

ADDENDUM #2

Project Name:
Iowa School for the Deaf (ISD)
IDOE ISD Giangreco Hall Water Infiltration Mitigation
DAS# 9455.00
RFB 945500-01
Addendum #2
Dated: November 20, 2025

This Addendum forms a part of the bidding and contract documents. This Addendum supersedes and supplements all portions of the original bidding and contract documents dated October 03, 2025 with which it conflicts.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

1) DRAWINGS:

- A. Sheets G001, A100, A101, A201, A202, A203, A301, A302, A303, A901, A902, A903, A904 and A905 delete the text of “PRELIMINARY. NOT FOR CONSTRUCTION.” From each sheet. Addendum items will be integrated into a construction set after the bidding phase.
- B. G001 Index, Seals, Alternate Diagrams Sheet:
 - 1. B20/G001 - The axon drawings in the orange box are the existing profiles that will need a sample to be salvaged and sent to the manufacturer to allow the creation of a new unit custom roof element. Access, removal, shipping costs, fabrication and installation shall be included in the Alternate 1 price.
 - 2. Alternates – Base bid should include the work without Alternate #1 or Alternate #2. All costs associated with Alternate #1 and Alternate #2 shall be add alternates to the base bid if selected by the Owner.
- C. A100 Roof Plan – Center & East Wings
 - 1. A1/A100 - “16 OZ.” copper text deleted from two locations.
- D. A101 Roof Plan – West Wing
 - 1. A1/A101 - “16 OZ.” copper text deleted from one location.
- E. A201 Exterior Elevations – East Wings
 - 1. K1/A201 and A1/A201 – Detail callouts added at base of new downspouts.
- F. A202 Exterior Elevations – Center
 - 1. K1/A202 and A1/A202 – Detail callouts added at base of new downspouts.
- G. A203 Exterior Elevations – West
 - 1. K1/A203 and A1/A203 - Detail callouts added at base of new downspouts.
 - 2. K17/A203 – Photo added to detail.

- H. A301 Roof Details
 - 1. Q15/A301 and Q21/A301 – New downspout kickouts details added.
 - 2. A1/A301 – “16 OZ.” copper text deleted from one location.
 - 3. A8/A301 – “16 OZ.” copper text deleted from one location.
 - 4. H1/A301 – “16 OZ.” copper text deleted from one location. Text note updated to reference standing seam photo.
 - 5. P1/A301 – “16 OZ.” copper text deleted from one location.
 - 6. K20/A301 – “16 OZ.” copper text deleted from one location.

- I. A302 Roof Details
 - 1. A1/302 and G1/A302 – Photos added to details.
 - 2. A20, G5, G19, N1, N8, N16/A303 – Text added for number of replacement units.

- J. A303 Roof Details
 - 1. A1/A303 – Detail added including photo of copper standing seam condition.
 - 2. A11/A303 – “16 OZ.” copper text deleted from four locations.
 - 3. A19/A303 – “16 OZ.” copper text deleted from one location.
 - 4. K1/A303 – “16 OZ.” copper text deleted from three locations.
 - 5. K11/A303 – “16 oz.” copper text deleted from three locations.
 - 6. K19/A303 – “16 OZ.” copper text deleted from two locations.
 - 7. Q19/A303 – “16 OZ.” copper text deleted from two locations.

2) SPECIFICATIONS

- A. Section 04 21 29 Terra Cotta Masonry
 - 1. Delete paragraph 1.06 on Quality Assurance and renumber this paragraph to 1.06 Mock-ups:
 - a. Replace “A.” with the following; Construct terra cotta masonry mock-up with at minimum one dentil (G5/A302), one gutter element (N16/A302), including mortar, structural backup, and flashings (with lap joint, corner, and end dam).
 - b. Replace “C.” with the following; Locate In an early phase of construction to be determined by the Contractor.
 - 2. Section 07 32 13 Clay Roof Tiles
 - a. Delete paragraph 1.06 on Quality Assurance and renumber this paragraph to 1.06 Mock-ups.
 - b. Add sentence to 1.08 Field Conditions, “D. Base Bid will require the use of use new clay tile similar to the Ludowici French Tile listed.”
 - c. Revise paragraph 2.02 Roof Tiles, A., 1. ; Clay tile from F-1 to French Tile.
 - d. Add sentence to 2.03 Sheet Materials, A. Underlayment, “6. Base Bid: The existing underlayment shall overlap a minimum of 8” and will installed in the zone of the top course of clay tile for the base bid only.”

3. Section 07 6100 Sheet Metal Roofing
 - a. Revised paragraph 2.01 Sheet Materials, A. to the following; “Copper Sheet: ASTM B370, cold rolled, 20 ounces per square foot minimum thickness; manufacturer's standard natural finish.”
 - b. Add paragraph 3.09 Schedule; “A. Copper standing seam for the dormers and typical detail A1/A303: 20 oz. copper.”
4. Section 07 6200 Sheet Metal Flashing and Trim
 - a. Revise 3.05 Schedule:
 - a) “A. Typical Copper Sheet Metal Elements not listed: 20 oz. copper.”
 - b) “E. Expansion Joint Covers: 32 oz copper.”
 - c) Add “H. Lower and upper gutters (from outside edge extending to under shingles): 32 oz. copper.”
 - d) Add “I. Flashing and corner guards at cupolas: Gutters: 32 oz. copper.”
5. Section 01 1200 Contract Summary
 - a. Add sentence to 1.09 Bid Package Instructions, A. Bid Package #01, 7. Assume the wood nailer is a 2” deep by 3” wide, recessed into surface to the existing concrete deck. Attach with specialized screws designed to be driven into concrete after drilling a pilot hole similar to of the Tapcon, assume 4” long at 16” OC.
6. Section 01 1200 Contract Summary
 - a. Add sentence to 1.09 Bid Package Instructions, D. Unit Price #01, 5. Assume the wood nailer is a 2” deep by 3” wide, recessed into surface to the existing concrete deck. Attach with specialized screws designed to be driven into concrete after drilling a pilot hole similar to of the Tapcon, assume 4” long at 16” OC.

3) QUESTIONS

- A. Are the terra cotta dentals on hangers or slugged. I would suspect that they are on hangers. Would the terra cotta units above the dental replacement need to be replaced so that we can access the hanger or can we cut access holes in the units above to adjust the hangers and patch and glaze the unit. **A>The units are slugged and let into the wall, see G5/A302.**

- B. The lead time for new terra cotta units has been around 8-12 months. This could affect the project schedule. Once the restoration contractor is awarded the project, they will need to be onsite ASAP to mine original units and get them shipped to the manufacturer for shop drawings. What is expected for weatherizing of the voids after the terra cotta units have been mined? **A> Sections of adhered EPDM to keep the water from entering the building.**
- C. Instead of the first phase being the perimeter, we could make one of the three full sections of roof, phase 1, and therefore we are doing all of a slope at the same time. This will reduce the risks associated with the current phase one. Any time roofing is done in sections vs entire slopes there are risks for leaks and mismatch on spacing, etc. If this is something you would consider, I would be happy to provide much more detail to help inform? **A> This is not an option currently. The project is designed as is, due to funding constraints and funding availability.**
- D. If background checks are required will there be any costs to the contractor and if so what are they? **A> The cost for background checks will be by owner.**
- E. Will there be a list of pre-bid attendees released? **A> Yes, see attached.**
- F. Are there any known underground utilities or irrigation around project site/staging area that could impact the use of lifts or delivery trucks? **A> See drawings for existing tunnel in the controlled access zone. Boom lifts, forklifts, and pickup trucks will be allowed on the tunnel but no cranes or large delivery trucks. The facility does not have irrigation. We are not aware of any additional underground utilities that would be impacted by this project.**
- G. Will there be a cost to contractors or sub-contractors for utilizing Procore for project management? **A> No**
- H. Can you provide product data for components of fence and gates to be supplied by owner so we can plan for how to install, remove and tie into with additional fencing if necessary? **A> Anti-Climb temp. fence panels 6'-6" tall by 11'-5" high from America's Fence Store out of Omaha**
- I. Does Targeted Small Business Form on page 004116.02-2 need to be uploaded to bid portal or are any Targeted Small Business utilized only listed in item 1.3 in questions tab on bid portal? **A> Review Instructions to Bidders for bid submittal information. Item 1.3 on the bid portal should be filled in as noted in IMPACS.**
- J. On cover sheet of plans, on the site plan is a hatched path labeled "tunnel" that cuts through the controlled access zone. Can you clarify what this tunnel is? **A> Existing utility tunnel.** Is this an existing tunnel underneath path that needs to be taken into account when driving over it or are we expected to provide a covered scaffold walkway here for pedestrian traffic? **A> This is an existing underground tunnel and overhead protection is not required for the tunnel area. Boom lifts, forklifts, and pickup trucks will be allowed on the tunnel but no cranes or large delivery trucks. The contractors shall provide equipment and vehicle information and weights prior to start of project.**
- K. On site plan scaffold is called out to be erected to access gutter and I assume to access masonry work as well as tile replacement under base bid. Is utilizing scaffolding a requirement or can we also use lifts exclusively or in conjunction with scaffolding? **A> Access to the work area is means and methods. Ability to access large areas of work and efficiency should be considered when determining use of lifts in lieu of scaffolding.**

- L. If Alt #1 is accepted July 2026 does the project need to follow preliminary schedule where Alt #1 is started after base bid is complete or can we immediately combine base bid work and Alt #1 work by phase to make installation easier? **A> Yes, but the schedule milestones need to be maintained.**
- M. If Alt #2 is accepted can that work occur simultaneously with base bid and or alt #1 work or does it have to take place according to preliminary schedule? **A> It can be done with corresponding base bid work and Alt. #01 but egress pathways will need to be maintained.**
- N. After reviewing the clay roof tile manufacturers listed and comparing to the hip/ridge profiles in plans I can only find the 206 profile. None of the manufacturers listed had "1911 Ridge" or the "E High Bump, E Hip Ridge End, E Hip Ridge" advertised in their literature. Details on base bid and alternate 1 plans direct me ultimately to details G14 and G8/A302 which don't exist. Details G10 and G15 show replacement ridge and bump but note these are to be custom. Please clarify if these are to be custom or where the products listed on G001 can be found. If custom are the dimensions given for details G10 and G15 accurate and can they be supplied to manufacturers for pricing? **A>The "E" refers to existing, these are custom units to provide for the alternates and are not a standard model numbers, Include all costs to access, remove each units, clean, package and ship to the manufacture for custom fabrication to complete a whole unit this may require more than one unit to be able to complete this fabrication.**
- O. On roof plans they show existing slope of gutters and then hatched areas indicating new 1/8" counter slope which I assume is achieved with the new non-shrink grout as shown in detail P1/A301. If we are adding material to create positive slope going counter to existing slope we will have elevation differences between new grout and existing gutter at expansion joint details E15 and E20/A301. Is it confirmed that the addition of the grout at these high points will not exceed the front edge of the existing gutter terracotta that the copper gutter is supposed to nest within? **A>Yes, we verified the existing building was built with slope in the gutter.** Is the step between new grout and existing gutter acceptable at the expansion joints? **A>Yes.**
- P. For alternate 1 how are we going to access the structure inside cupolas to apply the new HPC coatings? **A> There will be access from the interior of the building for this work during the summer break of mid-June to mid-August.** Is there access from inside or do we need to make access from the exterior and then repair when finished? **A> There will be access from the interior of the building if the work is completed during the summer break of mid-June to mid-August.**
- Q. I have some Terra Cotta questions. Did anyone do an investigation on the Terra Cotta units to see how they are assembled? For example, which units are on hangers, which units are slugged, what is the condition of hangers/I-beams, etc. **A> Question is answered above.**
- R. Are the terra cotta dentals on hangers or slugged. I would suspect that they are on hangers. Would the terra cotta units above the dental replacement need to be replaced so that we can access the hanger or can we cut access holes in the units above to adjust the hangers and patch and glaze the unit. **A> Question is answered above.**
- S. The lead time for new terra cotta units have been around 8-12 months. This could affect the project schedule. Once the restoration contractor is awarded the project, they will need to be onsite ASAP to mine original units and get them shipped to the manufacturer

for shop drawings. What is expected for weatherizing of the voids after the terra cotta units have been mined? **A> Question is answered above.**

- T. Please clarify if the alternates are additive or are they supposed to include the Base Bid work. Does the price for ALT 01 include the base bid? **A> No, Base Bid is a number and Alternate 01 and 02 are separate numbers without including base bid.** As it is labeled ALTERNATE not ADD ALTERNATE. What about ALT 02, does that include Base and ALT 1 or just BASE? **A> Question is answered above.**
- U. Section 00 3113 Preliminary Schedule 1.03 Schedule Durations:
1. This section states that Phases I and II are to be substantially completed by 11/30/26. **A>Yes**
 2. The manufacturer production schedule is currently as long as 1 year once samples are approved. The construction schedule cannot be achieved as published. Please provide guidance on long-lead times for clay roof tiles. **A> By updating from F-1 Historic French Tile to French Tile the lead time should now be 12 to 14 weeks.**
- V. Bid Alt No. 1 Section 01 23 00 Alternates
1. This section states that it includes interior painting of the main cupola and the east and west cupola, yet access to the interior spaces of the building is not allowed per: The requirement that no interior access is allowed is specified in Section 01 1200 - Contract Summary, on page 101 of the document. Specifically, under the "Work Restrictions" subsection, it states:

"Interior access to Giangreco Hall will not be permitted during construction activities. All work shall be performed from the exterior, with no entry into occupied or unoccupied interior spaces unless explicitly authorized by the Owner in writing."

Please clarify how access will be granted to access these spaces? **A> Question is answered above.**
- W. Section 04 21 29 Terra Cotta Masonry 1.07 Mock-Ups
1. This section states that a mock-up of 8' x 6' is required. Is it actually required? If so, please provide additional details as to what is required in the mock-up. **A>See attached Section 04 21 29 Terra Cotta Masonry**
 2. Please provide a total count on the number of units for the various terra cotta units that need to be replaced as shown on page A302 in the base bid. **A>See attached A302.**
 3. The drawings for the terra cotta units on page A302 state to Verify in the field. If each and every location is unique in size, then each and every location will require extensive work to verify in-field each and every location. Your specifications also require removal of an actual needed replacement unit. Please

confirm that only one unit of each profile is required. The removal of the actual units will require advanced coordination and access to the building to perform removal. Please provide guidance for this effort with the restrictive building access. **A> Question is answered above.**

X. Section 01 1200 Contract Summary 1.09 Bid Package Instructions

1. A. Bid Package #01 (beginning on PDF page 103) states on line 7. That 5,000 linear feet of wood nailer under existing terra cotta roof tile is to be removed and replaced. Drawings Page A301 details P1, H1, A8, K20 all show a “Wood Nailer, TYP.” Is this nailer embedded? **A> Yes.** Embedded in what? **A>Concrete deck.** How is the existing attached? **A>Unknown** How are the new nailers to be attached? Attach new wood nailer on the existing surface of the concrete with what fasteners, how often? **A>See section 01 1200 Contract Summary 1.09 Bid Package Instructions.**
 - a) **Assume the wood nailer is a 2” deep by 3” wide, recessed into surface to the existing concrete deck. Attach with specialized screws designed to be driven into concrete after drilling a pilot hole similar to of the Tapcon, assume 4” long at 16” OC.**
2. Is the wood nailer in contact with masonry and therefore needs to be pressure treated? **A>No.**

Y. Section 07 32 13 Clay Roof Tiles, 1.06 Quality Assurance

1. A. Manufacturer Qualifications: Company specializing in manufacturing roofing systems similar to those required for this project, with not less than 5 years of documented experience. B. Installer Qualifications: Company specializing in installing asphalt shingles, with at least 3 years of documented experience. **A>See attached Section 07 32 13 Clay Roof Tiles.**
2. Should the company specialize in installing Clay Roof Tiles? **A>See attached Section 07 32 13 Clay Roof Tiles.**
3. For the Clay Roof Tiles - Are we to provide 100% new tiles for the tiles being installed? **A>Yes.** If so, is it confirmed that existing tiles on the roof are all the same size on the various roof planes to ensure that the new tiles will have the same overall size and exposure measurements to allow for new tiles (which will all be the same size) to install with the existing tiles as will be required should only the base bid be selected? **A>Use new clay tile unit for roof tiles in base bid.**
4. For the base bid, the new tiles must install below the existing tiles that are to remain. The “embedded” nailer is likely under the bottom end of the tile that must remain in place. How is this condition going to be handled? The top course of new tiles is installed without access to install a fastener into the nail hole. What method or procedure is to be used to secure that top course of tile? **A>See attached Section 07 32 13 Clay Roof Tiles.**

5. Please provide construction details about how the new underlayment will interact with the existing underlayment that remain. What are the lapping or shingling requirements? **A>See attached Section 07 32 13 Clay Roof Tiles.**
- Z. For the base bid warranty. How will a water leak claim be handled in terms of the source of water infiltration that could be coming from up slope of newly completed area? **A>The upper roof locations have not seen water leaks and underlayment is intended to have an overlap. Provide warranty will based on project requirements.**
- AA. Do the new downspouts discharge onto the grade? Please provide details. **A>see attached drawings.**
- BB. Please confirm that copper for the gutters is 16 ounce (per detail A1 & A8 on A301) or will the gutter liner weight be determined as per the Copper Gutter Design Chart, featured in the "Copper in Architecture Design Handbook"? **A>See attached specifications**
- CC. Please confirm that EPDM is to be used in the gutters, NOT Grace HT or Grace Ultra self-adhered underlayment? **A> Yes.**
- DD. Detail H1 on A301 does not indicate how to join the units at the end? Please provide details. **A>See attached A301.**
- EE. The ridge cap key on Plan page G001 does not make sense. Please clarify what goes where. In the orange box they have "E" profiles, does the specified manufacturers have "E" profile data for pricing? **A>The "E" refers to existing, these are custom units to provide for the alternates and are not a standard model numbers, Include all costs to access, remove each units, clean, package and ship to the manufacture for custom fabrication to complete a whole unit this may require more than one unit to be able to complete this fabrication.**

4) SUBSTITUTION REQUESTS

- A. No items.

5) ATTACHMENTS

- A. Pre-bid Attendance Sheet
- B. Project Manual Sections; 01 1200 Contract Summary, 04 2129 Terra Cotta Masonry, 07 3213 Clay Roof Tiles, 07 6100 Sheet Metal Roofing, and 07 62 00 Sheet Metal Flashing and Trim.
- C. Drawings; A100, A101, A201, A202, A203, A301, A302 and A303

END OF ADDENDUM



Design
Construct
Furnish

PROJECT NAME: IDOE ISD GIANGRECO HALL WATER INFILTRATION MITIGATION

MEETING LOCATION: GIANGRECO HALL, ISD, COUNCIL BLUFFS

MEETING TYPE: PRE-BID, REQUEST FOR BID (RFB 945500-01)

DATE AND TIME: 11/06/2025 10:00AM

Contact Person	Company Name	Phone Number	Email Address
AJ Seifert	Palace Construction	712-203-9162	aj@palacebuilts.com
Craig Hauser	Mid-Continental Restoration	605 928 3533	craig_hauser@midcontinental.com
SCOTT ALLEN	OPN ARCHITECTS	515-229-1319	SALLEN@OPNARCHITECTS.COM
Luke Hughes	Boone Brothers Roofing	402-339-2888	Luke.hughes@boonebrothers.com
Dustin Anderson	Martino Roofing	402-652-6071	dustin@martinroofingllc.com
Russ Hancock	Kehm Contractors	402-669-9378	russ@kehmcontractors.com
Jack Patemer	Kehm Contractors	402-881-7346	Jack@kehmcontractors.com
Bryan Adams	McKinnis	402 670 4359	bryan.adams@mckinnisinc.com
CHUCK HALL	MASTASE CONTRACTING	402-689-4744	CHUCK@NCIOMAHA.COM
Gabe Russell	McGill Restoration	402-679-2539	GRussell@McGillRestoration.com
Destiny Samin	10 man Roofing	402-378-0520	Destiny@10manroofing.com
Michael Meyer	Anchor Roofing	402-616-9879	mike@anchorroofing.com
Frank Palazzo Jr.	Palace Construction	402 800 8323	Frank@palacebuilts.com

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SECTION 01 1200

CONTRACT SUMMARY

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Project Information
- B. Project Summary
- C. Bid Scope Summary
- D. Work Hour Restrictions
- E. Access to Site
- F. Coordination with Occupants
- G. Rules for Construction Workers
- H. Bid Package Instructions

1.02 PROJECT INFORMATION

- A. Facility Name/Location: Iowa School for the Deaf (ISD) at 3501 Harry Langdon Blvd., Council Bluffs, Iowa 51503DAS Project #: 9455.00
- B. Owner: State of Iowa, Department of Administrative Services, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, IA 50319
- C. Owner's Representative: Jennie Elliott, Iowa Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319
- D. Construction Manager: Samuels Group, 2929 Westown Pkwy., Suite 200, West Des Moines, IA 50266

1.03 PROJECT SUMMARY

- A. The project includes removal and replacement of copper gutter, downspouts, terracotta masonry, and terracotta tile roof located at Iowa School for the Deaf (ISD), 3501 Harry Langdon Blvd, Council Bluffs, IA 51503.
- B. Target date to provide substantial completion is November 15, 2027 for base bid. See Section 00 3113 Preliminary Schedule for specific milestones for the project.

1.04 BID SCOPE SUMMARY

- A. Scope Applicable to All Bid Packages:
 - 1. The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses, inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope.
 - 2. Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything so stored obstructs the progress of any portion of the work, it shall be promptly removed or relocated by the Contractor without reimbursement.

3. On site supervision by Prime Contractor at all times work by that contractor or their subcontractors/suppliers is taking place.
4. Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager.
5. Contractor shall provide all equipment and tools for Contractor's own cleanup. Clean up shall be done at end of every shift or more frequently if required for the Contractor to perform their work, for other Contractors to perform their work, as required by the Owner's operations, and at the discretion of the Construction Manager.
6. Contractor shall provide all personal protective equipment (PPE) as required by OSHA standards.
7. All turf, landscaping, and subgrade disturbances caused by equipment traffic or other activities related to the Contractor's scope shall be repaired or restored to proper conditions by the Contractor.
8. Protect adjacent existing building elements from damage from Scope of work. Repair existing building elements damaged during Contractor's Scope of work.
9. Repair all grounds and sidewalks damaged during construction.
10. At minimum, contractors shall provide cleaning of the work area on a daily basis.

1.05 WORK HOUR RESTRICTIONS

- A. Work hours are from 7:00 AM to 3:30: PM, Monday through Friday unless arrangements are made in advance.
- B. Controlled Access Zone – Access in this area during any School Year of mid-August through mid-June is restricted to the following time periods. 6:30 AM to 7:30 AM, 9:00 AM to 11:00 AM, and 3:30 PM to 4:30 PM. Operating any equipment or vehicle in the controlled access area, during the active school year, requires a spotter.
- C. Controlled Access Zone – Access in this area during any Summer Break of mid-June through mid-August has no hourly restrictions. Operating any equipment or vehicle in the controlled access area during this time will not require a spotter.
- D. Work shall be allowed on Saturdays with 48 hours' notice to the construction manager.
- E. There is no work allowed on Sundays without written approval from the State of Iowa.
- F. There is no work allowed on the following State Holidays: New Year's Day, Martin Luther King Day, Memorial Day, 4th of July, Labor Day, Veterans Day, Thanksgiving and day after Thanksgiving, and Christmas Day without written approval from the State of Iowa.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Provide access to and from site as required by law and Owner:
 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 2. Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required.
- C. Facility will be occupied at all times during duration of work. Contractor personnel shall always conduct themselves in an agreeable manner. Failure to do so may result in removal from the work site.
- D. See work hour restrictions for work hours and restrictions.
- E. Coordinate schedule of work with facility and construction manager. Work areas shall be scheduled at a minimum of seven days in advance.
- F. Contractor is responsible for securing and protection of all stored materials.

- G. Contractors shall not have access to the interior of the building. Access to the roof shall be from the exterior of the building.
- H. No Smoking is allowed on school grounds. See Iowa Code and information related to the Smokefree Air Act, Iowa Code 142d.3.
- I. No vaping or tobacco products shall be used on school premises.

1.07 OWNER OCCUPANCY

- A. Owner intends to occupy the Project upon Substantial Completion.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.
- D. **Access to the interior of any building at the Iowa School for the Deaf is strictly prohibited without authorization and escorting from ISD facility staff.**

1.08 RULES FOR CONSTRUCTION WORKERS

- A. The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed to the letter, at all times.
- B. All construction workers must have a background check completed prior to entering the campus to perform work.
- C. Hot Work Permit Processes and Fire Watch, when necessary, will be adhered to for this project.
- D. All State property is tobacco free. No smoking will be permitted or tolerated on the school campus.
- E. You are permitted access only to the work site and no other area of the institution.
- F. No drugs, alcohol, or firearms are allowed on the work site.
- G. Do not leave money, drugs, alcohol, or firearms in your personal vehicle.
- H. Company and personal vehicles are to be parked and locked in designated or authorized area of the work.
- I. Secure all tools at the end of the day.
- J. Maintain control of all tools, supplies, and debris at all times during the work.
- K. Never leave keys in any vehicle. If a facility staff member finds keys in a vehicle, they are under orders to turn them in to a security supervisor.
- L. Do not give anything to residents or take anything from residents; if they offer, inform your supervisor.
- M. Secure all tools at the end of each day. Never leave tools unattended. All tools shall be checked in at the beginning of the day and checked out at the end of the day. If facility staff find loose tools, they are under orders to turn them in to their supervisor.
- N. All delivery vehicles must go directly to the job site. Extra time should be anticipated for all deliveries. Provide 24-hour notice to the facility of deliveries.
- O. During an emergency, follow the instructions of ISD staff.
- P. Contractor shall wear clothing of a different color, pattern, fashion, etc. as to distinguish themselves from facility staff.
- Q. No Smoking is allowed on school grounds. See Iowa Code and information related to the Smokefree Air Act, Iowa Code 142d.3.
- R. No vaping or tobacco products shall be used on school premises.

1.09 BID PACKAGE INSTRUCTIONS

- A. **Bid Package #01** – Giangreco Hall Water Infiltration Mitigation Project: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
 - 1. Includes 9455.00 Iowa School for the Deaf – Giangreco Hall Water Infiltration Mitigation scope of work in its entirety. (Excluding Alternate 01 and Alternate 02)
 - 2. Includes Division 00 – Procurement and Contracting Requirements and Division 01 – General Requirements in their entirety.
 - 3. Includes Divisions:

- a) Div 02: Sections 02 4100, and 02 5900
 - b) Div 04: Sections 04 0140 and 04 2129
 - c) Div 06: Sections 06 1000
 - d) Div 07: Sections 07 3213, 07 6100, 07 6200, and 07 9200
 - e) Div 32: Sections 32 9219
4. Includes removal and disposal of existing terracotta netting and patching of anchor holes in mortar joints.
 5. Includes overhead protection at all building doorways during construction.
 6. Protect existing HVAC units in a manner that allows for normal operation of units.
 7. Includes removal and replacement of 5,000 lineal feet of wood nailer under existing terracotta roof tile. *Assume the wood nailer is a 2" deep by 3" wide, recessed into surface to the existing concrete deck. Attach with specialized screws designed to be driven into concrete after drilling a pilot hole similar to of the Tapcon, assume 4" long at 16" OC.*
 8. Includes installation and removal of 950 lineal foot of temporary fence panels and two ten-foot gates provided by owner. Contractor to remove all temporary fence (supplied by owner) at the end of project and turn over to the owner.
 9. Includes supply and install/removal of any additional temporary fence required for construction above the quantity noted as supplied by owner.

ADD 2

B. **Alternate #01** – Top 80 % of the Terracotta Roof and Cupola Repairs: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

ADD 1

1. **If awarded, Alternate #01 award date would be July 2026**
2. Replace the remaining existing roofing at west wing, center wing, and east wing roof areas. Replacement ridge caps to match 1911 ridge cap profile and E-type hip profiles at all locations including base bid scope. Repair existing cupolas as indicated on alternate #1 sheets including new terracotta shingle, ornamental copper work, flashing repairs, and high-performance painting of interior structure.
3. Includes cost to complete the upper section of the roof (approximately top 80%) and replace the ridge ends, bumps and ridge to profiles as shown in the Construction Documents. This alternate also includes the copper cladding repairs on the cupolas and high-performance painting of the interior steel structure at cupolas.
4. Includes all Division work that applies to this alternate scope of work.
 - a) Div 02: Div 02: Sections 02 4100
 - b) Div 06: Sections 06 1000
 - c) Div 07: Sections 07 3213, 07 6100, 07 6200, and 07 9200
 - d) Div 09: Sections 09 9600
5. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
6. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
7. Execute accepted alternates under the same conditions as other work of the Contract.

C. **Alternate #02** – Stair Tower Repointing: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

ADD 1

1. **If awarded, Alternate #02 award date would be July 2026**
2. Replace and repair limestone veneer, glass block infill, and associated work at exterior stair towers as indicated on the Alternate #2 sheets (A905).
3. Includes cost to repoint the two limestone masonry stair towers, replace the damaged glass block and replace the damaged steel lintels
4. Includes Specification Section 04 2300, 05 5000, 08 8000, and 09 9600
5. Includes Specification Section 02 4100, 04 0140, and 07 9200 (As applies)
6. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

7. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
8. Execute accepted alternates under the same conditions as other work of the Contract.

D. **Unit Price #01** - Wood nailer under existing terracotta roof tile: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Include all labor, material, and equipment to remove existing wood nailer and replace with new.
2. Unit price per lineal foot. Unit price shall be additive or deductive of base bid quantity.
3. Base Bid Condition includes quantity of 5,000 lineal foot of nailer replacement.
4. Reference Detail K20 on A301 and similar details
5. *Assume the wood nailer is a 2" deep by 3" wide, recessed into surface to the existing concrete deck. Attach with specialized screws designed to be driven into concrete after drilling a pilot hole similar to of the Tapcon, assume 4" long at 16" OC.*
6. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
7. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.



ADD 2

E. **Work Performed by Owner:** Iowa School for the Deaf will perform the following work items:

1. No items noted

F. **Owner Furnished Products:** Iowa School for the Deaf will provide the following materials for installation/removal by the contractor:

1. 950 lineal feet of six-foot-high fence panels and stands
2. Qty. of 2, ten-foot gates.
3. Contractor to remove all temporary fence (supplied by owner) at the end of project and turn over to the owner.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

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**SECTION 04 21 29
TERRA COTTA MASONRY**

PART I GENERAL

1.01 SECTION INCLUDES

- A. Terra cotta units.
- B. Mortar.
- C. Grout.
- D. Reinforcement and anchorage.

1.02 RELATED REQUIREMENTS

- A. Section 07 62 00 - Sheet Metal Flashing and Trim
- B. Section 07 92 00 - Joint Sealants.

1.03 REFERENCE STANDARDS

- A. ASTM A270/A270M - Standard Specification for Seamless and Welded Austenitic and Ferritic/Austenitic Stainless Steel Sanitary Tubing; 2023.
- B. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2023.
- C. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale); 2023.
- D. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.
- E. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.
- F. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week prior to commencing work of this section.
 - 1. Require attendance of parties directly affecting work of this section.
 - 2. Review installation conditions, procedures, and coordination with related work.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for terra cotta units, fabricated wire reinforcement, mortar, and masonry accessories.
- C. Shop and Setting Drawings: Include elevations, dimensions, layouts, profiles, cross sections, reinforcement, exposed faces, arrangement of joints, anchoring methods, anchors, and piece numbers.
 - 1. Verify dimensions in the field.
 - 2. Include a unique identification mark for each unit.
 - 3. Accommodate construction tolerances, expected deflection of building structural members, and clearances of intended openings.
 - 4. Provide connections that accommodate building movement and thermal movement, and adjust to misalignment of structure without unit distortion or damage.
- D. Sculptural Shape Casting Models: For each distinct piece, provide models from which molds will be fabricated.
 - 1. Include documentation of dimensioning and structural changes during the casting and firing process including allowances for contraction and shrinkage.

- E. Samples: Full-size, unless otherwise indicated.
 - 1. Basic Shapes: One of each type.
 - 2. Glazed Units: Submit samples of each type of ceramic glazed terra cotta unit to show color, texture, and extremes of color range.

F. Manufacturer's Certificate: Certify that terra cotta units meet or exceed specified requirements.

 **1.06 MOCK-UPS**

A. Construct terra cotta masonry mock-up with at minimum one dentil (G5/A302), one gutter element (N16/A302), including mortar, structural backup, and flashings (with lap joint, corner, and end dam).

B. Incorporate terra cotta units into integrated exterior mock-up, see Section 01 40 00. Include mortar, accessories, structural backup, and flashings (with lap joint, corner, and end dam).

 C. Locate In an early phase of construction to be determined by the Contractor.

D. Mock-up may remain as part of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Pack and crate architectural terra cotta to prevent damage to units.

B. Notify manufacturer in writing, without delay, when pieces of terra cotta have been damaged in transit. Provide new units of affected terra cotta at no additional cost to the Owner.

C. Store units in original packaging until ready for use. Do not stack crates and keep them in an upright position on firm, level, smooth surface. Protect stored units from weather to prevent staining.

1.08 FIELD CONDITIONS

A. Cold Weather: Perform work in accordance with TMS 402/602.

B. Hot Weather: Perform work in accordance with TMS 402/602.

C. Maintain materials and surrounding air temperature between 40 degrees F and 90 degrees F prior to, during, and 48 hours after completion of installation of masonry work.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Boston Valley Terra Cotta: www.bostonvalley.com/#sle.

B. Gladding, McBean: www.gladdingmcbean.com/#sle.

C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 TERRA COTTA UNITS

A. Terra Cotta Unit Profiles and Appearance: As indicated on drawings.

1. Contractor to remove an actual needed replacement units to send to the manufacture for fabrication and color matching.

2. Manufacture units to comply with design intent and installation conditions and to minimize field cutting of units. Adjust design of individual units to accommodate setting requirements without affecting aesthetic effect.

3. Adjust configurations of terra cotta units to accommodate relieving angles, vents, weeps, expansion joints, and accessories.

a. Coordinate with expansion joints, shelf supports, and similar items to prevent deflection, wind pressure, temperature changes, settlement, and similar stresses.

b. Coordinate with wall flashing installation.

B. Physical Requirements:

1. Compressive Strength:

2. Absorption, 5-Hour Boil: 11.9 percent, maximum, tested in accordance with ASTM C67/C67M.

3. Absorption, 24-Hour Soak: 7.9 percent, maximum, tested in accordance with ASTM C67/C67M.
 4. Saturation Coefficient: 0.69, maximum, tested in accordance with ASTM C67/C67M.
 5. Freeze-Thaw Resistance: Minimum 300 cycles without degradation tested in accordance with ASTM C67/C67M.
 6. Face Dimension Tolerances: In accordance with approved shop drawings and maximum 1.05 percent of unit dimension.
- C. Unit Fabrication:
1. Fabricate units with minimum shell and web thicknesses complying with ASTM C216 unless greater thicknesses are required for form and structural design. Provide anchor holes and hand-holds in accordance with approved shop drawings.
 2. Allow for setting anchors and steel reinforcing without cutting of units, unless otherwise required and approved.
 3. Take field measurements and fabricate units to avoid cutting and fitting finished units.
 4. Fabricate finished faces that will be exposed to view when installed free from chips, crazes, blisters, crawling, or other imperfections detracting from the appearance of the finished wall when viewed from distance of 5 feet, minimum.

2.03 MORTAR MATERIALS

- A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and dried, graded sand with no other ingredients; complying with the proportion specification of ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
1. Type: Type N.
 2. Color: Mineral pigments added as required to produce approved color sample.

2.04 MIXING

- A. Batching:
1. Measure cementitious materials and sand by volume for each batch to ensure consistency of proportions and consistency of final color. Measurement by shovels is not acceptable.
 2. Measure water by volume for each batch to ensure consistency of proportions, workability, and consistency of color. Slight adjustment of water volume is permitted to adjust workability; take precautions necessary to avoid final color variation.
- B. Setting Mortar:
1. Type N mortar in accordance with ASTM A270/A270M and the following mix proportion by volume:
 - a. Portland Cement: 1 part.
 - b. Hydrated Lime: 1 part.
 - c. Sand: 6 parts.
- C. Pointing Mortar:
1. Type N: Higher compression strength mortar in accordance with ASTM A270/A270M and the following material mix proportion by volume:
 - a. Portland Cement: 1 part.
 - b. Hydrated Lime: 1 part.
 - c. Sand: 6 parts.
 2. Match appearance of building's existing cleaned mortar.
- D. Mixing: Use mechanical batch mixer and comply with referenced standards.

2.05 ACCESSORIES

- A. Cleaning Solution: Nonacidic, not harmful to masonry work or adjacent materials.
- B. Sealant: See Section 07 92 00.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and ready to receive masonry.
- B. Verify that items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location and ready for masonry work.

3.02 PREPARATION

- A. Establish lines, levels, and coursing. Protect from disturbance.
- B. Coordinate placement of metal anchors furnished under other sections.
- C. Before setting, clean exposed and concealed surfaces of units. Do not use wire brushes or metal tools to clean exposed surfaces.
 - 1. Soak units in clean water for one hour, minimum, until units exhibit a saturated surface dry (SSD) condition at the time of setting.
 - 2. For terra cotta faced walls, apply water with garden hose to bring wall to a saturated surface dry condition (SSD) at beginning of work day. Repeat approximately one hour before laying units, so wall has saturated surface dry (SSD) condition at setting terra cotta units.

3.03 INSTALLATION - GENERAL

- A. Supports: Provide miscellaneous steel fabricated members for support of terra cotta with anchorage, whether or not indicated on drawings.
- B. Furnish loose anchors such as clamps, hangers, clips, straps, and pins installed as part of terra cotta masonry work.

3.04 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

3.05 PLACING AND BONDING

- A. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- B. Remove excess mortar and mortar smears as work progresses.
- C. Interlock intersections and external corners, except for units laid in stack bond.
- D. Do not shift or tap terra cotta units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace with new mortar.
- E. Perform job site cutting of terra cotta units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.06 DRAINAGE

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weeps or cavity vents.
- B. Install cavity mortar control panels continuously throughout full height of exterior masonry cavities during construction of exterior wythe, complying with manufacturer's installation instructions.
 - 1. Verify that airspace width is no more than 3/8 inch greater than panel thickness.
 - 2. Hold cavity mortar control panel tight to face wythe.
 - 3. Fit to perimeter construction and penetrations without voids.

3.07 REINFORCEMENT AND ANCHORAGE - TERRA COTTA VENEER

- A. Locate anchors as indicated on the drawings.
- B. Locate anchors in accordance with approved shop drawings.

3.08 GROUTED COMPONENTS

- A. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- B. Place and consolidate grout fill without displacing reinforcing.
- C. At bearing locations, fill masonry cores with grout 12 inches, minimum, on both sides of opening.

3.09 BUILT-IN WORK

- A. Install built-in items plumb, level, and true to line.
- B. Do not build into masonry construction organic materials that are subject to deterioration.

3.10 POINTING

- A. Wet joint thoroughly and repeatedly prior to pointing and between pointing lifts to achieve a saturated surface dry (SSD) condition. Allow water to soak in so that no freestanding water is visible.
- B. Point in two lifts; pack joints to within 3/8 inch of surface on first lift, allow first lift to set prior to pointing second lift.
- C. Joint shape: Match existing.

3.11 CLEANING

- A. Promptly after initial set of mortar, remove excess mortar from surrounding surfaces to prevent stains.
- B. Remove and legally dispose off-site all debris, rubbish, and other materials resulting from terra cotta installation.
- C. Use nonmetallic tools in cleaning operations.
- D. Clean area of work as specified.

3.12 TEMPORARY PROTECTION

- A. Protect adjacent work.
- B. Protect work from damage or staining due to construction operations.
- C. At end of each work day and during rainy weather, cover terra cotta work exposed to weather with waterproof covering and securely anchor.

END OF SECTION

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**SECTION 07 32 13
CLAY ROOF TILES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Clay roof tiles.
- B. Underlayment, including ice dam protection.
- C. Wood attachment components.
- D. Metal roof flashing and counterflashing.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Material requirements for attachment components.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Roof flashing.

1.03 REFERENCE STANDARDS

- A. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2022.
- B. ASTM C1167 - Standard Specification for Clay Roof Tiles; 2022.
- C. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).
- D. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2021.
- E. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2018).
- F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).
- G. ASTM D4869/D4869M - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing; 2016a (Reapproved 2021).
- H. ASTM D6380/D6380M - Standard Specification for Asphalt Roll Roofing (Organic Felt); 2003 (Reapproved 2022).
- I. ICC-ES AC188 - Acceptance Criteria for Roof Underlayments; 2023.
- J. ICC-ES AC207 - Acceptance Criteria for Polypropylene Roof Underlayments; 2012, with Editorial Revision (2015).
- K. NRCA (RM) - The NRCA Roofing Manual; 2024.
- L. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 ADDITIONAL REFERENCES STANDARDS

- A. ASTM C 67 - Standard Test Methods of Sampling and Testing Brick and Structural Clay Tile.
- B. ASTM C 387 - Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete.
- C. ASTM C 887 - Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar.
- D. ASTM C 920 - Standard Specification for Elastomeric Sealants.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on tile and underlayment, indicating material characteristics, installation instructions, and limitations and precautions.

- C. Selection Samples: Submit color chips representing manufacturer's full range of available tile colors and finishes.
- D. Shop Drawings by the roofing installation contractor Indicate the following:
 - 1. Roof tile:
 - a. Exposure pattern and investigation of the wood nailers shown on roof plan.
 - b. Locations and configurations of special shapes.
 - c. Locations and configuration of each type roof flashing.
 - 2. Fabricated sheet metal items:
 - a. Dimensioned profiles.
 - b. Locations and extent of each item; include joint locations.
 - c. Jointing methods and materials.
 - d. Provisions for prevention of electrolytic action between dissimilar materials.
 - e. Interface with adjacent construction.
- E. Verification Samples: Set of tiles representing actual product in color, finish, and style, including special shapes and fittings.
- F. Manufacturer's Certificates: Certify that tiles supplied for the project meet or exceed specified requirements.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements for additional provisions.
 - 2. Extra Roof Tiles: Quantity equal to 3 percent of total installed, including appropriate quantities for each color, size, and shape.
 - 3. Provide the following extra special shapes:
 - a. Closed Ridge End - provide two extra for Base Bid and Alternate #1
 - b. Ridge - provide five extra for Base Bid and ten extra Alternate #1
 - c. High Bump 2 Hip and 1 Ridge Terminal - provide zero extra for Base Bid and two extra for Alternate #1

ADD 2

1.06 MOCK-UPS

- A. Provide a mock-up for evaluation of clay roof tile installation workmanship, including typical eave, rake, valley, and ridge detail.
 - 1. Mock-up Size: 4 feet by 4 feet, minimum.
 - 2. Work with sheet metal contractor to provide mock-ups.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store materials with labels intact in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.08 FIELD CONDITIONS

- A. Do not install roof tiles, eave protection membrane or underlayment when surface, ambient air, or wind chill temperatures are below 45 degrees F.
- B. Protect surrounding areas and adjacent surfaces during execution of this work.
- C. Fastener Pullout Resistance Test: Minimum average fastener pullout resistance for clay roofing tile is 180 lbs. with no single value less than 170 lbs. Contractor to provide this test in the bid and pullout test observed by the Construction Manager. Report of this test result to be provided to the Owner and Architect.

ADD 2

- D. Base Bid will require the use of use new clay tile similar to the Ludowici French Tile listed.

1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

- B. Extended Correction Period: Correct defective work within 2-year period commencing on Date of Substantial Completion.
- C. Provide a 75 year limited material warranty on the new tile products. The 75-year limited material warranty is provided with the purchase of each piece of new terra cotta tile and is not purchased separately.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Clay Roof Tiles Manufacturers:
 - 1. Boston Valley Terracotta; www.bostonvalley.com/#sle.
 - 2. Gladding, McBean; www.gladdingmcbean.com/#sle.
 - 3. Ludowici Roof Tile; www.ludowici.com/#sle. Basis of Design
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ROOF TILES

- A. Clay Roof Tiles:
 - 1. Match existing tile as closely as possible. Installed field tile were Ludowici French tile (Patent Number 283,126) but now called Ludowici French Tile.
 - a. Profile: One piece interlocking profile tile.
 - b. Weight Per Square: 1025 lbs.
 - c. Overall Size: 9" x 16-1/4"
 - d. Exposure: 8-1/8" x 13-3/8"
 - e. Color: Summer Rose (M20) Ludowici Roof Tile Color
 - f. Base Texture: Smooth
 - g. Include left and right rakes to complete the roof installation.
 - 2. Match existing tile as closely as possible. The base of the cupolas use a wall field tile Ludowici Flat Slab Shingle Tile 3/8".
 - a. Profile: Flat Slab.
 - b. Weight Per Square: 1300 lbs.
 - c. Overall Size: 6" x 12" x 3/8"
 - d. Exposure: 6" x 5"
 - e. Color: Summer Rose (M20) Ludowici Roof Tile Color
 - f. Base Texture: Smooth
 - 3. See drawings for the special shapes for the following:
 - a. Closed ridge ends (two shapes required based on alternate).
 - b. Ridge (two shapes required based on alternate).
 - c. High bump.
 - d. Hip ridge end.
 - 4. Comply with requirements of ASTM C1167, Grade 1 tile; with nail holes made before firing.

2.03 SHEET MATERIALS

- A. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams.
 - 1. Type: Woven polypropylene with anti-slip polyolefin coating on both sides.
 - 2. Minimum Requirements: Comply with requirements of ICC-ES AC188 for non-self-adhesive sheet.
 - 3. Self Sealability: Passing nail sealability test specified in ASTM D1970/D1970M.
 - 4. Low Temperature Flexibility: Passing test specified in ASTM D1970/D1970M.
 - 5. Fasteners: As required by manufacturer and in compliance with local building code requirements.

- 6. Base Bid: The existing underlayment shall overlap a minimum of 8" and will installed in the zone of the top course of clay tile for the base bid only.

- B. Ice and Water Underlayment: Self-adhering polymer modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil, 0.040 inch minimum thickness, with strippable release paper and slip-resistant embossed polyethylene sheet top surface.

2.04 METAL FLASHING

- A. Provide metal roof flashing; see Section 07 62 00.

2.05 ACCESSORIES

- A. Attachment Components:
 - 1. Nailers: Nominal 2-inch thick members, 2" wide to match existing condition, verify found condition after removal of tile. Assume 5,000 linear feet of demolition of the existing and installation of new nailers.
- B. Fasteners:
 - 1. Tile Fasteners: Provide copper ring shank nails, must be copper or stainless steel, 11 gauge minimum, .285"-.312" head minimum and proper length to give good penetration of sufficient length to penetrate 3/4 inch into solid substrate or completely through sheathing.
 - 2. Screws must be stainless steel or brass, #8 or #9, with a minimum .285"-.312" diameter head
 - 3. Adhesive: Asphalt plastic roof cement complying with ASTM D4586/D4586M, Type II, non-asbestos, heavy body mastic comprising asphalt and other mineral ingredients.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine structural roof deck for compliance with specified requirements, and verify that roof penetrations and roof openings are correctly installed in proper locations.
- B. Do not begin installation of tile roofing until substrates have been properly prepared, and if substrate preparation is responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Prepare roof deck surfaces using methods recommended by tile manufacturer for achieving best results under project conditions.
- B. Seal roof deck joints wider than 1/16 inch with deck tape.
- C. At areas where elastomeric membrane underlayment will be installed, fill knot holes and surface cracks with latex filler, or cover knot holes with sheet metal.

3.03 INSTALLATION

- A. Install clay tile roofing system in accordance with manufacturers recommendations and NRCA (RM) applicable requirements.
- B. Eave Protection: Install from eave edge to minimum 3-foot upslope beyond projected interior face of exterior wall.
 - 1. Install eave protection membrane in accordance with manufacturer's installation instructions for project substrate.
 - 2. Install double layer of underlayment; nail first layer to deck and set second layer in roof cement, using a one-half width starter strip, lapping ends and edges a minimum of 4 inches, and staggering end laps in each consecutive layer.
- C. Underlayment:
 - 1. Roof Slopes from 4:12 to 20:12: Install two layers of organic felt underlayment over entire roof area, perpendicular to roof slope, with ends and edges weather lapped a minimum of 4 inches, staggering end laps of each layer, and nail in place.
- D. Valley Protection Membrane: Install full width elastomeric membrane underlayment centered at valleys, in accordance with manufacturer's installation instructions for project substrate; weather lap joints 12 inches, minimum.

- E. Metal Valley Flashings:
 - 1. Open Valleys: Install minimum 24-inch wide flashing over valley protection membrane, centered over valley and crimped to guide water flow; fasten to deck with cleats, overlapping end joints minimum 8 inches, and blind nailing upper end of each sheet; do not solder joints.
 - a. Lap underlayment over edges of flashing at least 4 inches.
- F. Sheet Metal Flashing: Install flashing at other locations as indicated and as required by project conditions.
 - 1. Install flashing at each location where clay roof tiles intersect other roofs, walls, parapets, chimneys, ventilators, and similar projections.
 - 2. Install drip edge flashing at eaves prior to installing underlayment.
 - 3. Install drip edge flashing on downslope roof edges after installation of underlayment.
- G. Elastomeric Membrane Flashing: Apply self-adhering membrane flashing in concealed locations where metal flashing would be difficult to apply effectively.
- H. Attachment Components:
 - 1. Cants: Install cant strips at eaves on top of underlayment, spaced for drainage.
 - 2. Nailers: Use the existing nailers at field tile, and new nailers at ridge and hips, directly over underlayment; protect with additional layer of underlayment before installing ridge and hip tiles and accessories.
- I. Clay Tile:
 - 1. Manufactures does not pre-blend the tile. It is the roofers responsibility to evaluate the tiles for color shade and range and then properly blend them to achieve a harmonious color roof without blotches, hotspots or patterns.
The person responsible for the blending of the shades of color should randomly select tiles from at least four different pallets.
After the installation of about 75-100 tiles, the roof should be inspected from the ground at a distance greater than 40 feet to determine that there are no streaks or blotches. To ensure a good range of tones, this inspection must be done at regular intervals.
 - 2. Install first row of tile at eaves with minimum projection of 1 inch.
 - 3. Lay tile square with building lines and parallel with roof slope, and install filler, closure, and mitered pieces as required.
 - 4. Unless otherwise indicated or recommended by tile manufacturer, install tile with minimum of 3-inch headlaps.
 - 5. Stagger joints between courses.
 - 6. Miter tile at valleys to form straight edge using masonry saw.
 - 7. Nail tiles by driving nails to point where nail heads just clear surface of tile, so tiles hang on nails; do not overdrive nails by putting pressure on underlying tile, and do not underdrive nails and put strain on overlying tile.
 - 8. At valleys and other areas with metal flashing, use wire ties for tile support as required to avoid nailing in vulnerable areas.
 - 9. Cut and fit tiles neatly around vents, pipes, and other projections.
 - 10. Install accessories in accordance with manufacturer's details and recommendations.

3.04 CLEANING

- A. See Section 01 70 00 - Execution and Closeout Requirements for additional requirements.
- B. Clean exposed work upon completion of installation; remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to finish.

3.05 PROTECTION

- A. Minimize traffic over finished roof surface; where walking on roof is absolutely necessary, wear soft-soled shoes and walk on abutting tiles to avoid breakage.

- B. Remove and replace damaged or broken tile before Date of Substantial Completion.

END OF SECTION

**SECTION 07 61 00
SHEET METAL ROOFING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sheet metal roofing, associated flashings, and underlayment.
- B. Counterflashings.
- C. Soldering of existing sheet metal roofing.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Roof sheathing, shims and wood blocking for batten seams.
- B. Section 07 6200 - Sheet Metal Flashing and Trim

1.03 REFERENCE STANDARDS

- A. ASTM B32 - Standard Specification for Solder Metal.
- B. ASTM B749 - Standard Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products; 2020.
- C. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).
- D. CDA A4050 - Copper in Architecture - Handbook; current edition.
- E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.
- F. Revere Copper Products - Copper and Common Sense: Sheet Copper Design Principles and Construction Techniques.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal types, finishes, characteristics, and solder.
- C. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- D. Samples: Submit two samples 8 x 8 inch in size of each copper ounce weight.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with CDA A4050 requirements, Revere Copper Products - Copper and Common Sense: Sheet Copper Design Principles and Construction Techniques and standard details, except as otherwise noted.
- B. Fabricator and Installer Qualifications: Company specializing in performing sheet metal roof installations with minimum five years of experience.

1.07 MOCK-UP

- A. Construct mock-up of sheet metal roofing into gutter, 4 feet long by 4 feet wide, illustrating associated attachments, flashings, joints and junctions, and terminating items to roof tiles.
- B. Mock-up sample of the half curved section of copper at the barrel dormers around the existing window with section cut of the existing to compare.
- C. 24" x 24" Sample of the standing bent to the radius installed on plywood of the barrel dormer typical standing seam. Delivered to the Architect's Office.
- D. Locate where directed.

- E. Mock-up may remain as part of the Work, if approved.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

1.09 FIELD CONDITIONS

- A. Do not proceed with roofing work during unsuitable weather. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including the possibility of temporary protection.
- B. Provide temporary roofing to effectively divert water to existing downspouts when existing roofing elements are being removed and replaced with new work.
- C. Do not remove materials in quantities greater than can be replaced in the same day, unless measures have been put in place to ensure weathertightness of the building when left overnight or on weekends.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Copper Sheet: ASTM B370, cold rolled, 20 ounces per square foot minimum thickness; manufacturer's standard natural finish.

2.02 ACCESSORIES

- A. Fasteners: Same material and finish as roofing metal, with soft neoprene washers.
 - 1. Match finish of exposed heads with material being fastened. Fasteners to have no dissimilar materials.
- B. Underlayment: ASTM D226/D226M, organic roofing felt, Type II ("No.30").
- C. Weatherproofing Underlayment: Rubberized asphalt bonded to sheet polyethylene, 40 mil total thickness, with strippable treated release paper; Grace Ice & Water Shield or approved equal.
- D. Slip Sheet: Rosin sized building paper. 6#, unsaturated.
- E. Reglets: Recessed type, same material as roofing sheets.
- F. Solder: ASTM B32; Sn50 (50/50) type for copper; 60/40 tin/lead type for lead-coated copper.
- G. Anti-Corrosion Paint: Provide one coat of asphalt emulsion paint at dissimilar materials that may corrode by galvanic action (ie: copper and aluminum). Provide in addition to separation/slip sheet.
- H. Accessories: Provide clips, straps, anchoring devices, edge strips, and similar accessory units as required for complete installation of work, matching material being installed, noncorrosive, size and gage required for performance.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, thickness greater than roofing sheet, and as detailed or at least 2 inch wide, interlockable with sheet.
- C. Fabricate starter strips, interlockable with sheet.
- D. Form pieces in single length sheets.
- E. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- F. Form material with standing, batten and flat-lock seams, as indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- G. Tin edges of copper sheet to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean.



- H. Provide for expansion as detailed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Inspect roof deck to verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.
- B. Verify deck is dry and free of snow or ice.
- C. Verify correct placement of wood nailers.
- D. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, reglets are in place, and nailing strips located.
- E. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
- C. Back paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION - ROOFING

- A. Apply underlayment over entire roof area.
 - 1. Apply roofing felt in one layer with 6 inch horizontal laps and 18 inch vertical laps, where copper roof/flashings has been removed. Install under rosin paper.
- B. Apply slip sheet in one layer, laid loose.
- C. Cleat and seam all joints.
- D. Solder lap joints. After soldering, wash metal clean with neutralizing solution, rinse with water.

3.04 INSTALLATION - FLAT SEAM ROOFING

- A. Comply with SMACNA (ASMM) details.
- B. Sheets are not to exceed 24 x 18 inches
- C. Space seams as indicated in drawings and shop drawings.
- D. Edges of two adjacent sides of rectangular sheet are folded over 1/2 inch. The edges of two other adjacent sides are folded under 1/2 inch. Copper cleats are engage in each of the two adjacent over folds and anchored. Two anchors per cleat (tab folded over anchors), and four cleats per sheet.
- E. All sheets to be pre-tinned to a width of 1-1/2 inch before folding edges.
- F. Provide continuous starter at roof edge, starter to lay on roof 4 inches and anchor with cleats at 18 inch centers. Starting roof sheet to cleat over starter edge minimum of 3/4-inch.
- G. Lay sheets with long dimension parallel to eaves. Apply pans beginning at edge of roof.
- H. Lock cleats into seams and flatten in direction of drainage.
- I. Stagger transverse joints of roofing sheets.
- J. Solder flat lock joints. After soldering, wash metal clean with neutralizing solution, rinse with water.

3.05 INSTALLATION - STANDING SEAM ROOFING

- A. Conform to SMACNA (ASMM) details.
- B. Space standing seams as indicated in drawings and shop drawings.
- C. Lock cleats into seams.
- D. Stagger transverse joints of roofing sheets.

- E. Finish standing seams 1-1/2 inch high on barrel surfaces.
- F. Fold lower ends of seams at roof over at 45 degree angle and solder to the extended flatlock roofing to go under the clay tile.

3.06 INSTALLATION - BUILT-IN GUTTERS AND DOWNSPOUTS

- A. Secure gutter lining to substrate with cleats spaced minimum 24 inches on center along edges of gutters.
- B. Longitudinal joints not acceptable.
- C. At roof edges, extend gutter lining under metal roofing 6 inches minimum and terminate in 3/4-inch folded edge secured by cleats; hook lower end of roofing into lock strip to form 3/4-inch wide loose-lock seam.
- D. Seal gutters watertight, and seal joint of gutter to drain and solder joints.
- E. Connect downspouts to downspout boots at 8 inches above grade, and grout connection watertight.
- F. Connect downspouts to storm sewer system, and grout connection watertight.
- G. Set splash pans under downspouts, and secure in place.

3.07 INSTALLATION - FLASHINGS

- A. Install reglets in accordance with Section 07 6200 - Sheet Metal Flashing and Trim.
- B. Conform to SMACNA (ASMM) details.
- C. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.
- D. Cleat and seam all joints.
- E. Apply plastic cement compound between metal flashings and felt flashings.
- F. Fit flashings tight in place, and make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- G. Seal metal joints watertight.
- H. Solder metal joints for full metal surface contact, and after soldering, wash metal clean with neutralizing solution and rinse with water.

3.08 PROTECTION

- A. Do not permit traffic over unprotected roof surface.

3.09 SCHEDULE

- A. Copper standing seam for the dormers and typical detail A1/A303: 20 oz. copper.

END OF SECTION



SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings, gutters, downspouts, and other items indicated in Schedule.
- B. Sealants for joints within sheet metal fabrications.
- C. Reglets and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers for sheet metal work.
- B. Section 07 32 13 - Clay Roof Tiles: Non-metallic flashings associated with clay roofing tiles.
- C. Section 07 61 00 - Sheet Metal Roofing: Flatlock and standing seam roofs.
- D. Section 07 92 00 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.
- E. Section 09 9600 - High Performance Coatings

1.03 REFERENCE STANDARDS

- A. ASTM B32 - Standard Specification for Solder Metal; 2020.
- B. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2022.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- D. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).
- E. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2015a (Reapproved 2021).
- F. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2018).
- G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).
- H. CDA A4050 - Copper in Architecture - Handbook; current edition.
- I. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples [3 by 3] inch in size illustrating metal finish color.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with five years of documented experience.

1.06 MOCK-UP

- A. Construct mock-up of the following copper elements; gutter assembly minimum [4] feet section, drain pan minimum [4] feet section, and one drain basket illustrating associated attachments,

flashings, joints and junctions, and terminating items. Include clay tile for observation with this mock-up for review and comment.

- B. Mock-up may remain as part of the Work, if approved.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Copper: ASTM B370, cold rolled 16 oz/sq ft (24 gage) (0.0216 inch) thick; natural finish.
- B. Copper: ASTM B370, cold rolled 20 oz/sq ft (22 gage) (0.0270 inch) thick; natural finish.
- C. Copper: ASTM B370, cold rolled 24 oz/sq ft (0.0320 inch) (0.81 mm) thick; natural finish.

2.02 ACCESSORIES

- A. Solid Rivets: Solid copper
- B. Blind Rivets: Copper dome head with copper mandrel.
- C. Underlayment: ASTM D226/D226M, organic roofing felt, Type II ("No. 30").
- D. Slip Sheet: Rosin sized building paper.
- E. Weatherproofing Underlayment: Rubberized asphalt bonded to sheet polyethylene, 40 mil total thickness, with strippable treated release paper; Grace Ice & Water Shield or approved equal.
- F. Protective Backing Paint: Zinc molybdate alkyd.
- G. Sealant to be Concealed in Completed Work: Non-curing butyl sealant.
- H. Sealant to be Exposed in Completed Work: ASTM C920; elastomeric sealant, 100 percent silicone with minimum movement capability of plus/minus 25 percent and recommended by manufacturer for substrates to be sealed; clear.
- I. Plastic Cement: ASTM D4586/D4586M, Type I.
- J. Reglets: Recessed type, stainless steel.
- K. Solder: ASTM B32; Sn50 (50/50) type.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, minimum [2] inches wide, interlocking with sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Tin edges of copper sheet to be soldered; solder shop formed metal joints, and after soldering, remove flux, wipe and wash solder joints clean; provide weathertight joints.
- G. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

2.04 GUTTER AND DOWNSPOUT FABRICATION

- A. Downspouts: Corrugated round profile.
 - 1. Size: 5 and 6 inch diameter that are corrugated to match existing.
- B. Gutters: Size indicated.
- C. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted reglets true to lines and levels, and seal top of reglets with sealant.
- C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

- A. Insert flashings into reglets to form tight fit; secure in place with lead wedges; seal flashings into reglets with sealant.
- B. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- C. Apply plastic cement compound between metal flashings and felt flashings.
- D. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- E. Solder metal joints for full metal surface contact, and after soldering wash metal clean with neutralizing solution and rinse with water.
- F. Secure gutters and downspouts in place with concealed fasteners.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

3.05 SCHEDULE



A. Typical Copper Sheet Metal Elements not listed: 20 oz. copper.

B. Downspouts: 20 oz. copper.

C. Copper Drain Basket: 24 oz. copper.



D. Copper Sheet Metal for Exterior: missing urn elements 20 oz. copper.

E. Expansion Joint Covers: 32 oz copper.

F. Valleys: 20 oz. copper.



G. Ridge cap: 20 oz. copper.

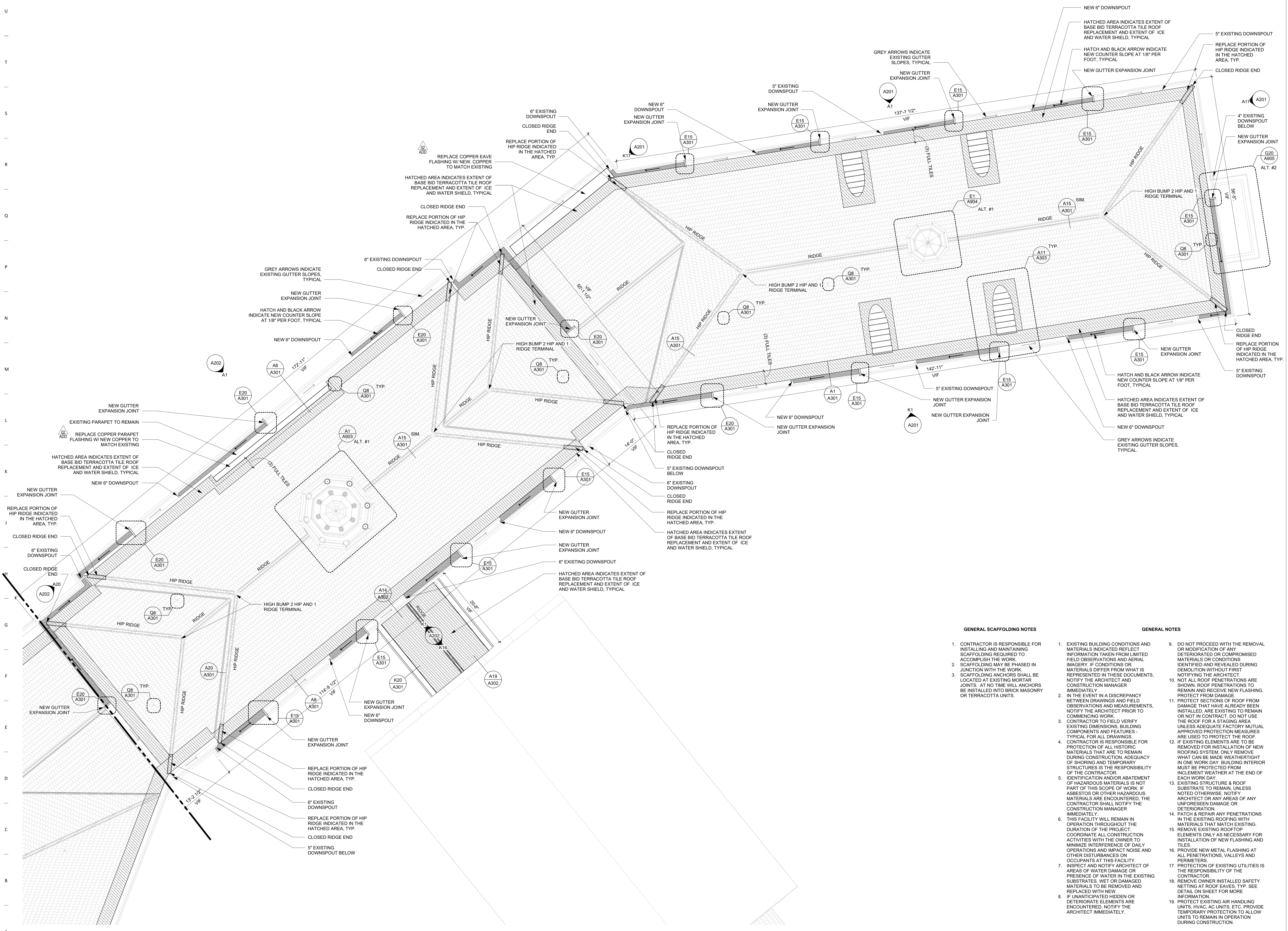
H. Lower and upper gutters (from outside edge extending to under shingles): 32 oz. copper.

I. Flashing and corner guards at cupolas: Gutters: 32 oz. copper.

END OF SECTION

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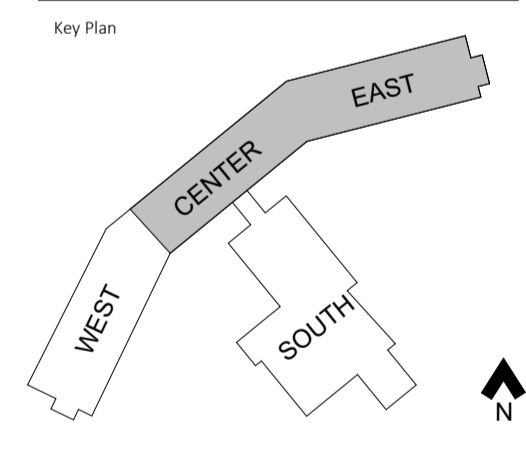


GENERAL SCAFFOLDING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING SCAFFOLDING REQUIRED TO ACCOMPLISH THE WORK.
2. SCAFFOLDING MAY BE PHASED IN JUNCTION WITH THE WORK.
3. SCAFFOLDING ANCHORS SHALL BE LOCATED AT EXISTING MORTAR JOINTS. AT NO TIME WILL ANCHORS BE INSTALLED INTO BRICK MASONRY OR TERRACOTTA UNITS.

GENERAL NOTES

1. EXISTING BUILDING CONDITIONS AND MATERIALS INDICATED REFLECT INFORMATION TAKEN FROM LIMITED FIELD OBSERVATIONS AND AERIAL IMAGERY. IF CONDITIONS OR MATERIALS DIFFER FROM WHAT IS REPRESENTED IN THESE DOCUMENTS, NOTIFY THE ARCHITECT AND CONSTRUCTION MANAGER IMMEDIATELY.
2. IN THE EVENT OF A DISCREPANCY BETWEEN DRAWINGS AND FIELD OBSERVATIONS AND MEASUREMENTS, NOTIFY THE ARCHITECT PRIOR TO COMMENCING WORK.
3. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS, BUILDING COMPONENTS AND FEATURES - TYPICAL FOR ALL DRAWINGS.
4. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL HISTORIC MATERIALS THAT ARE TO REMAIN DURING CONSTRUCTION. ADEQUACY OF SHORING AND TEMPORARY STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. IDENTIFICATION AND/OR ABATEMENT OF HAZARDOUS MATERIALS IS NOT PART OF THIS SCOPE OF WORK. IF ASBESTOS OR OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY.
6. THIS FACILITY WILL REMAIN IN OPERATION THROUGHOUT THE DURATION OF THE PROJECT. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE OWNER TO MINIMIZE INTERFERENCE OF DAILY OPERATIONS AND IMPACT NOISE AND OTHER DISTURBANCES ON OCCUPANTS AT THIS FACILITY.
7. INSPECT AND NOTIFY ARCHITECT OF AREAS OF WATER DAMAGE OR PRESENCE OF WATER IN THE EXISTING SUBSTRATES. WET OR DAMAGED MATERIALS TO BE REMOVED AND REPLACED WITH NEW.
8. IF UNANTICIPATED HIDDEN OR DETERIORATE ELEMENTS ARE ENCOUNTERED, NOTIFY THE ARCHITECT IMMEDIATELY.
9. DO NOT PROCEED WITH THE REMOVAL OR MODIFICATION OF ANY DETERIORATED OR COMPROMISED MATERIALS OR CONDITIONS IDENTIFIED AND REVEALED DURING DEMOLITION WITHOUT FIRST NOTIFYING THE ARCHITECT.
10. NOT ALL ROOF PENETRATIONS ARE SHOWN. ROOF PENETRATIONS TO REMAIN AND RECEIVE NEW FLASHING. PROTECT FROM DAMAGE.
11. PROTECT SECTIONS OF ROOF FROM DAMAGE THAT HAVE ALREADY BEEN INSTALLED. ARE EXISTING TO REMAIN OR NOT IN CONTRACT. DO NOT USE THE ROOF FOR A STAGING AREA UNLESS ADEQUATE FACTORY MUTUAL APPROVED PROTECTION MEASURES ARE USED TO PROTECT THE ROOF.
12. IF EXISTING ELEMENTS ARE TO BE REMOVED FOR INSTALLATION OF NEW ROOFING SYSTEM, ONLY REMOVE WHAT CAN BE MADE WEATHERTIGHT IN ONE WORK DAY. BUILDING INTERIOR MUST BE PROTECTED FROM INCLEMENT WEATHER AT THE END OF EACH WORK DAY.
13. EXISTING STRUCTURE & ROOF SUBSTRATE TO REMAIN UNLESS NOTED OTHERWISE. NOTIFY ARCHITECT OR ANY AREAS OF ANY UNFORESEEN DAMAGE OR DETERIORATION.
14. PATCH & REPAIR ANY PENETRATIONS IN THE EXISTING ROOFING WITH MATERIALS THAT MATCH EXISTING.
15. REMOVE EXISTING ROOFTOP ELEMENTS ONLY AS NECESSARY FOR INSTALLATION OF NEW FLASHING AND TILES.
16. PROVIDE NEW METAL FLASHING AT ALL PENETRATIONS, VALLEYS AND PERIMETERS.
17. PROTECTION OF EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
18. REMOVE OWNER INSTALLED SAFETY NETTING AT ROOF EAVES. TYP. SEE DETAIL ON SHEET FOR MORE INFORMATION.
19. PROTECT EXISTING AIR HANDLING UNITS, HVAC, AC UNITS, ETC. PROVIDE TEMPORARY PROTECTION TO ALLOW UNITS TO REMAIN IN OPERATION DURING CONSTRUCTION.



Revision	Description	Date
A001	ADDENDUM 02	Date 1
A002	ADDENDUM 02	Date 2

OPN Project No.
24843001

Sheet Issue Date
BID SET 10/03/2025

Sheet Name
ROOF PLAN - CENTER & EAST WINGS

Sheet Number
A100

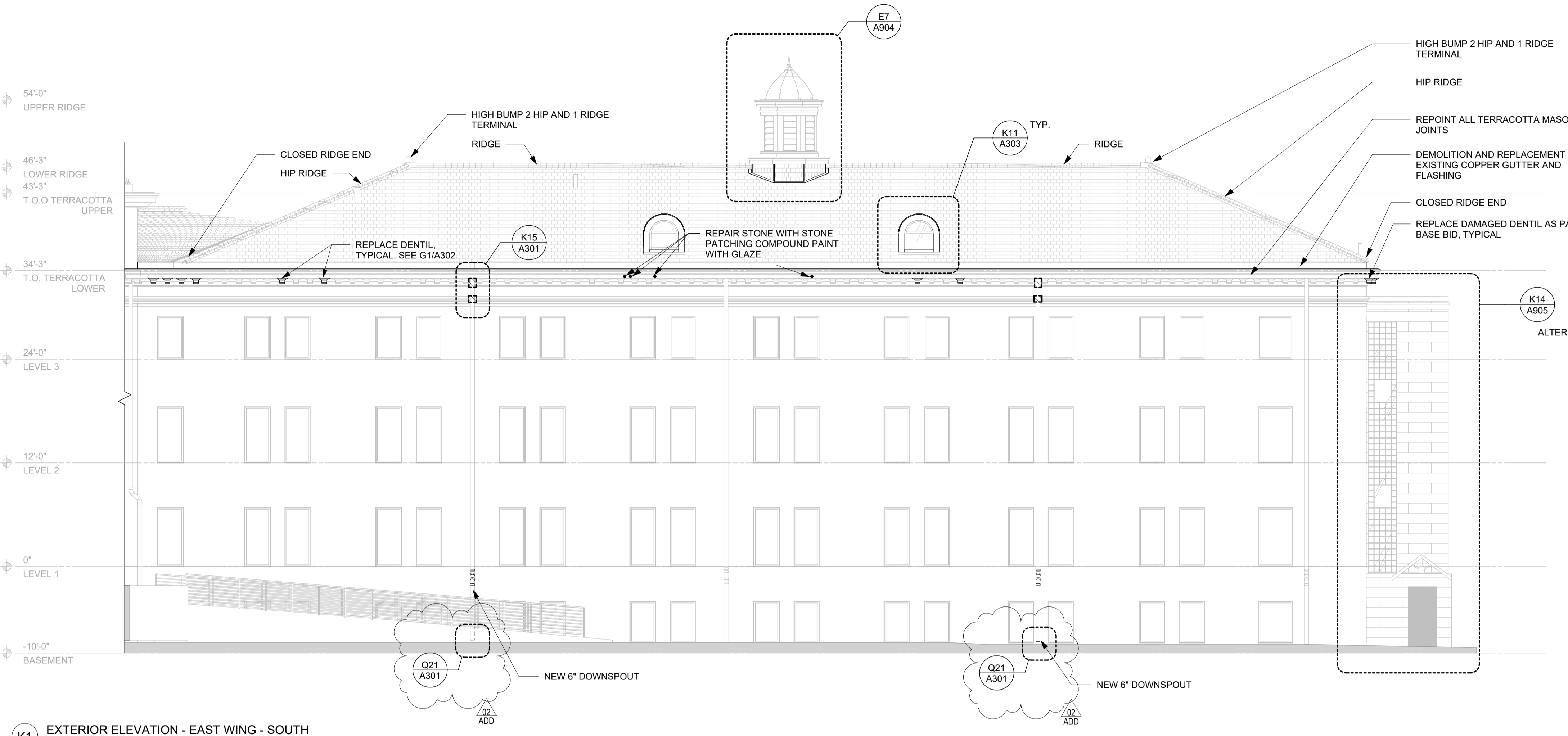
ROOF PLAN - CENTER & EAST WINGS
1/8" = 1'-0"

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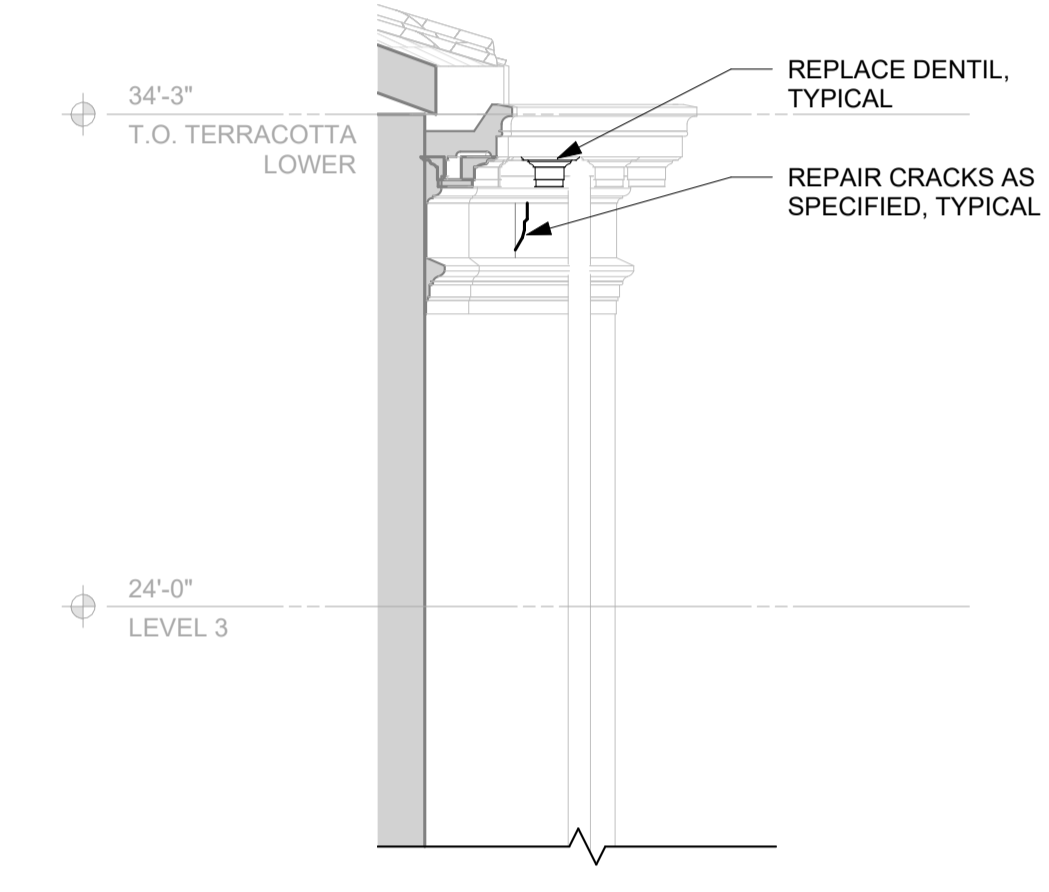
EXTERIOR CONDITIONS LEGEND

- REPAIR STONE W/ STONE PATCHING COMPOUND PAINT WITH GLAZE
- REPLACE DENTIL, TYPICAL
- REPLACE STONE
- REMOVE STONE
- STONE STRESS / CRACKING

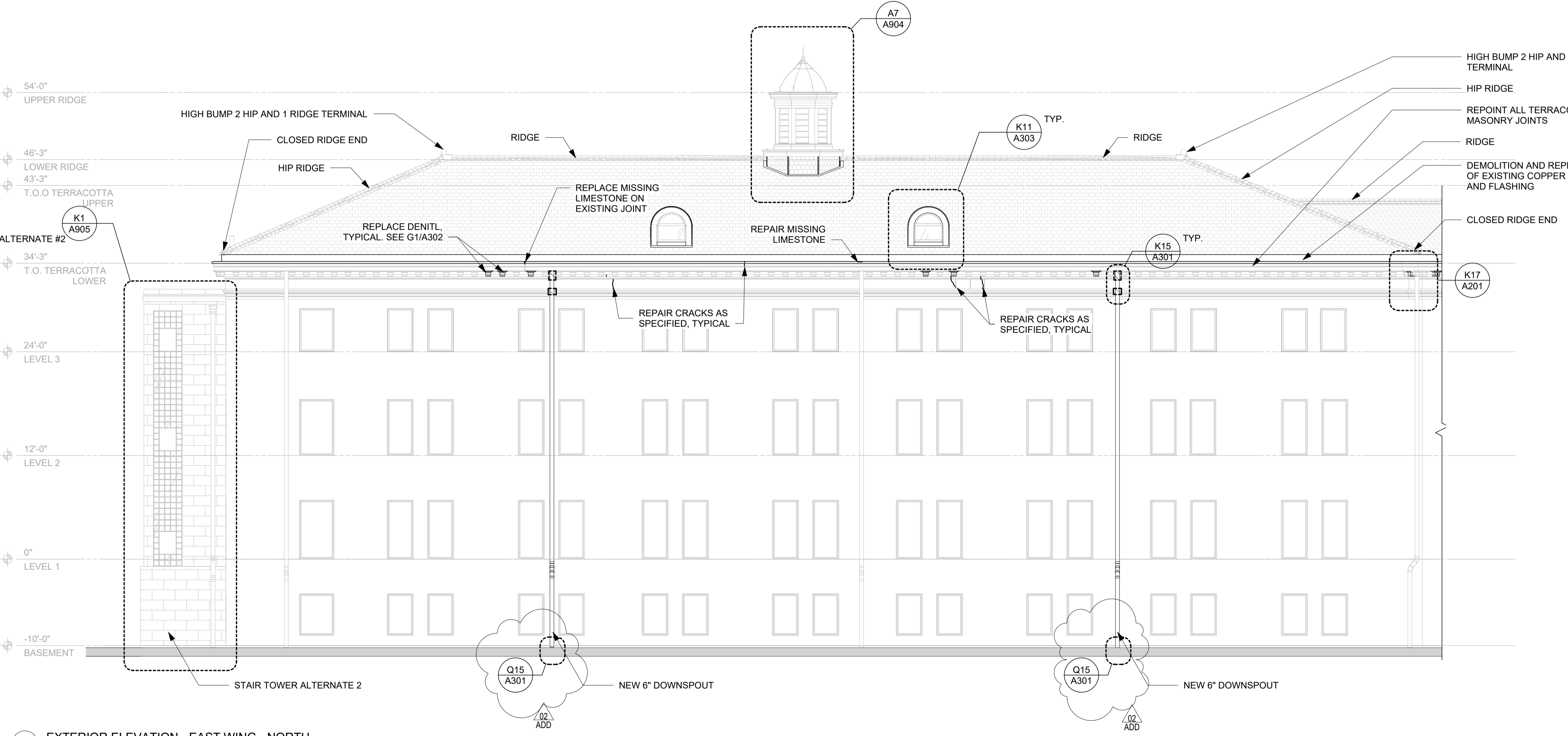
NOTE: SEE ROOF PLANS AND ALTERNATE ROOF PLANS FOR ALTERNATE SCOPES OF WORK.



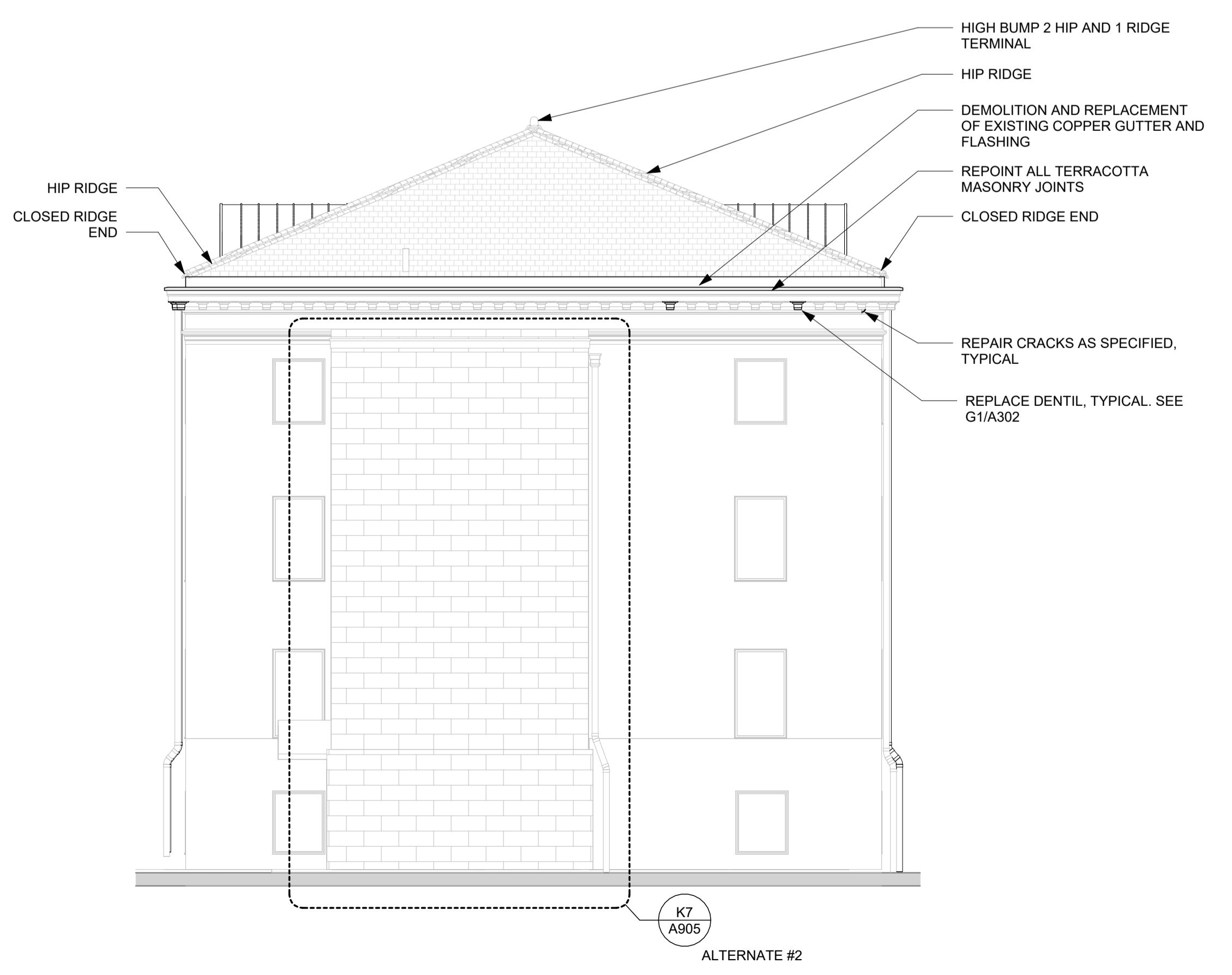
K1 EXTERIOR ELEVATION - EAST WING - SOUTH
1/8" = 1'-0"



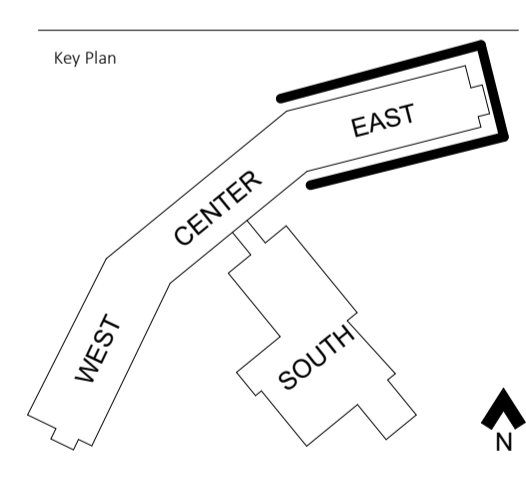
K17 EAST WING - EXTERIOR ELEVATION - CORNER - EAST WING - NORTH
1/4" = 1'-0"



A1 EXTERIOR ELEVATION - EAST WING - NORTH
1/8" = 1'-0"



A17 EXTERIOR ELEVATION - EAST WING - EAST
1/8" = 1'-0"



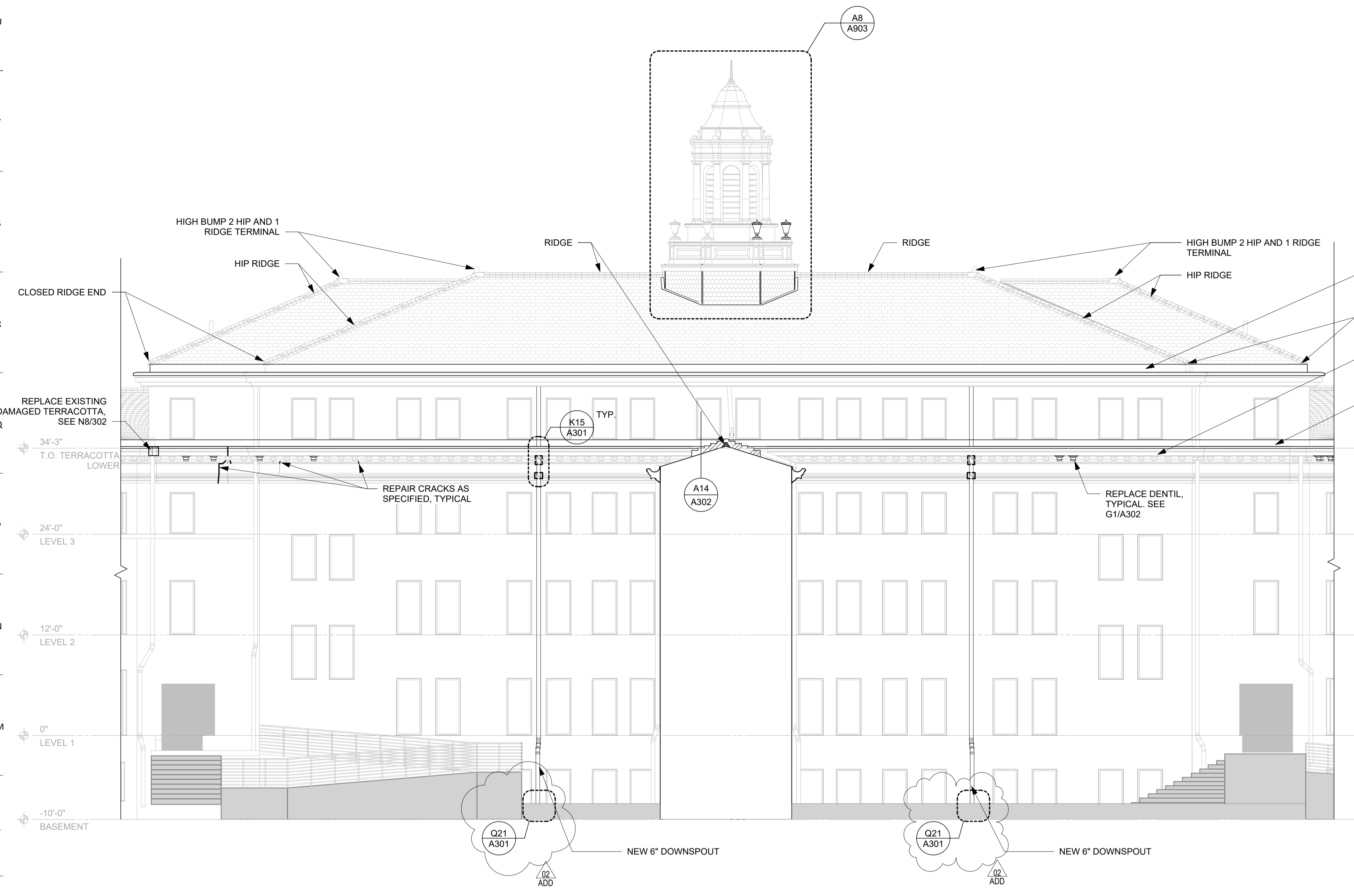
Revision	Description	Date
ADD 02	ADDENDUM 02	Date 1

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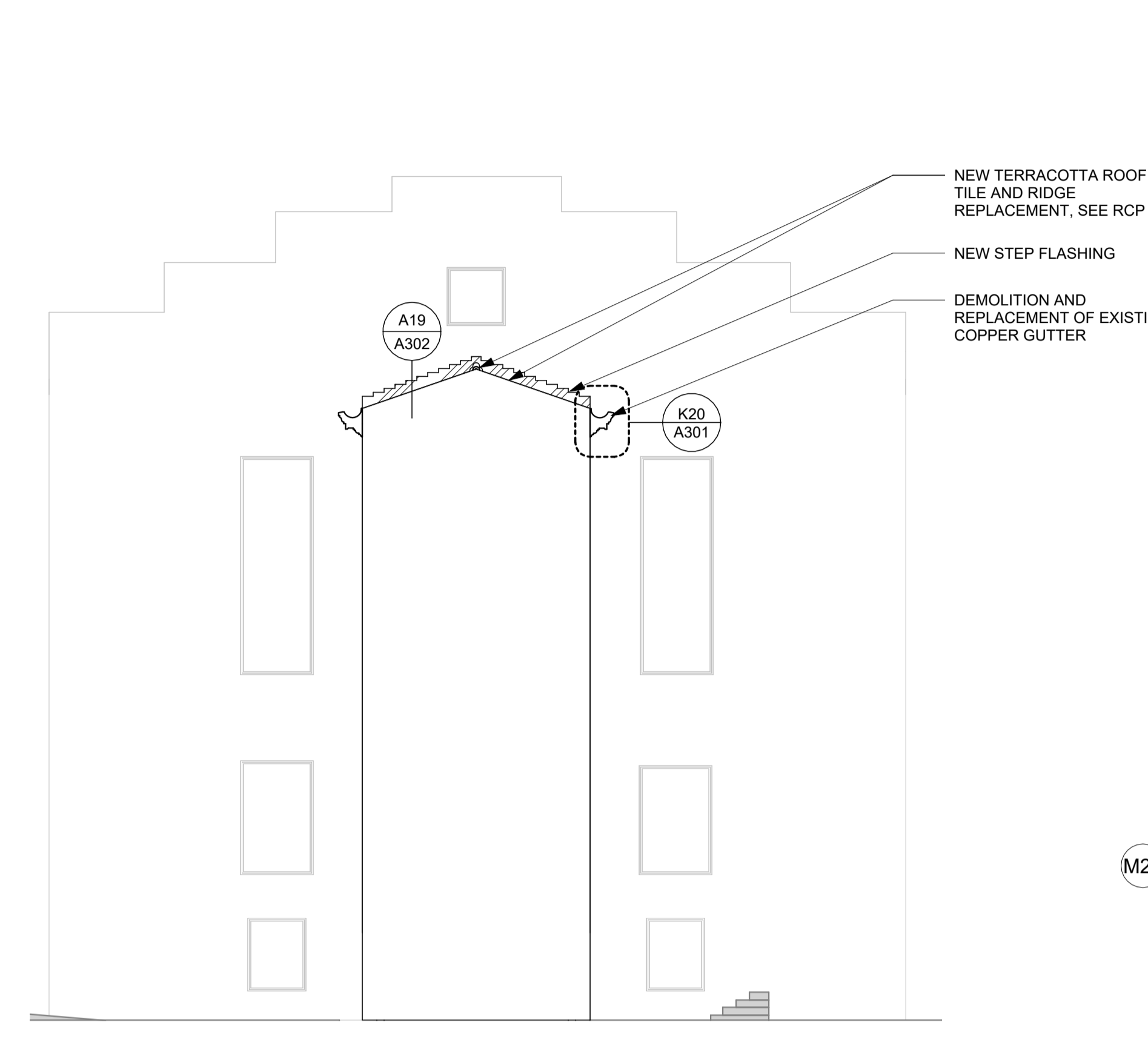
EXTERIOR CONDITIONS LEGEND

- REPAIR STONE W/ STONE PATCHING COMPOUND PAINT WITH GLAZE
- REPLACE STONE
- STONE STRESS / CRACKING
- REMOVE STONE

NOTE: SEE ROOF PLANS AND ALTERNATE ROOF PLANS FOR ALTERNATE SCOPES OF WORK.



K1 EXTERIOR ELEVATION - CENTER WING - SOUTH
1/8" = 1'-0"



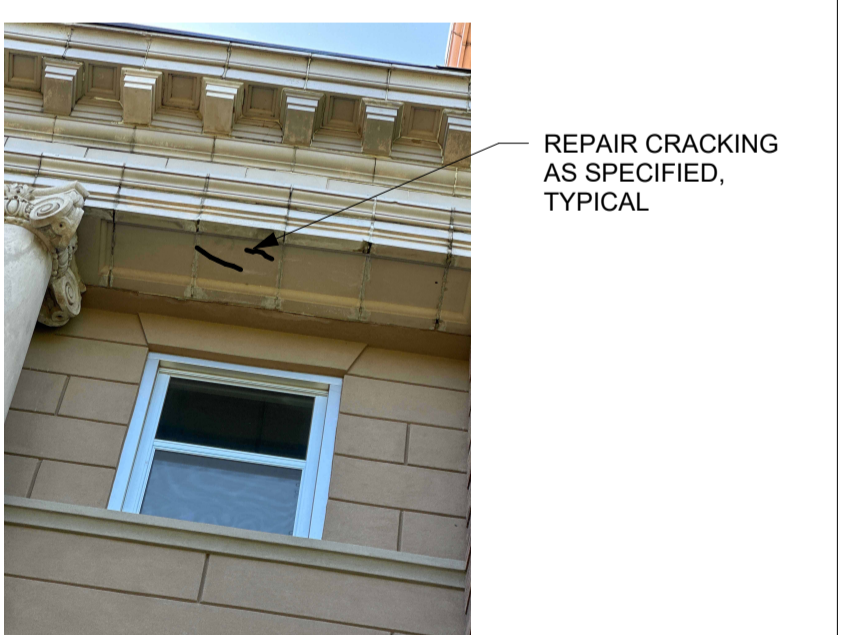
K16 EXTERIOR ELEVATION - AUDITORIUM - NORTH
1/8" = 1'-0"



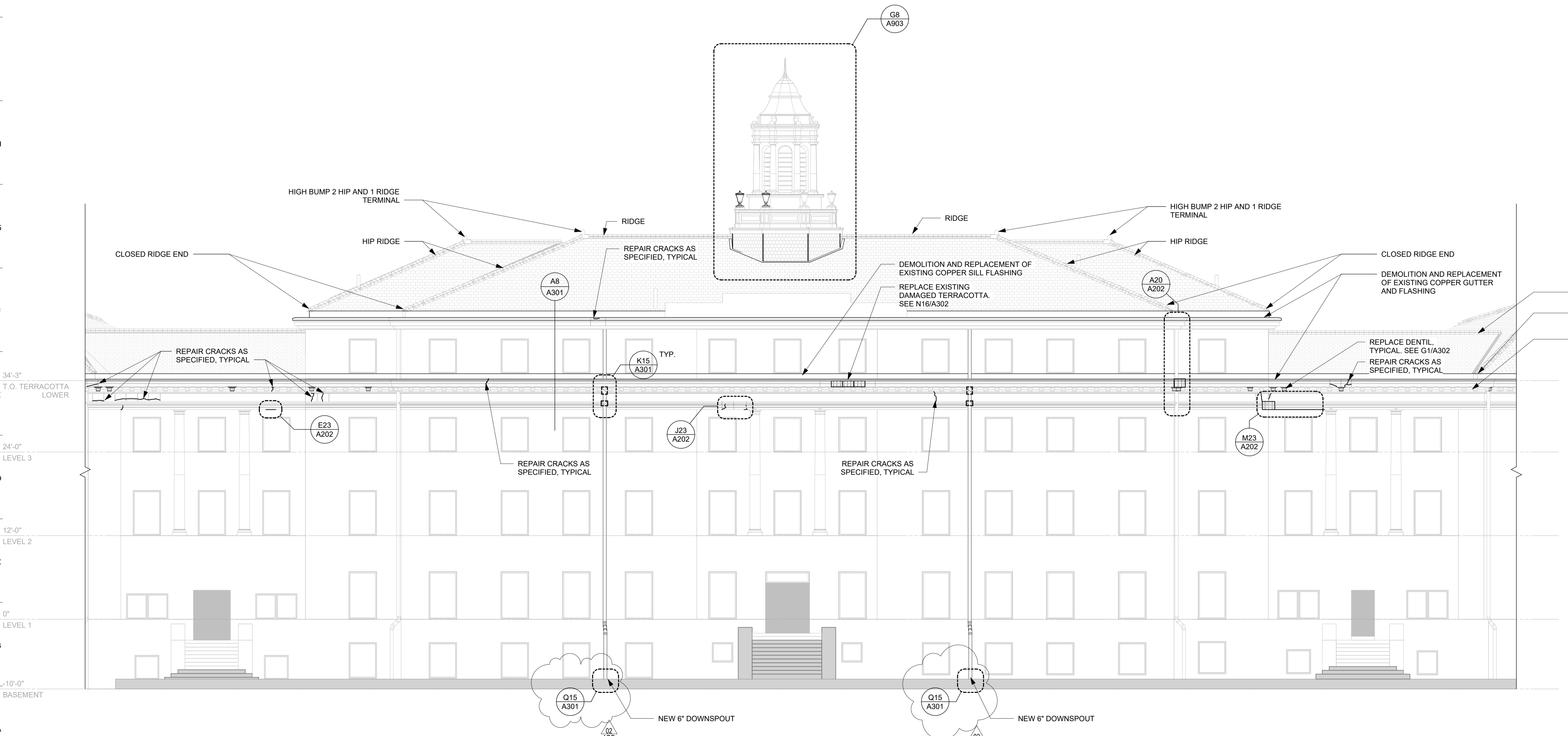
M23 PHOTO - LIMESTONE CRACKING 3
1/8" = 1'-0"



J23 PHOTO - LIMESTONE SOFFIT CRACKING 2
1/8" = 1'-0"

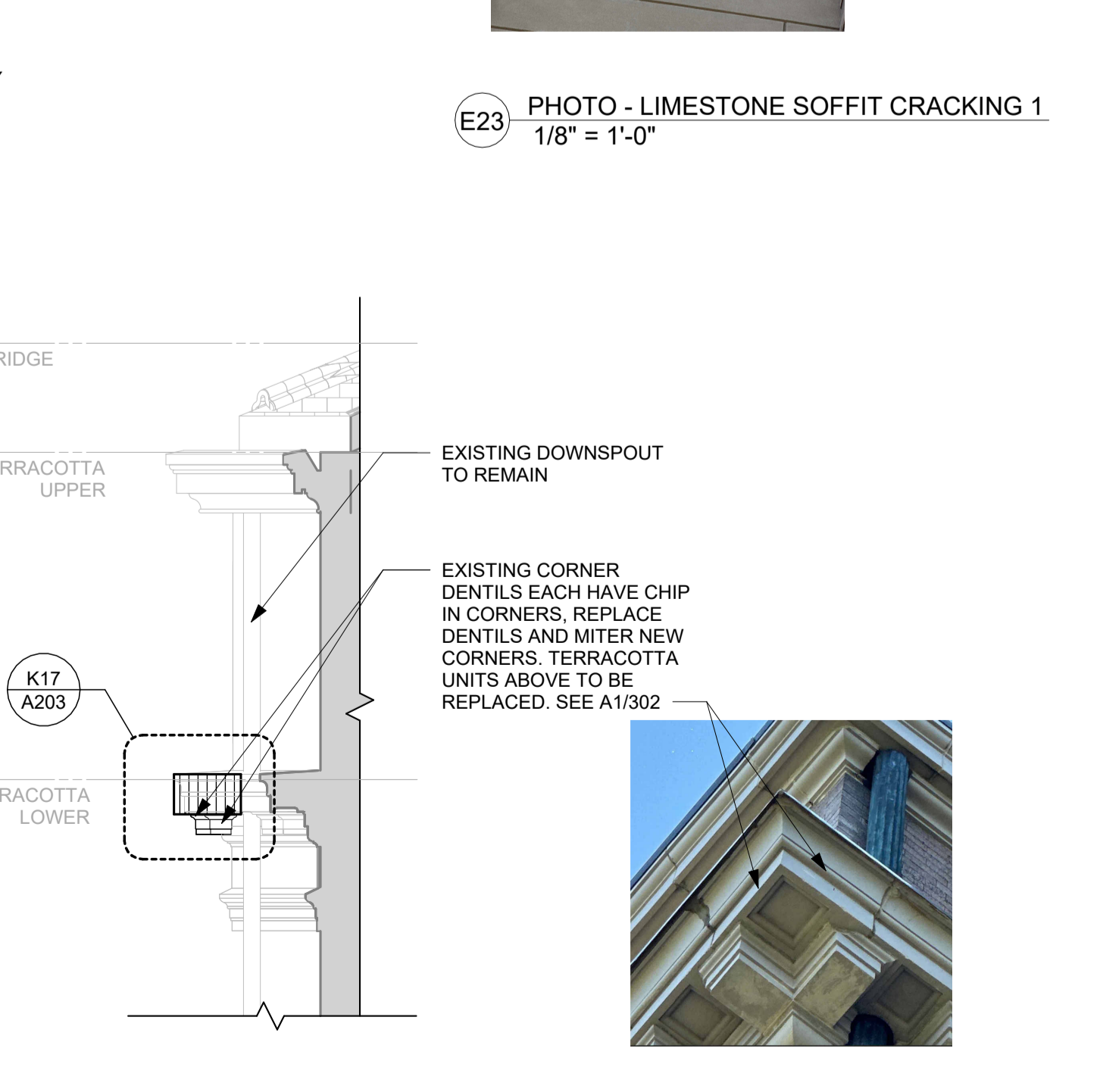


E23 PHOTO - LIMESTONE SOFFIT CRACKING 1
1/8" = 1'-0"

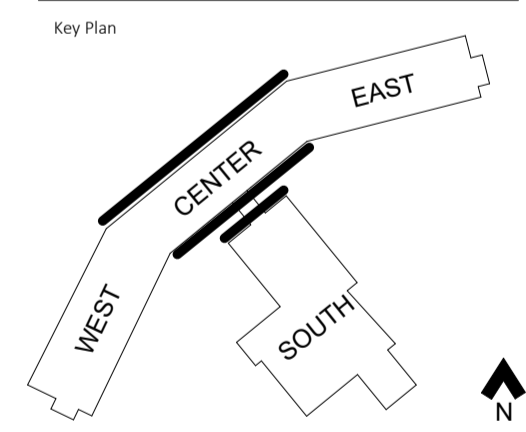


A1 EXTERIOR ELEVATION - CENTER WING - NORTH
1/8" = 1'-0"

ENLARGED ELEVATION - CORNER



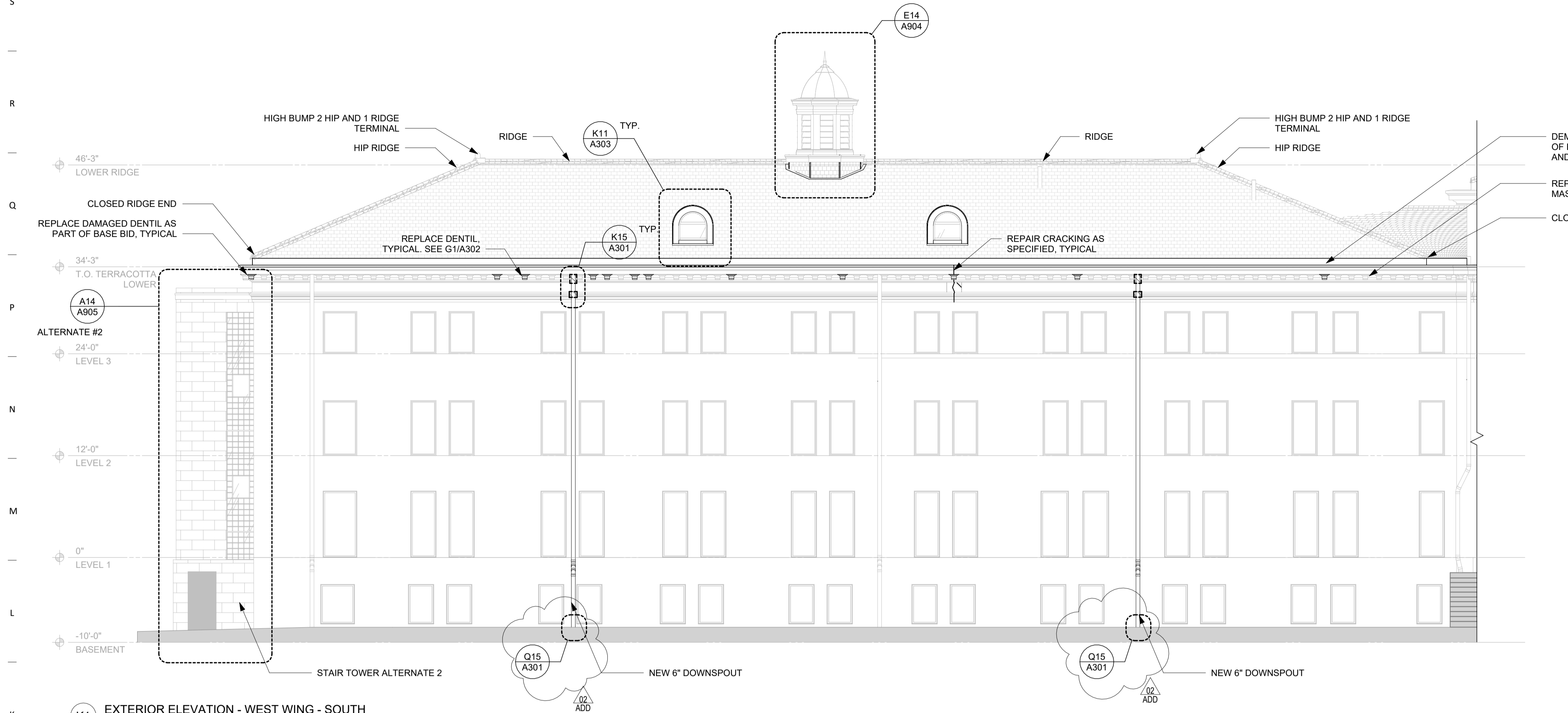
A20 ENLARGED ELEVATION - CORNER
1/4" = 1'-0"



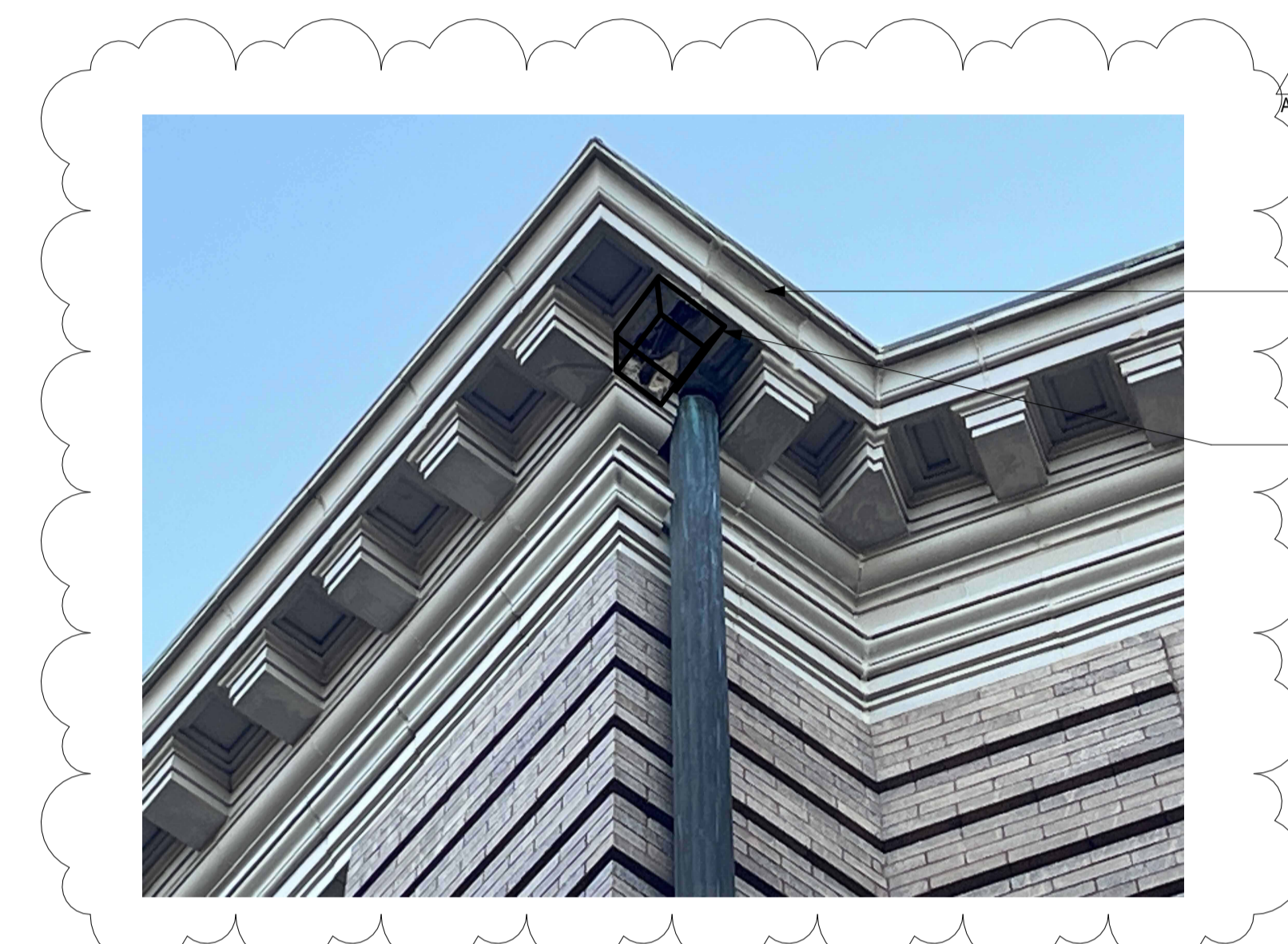
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NOTE:
SEE ROOF PLANS AND ALTERNATE ROOF PLANS FOR ALTERNATE SCOPES OF WORK.

- EXTERIOR CONDITIONS LEGEND**
- REPAIR STONE W/ STONE PATCHING COMPOUND PAINT WITH GLAZE
 - REPLACE STONE
 - STONE STRESS / CRACKING
 - REMOVE STONE



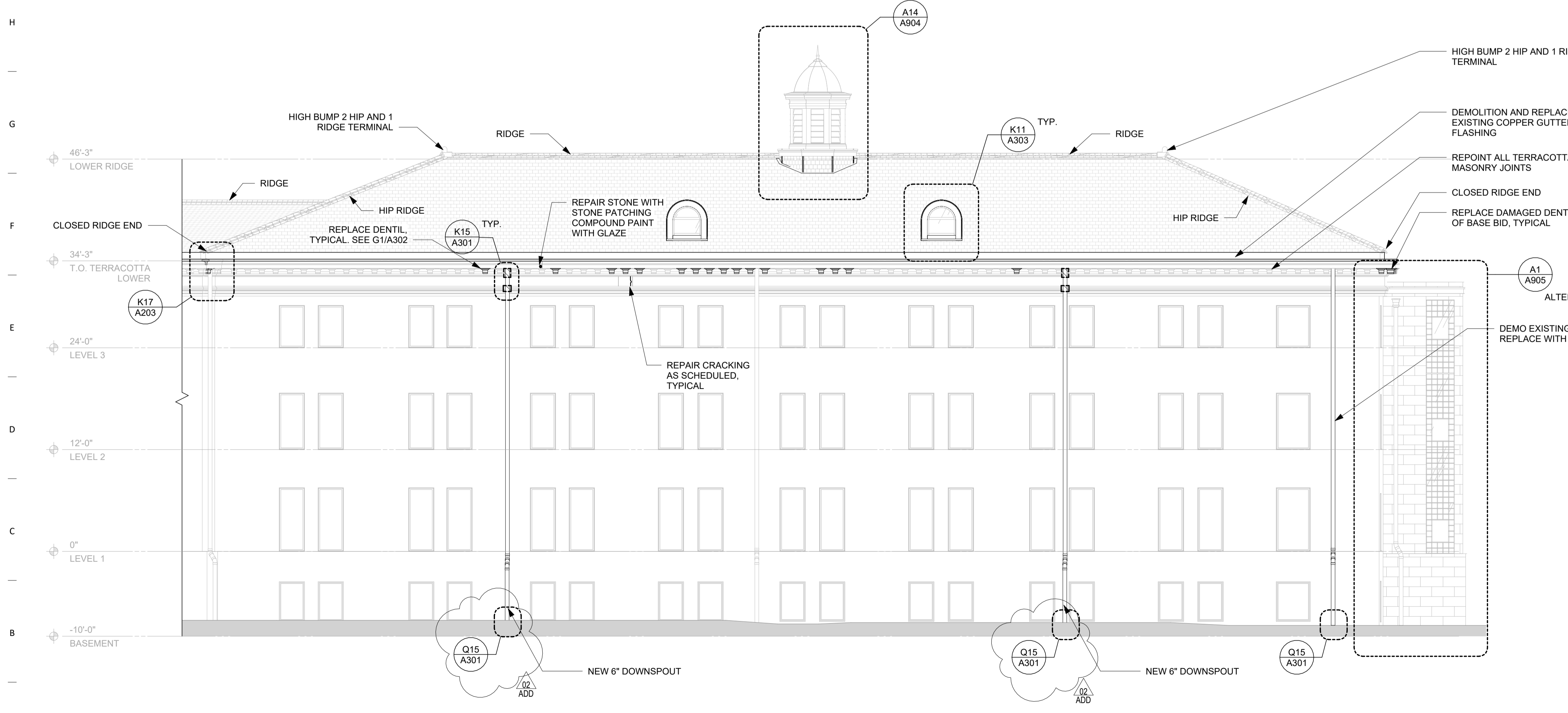
K1 EXTERIOR ELEVATION - WEST WING - SOUTH
1/8" = 1'-0"



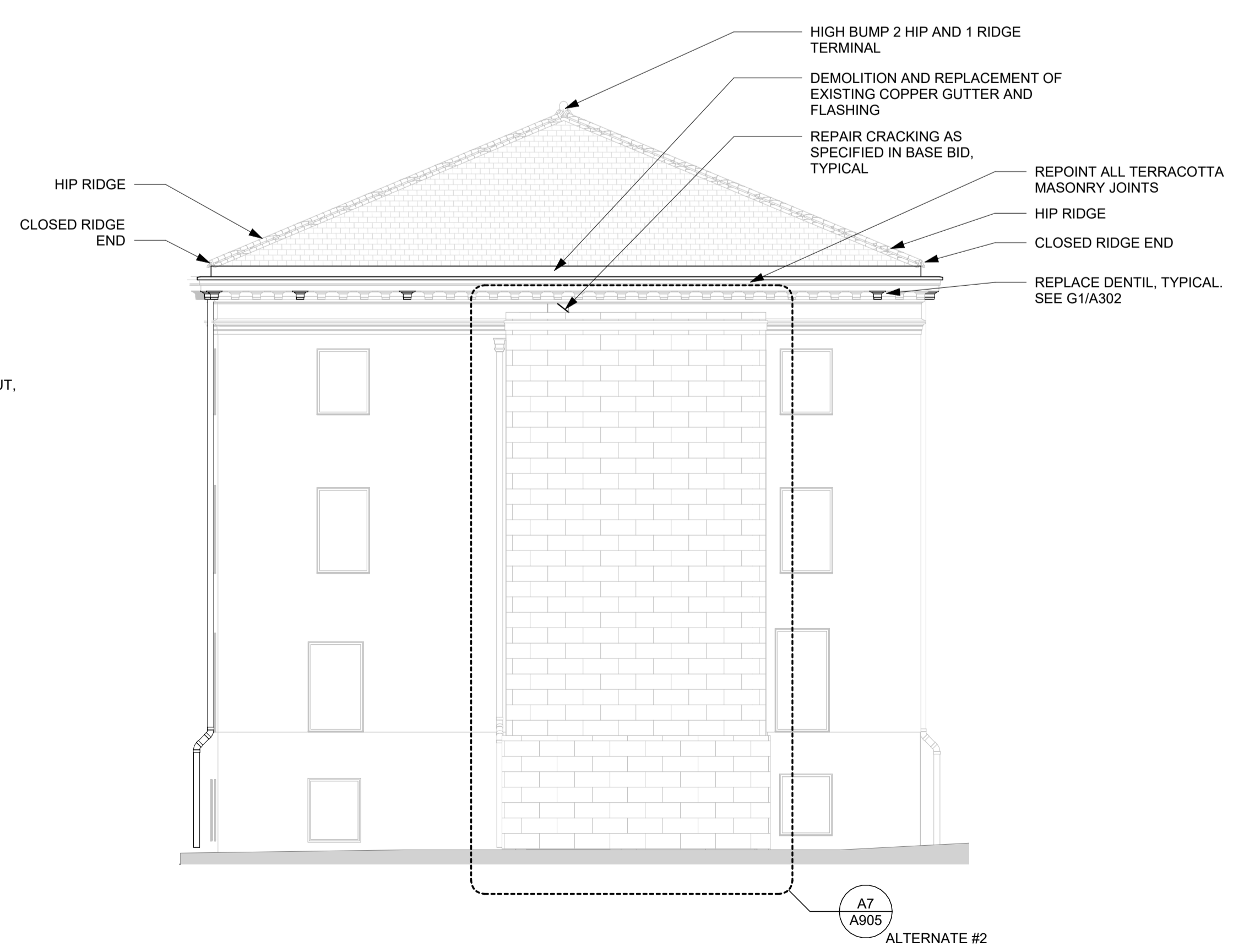
K17 CORNER DENTIL DAMAGE PHOTO
1" = 1'-0"

REPLACE TERRACOTTA UNIT THAT HAS BEEN DAMAGED BY WATER

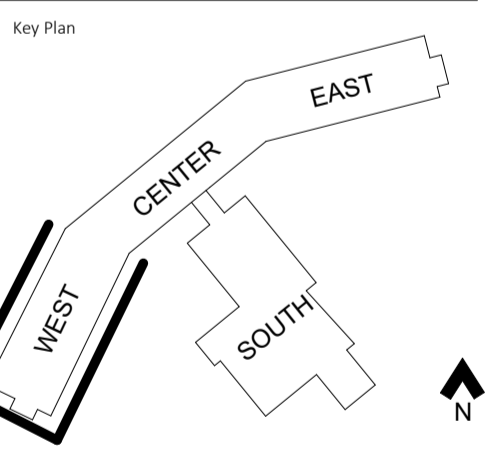
MISSING DENTIL AT CORNER. MITER NEW DENTIL CORNER TO EXISTING ADJACENT DENTIL.



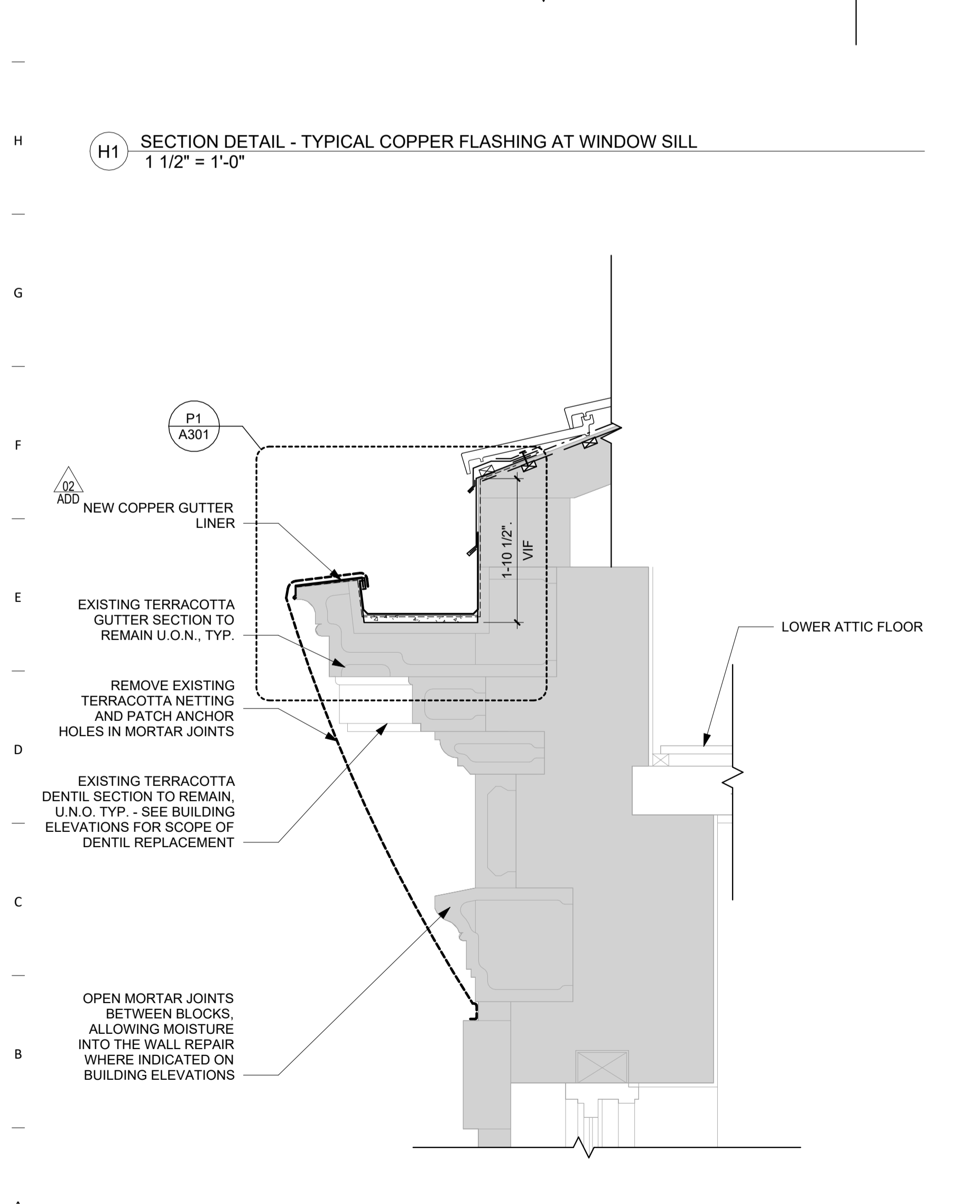
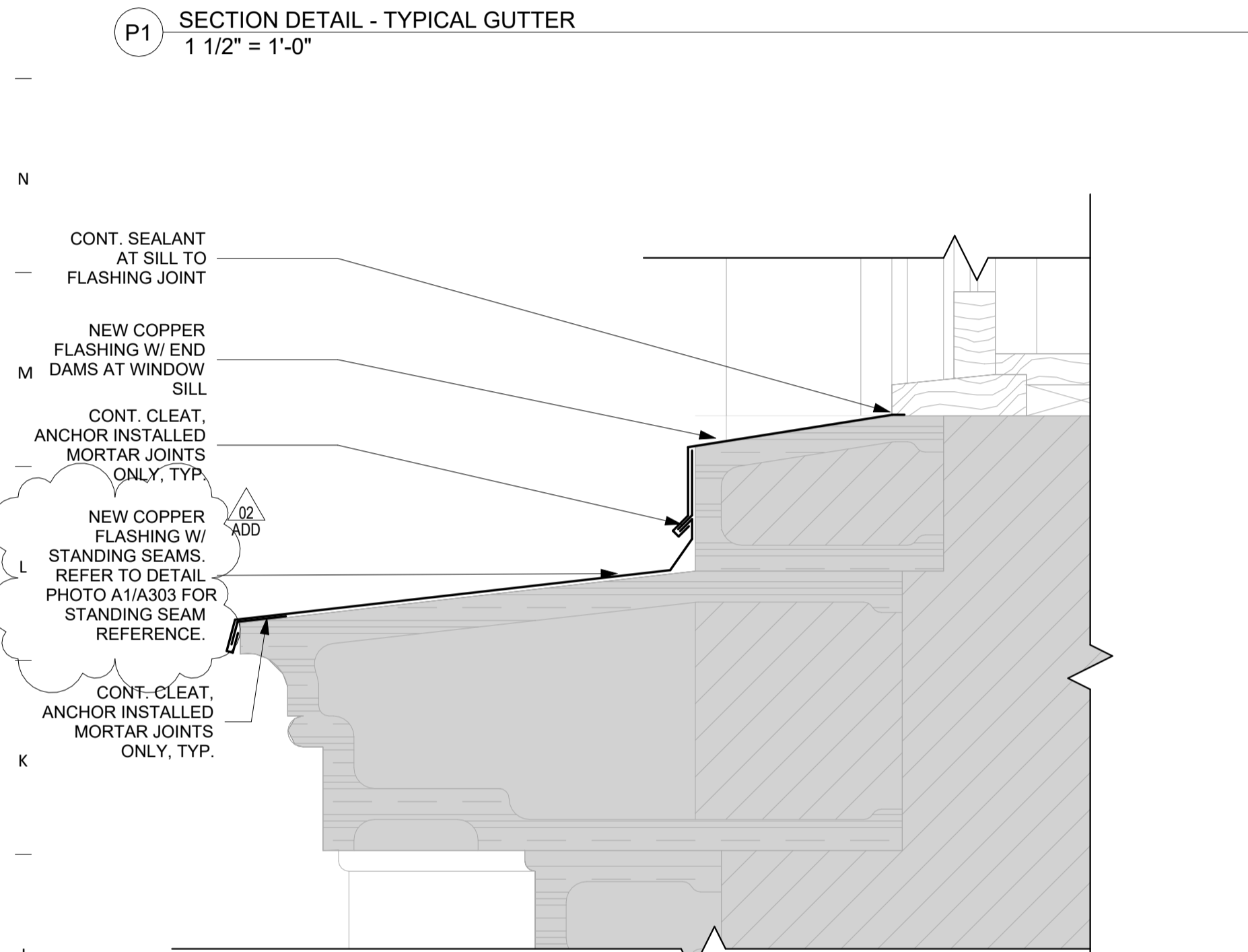
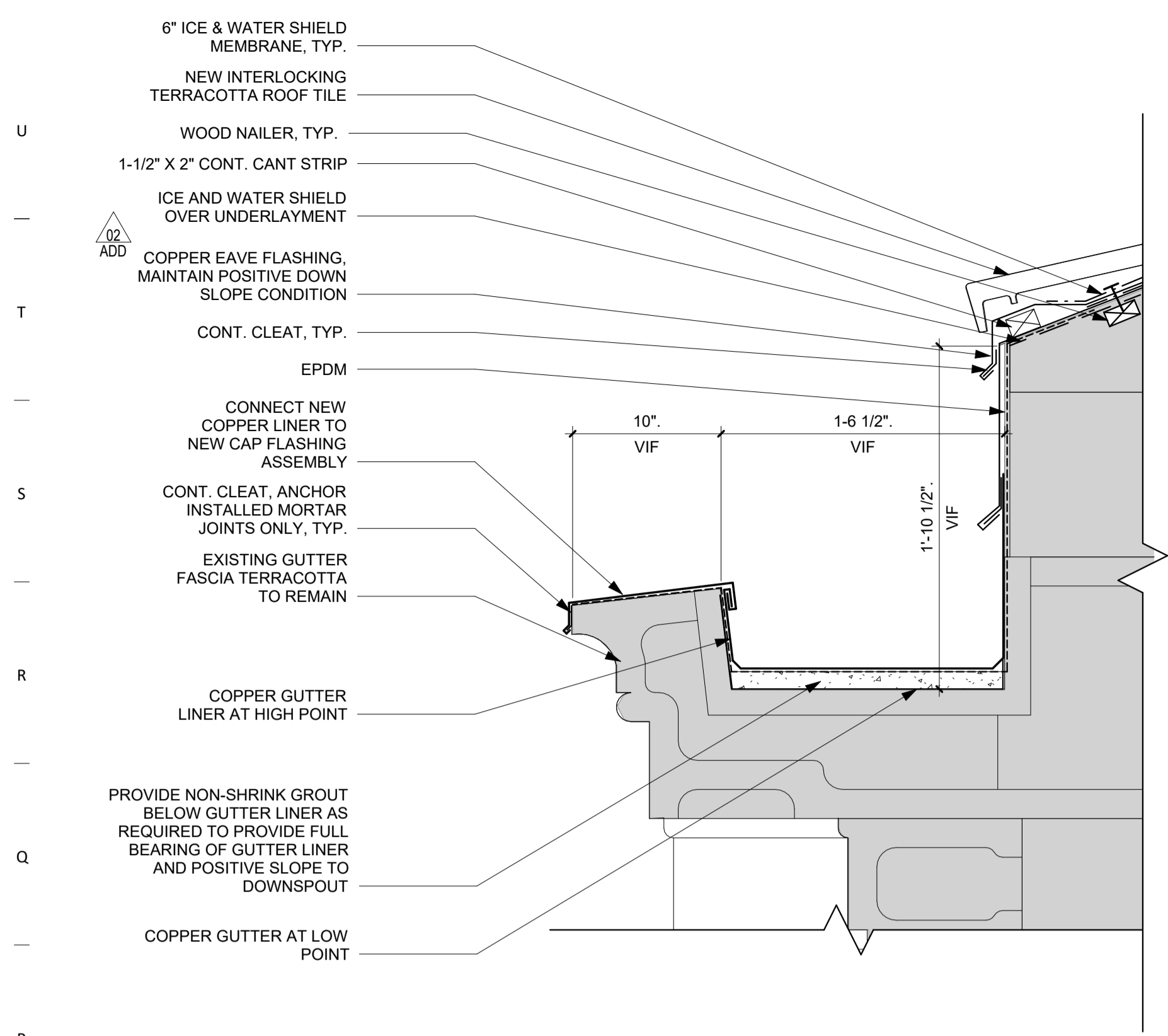
A1 EXTERIOR ELEVATION - WEST WING - NORTH
1/8" = 1'-0"



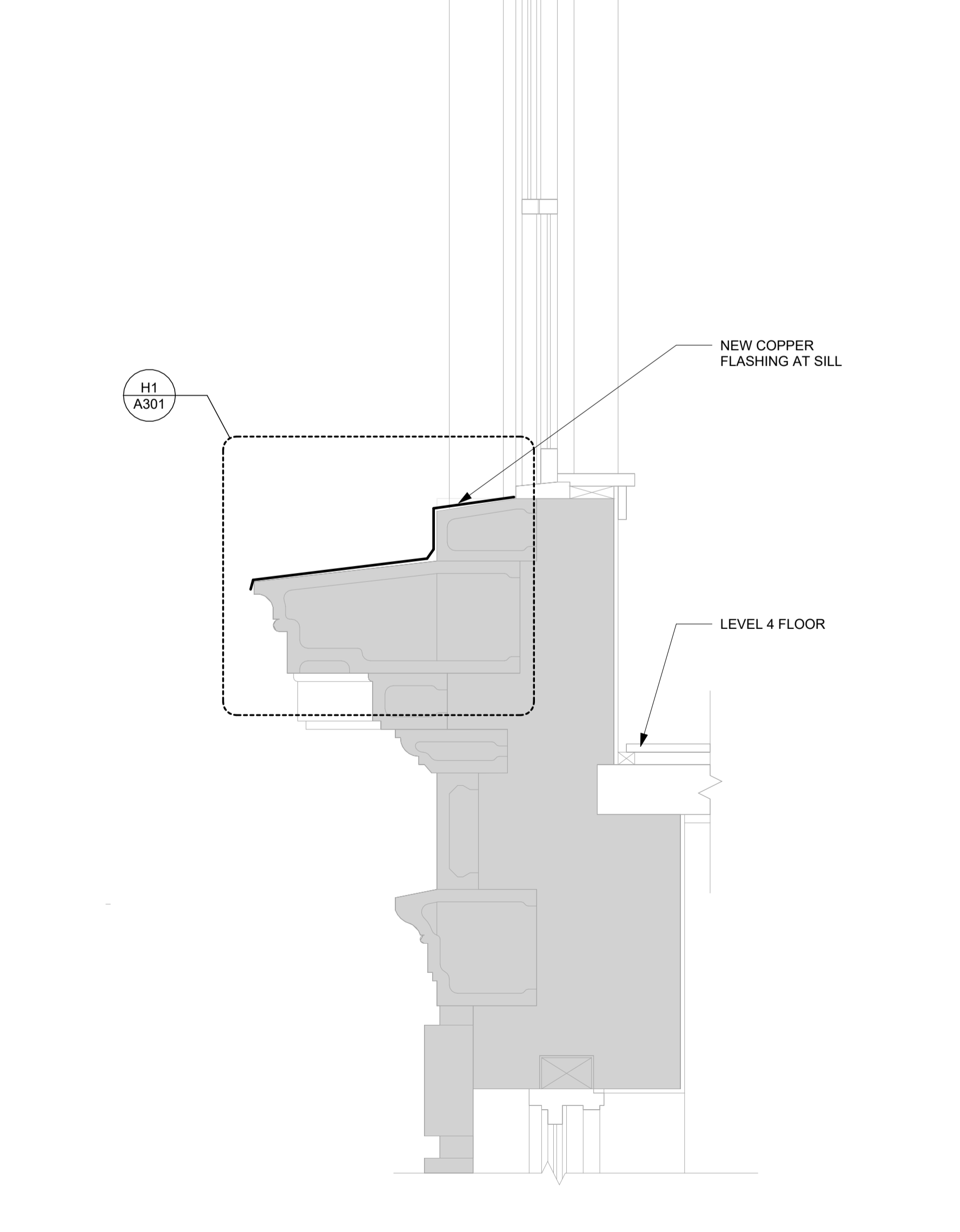
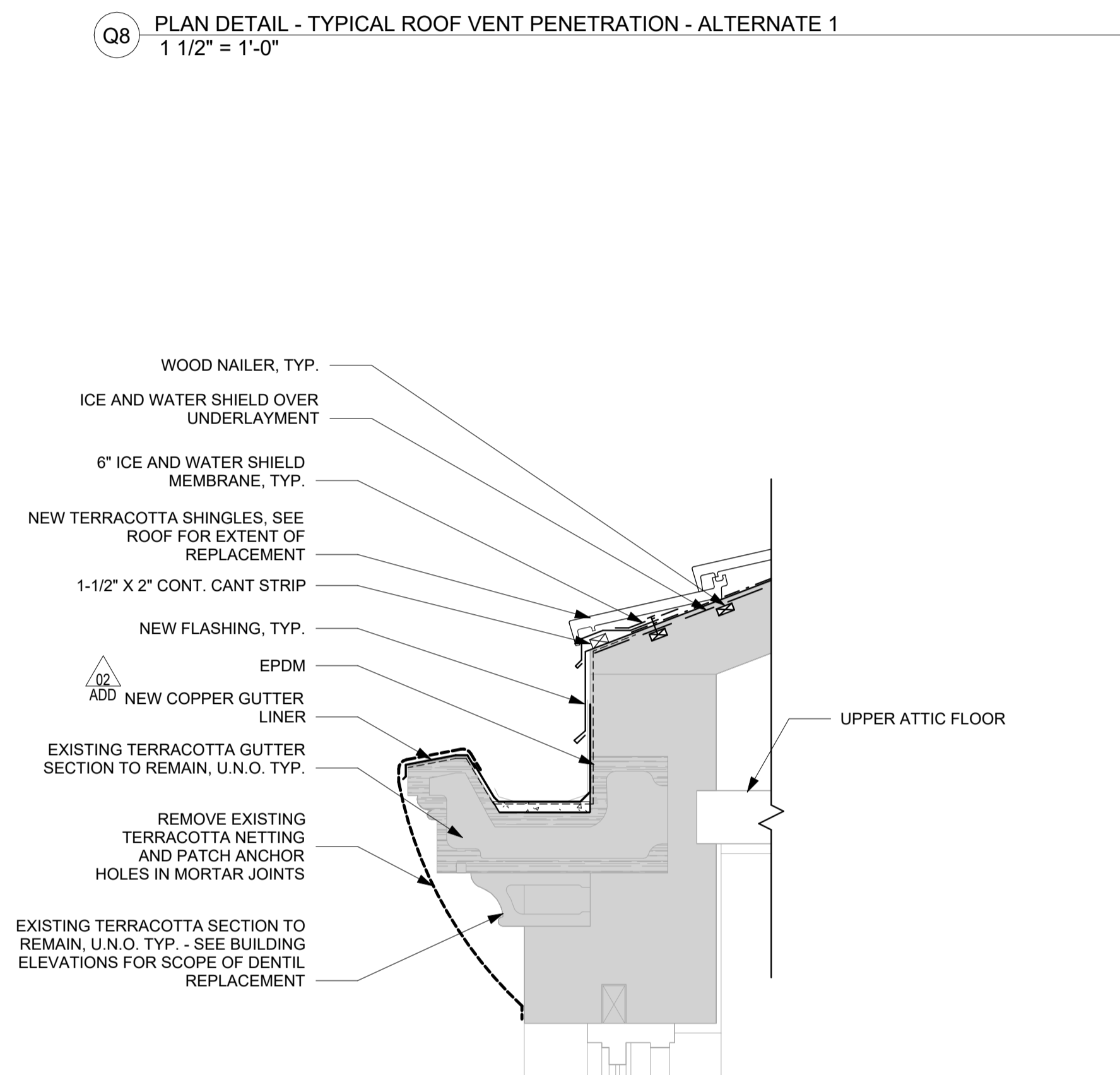
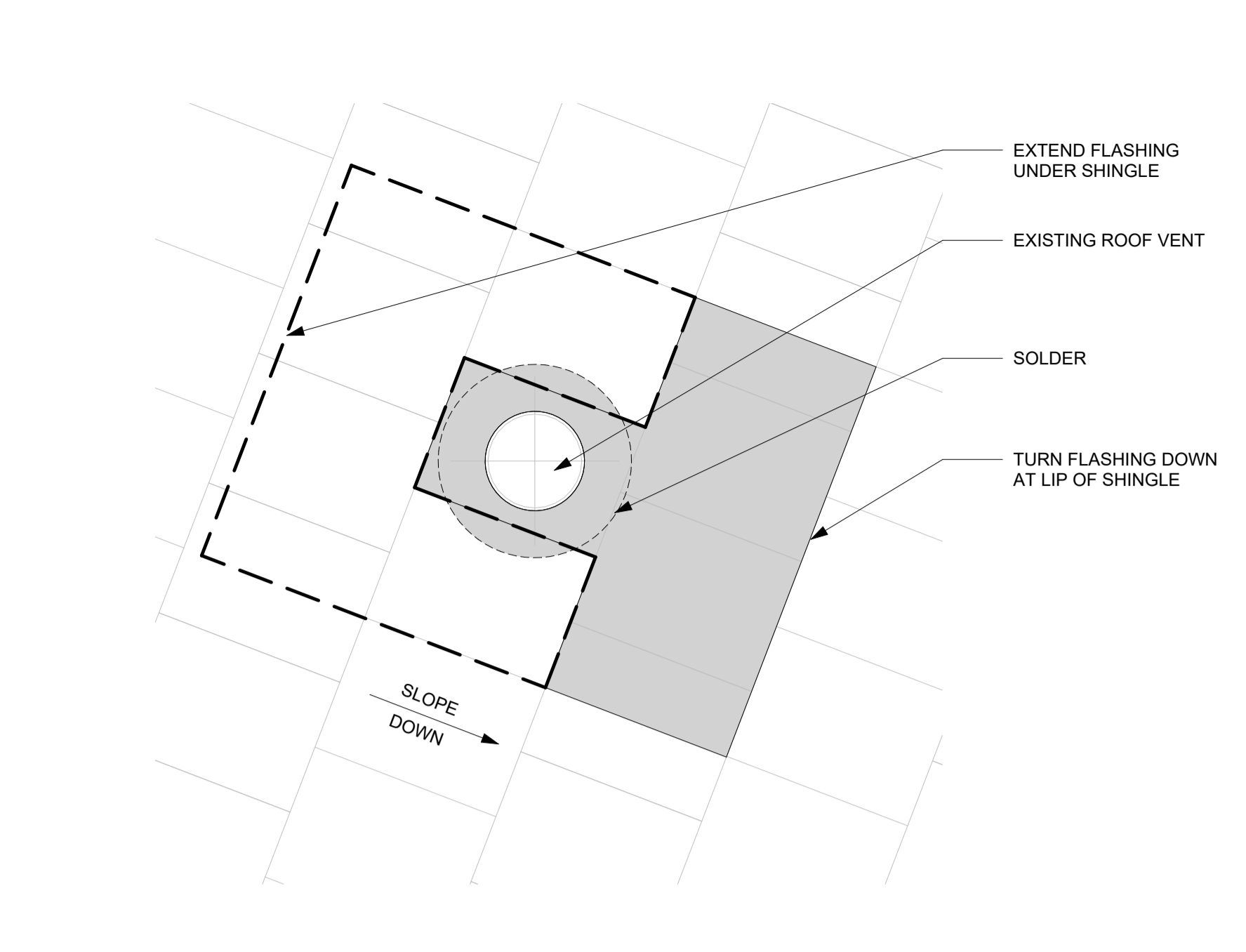
A17 EXTERIOR ELEVATION - WEST WING - WEST
1/8" = 1'-0"



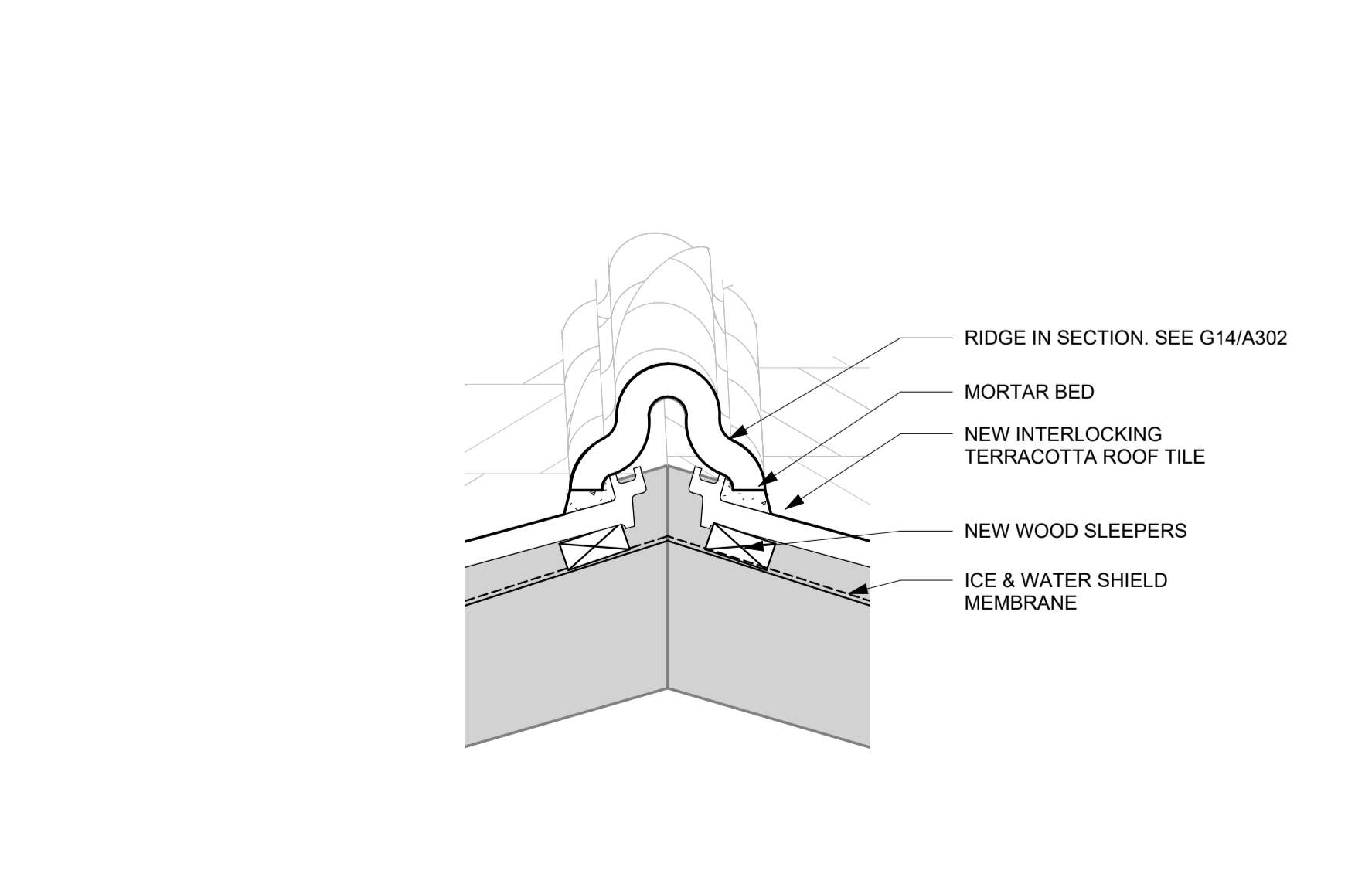
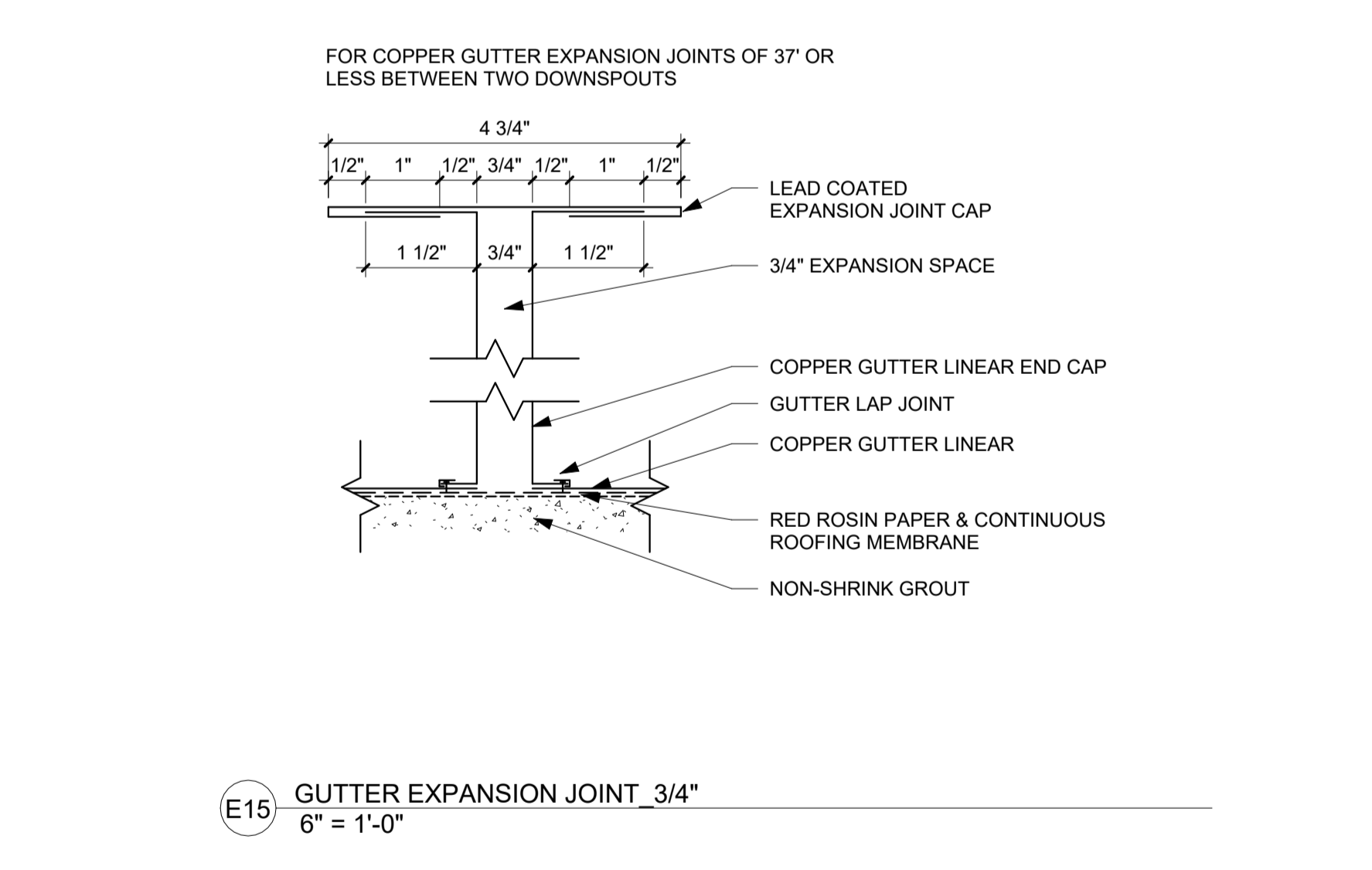
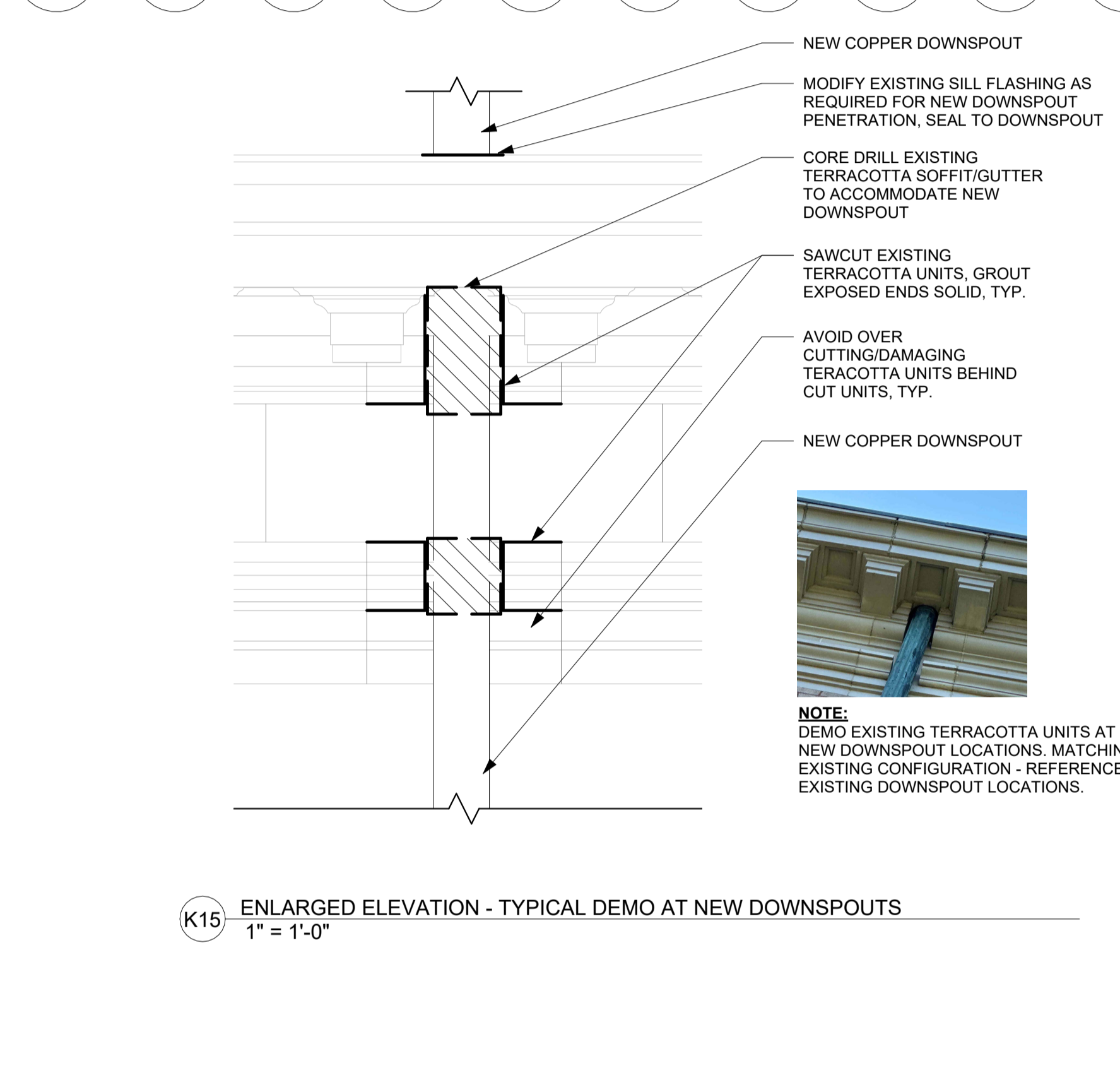
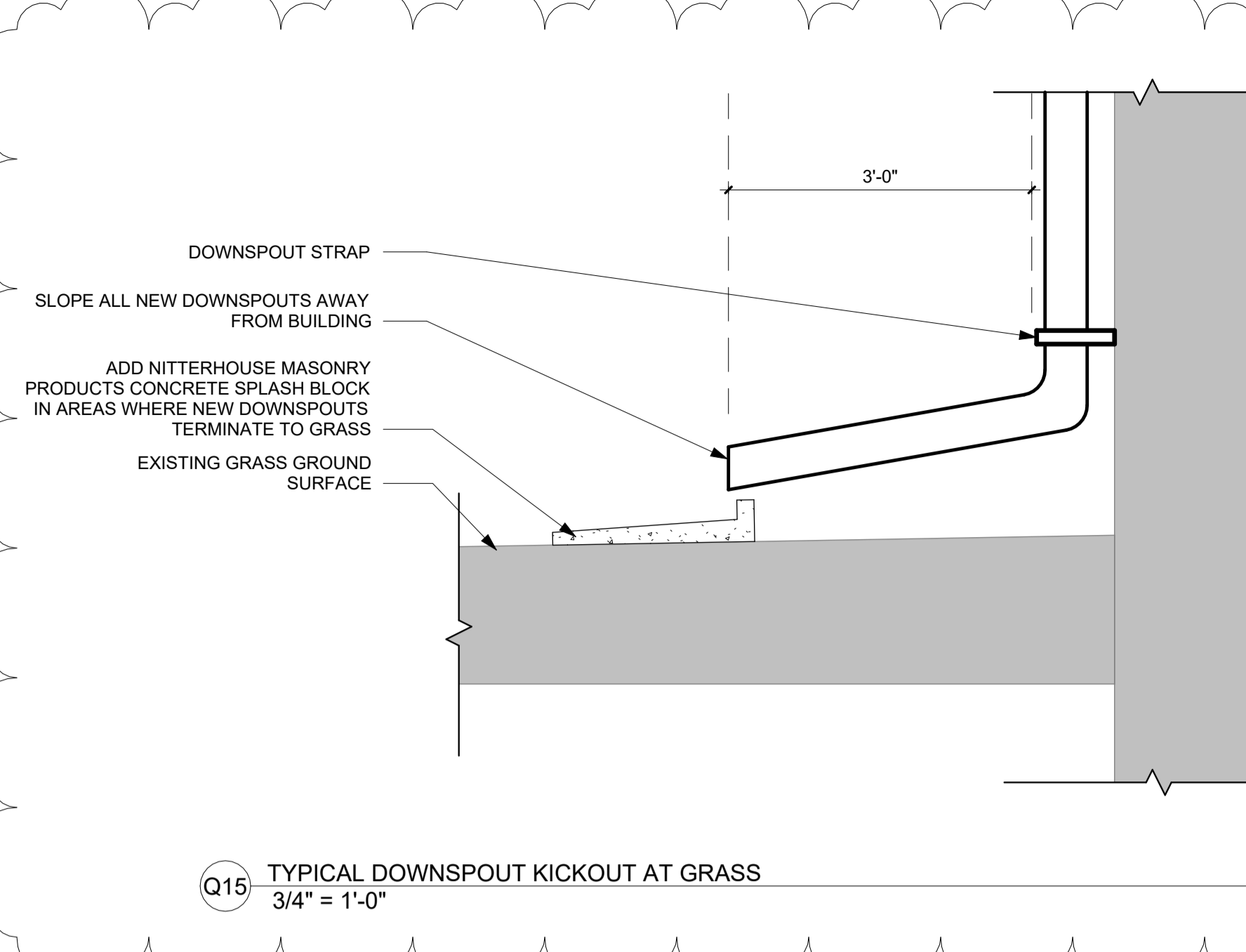
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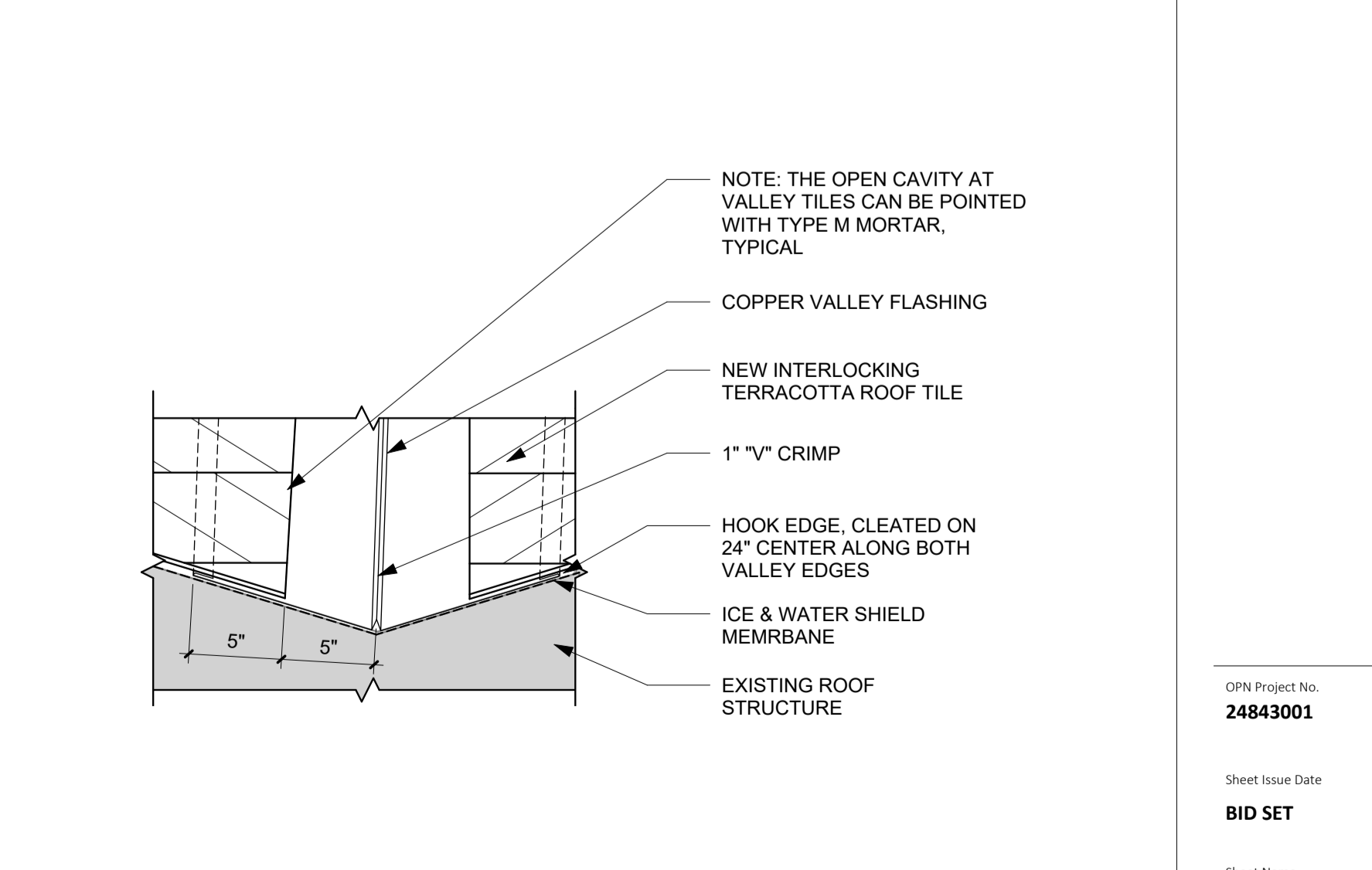
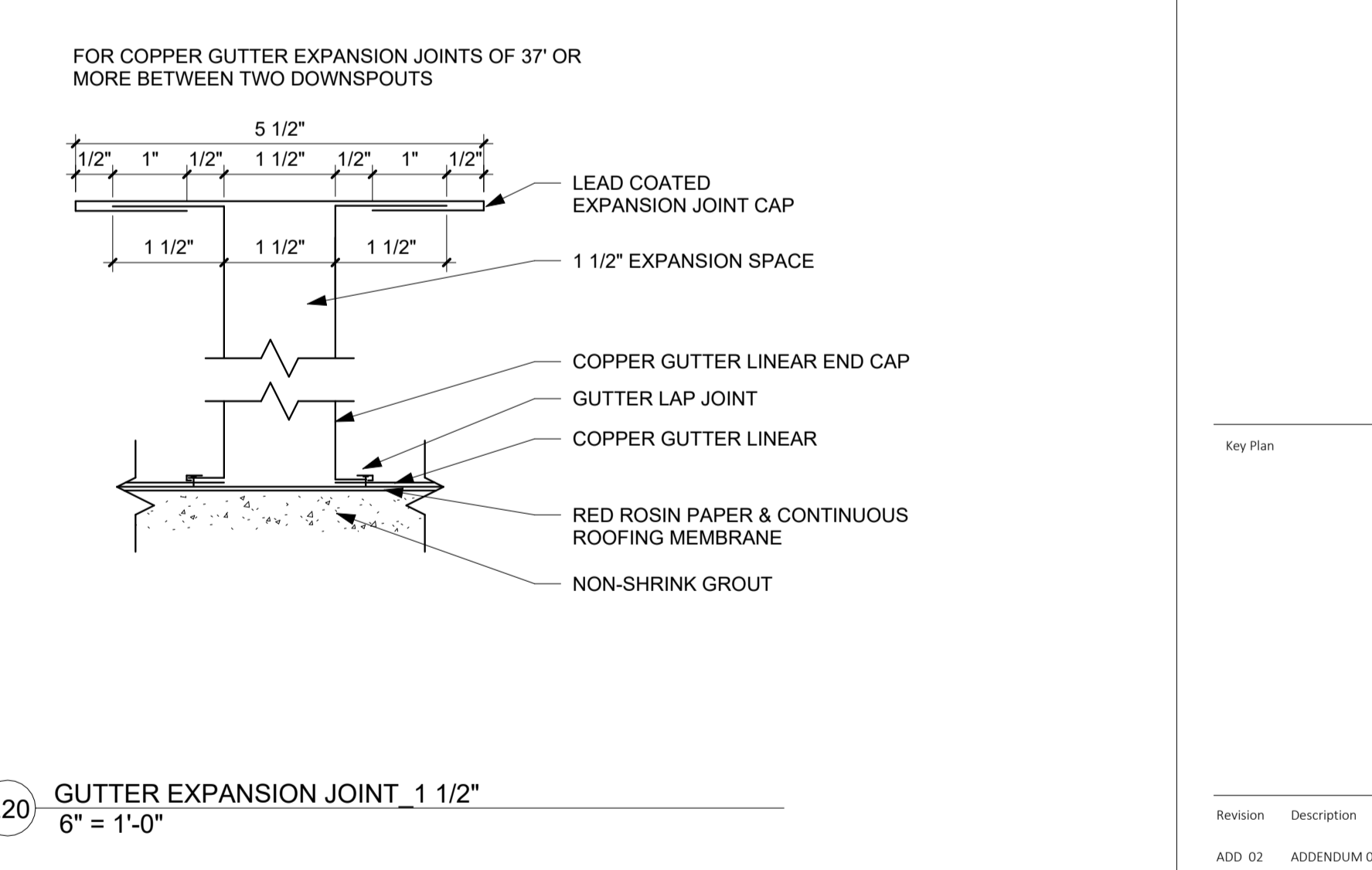
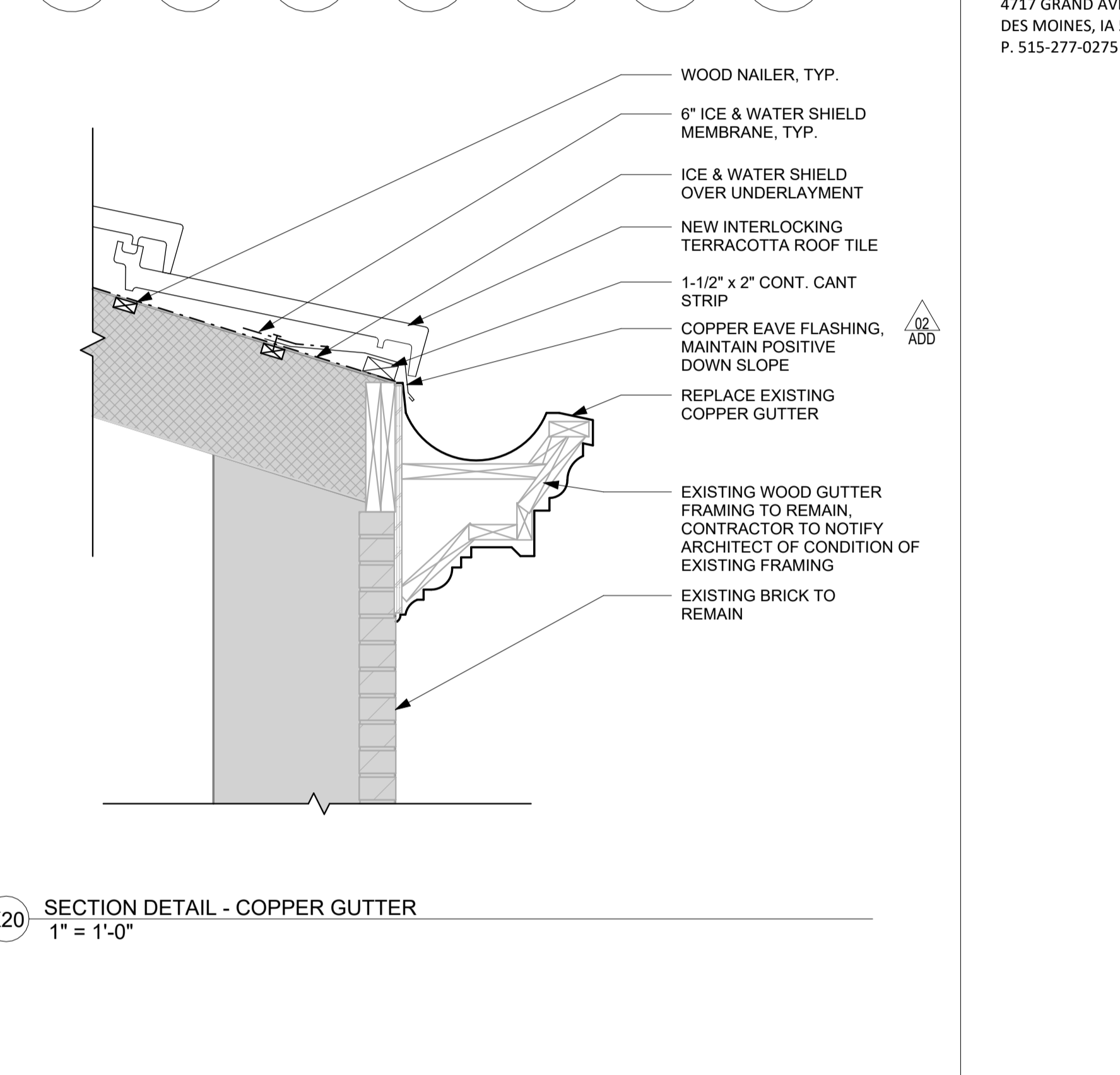
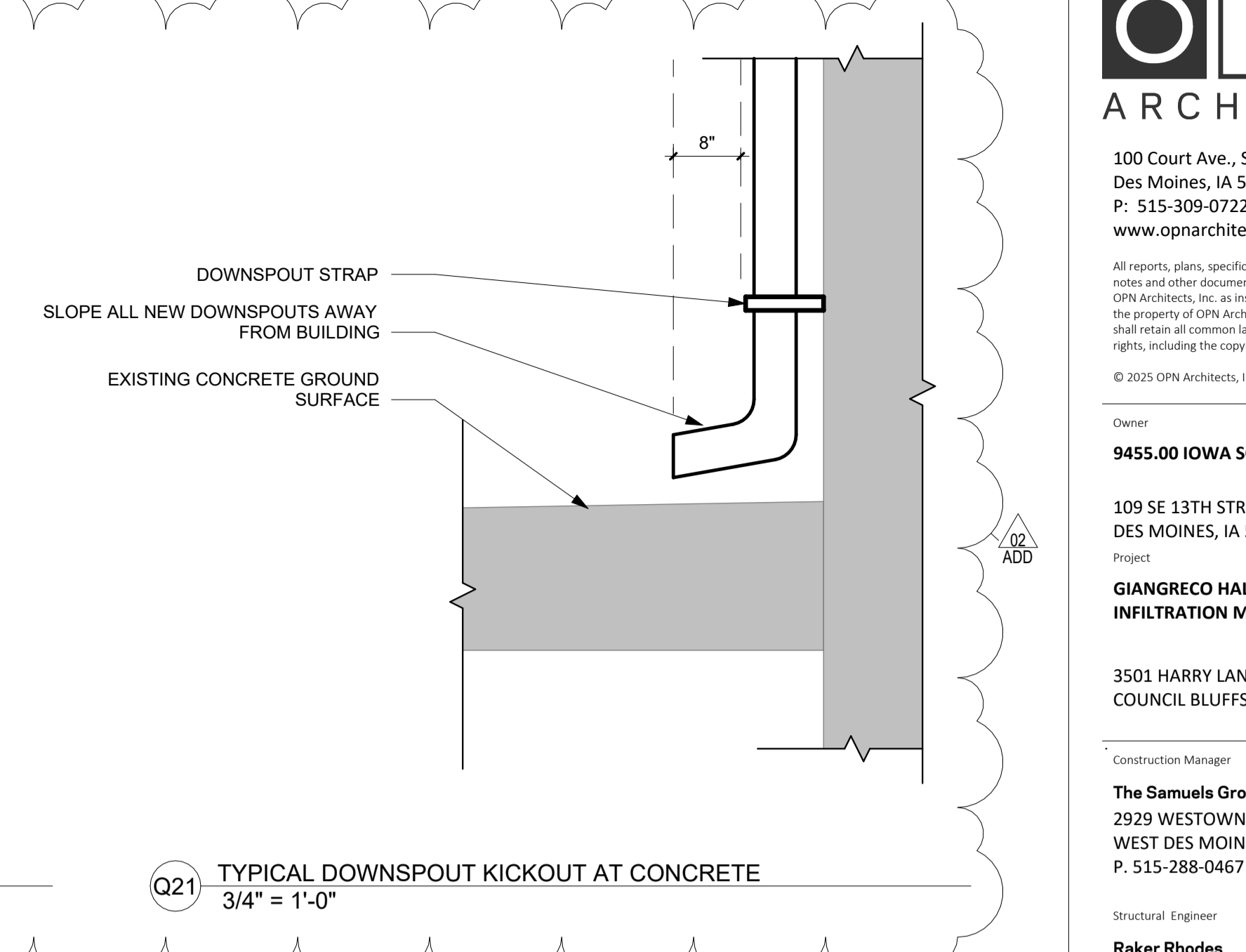
A1 SECTION DETAIL - TYPICAL LOWER GUTTER AND LOWER SILL
 3/4" = 1'-0"



A8 SECTION DETAIL - TYPICAL TERRACOTTA UPPER GUTTER AND LOWER SILL
 3/4" = 1'-0"



E15 GUTTER EXPANSION JOINT, 3/4"
 6" = 1'-0"



A20 SECTION DETAIL - TYPICAL VALLEY
 1 1/2" = 1'-0"

Key Plan

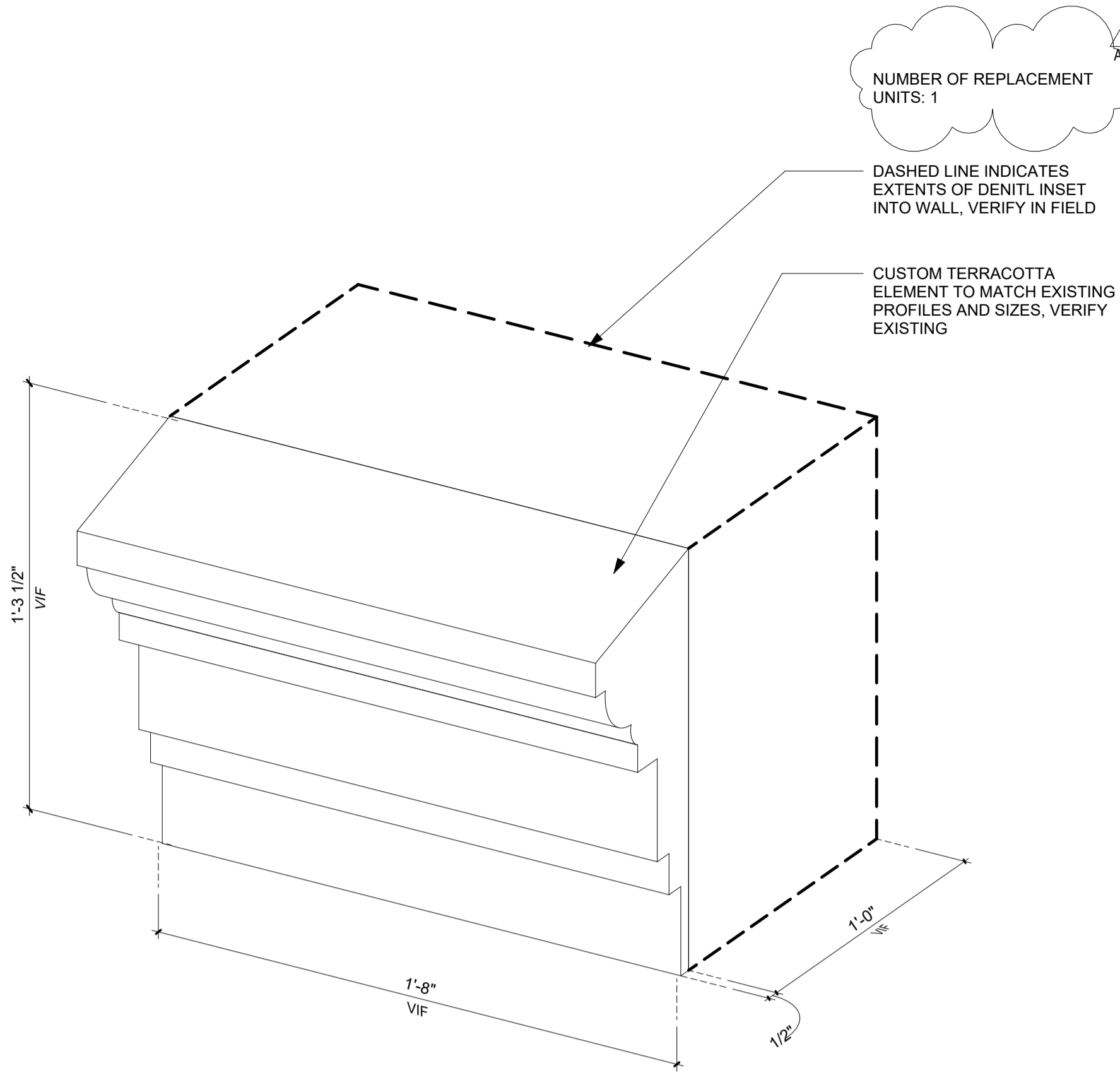
Revision Description Date
 ADD 02 ADDENDUM 02 Date 1
 ADD 02 ADDENDUM 02 Date 2

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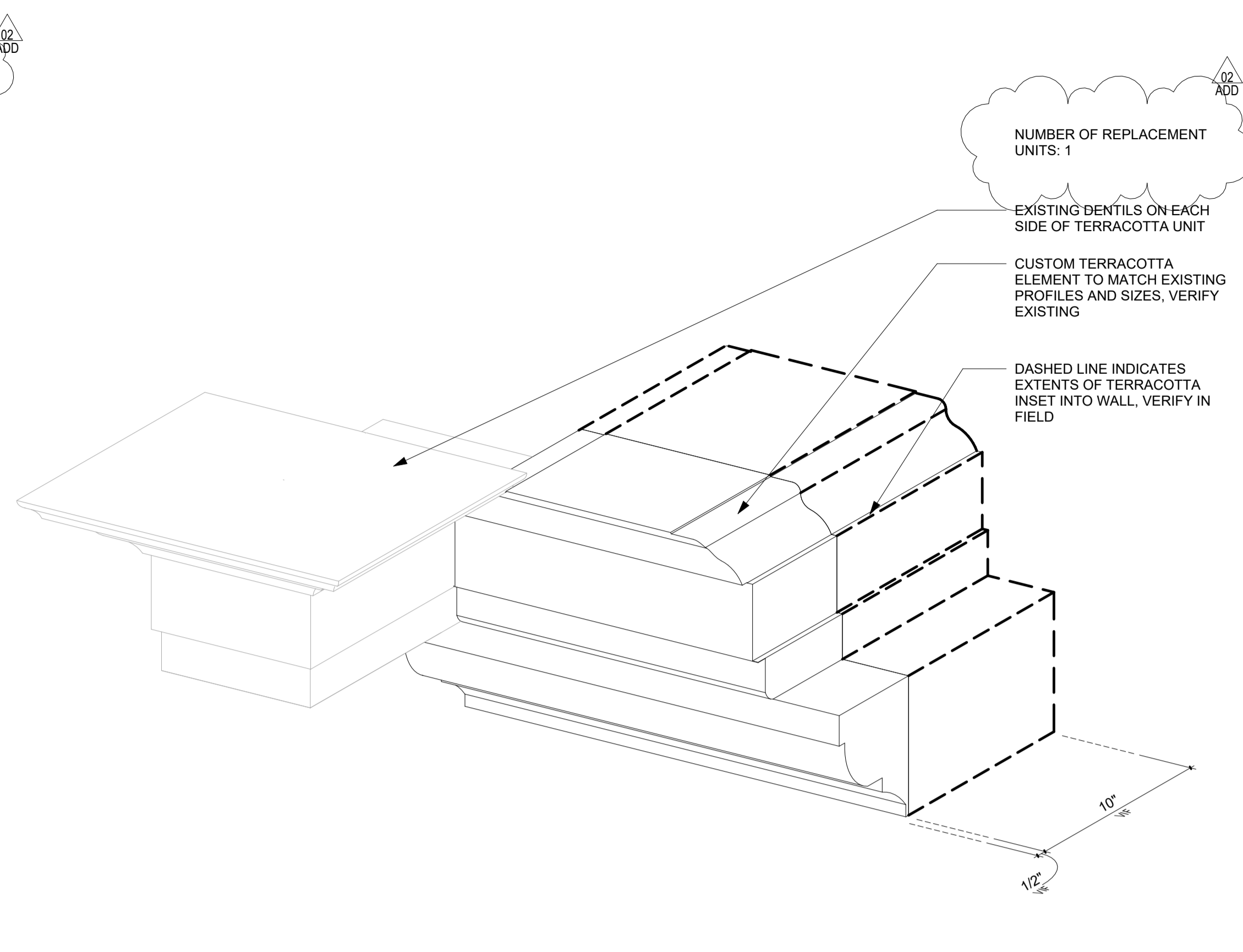
Sheet Issue Date
10/03/2025

Sheet Name
ROOF DETAILS

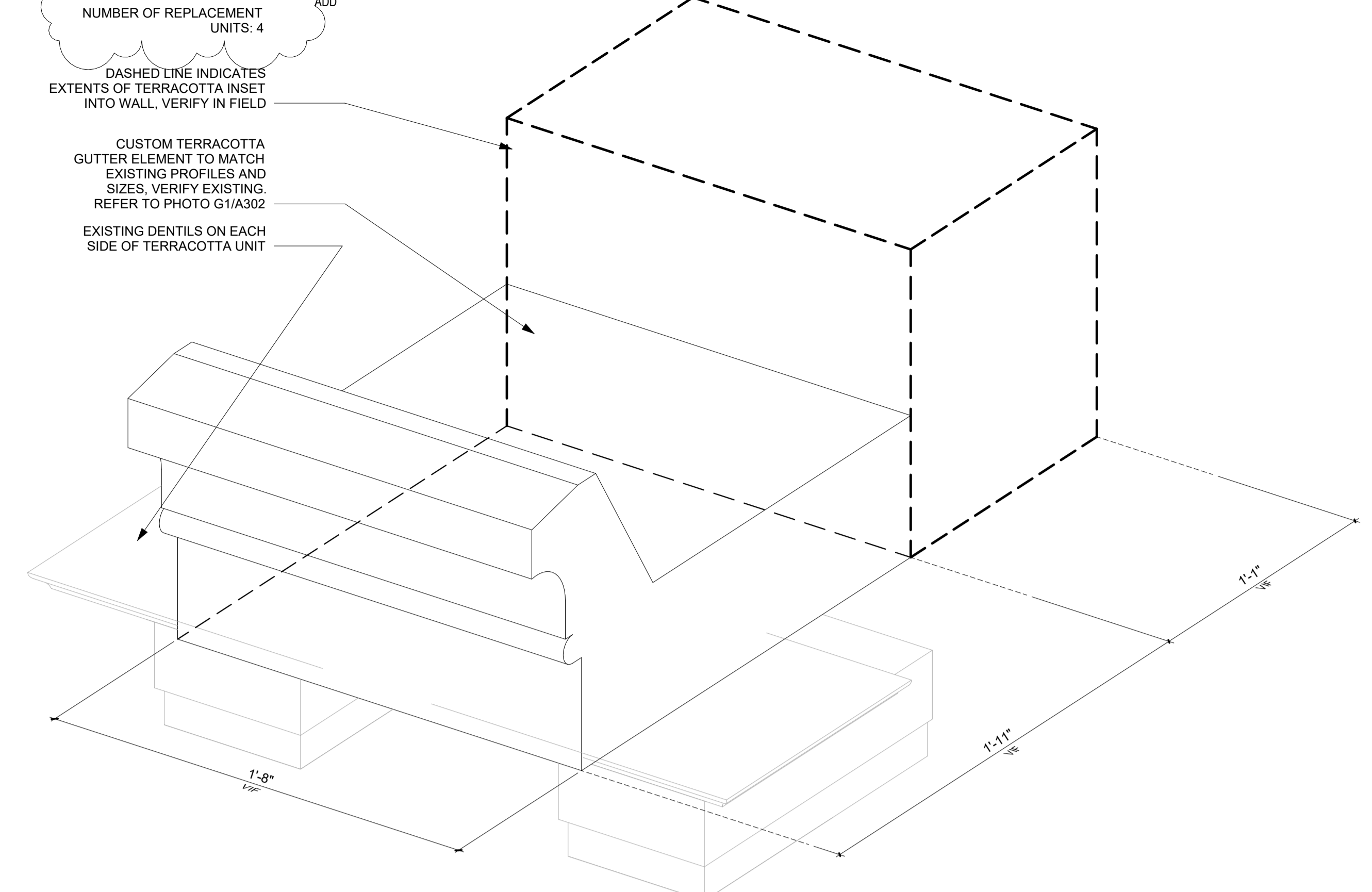
Sheet Number



N1 3D AXON - REPLACEMENT TERRACOTTA BOTTOM
 3" = 1'-0"



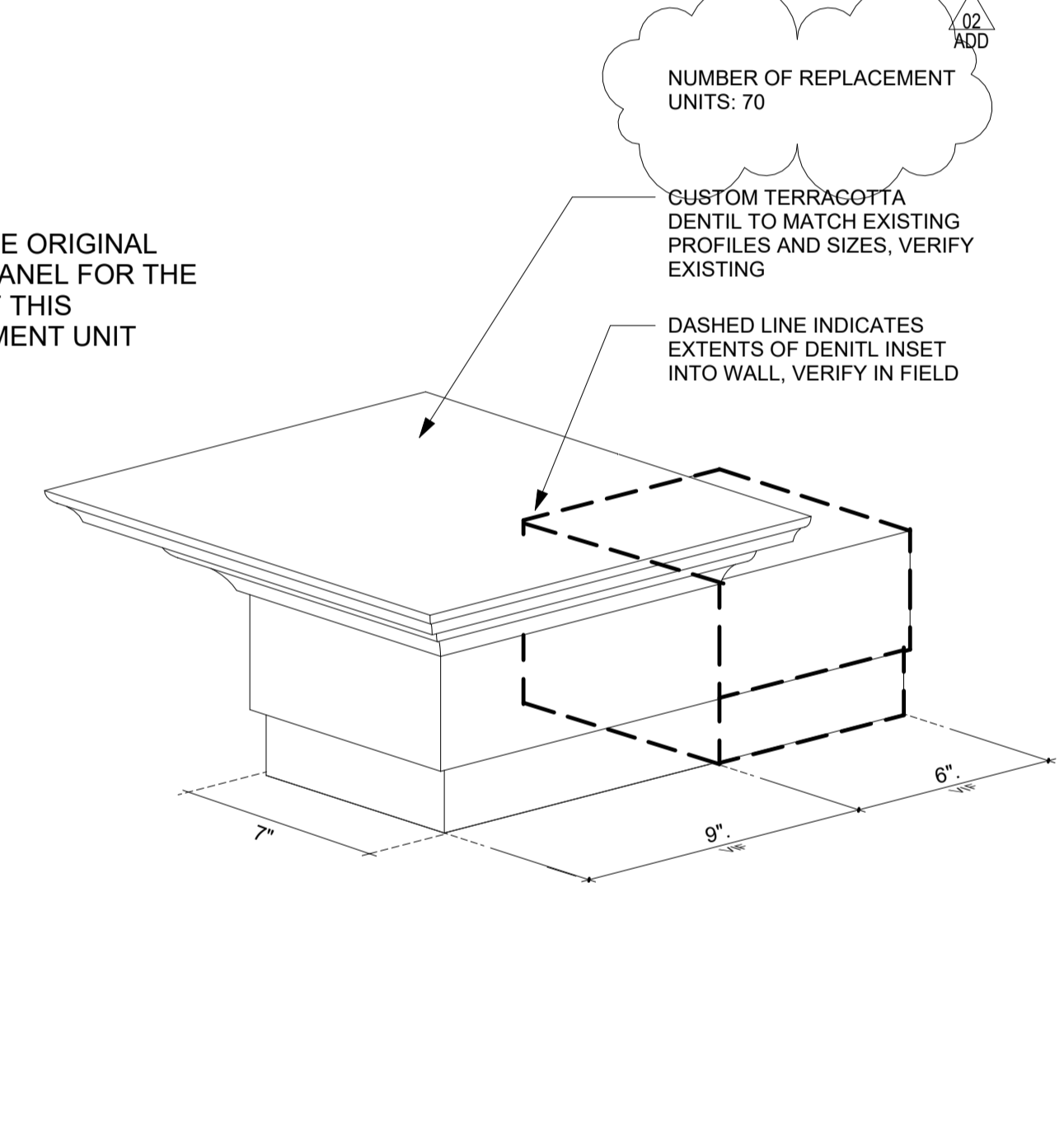
N8 3D AXON - REPLACEMENT TERRACOTTA UNIT TOP
 3" = 1'-0"



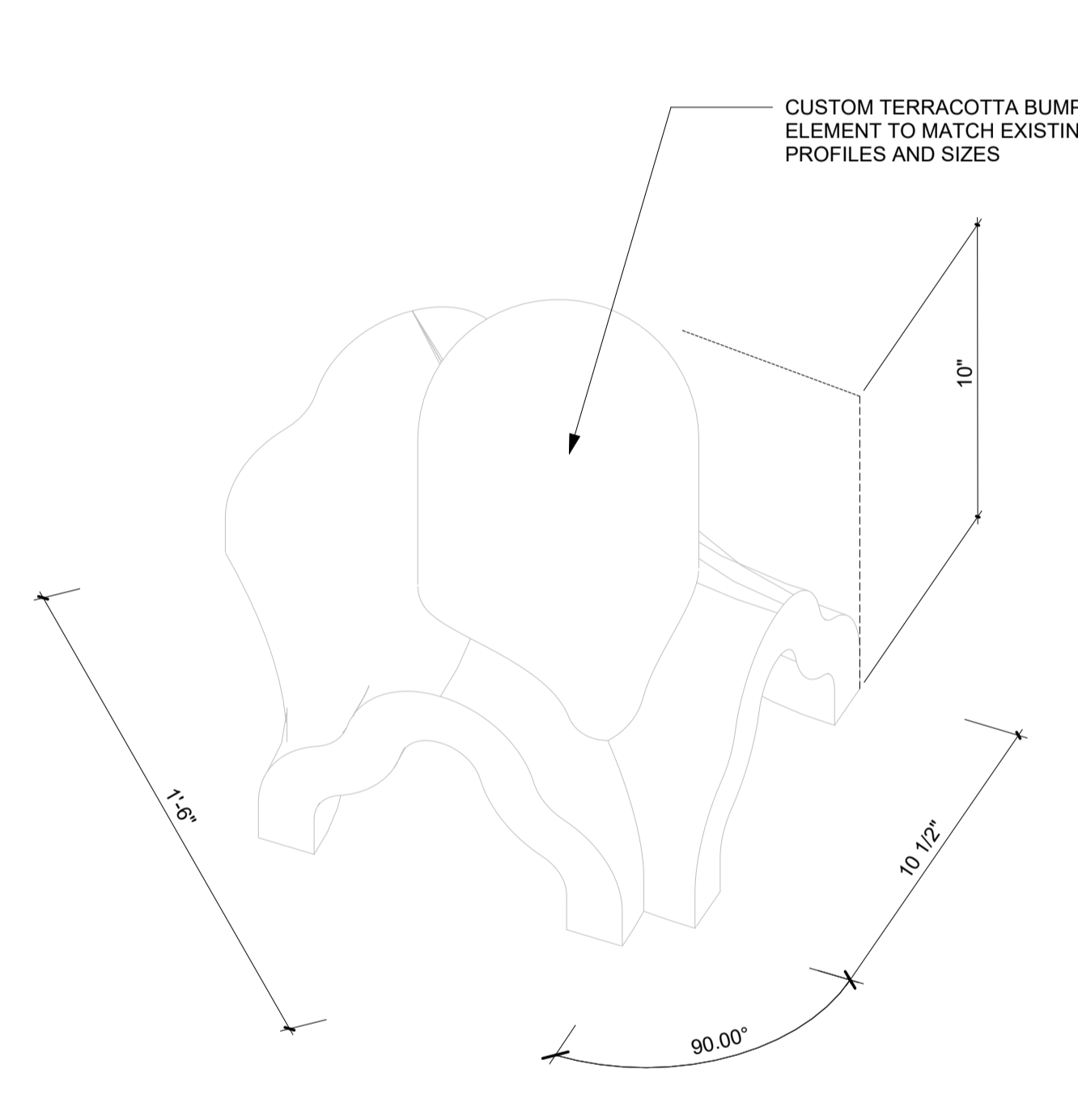
N16 3D AXON - REPLACEMENT TERRACOTTA UNIT - TYPICAL GUTTER ELEMENT
 3" = 1'-0"



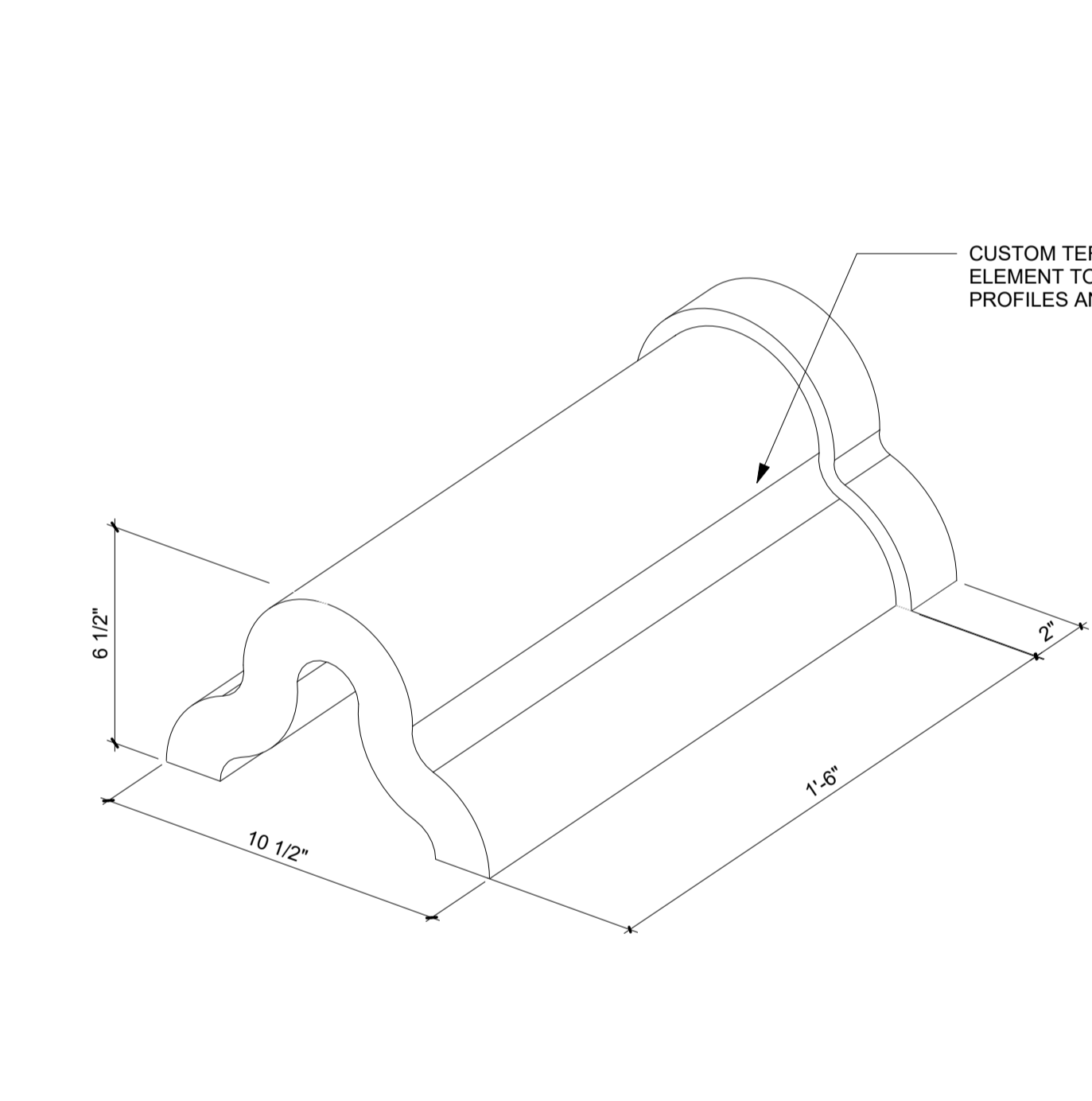
G1 PHOTO - TYPICAL TERRACOTTA UNIT
 1" = 1'-0"



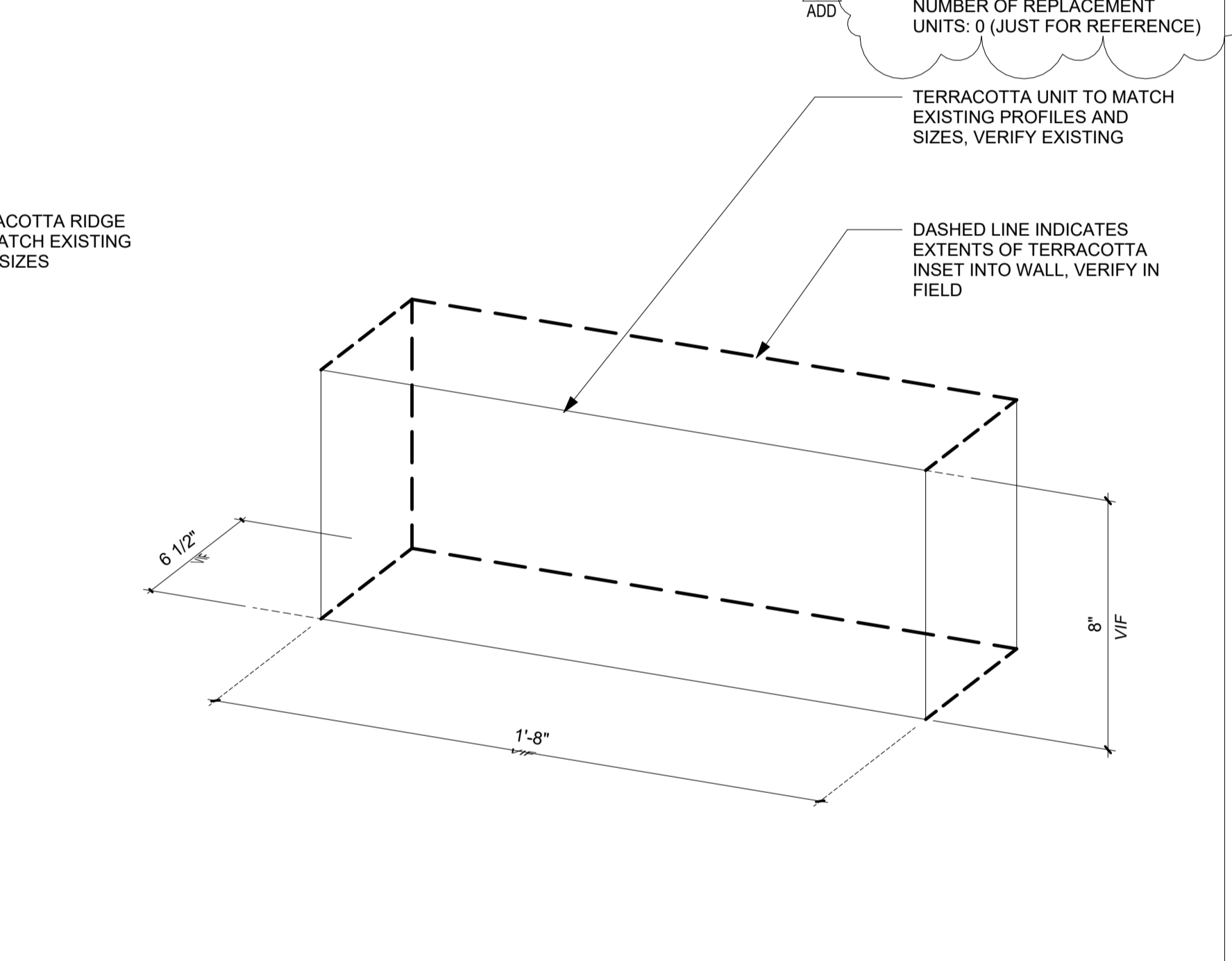
G5 3D AXON - REPLACEMENT DENTIL UNIT
 3" = 1'-0"



G10 3D AXON - REPLACEMENT BUMP
 3" = 1'-0"



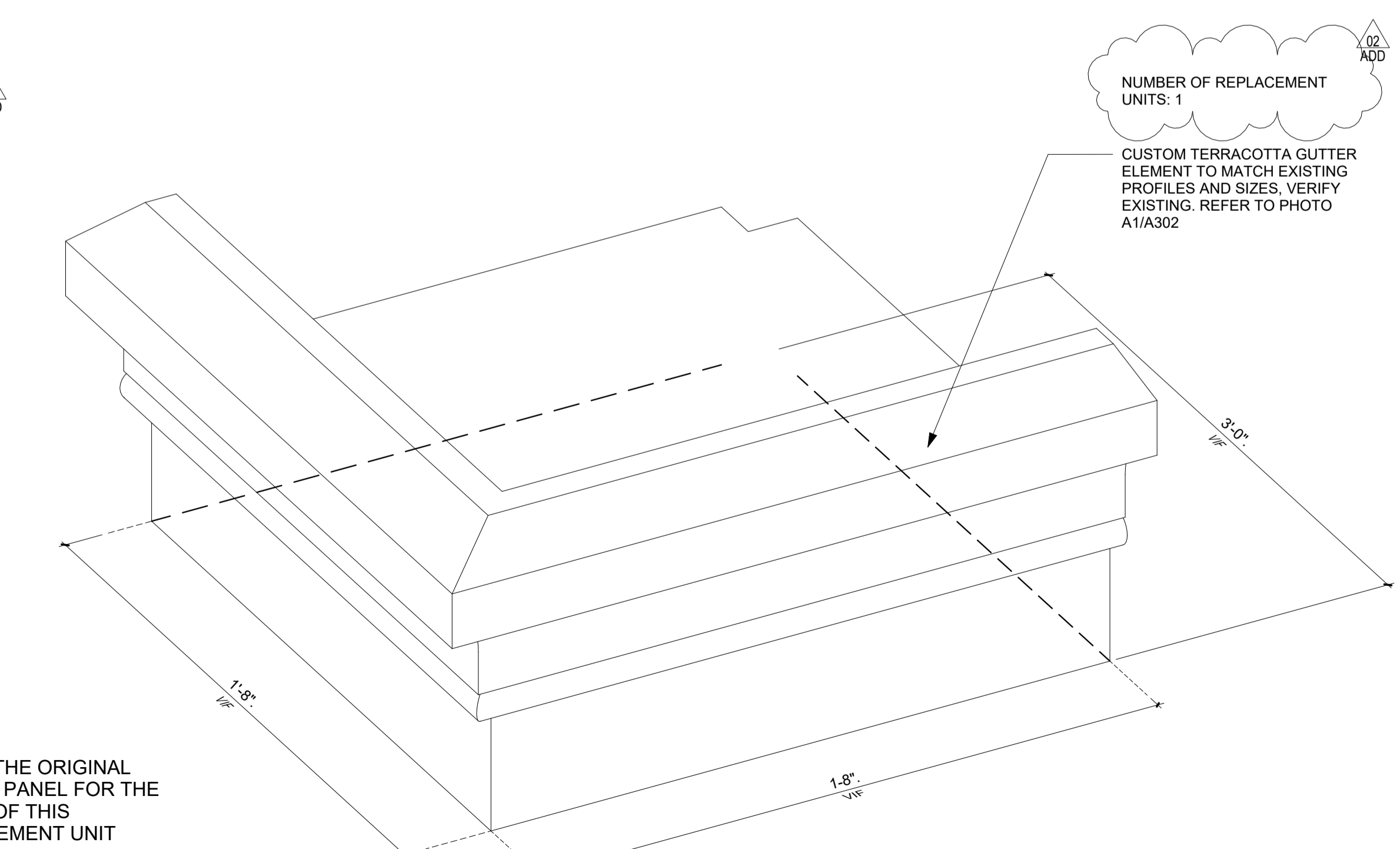
G15 3D AXON - REPLACEMENT RIDGE
 3" = 1'-0"



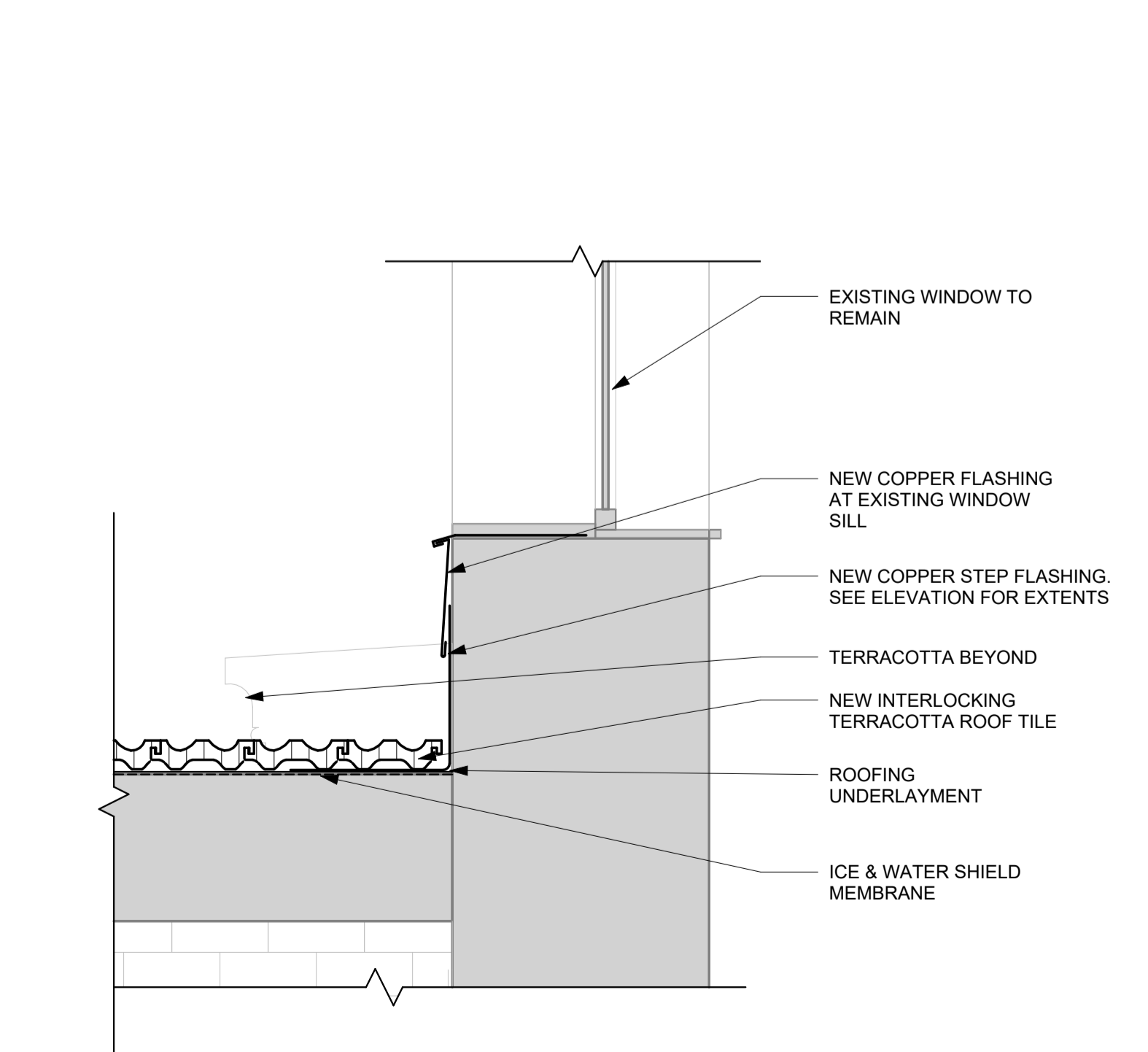
G19 3D AXON - REPLACEMENT TERRACOTTA UNIT MIDDLE
 3" = 1'-0"



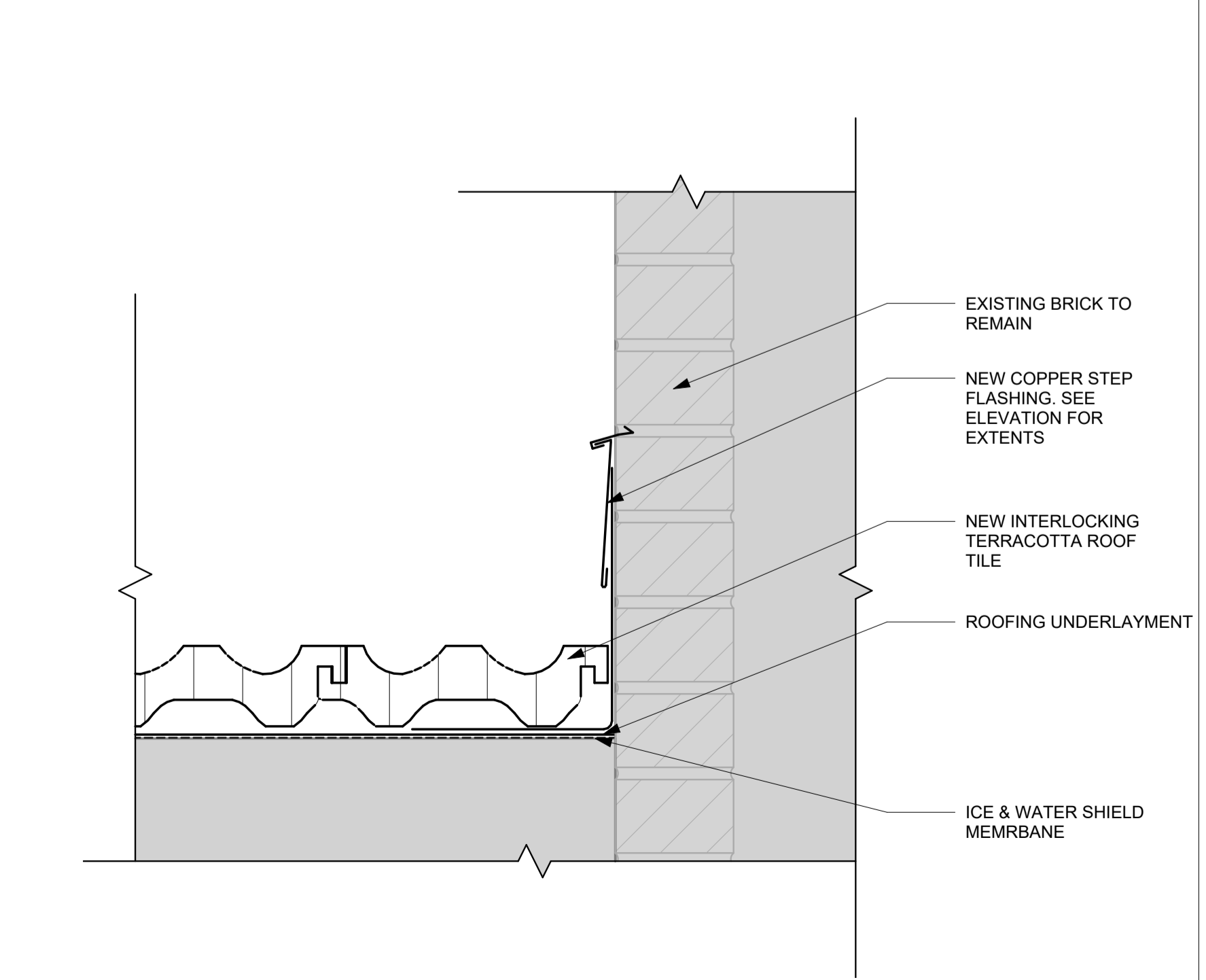
A1 PHOTO - CORNER TERRACOTTA UNIT
 1" = 1'-0"



A6 3D AXON - REPLACEMENT TERRACOTTA UNIT - CORNER GUTTER ELEMENT
 3" = 1'-0"



A14 SECTION DETAIL - ROOF TO WALL
 1" = 1'-0"



A19 SECTION DETAIL - STEP FLASHING
 3" = 1'-0"

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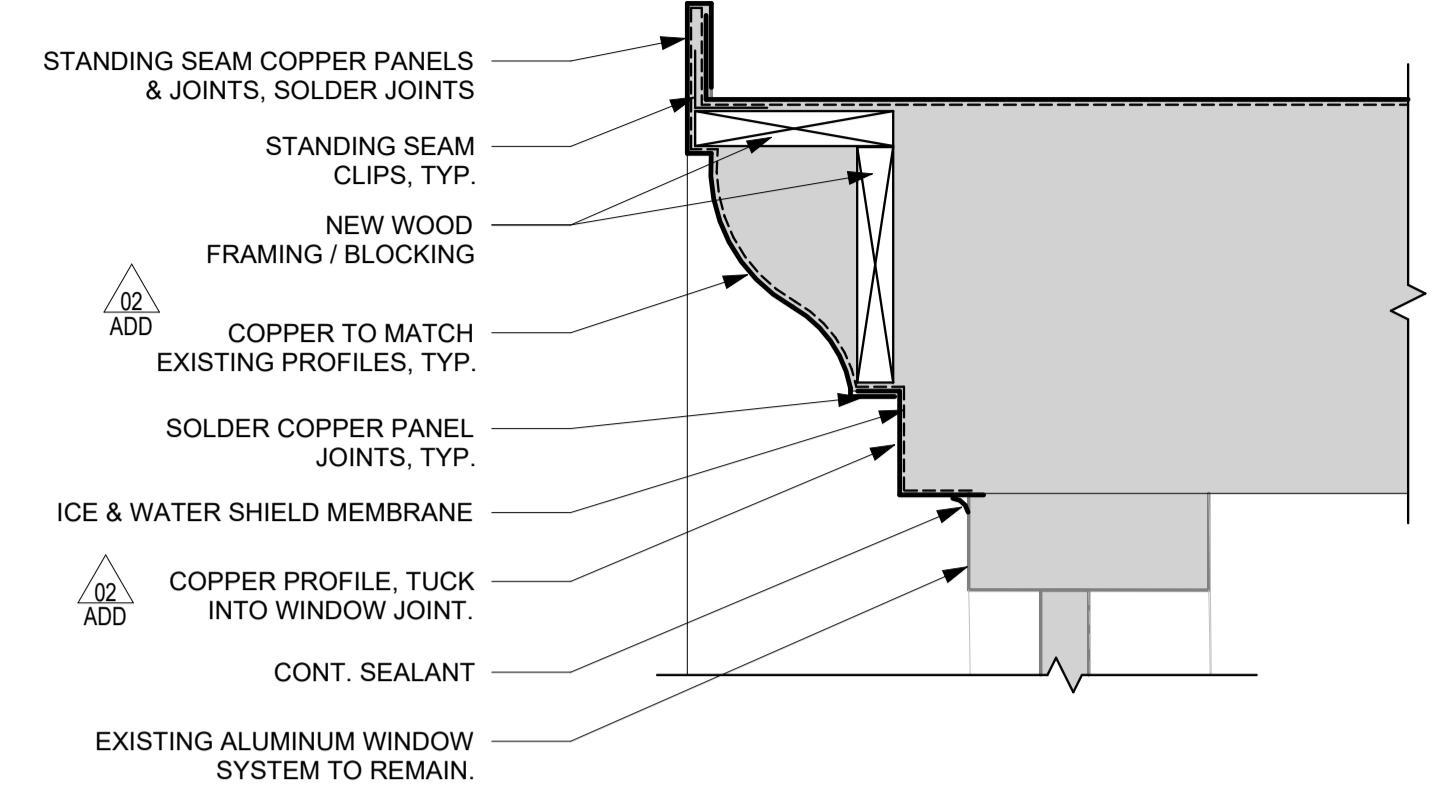
PRINTED: 11/19/2025 2:19:15 PM



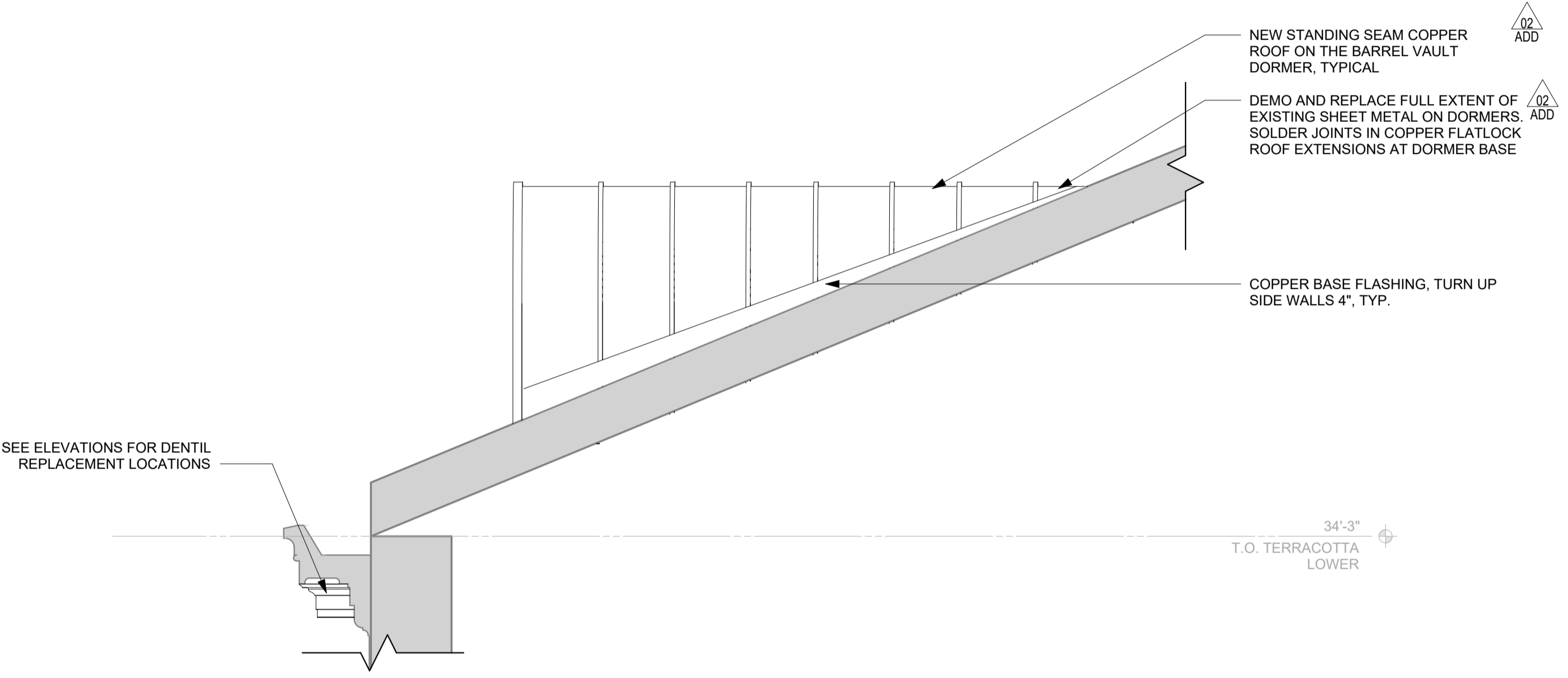
- FLAT LOCK COPPER FLASHING, SOLDER JOINTS, TYP.
- STANDING SEAM COPPER CLADDING, SOLDER JOINTS, TYP.
- NEW COPPER CLADDING TO MATCH EXISTING PROFILES & JOINTS
- EXIST. ALUMINUM WINDOW SYSTEM TO REMAIN
- TRIMMED TERRACOTTA SHINGLES, SEE PLAN, GROUT EXPOSED SHINGLE EDGES FULL, TYP.
- FLAT LOCK COPPER BASE FLASHING, TURN UP SIDE WALLS 4", SOLDER JOINTS, TYP.



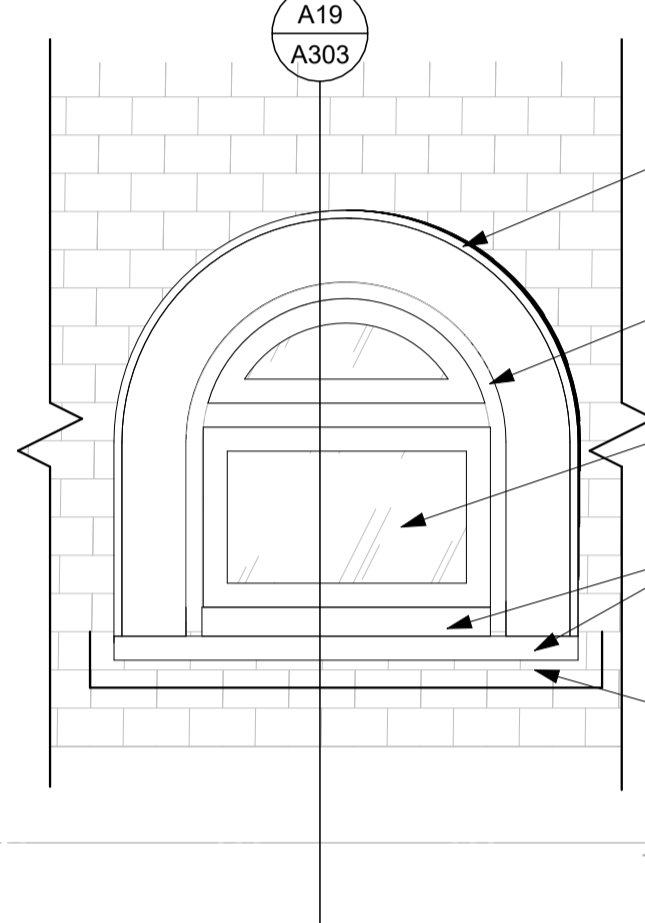
- EXIST. ALUMINUM WINDOW SYSTEM TO REMAIN
- NEW COPPER CLADDING TO MATCH EXISTING PROFILES & JOINTS
- SOLDER COPPER SEAMS, TYP.
- EXISTING CONT. SEALANT JOINT TO BE REPLACED W/ NEW
- EXISTING COPPER SILL FLASHING TO BE REPLACED W/ NEW
- EXISTING TERRACOTTA SHINGLES TO BE REPLACED IN BASE BID



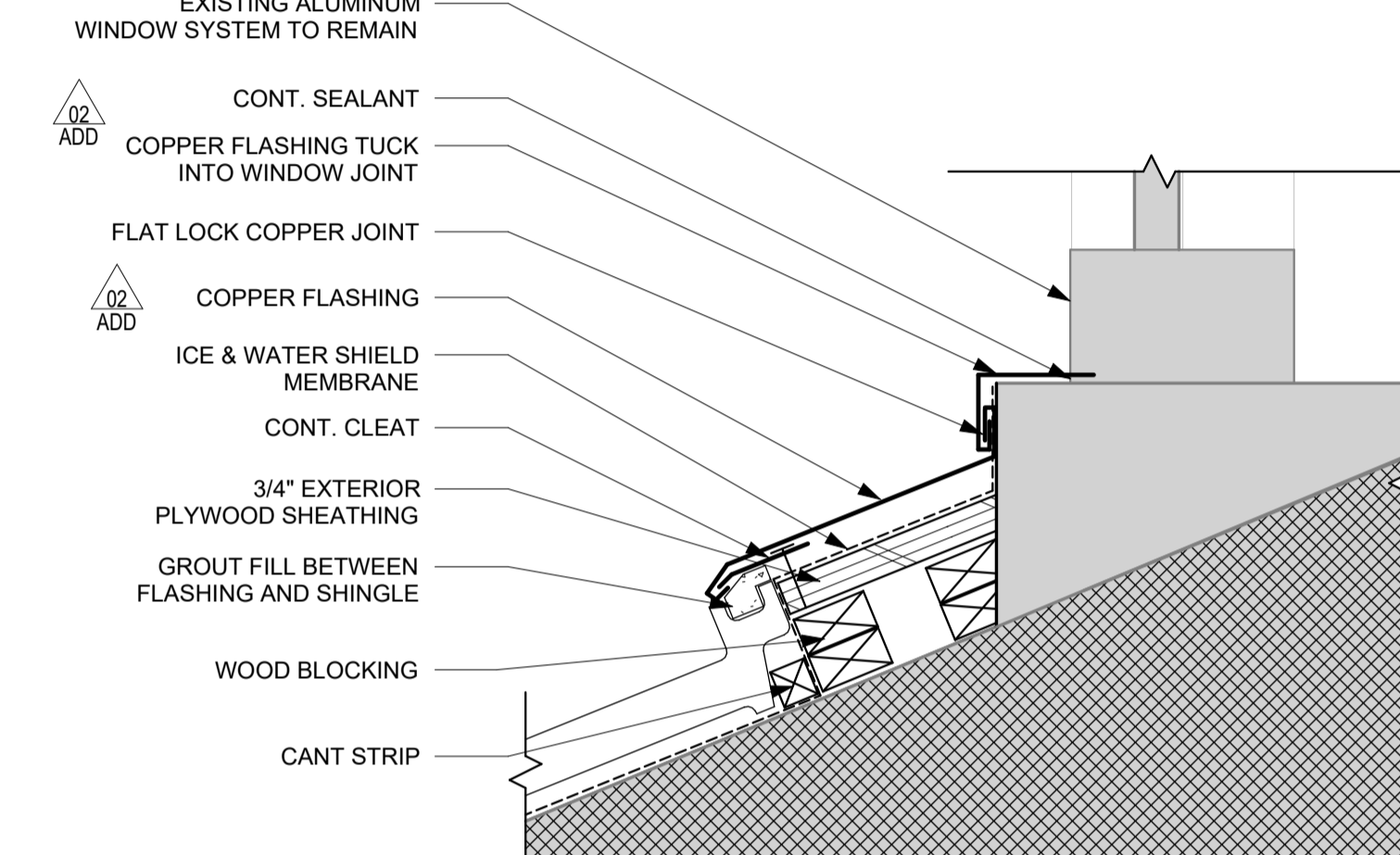
Q19 SECTION DETAIL - DORMER WINDOW HEAD
3" = 1'-0"



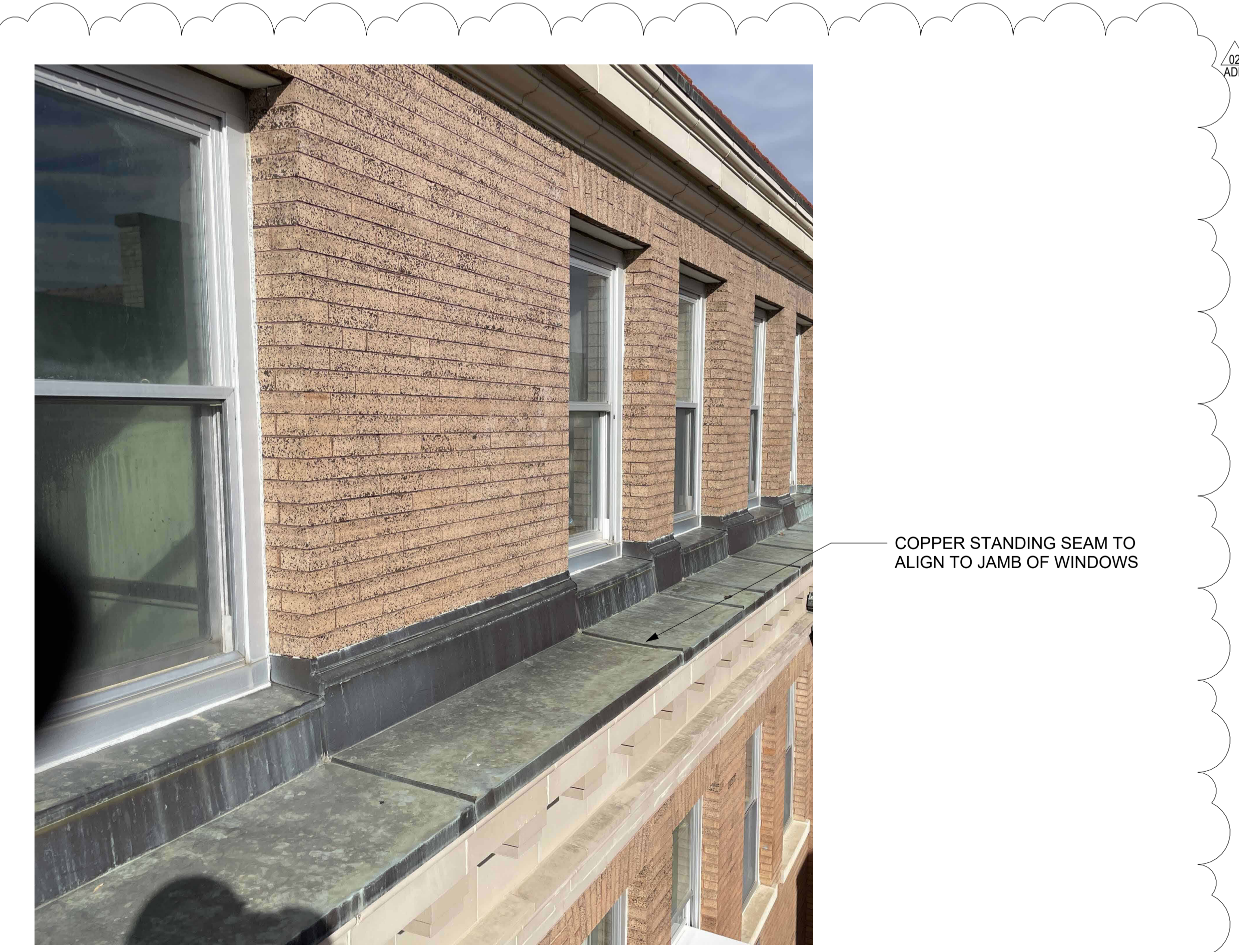
K1 EXTERIOR ELEVATION - DORMER NORTH
1/2" = 1'-0"



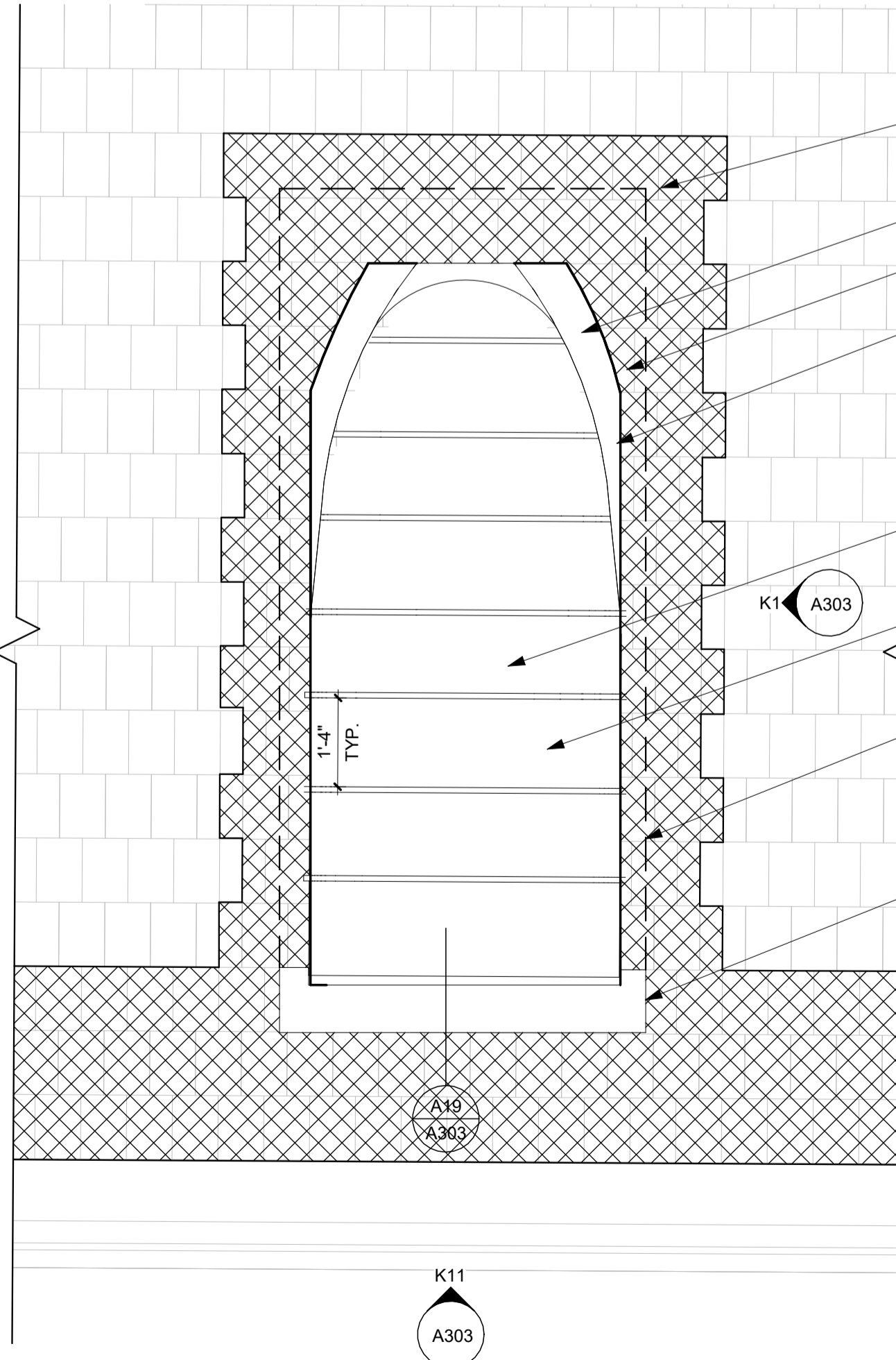
K11 EXTERIOR ELEVATION - DORMER WINDOW TYPICAL
1/2" = 1'-0"



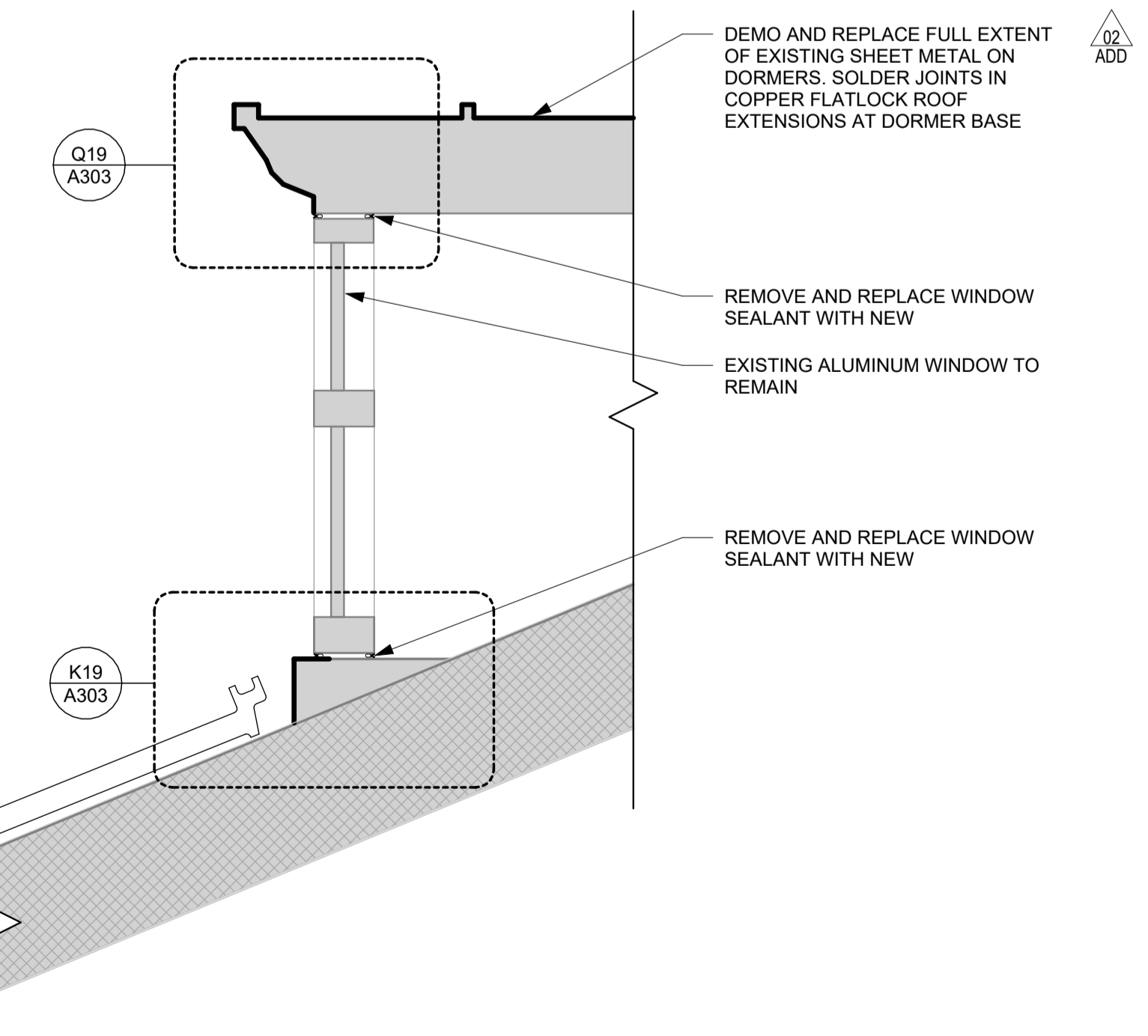
K19 SECTION DETAIL - DORMER WINDOW SILL
3" = 1'-0"



A1 PHOTO - STANDING SEAM AT COPPER
1" = 1'-0"



K11 ENLARGED ROOF PLAN - TYPICAL DORMER
1/2" = 1'-0"



A19 SECTION DETAIL - DORMER WINDOW
1" = 1'-0"

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Sheet Issue Date
BID SET 10/03/2025

Sheet Name
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Sheet Number