED LOAD	1,000 LBS

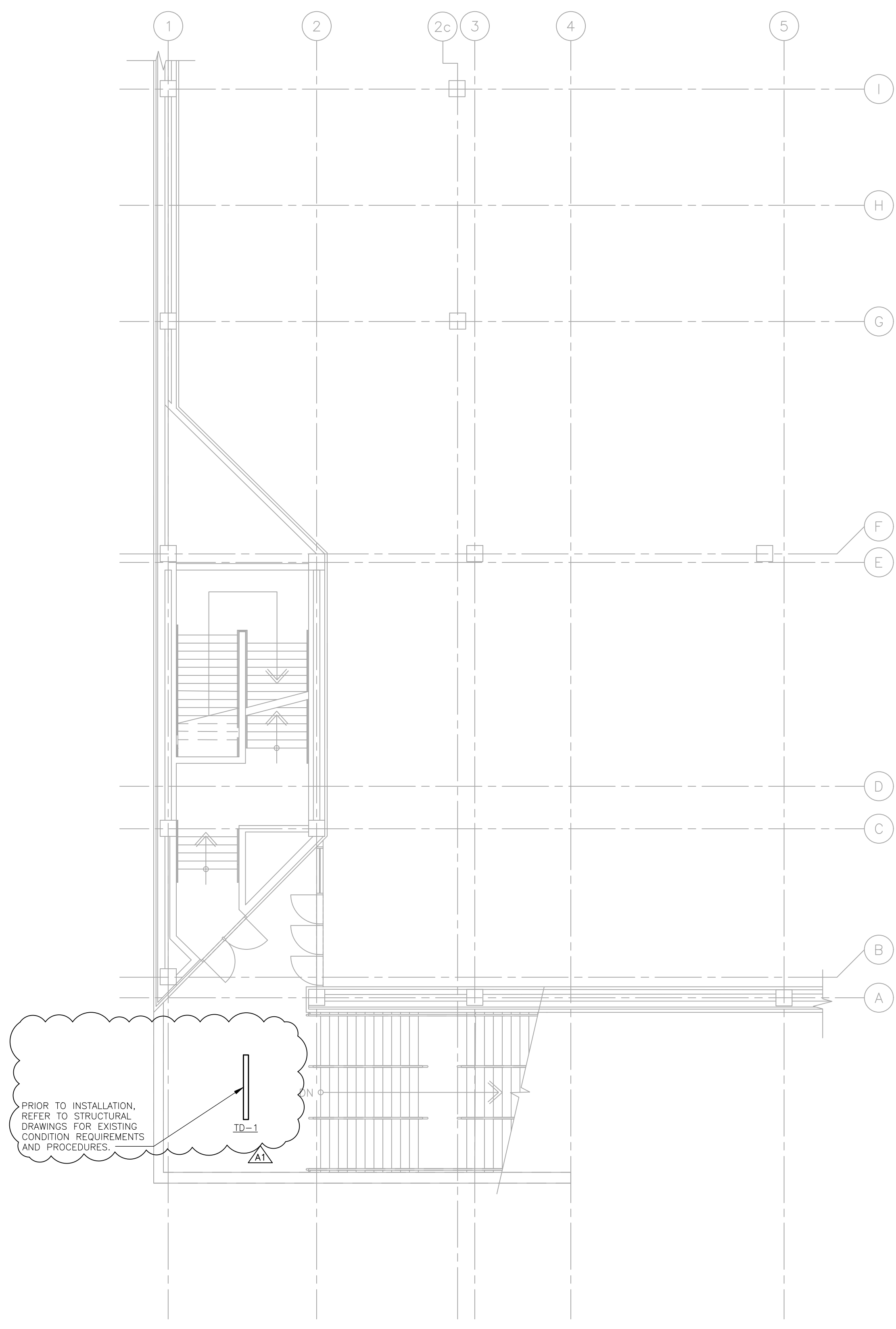
- NOTES**
- INFORMATION ON THIS SHEET SUPPLEMENTS THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - COORDINATE SIZE AND LOCATION OF SLAB OPENINGS WITH ASSOCIATED TRADES.
 - OBTAIN ENGINEER'S REVIEW PRIOR TO MAKING ALTERATIONS TO A STRUCTURAL ITEM OR MEMBER NOT INDICATED ON THE DRAWINGS.
 - FIELD VERIFY EXISTING CONDITIONS.
 - FOR LIMITS OF DEPRESSED SLABS AND FLOOR SLOPES, SEE ARCHITECTURAL.
 - COORDINATE SIZE, LOCATION AND PLACEMENT OF EMBEDDED ITEMS SUCH AS PLATES, HARDWARE AND PIPE SLEEVES WITH RESPECTIVE TRADES.
 - SECURELY PLACE EMBEDDED ITEMS PRIOR TO PLACING CONCRETE.
 - DO NOT CORE OR CUT CONCRETE UNLESS REVIEWED BY ENGINEER.
 - WHERE DRILLING OR CUTTING INTO HARDENED CONCRETE IS REQUIRED, FIELD LOCATE REINFORCEMENT WITH A REINFORCING BAR DETECTOR TO AVOID DAMAGING THE REINFORCING BAR.
 - ALL STEEL TO BE PREDRILLED AND HOT DIP GALVANIZED. NO FIELD CUTTING OR DRILLING IS PERMISSIBLE.
 - GEOTECHNICAL DATA WAS NOT PROVIDED FOR THIS PROJECT. ASSUMED BEARING PRESSURE SHALL BE VERIFIED IN FIELD.
 - ALL SLAB REINFORCEMENT TO BE EPOXY COATED. WELDED WIRE FABRIC TO BE GALVANIZED.
 - CONCRETE TOPPING SLAB TO UTILIZE A LOW SHRINKAGE FORMULATION AND A SHRINKAGE REDUCING AND COMPENSATING ADMIXTURE. MINIMUM W/C OF 0.45. MAX AGGREGATE SIZE 3/8". SUBMIT MIX FOR APPROVAL.

- KEY NOTES**
- INFILL EXISTING SLAB OPENING WITH CONCRETE.
 - CORE EXISTING SLAB FOR NEW FLOOR DRAIN PIPE. COORDINATE EXISTING REINFORCEMENT WITH PROPOSED CORES.
 - TOPPING SLAB. SEE ARCHITECTURAL FOR MORE INFORMATION.
 - NEW TRENCH DRAIN. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. REFER TO ARCHITECTURAL FOR TOP OF TOPPING SLAB ELEVATION AT DRAIN. TOP OF FINISHED DRAIN SHOULD BE RECESSED 1/8" BELOW TOP OF TOPPING. SET THE DRAIN USING #4 BARS DRILLED AND EPOXY ANCHORED INTO SLAB WITH 3" EMBEDMENT. VERIFY TOP OF STRUCTURAL SLAB TO BE 871'-11 1/2" PRIOR TO DRAIN INSTALLATION. CHIP OUT A MAXIMUM OF 1/2" FROM STRUCTURAL SLAB. NOTIFY ENGINEER IF ELEVATION IS DIFFERENT OR IF FIELD CONDITIONS VARY AND DO NOT PROCEED WITH DRAIN INSTALLATION.

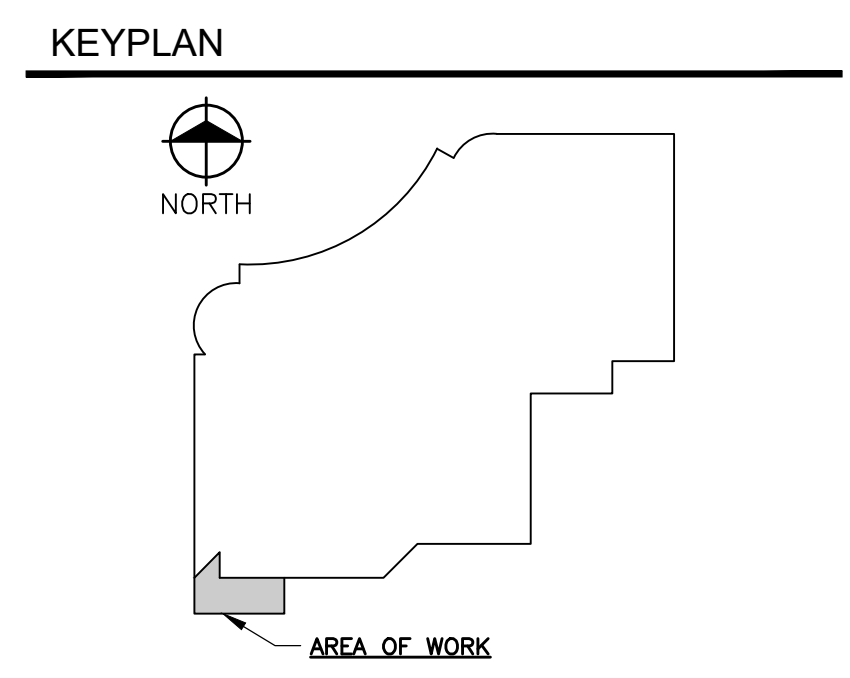




PARTIAL FIRST FLOOR PLUMBING PLAN
 SCALE: 1/8" = 1'-0"



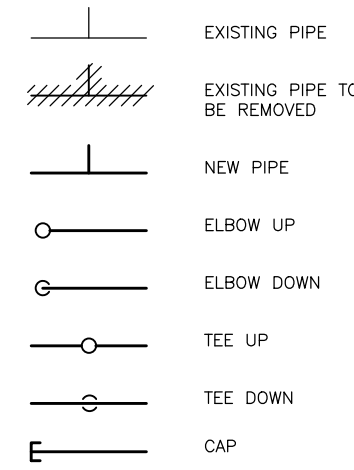
PARTIAL SECOND FLOOR PLUMBING PLAN
 SCALE: 1/8" = 1'-0"



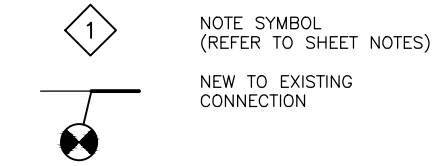
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LEGEND

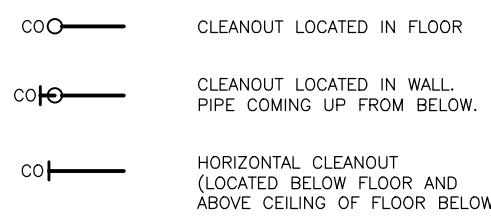
PIPE/FITTING SYMBOLS



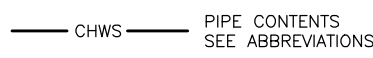
GENERAL DESIGNATION



MISC. PIPING SYMBOLS



PIPING DESIGNATION

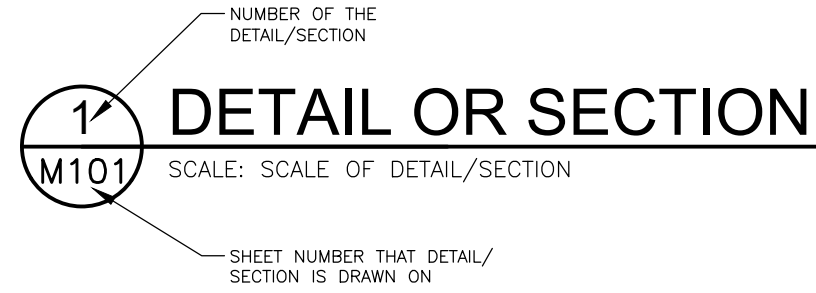


GENERAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AD	AREA DRAIN
CI	CAST IRON
IE	INVERT ELEVATION
L	LOUVER
NC	NOT IN CONTRACT

PIPE CONTENTS ABBREVIATIONS

STM	STORM SEWER
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GENERAL NOTES

PLUMBING PIPING NOTES

- CLOSELY COORDINATE THE INSTALLATION OF ALL PIPING WITH NEW SHEET METAL, HVAC PIPING, ELECTRICAL AND STRUCTURAL CONDITIONS. PROVIDE REQUIRED OFFSETS AND FITTINGS WHETHER INDICATED OR NOT. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CLEARANCES, THE LOCATION OF SANITARY, STORM, AND VENT LINES TAKE PRECEDENCE OVER HVAC AND FIRE PROTECTION PIPING, AND ELECTRICAL CONDUIT AND CABLE TRAY.
- PIPING AND EQUIPMENT SHOWN LIGHTLY IS EXISTING TO REMAIN.
- AT RENOVATED AREAS THE INDICATED ROUTING OF PIPING SYSTEMS IS INTENDED TO INDICATE REUSE OF AS MUCH OF THE EXISTING SYSTEMS AS POSSIBLE. THE ROUTE SHOWN AND INFORMATION GIVEN IS NOT INTENDED TO REPRESENT EXACTLY WHERE AND HOW TO INSTALL THESE SYSTEMS. IT HAS BEEN DETERMINED THAT ADEQUATE SPACE EXISTS, BUT NO ATTEMPT HAS BEEN MADE TO INDICATE THE LOCATION AND IDENTIFY EVERY INTERFERENCE, NOR THE RESULTANT REQUIRED RESOLUTION OF INTERFERENCES. INCLUDE ADDITIONAL PIPE, MATERIAL, LABOR, AND LAYOUT TIME REQUIRED TO RESOLVE INTERFERENCES AND THEIR REROUTING.
- PIPE ROUTING INDICATED IS SCHEMATIC IN CONCEPT. FIELD LOCATE EXACT TIE-IN-POINTS TO EXISTING PIPING, FINAL ROUTING SHALL BE COORDINATED WITH SHEET METAL, ELECTRICAL, AND STRUCTURAL SYSTEMS. PROVIDE ALL NECESSARY OFFSETS. COORDINATE TIME OF EXISTING PIPING REROUTING WITH OWNER TO MINIMIZE DOWNTIME.
- SLEEVE AND SEAL EXTERIOR WALL AND ROOF PENETRATIONS TO A WEATHER TIGHT CONDITION. SLEEVE AND SEAL INTERIOR FLOOR PENETRATIONS TO A WATERTIGHT CONDITION.
- SAWCUT CONCRETE AS REQUIRED TO INSTALL NEW PIPING. FINISH CONCRETE PATCH TO RECEIVE NEW SURFACE FINISH AS REQUIRED.
- CORE DRILL OPENINGS IN WALLS AND SLABS AS REQUIRED FOR NEW PIPING. COORDINATE LOCATION OF REINFORCING STEEL TO AVOID DAMAGE.
- PRIOR TO MAKING CONNECTIONS TO EXISTING PIPING FOR REUSE, CONFIRM THAT EXISTING PIPING BEING TIED INTO IS ACTIVE FOR REUSE.

fishbeck Proj. No.: 231032
 engineers
 scientists
 architects
 constructors
 Desg. By: BNH
 Designer: BNH
 Reviewer: PL
 Manager: KN

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**Infrastructure
 Planning and Facilities**

**MICHIGAN STATE
 UNIVERSITY**

PLUMBING FIXTURE SCHEDULE	
IDENTIFICATION	DESCRIPTION
TD-1	TRENCH DRAIN: 1. ZURN MODEL Z886 HIGH DENSITY POLYETHYLENE (HDPE) DRAINAGE CHANNEL, 80"L X 6 1/4"W REVEAL, 4" NO-HUB BOTTOM OUTLET, VANDAL-PROOF LOCKDOWN, 1 1/2" RADIUS SELF-CLEANING BOTTOM WITH 0.75% BUILT-IN SLOPE. PROVIDE WITH MODEL SDD - STAINLESS STEEL DIAGONAL DECORATIVE GRATE - CLASS B, ADA COMPLIANT, HEEL-PROOF.

Michigan State University

East Lansing, Michigan

Wharton Center

Wharton - Masonry Restoration to SW Exterior Stairs (FY24)

CAPITAL PROJ. NO.
CP23026

PR. MGR. T. PACIFICO
 ARCH. B. CHARLAND
 MECH. _____
 ELEC. K. HOWARD
 CIVIL _____
 L.A. _____
 STRUCT. S. LAUGHLIN
 CONST. REP. _____
 APPR. _____
 DATE _____
 SCALE AS NOTED

REVISIONS
 12/1/2023 BIDS & CONST.
 1/18/2024 ADDENDUM NO. 1

SCHEDULES AND INFORMATION

P-2

11 OF 13