The Housing Authority of The City of Fort Myers

Invitation for Bid

IFB No. 23-06, Housing Authority of the City of Fort Myers Administration Building Roof Replacement

August 14, 2023

Housing Authority of the City of Fort Myers, Florida 4224 Renaissance Preserve Way Fort Myers, FL 33916

THE HOUSING AUTHORITY OF THE CITY OF FORT MYERS

4224 RENAISSANCE PRESERVE WAY FORT MYERS FLORIDA 33916

STRAP # 17 = 44 = 25 = P3 = ØØØ63.0000

GENERAL CONSULTANTS:

OWNER: THE HOUSING AUTHORITY OF THE

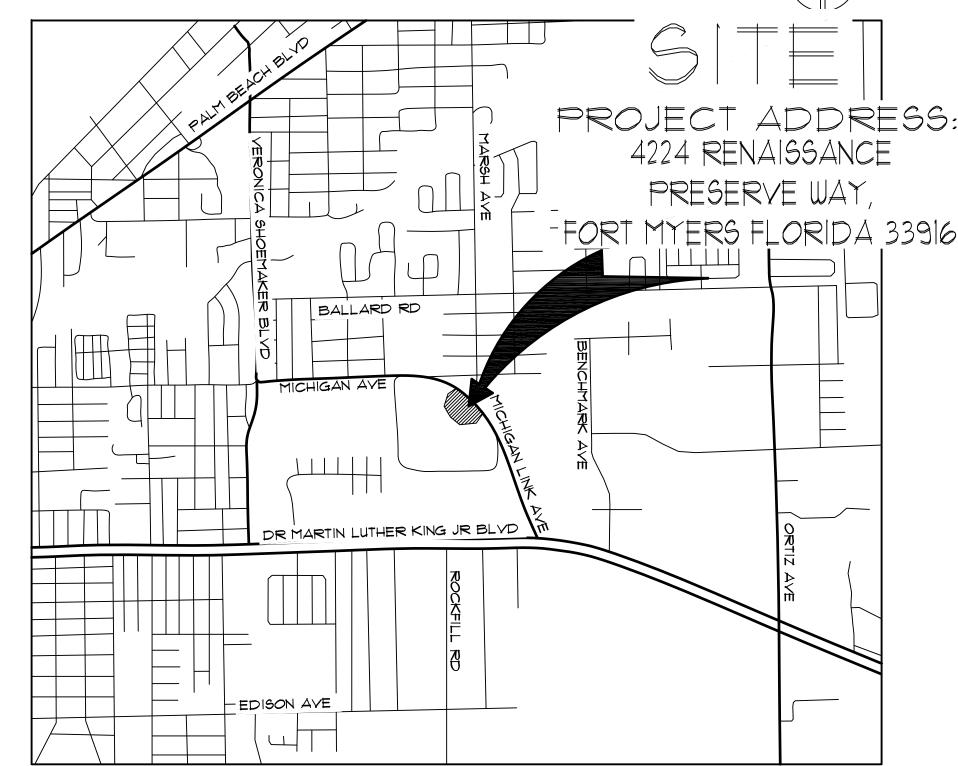
CITY OF FORT MYERS
4224 MICHIGAN AVENUE

FORT MYERS, FLORIDA 33916 (239) 344-3244 FAX (239) 344-3269

ARCHITECTURAL:

MOORE & SPENCE ARCHITECTS, P.A. 12613 NEW BRITTANY BLVD. FORT MYERS, FLORIDA 33907 (239) 278-3520 FAX (239) 278-3519





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ARCHITECTURAL:

AI EXISTING LOWER ROOF PLAN

A2 EXISTING UPPER ROOF PLAN / ENLARGED EXISTING ROOF PLAN

A3 LOWER ROOF DEMO PLAN

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AG PROPOSED UPPER ROOF PLAN / ENLARGED PROPOSED ROOF PLAN / ROOF HATCH SPECIFICATION AT SOUTHEAST BUILDING ELEVATION / SOUTH BUILDING ELEVATION

AS NORTH BUILDING ELEVATION / NORTHEAST BUILDING ELEVATION
AS SOUTHWEST BUILDING ELEVATION / NORTHWEST BUILDING ELEVATION

AID BUILDING SECTIONS

All WALL TO ROOF DETAILS / OVERHANG DETAILS
ALL EXISTING - DEMO - PROPOSED SECTION DETAILS

A13 STANDING SEAM METAL ROOF SPECIFICATIONS
A14 STANDING SEAM METAL ROOF SPECIFICATIONS

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A22 THERMOPLASTIC SINGLE PLY ROOFING ADHERED SYSTEM DETAILS

RESPONSIBILITY AND LIABILITY CLAUSE:

THE DESIGN PROFESSIONAL WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHER'S FAILURE TO OBTAIN AND / OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

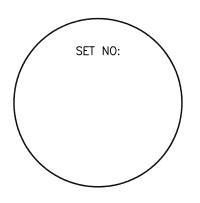
SPECIFICATIONS

SPECIFICATIONS FOR MATERIALS ARE DESCRIBED ON THE DRAWINGS. UNLESS OTHERWISE SPECIFIED THE INSTALLATION OF ALL MATERIALS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS. NO SPECIFICATION BOOK HAS BEEN PREPARED FOR THIS PROJECT.

CONTRACT DRAWING APPROVAL

OWNER

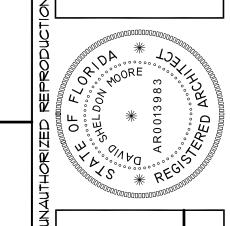
CONTRACTOR



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3A MOORE & SPENCE ARCHITECTS, 12613 NEW BRITTANY BLVD. FORT MYERS, FLORIDA 33907 (239) 278-3520 FAX (239) 278-3519



RE-ROOFING PROJECT OF THE DMINISTRATIVE BUILDING FOR:
HOUSING AUTHORITY OF FHE CITY OF FORT MYERS
ORT MYERS, FLORIDA 33916

JOB No:

21049

01/24/2022



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GENERAL PROJECT NOTES:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL CONSTRUCTION IS PERFORMED IN STRICT COMPLIANCE WITH THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND OTHER DOCUMENTS AND SPECIFICATIONS MADE A PART OF THESE DOCUMENTS.
- WORK SHALL NOT PROCEED WHERE THE ARCHITECT AND/OR CONTRACTOR EXPECT ADDITIONAL COMPENSATION BEYOND THE WRITTEN CONTRACT WITHOUT THE WRITTEN AUTHORIZATION OF THE OWNERS OR THE OWNERS PROJECT REPRESENTATIVE. FAILURE TO OBTAIN SUCH WRITTEN AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR ADDITIONAL COMPENSATION.
- 3. AT PROJECT COMPLETION, A FORMAL PUNCH LIST WILL BE PERFORMED BY THE OWNERS AND THE OWNERS PROJECT REPRESENTATIVE AND UPON THE COMPLETION OF THE PROJECT REVIEW. A LIST WILL BE PREPARED AND SUBMITTED TO THE CONTRACTOR INDICATING ALL ITEMS NOT IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. FOLLOWING THE COMPLETION OF THE PUNCH LIST, THE CONTRACTOR SHALL NOTIFY THE OWNER TO VERIFY THAT ALL THE ITEMS ON THE PUNCH LIST HAVE BEEN COMPLETED. ALL PARTIES WILL THEN APPROVE AND EXECUTE ACCEPTANCE OF THE COMPLETED PUNCH LIST WITHIN 15 DAYS OF THE FORMAL WALK-THROUGH.
- 4. AT THE COMPLETION OF THE PROJECT AND ALL WORK CONTRACTOR SHALL CLEAN OR RE-CLEAN ENTIRE WORK OF ALL THE CONSTRUCTION DEBRIS AND REMOVE SAME FROM PROJECT AND WILL LEAVE WORK IN A MANNER FIT FOR A CLASS "A" BUILDING. REMOVE ALL TEMPORARY PROTECTION, IF ANY, AND LABELS. CLEAN EXPOSED SURFACES, TOUCH UP MINOR DAMAGE AND SWEEP AND WASH PAYED AREAS, IF SAID AREA DAMAGE AND DEBRIS ACCUMULATION HAVE BEEN CAUSED BY THE CONTRACTOR DURING THE COURSE OF THE PERFORMANCE OF THE WORK
- 5. NOT WITHSTANDING THE ABOVE, CONTRACTORS SHALL LEAVE SITE CLEAN AND CLEAR OF DEBRIS TO THE COMMON AREAS ON A DAILY BASIS IF SAID AREAS ARE USED BY THE CONTRACTOR TO MOVE MEN, MATERIALS AND EQUIPMENT UPON.
- 6. CONTRACTORS SHALL FIELD MEASURE AND VERIFY DIMENSIONS AND SITE CONDITIONS AND BE SATISFIED WITH THE SAME PRIOR TO ANY COMMENCEMENT OF WORK.
- ALL CONTRACTORS AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL THE NECESSARY PERMITS AND SECURE ANY ADDITIONAL DATA REQUIRED TO OBTAIN SAID PERMITS.
- 8. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED FLORIDA BUILDING CODE, FLORIDA MECHANICAL CODE, FLORIDA PLUMBING CODE, FLORIDA FIRE PREVENTION, NFPA LIFE SAFETY CODE, NATIONAL ELECTRIC CODE, ALL WITH THEIR RESPECTIVE REVISIONS AND AS ADOPTED BY THE AUTHORITIES HAVING JURISDICTION.
- 9. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE FIELD SUPERVISION, CONSTRUCTION ADMINISTRATION AND REVIEW AND APPROVAL OF ALL SUBMITTALS FOR SUPPLIERS AND SUBCONTRACTORS.
- 10. THE GENERAL CONTRACTOR, OWNER / OWNERS REP. / TENANT SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY FIELD DISCREPANCIES WITH THE DRAWING AND ANY ERRORS AND OMISSIONS FOUND WITH SAID NOTIFICATION TO BE MADE NO LATER THEN TEN DAYS OF SAID FINDINGS.
- THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY INDEPENDENT CORRECTIVE MEASURES TAKEN BY THE CONTRACTOR, SHOULD THE ARCHITECT NOT BE INFORMED AS NOTED ABOVE.
- 12. CONTRACTOR TO PREPARE ALL WORK FOR FINISH. CONSULT OWNER FOR DETAILS ON FINISH MATERIALS.
- 13. ALL EQUIPMENT SPECIFICATIONS ARE TO BE FIELD LOCATED BY THE CONTRACTOR AND THE EQUIPMENT

- 14. CONTRACTOR TO BE ON THE JOB SITE DAY(S) OF THE EQUIPMENT INSTALLATION TO WORK WITH THE EQUIPMENT REP. ON THE FINAL HOOKUP.
- 15. NO WORK IS TO BE CONCEALED UNTIL SPECIFICATION ACCURACY IS CONFIRMED BY EQUIPMENT SUPPLIER.
- 16. DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS INDICATED ON DRAWINGS TAKE PRECEDENCE. LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- 17. DOORS INDICATED ON THE PLAN SHALL BE LOCATED A MINIMUM OF 4" FROM ADJACENT WALLS UNLESS NOTED OR DIMENSIONED OTHERWISE, OR AS REQUIRED FOR DOOR CASING AND HARDWARE INSTALLATION
- 18. EXIT HARDWARE SHALL ALLOW FOR EGRESS AT ALL TIMES WITHOUT THE USE OF SPECIAL KNOWLEDGE EFFORT.
- 19. THE CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- 20. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- 21. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ARCHITECT / ENGINEERS RESPONSIBLE FOR HIS / HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
- 22. CONTRACTOR TO VERIFY ALL DIMENSIONS AND INFORMATION IN THESE DRAWINGS. CONTRACTOR IS TO COMPLY WITH ALL EXISTING CONDITIONS INCLUDING BUILDINGS, SITE CONDITIONS AND SOIL BEARING PRESSURE. ALL ERRORS, OMISSIONS AND INCONSISTENCIES ARE TO BE REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO WILL RELEASE THE ARCHITECT AND ENGINEERS RESPONSIBILITY. ANY CHANGE FROM THESE DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF INSUFFICIENT INFORMATION EXISTS, CONTACT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- 23. CONTRACTOR IS TO COMPLY WITH ALL CODES AND SAFETY REGULATIONS AND O.S.H.A. REQUIREMENTS.
- 24. NOTCHES AT THE END OF THE JOIST ARE NOT TO EXCEED 1/4 OF THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF THE JOIST ARE NOT TO EXCEED 1/6 OF THE JOIST DEPTH OR BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN. NO HOLES ARE TO BE BORED LARGER THAN 1/3 OF THE JOIST DEPTH, WITHIN TWO INCHES OF THE TOP OR BOTTOM OF THE JOIST, OR WITHIN TWO FEET OF THE JOIST BEARING. NO HOLES OR NOTCHES ARE ALLOWED IN BEAMS UNLESS APPROVED BY ARCHITECT.
- 25. FIRE STOPPING OF TWO INCH NOMINAL LUMBER SHALL BE PROVIDED TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN ALL CONCEALED DRAFT OPENINGS BOTH VERTICAL AND HORIZONTAL.
- 26. STRUCTURAL LUMBER EXPOSED TO THE EXTERIOR OR IN CONTACT WITH THE CONCRETE TO BE PRESSURE TREATED.
- 27. ALL PLYWOOD TO BE APA RATED FOR SPAN SHOWN.

FLORIDA PRODUCT APPROVAL AND NOTICE OF ACCEPTANCE

THE FOLLOWING PRODUCTS HAVE BEEN SPECIFIED FOR THE BASIS OF PERFORMANCE, QUALITY AND CODE COMPLIANCE FOR THIS PROJECT. EQUAL PRODUCTS MAY BE SUBSTITUTED FOR THESE MATERIALS. TO BE CONSIDERED AN EQUAL PRODUCT THE ALTERNATE PRODUCT MUST EQUAL TO THE SPECIFIED PRODUCTS IN PANEL SIZE, MATERIAL THICKNESS, MATERIAL FINISH, INSTALLATION METHOD, PANEL PROFILE, SEAM STYLE, MANUFACTURERS INSPECTIONS, WARRANTY REQUIREMENTS FOR BOTH MATERIAL AND LABOR. ALL ALTERNATE MATERIALS MUST HAVE CURRENT NOA OR FLORIDA PRODUCT APPROVALS. IF AN EQUAL PRODUCT IS SUBSTITUTED FOR INSTALLATION ON THIS PROJECT, THE CONTRACTOR / SUB CONTRACTOR MUST PROVIDE THE NEW NOA / FLORIDA PRODUCT APPROVAL TO THE PERMITTING JURISDICTION FOR APPROVAL, ACCEPTANCE AND PERMITTING.

MATERIAL	MANUFACTURER	PRODUCT	FLORIDA PRODUCT APPROVAL / N.O.A.
SELF ADHERED UNDERLAYMENT	POLYGLASS	POLYSTICK MTS PLUS	FL5259-R34 / FL5259.1
STANDING SEAM METAL ROOF	BERRIDGE	DOUBLE-LOCK ZEE-LOCK PANEL	FL11159-R7 / FL11159.1
TPO ROOFING	GAF	EVERGUARD TPO	FL5293-R48 / FL5293.1
ROOF HATCH	BABCOCK-DAVIS	HURICANE ROOF HATCH	FL-40712 / N.O.A. 21-1201.02.

A. MATERIALS:

STRAP NUMBER: 17-44-25-P3-00063.0000

ZONING CLASSIFICATION:

PUD (PLANNED UNIT DEVELOPMENT)

PROJECT ADDRESS:

4224 RENAISSANCE PRESERVE WAY FORT MYERS FLORIDA 33916

LEGAL DESCRIPTION

TWP 44 R 25 OC DESC IN OR 622 PG 394 +

SUNNYSIDE FARMS PB 3 PG 72

OR 362/426 LT 1 + PT LOT 16

THE HOUSING AUTHORITY OF THE FORT MYERS

OWNER / MAILING ADDRESS

P.O. DRAWER 2217 FORT MYERS FL., 33916

CODE COMPLIANCE STATEMENT:

TO THE BEST OF MY KNOWLEDGE THESE PLANS WERE PREPARED AND SHALL COMPLY WITH THE FLORIDA BUILDING CODE SECTION 1603.1.4 WIND DESIGN DATA AND: FLORIDA BUILDING CODE ACCESSIBILITY, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, BUILDING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, ENERGY CONSERVATION, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, EXISTING BUILDING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, FUEL GAS CODE, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, MECHANICAL, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, PLUMBING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, RESIDENTIAL, SEVENTH EDITION 2020. 2017 NATIONAL ELECTRICAL CODE. 2018 NFPA LIFE SAFETY CODE.

THE EDITION OF THE FLORIDA FIRE PREVENTION CODE THAT INCLUDES THE 2018 EDITIONS OF THE NFPA 1 AND 101 WITH FLORIDA SPECIFIC REQUIREMENTS.

CODES IN EFFECT AT TIME OF CONSTRUCTION:

FLORIDA BUILDING CODE ACCESSIBILITY, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, BUILDING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, ENERGY CONSERVATION, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, EXISTING BUILDING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, FUEL GAS CODE, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, MECHANICAL, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, PLUMBING, SEVENTH EDITION 2020. FLORIDA BUILDING CODE, RESIDENTIAL, SEVENTH EDITION 2020. 2017 NATIONAL ELECTRICAL CODE.

INCLUDES THE 2018 EDITIONS OF THE NEPA I AND 101 WITH FLORIDA SPECIFIC REQUIREMENTS

2018 NFPA LIFE SAFETY CODE. 1TH EDITION OF THE FLORIDA FIRE PREVENTION CODE THAT

ROOF FIRE CLASSIFICATION

- 1. THE MINIMUM REQUIREMENT FOR THE ROOF ASSEMBLY IS A
- 2. MODIFIED BITUMEN ROOF SYSTEM IS A CLASS C RATING. 3. THE METAL ROOF IS A CLASS A RATING.

GUTTERS AND DOWNSPOUT SPECIFICATION:

- THE GUTTERS AND DOWNSPOUTS SHALL BE OF SEAMLESS ALUMINUM CONSTRUCTION, NO BREAKS SHALL BE MADE ALONG STRAIGHT SECTIONS. TRANSACTIONS MUST OCCUR AT CORNERS.
- 2. GUTTER MATERIAL SHALL BE MIN. 2032 ALUMINUM. SHEET
- 3. DOWNSPOUTS SHALL BE MINIMUM .019 ALUMINUM SHEET.
- 5. DOWNSPOUTS SHALL MATCH EXISTING.

4. GUTTER PROFILE SHALL MATCH EXISTING.

- 6. PROVIDE TERMINATION BEND AND 24" DOWNSPOUT EXTRUSION ALL GROUND LEVEL
- 1. GUTTER AND DOWNSPOUT MATERIAL SHALL HAVE A BAKED ON PAINT FINISH COLOR WHITE.
- 8. GUTTERS AND DOWNSPOUTS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND GUIDELINES
- 9. GUTTERS AND DOWNSPOUTS SHALL BE INSTALLED WITH THE APPLICABLE WIND PRESSURES FOR COMPONENTS AND CLADDING AS REQUIRED BY THE 1TH EDITION FBC
- 10. AFTER INSTALLATION OF GUTTERS AND DOWNSPOUTS SHALL BE CLEANED AND ANY TOUCH UPS OF PAINT MADE.
- 11. GUTTER AND DOWNSPOUTS, INSTALLATION SHALL INCLUDE A (20) TWENTY YEAR MATERIAL PRODUCT WARRANTY AND A (5) FIVE YEAR WORKMANSHIP INSTALLATION WARRANTY.

••••••• √WOOD TRUSSES @ 2' O.C. FACE GRAIN PERPENDICULAR TO TRUSSES NAILS SHALL BE SPACED 4" O.C. ALONG EDGES.

NAILS SHALL BE SPACED 6" O.C. @ INTERMEDIATE FRAMING. 3) NAILS SHALL BE SPACED 4" O.C. @ ALL GABLE OR ENDWALLS. 4) NAILS SHALL BE 8d GALY, RING SHANK, 5) PLYWOOD SHEATHING SHALL BE STAGGERED AS SHOWN. 6) FIRST 48" OF SHEATHING SHALL BE GLUED AND NAILED AROUND THE ENTIRE PERIMETER

> ROOF SHEATHING NAILING PATTERN

INSULATION SCHEDULE

PAINT SCHEDULE

A. STUCCO FINISHES AFFECTED BY THE SCOPE OF WORK (AND

EXTERIOR LATEX - ON OVER SHERWIN WILLIAMS CONCRETE

APPLICATION OF PAINT SHALL BE PER THE MANUFACTURER'S

OR AS REQUIRED) - 2 COATS ACRYLIC LATEX SATIN

B. ALL EXPOSED METAL ROOF FLASHING (EXCEPT WHERE

FACTORY FINISHED) EXT. 2 COATS OIL BASE EXTERIOR

PAINT EQUAL TO MANUFACTURER AS SPECIFIED ABOVE.

C. EXTERIOR PAINT COLORS SHALL BE SELECTED BY THE OWNER.

2. DELIVERY AND STORAGE OF PAINT SHALL BE PER THE

3. INTERIOR AND EXTERIOR JOINTS SHALL BE CAULKED AS

SPECIFIED IN THE CAULKING AND SEALANT SPECIFICATION.

4. SURFACE SHOULD BE FREE OF ALL LOOSE MATERIALS OR

5. WOOD SURFACES TO BE PAINTED SHALL HAVE A MAXIMUM

MOISTURE CONTENT OF 15% OR LOWER AS MAYBE REQUIRED

8. PAINT SHALL BE EQUAL IN QUALITY TO THE ABOVE SPECIFIED

6. ALL PAINT MATERIALS SHALL BE READY MIX IN STANDARD

1. THE PROTECTION OF ALL EXISTING SURFACES NOT TO BE

9, THE PAINT AND PAINTING SHALL BE WARRANTED FOR A

PERIOD OF ONE YEAR BY THE PAINTING SUBCONTRACTOR

FORMULAS AND BE A PRODUCT OF A RECOGNIZED

PAINTED IS THE RESPONSIBILITY OF THE PAINTING

MATERIALS. ACCEPTABLE MANUFACTURERS ARE:

MANUFACTURER FOR THIS CONSTRUCTION TYPE.

PAINT EQUAL TO SHERWIN WILLIAMS SUPER PAINT

INTERIOR/EXTERIOR LATEX PRIMER (WHITE).

MANUFACTURERS WRITTEN SPECIFICATIONS.

CONTAMINATION PRIOR TO PAINTING.

BY THE PAINT MANUFACTURER

- BENJAMIN MOORE

- SHERWIN WILLIAMS - POYIA PAINTS

AND THE PAINT MANUFACTURER

- SCOTT PAINTS

SUB-CONTRACTOR.

- GLIDDEN

I. EXTERIOR PAINTING:

WRITTEN SPECIFICATIONS.

- INSULATION REQUIRED AT ROOF REMEDIATION AREA SHALL BE INSULATED WITH R-30 UN-FACED FIBERGLASS BATT INSULATION INSTALLED BETWEEN TRUSS FRAMING WHERE WALL IS EXPOSED TO THE EXTERIOR ENVIRONMENT. THE MATERIAL SHALL BE EQUAL TO JOHNS MANYILLE OR OWENS CORNING.
- 2. THE INSULATION SHALL BE HELD IN PLACE WITH A METAL SUPPORT MESH STAPLED TO FRAMING MEMBERS.
- 3. APPLICATION OF THE PRODUCT SHALL BE IN COMPLIANCE WITH ALL APPLICABLE BUILDING CODES AND THE MANUFACTURER'S RECOMMENDATIONS.

DEMOLITION NOTES:

CAULKING & SEALANTS

SPECIFICATION:

SEALANT FOR JOINTS BETWEEN INTERSECTING PERVIOUS

OR MASONRY JOINTS OR WOOD AND STUCCO SHALL BE A

2. PRIMERS AND CLEANING AGENTS SHALL BE AS SPECIFIED BY

3. PLASTIC FOAM ROD SHALL BE UTILIZED AS CAULKING BACK

EMISSIONS AND BE COMPLIANT WITH LEED REQUIREMENTS.

APPLICATION AND CONDITIONS SHALL BE FAVORABLE SO

THAT A POSITIVE WEATHER TIGHT SEAL SHALL BE ACHIEVED.

THE CAULKING AND SEALANT MANUFACTURER'S.

4. ALL SEALANTS AND ADHESIVES MUST HAVE LOW VOC

BUILDING JOINTS SHALL BE EXAMINED PRIOR TO

2. ALL JOINTS SHALL BE CLEAN, DRY AND FREE OF DUST,

3. BACKING SHALL BE PROVIDED IN ALL JOINTS SO THAT

5. CAULKING SHALL BE GUN APPLIED THROUGH A NOZZLE

FACES OF THE JOINT. EXCESS MATERIAL SHALL BE

INTO THE JOINT. CONCAVE IMMEDIATELY AFTER

OPENING SO THAT THE FULL CAULK BEAD IS FUNNELED

APPLICATION TO INSURE FIRM, FULL CONTACT WITH INNER

STRUCK OFF. THE JOINT SHALL BE CLEAN AND SMOOTH.

WITH THE MANUFACTURER'S PRINTED SPECIFICATIONS.

8. THERE SHALL BE A 5 YEAR LIMITED WARRANTY ON THE

6. CAULKING APPLICATION SHALL BE IN STRICT ACCORDANCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING.

ALL WASTE, STAINS AND DEBRIS RESULTING FROM THEIR

THE DEPTH OF SEALANT WILL BE APPROXIMATELY THE

4. JOINTS TO BE CAULKED WILL INCLUDE ALL PERIMETERS OF

DOOR FRAMES, WINDOWS, MATERIALS (SUCH AS EXPANSION

JOINTS) AND ALL JOINTS BETWEEN DIFFERENT MATERIALS.

OILY SUBSTANCES, OR LOOSE MORTAR PRIOR TO

PAINTABLE CAULK EQUAL TO DAP ALEX ULTRA 230 PREMIUM

DISSIMILAR MATERIALS SUCH AS METAL AND MASONRY,

FOR INTERIOR AND EXTERIORS.

UP WHERE REQUIRED.

APPLYING CAULKING.

SAME AS THE WIDTH.

OPERATION.

CAULKING AND SEALANTS.

B. APPLICATION:

- THE CONTRACTOR SHALL VISIT THE PROJECT AND BECOME TOTALLY FAMILIAR WITH THE EXISTING CONDITIONS FOR THE FAITHFUL PERFORMANCE OF THE WORK SPECIFIED IN THESE DRAWINGS ANY QUESTIONS OR DISCREPANCIES FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR THE OWNER'S REPRESENTATIVE FOR RESOLUTION, NO ALLOWANCE SHALL BE MADE FOR EXTRAS PAID WITHOUT THE APPROVAL OF THE OWNER OR OWNERS REP.
- THE EXTENT OF THE DEMOLITION SHALL BE AS SPECIFIED IN THE SCOPE OF WORK AND ON THE DEMOLITION PLANS WHICH WILL INCLUDE ALL ROOFING, UNDERLAYMENTS, DRIP FLASHING, GUTTERS, AND DOWNSPOUTS.
- ALL APPLIANCES DESIGNATED FOR REMOVAL SHALL BE COMPLETELY AND ENTIRELY REMOVED FROM THE BUILDING AND SAVED. STORE AT THE OWNERS DIRECTIONS.
- PRIOR TO DEMOLITION CONTRACTOR SHALL OBTAIN A HAZARDOUS MATERIALS REPORT TO VERIFY THERE ARE NO MATERIALS THAT NEED TO BE ABATED PRIOR TO DEMOLITION. TESTING IS PART OF
- 5. DEMOLITION AND ABATEMENT OF HAZARDOUS MATERIALS IS NOT PART OF THE BASE BID. ADDITIONAL COST ASSOCIATED WITH ANY HAZARDOUS MATERIAL REMOVAL SHALL BE NEGOTIATED AS AN ADDITIONAL SERVICE.
- 6. THE REMOVAL OF DEBRIS SHALL BE DISPOSED OF IN AN APPROVED COUNTY LANDFILL OR RECYCLING CENTER.
- 1. DUMP TICKETS SHALL BE PROVIDED FOR EACH LOAD.
- 8. REFER TO DEMOLITION PLAN AND THE SYMBOLS LEGEND FOR OTHER NOTATIONS PERTAINING TO THE DEMOLITION WORK.

PROJECT SCOPE

THE GENERAL SCOPE OF THIS PROJECT IS THE COMPLETE RE-ROOFING OF THE ADMINISTRATION BUILDING FOR HOUSING AUTHORITY OF THE CITY OF FORT MYERS. THE ADDRESS OF THE PROJECT SITE IS 4224 RENAISSANCE PRESERVE WAY, FORT MYERS FLORIDA 33916.

THE WORK INCLUDES, BUT NOT LIMITED TOO, THE REMOVAL AND DISPOSAL OF THE EXISTING CEMENT TILE ROOF, ALL UNDERLAYMENTS, MODIFIED BITUMEN ROOFING, TAPERED INSULATION, FLASHING, PARAPET CAPS, ROOF ACCESSORIES, GUTTERS AND DOWNSPOUTS, ETC., AS REQUIRED FOR A

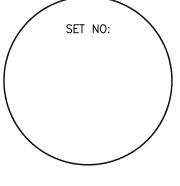
COMPLETE ROOF REPLACEMENT. THERE ARE EXISTING HYAC UNITS INSTALLED ON CURBS AND RACKS LOCATED IN THE FLAT DECK AREAS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR / ROOF CONTRACTOR TO REMOVE AND REINSTALL THESE UNITS AS MAY BE REQUIRED TO COMPLETE THE NEW ROOF INSTALLATION.

THE NEW ROOF SYSTEMS WILL INCLUDE A STANDING SEAM METAL ROOF WITH A DOUBLE ZEE-LOCK ROLL SEAM AND A NEW TPO ROOF WITH TAPERED INSULATION AND FULL SIDE WALL TPO WITHIN THE HYAC EQUIPMENT AREAS. THERE IS A ROOFED CRICKET THAT WILL BE DONE WITH TPO. THE STANDING SEAM ROOF PANELS WILL BE FLAT CURVED AND TAPERED AND MUST HAVE THE SAME PROFILE AND SEAM STYLE. THE NEW ROOF SYSTEM FOR BOTH THE STANDING SEAM AND THE TPO SHALL INCLUDE ALL REQUIRED DRIP EDGE, FLASHING,

TRIM CLIPS, BOOTS, ACCESSORIES, ETC., FOR A COMPLETE NEW ROOFING SYSTEM. ALL EXISTING GUTTERS AND DOWNSPOUT LOCATIONS SHALL BE REMOVED AND REPLACED WITH NEW GUTTERS AND

DOWNSPOUTS MATCHING THE EXISTING LOCATIONS AND WHERE

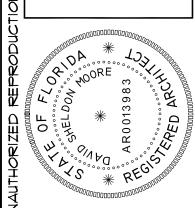
IDENTIFIED ON THE ELEVATIONS AND ROOF PLANS.



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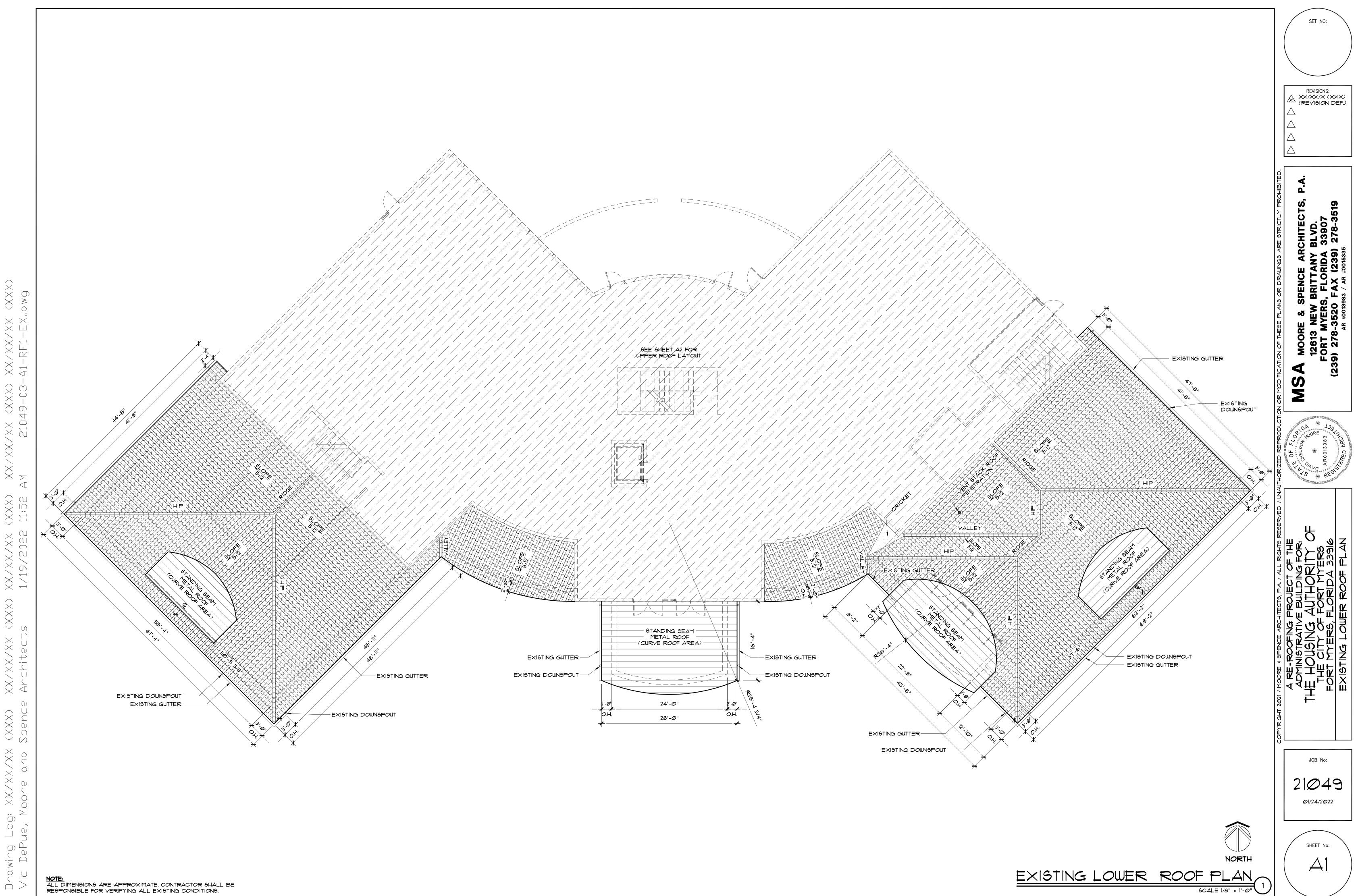
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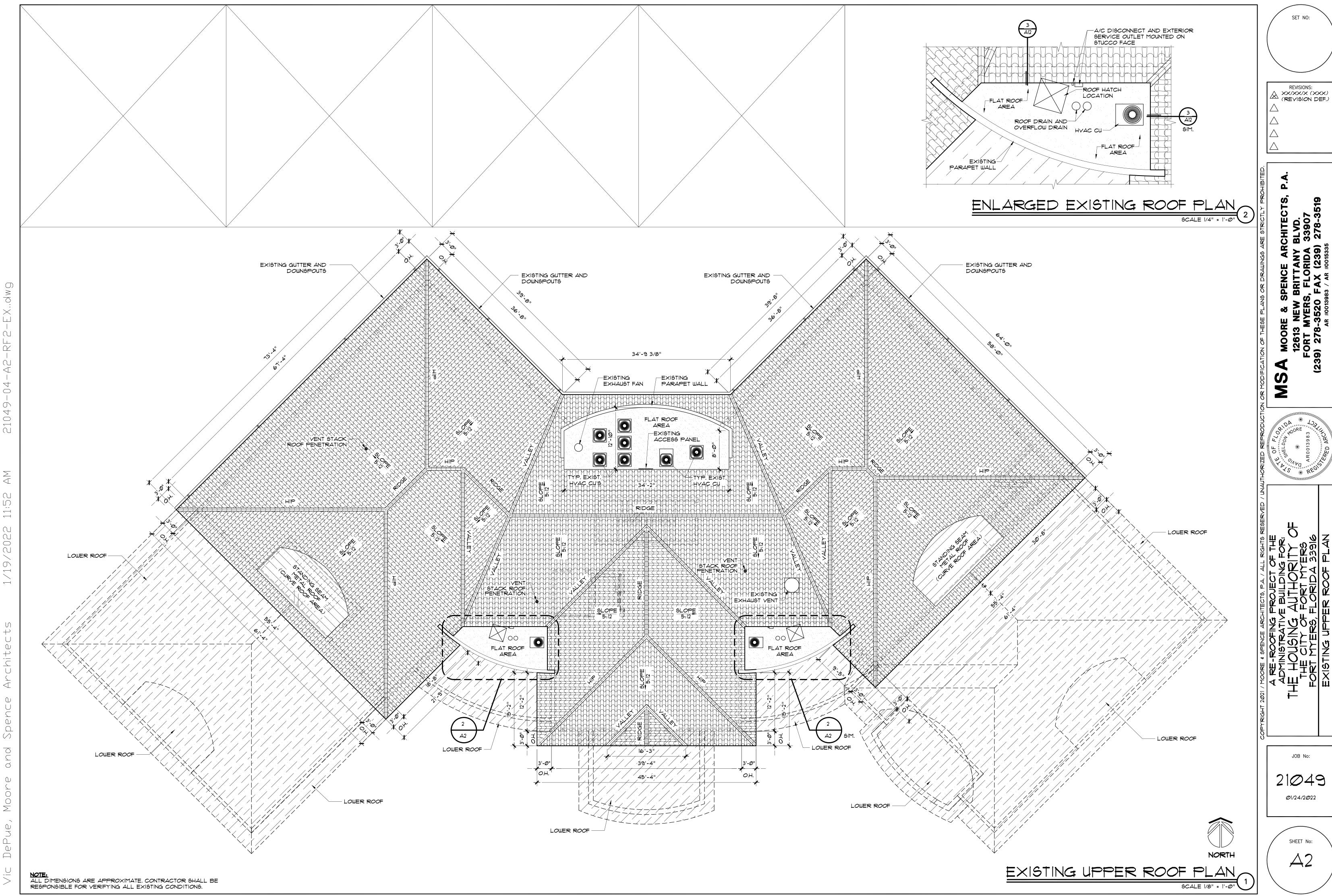
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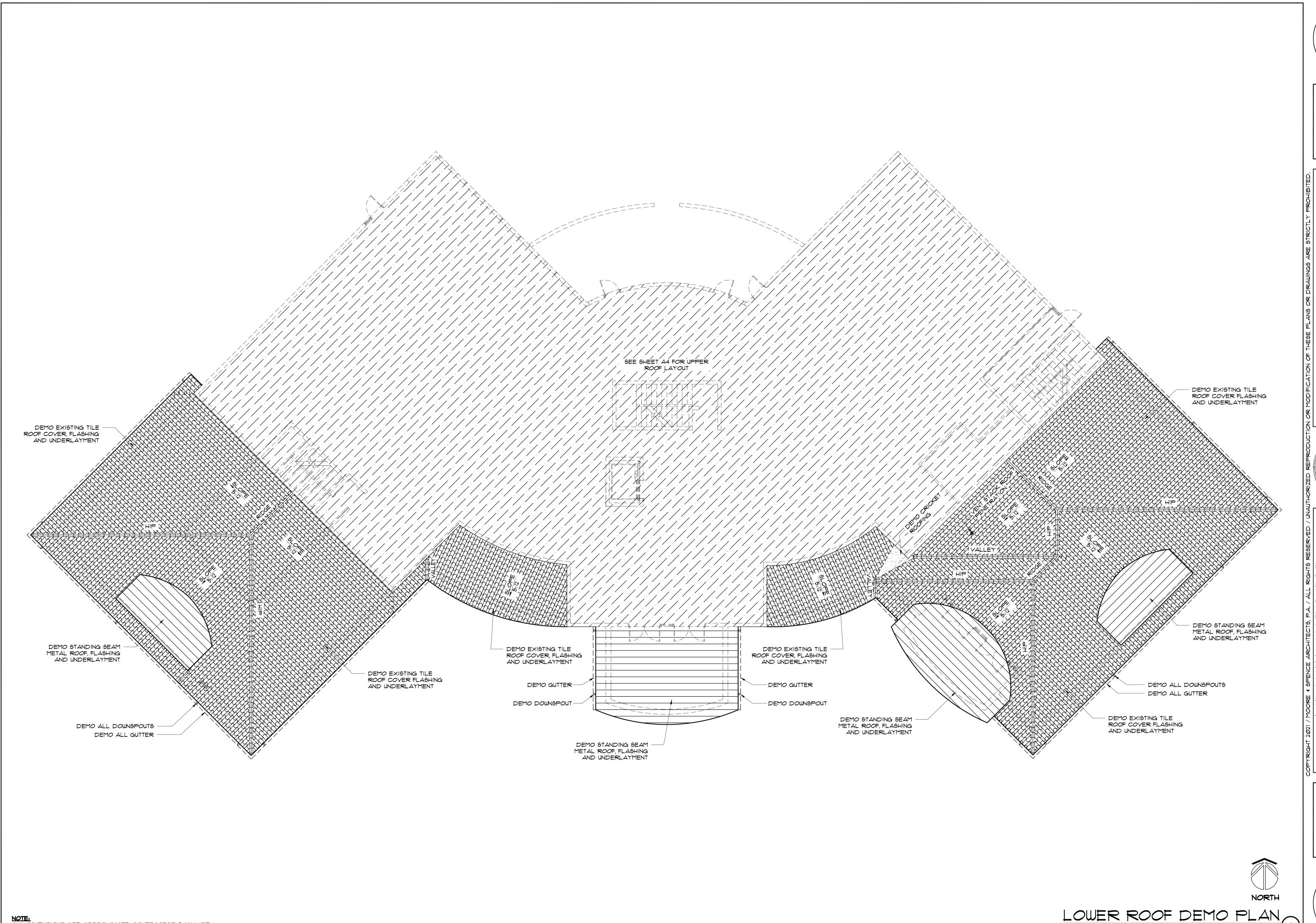


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ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL BE

RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS.

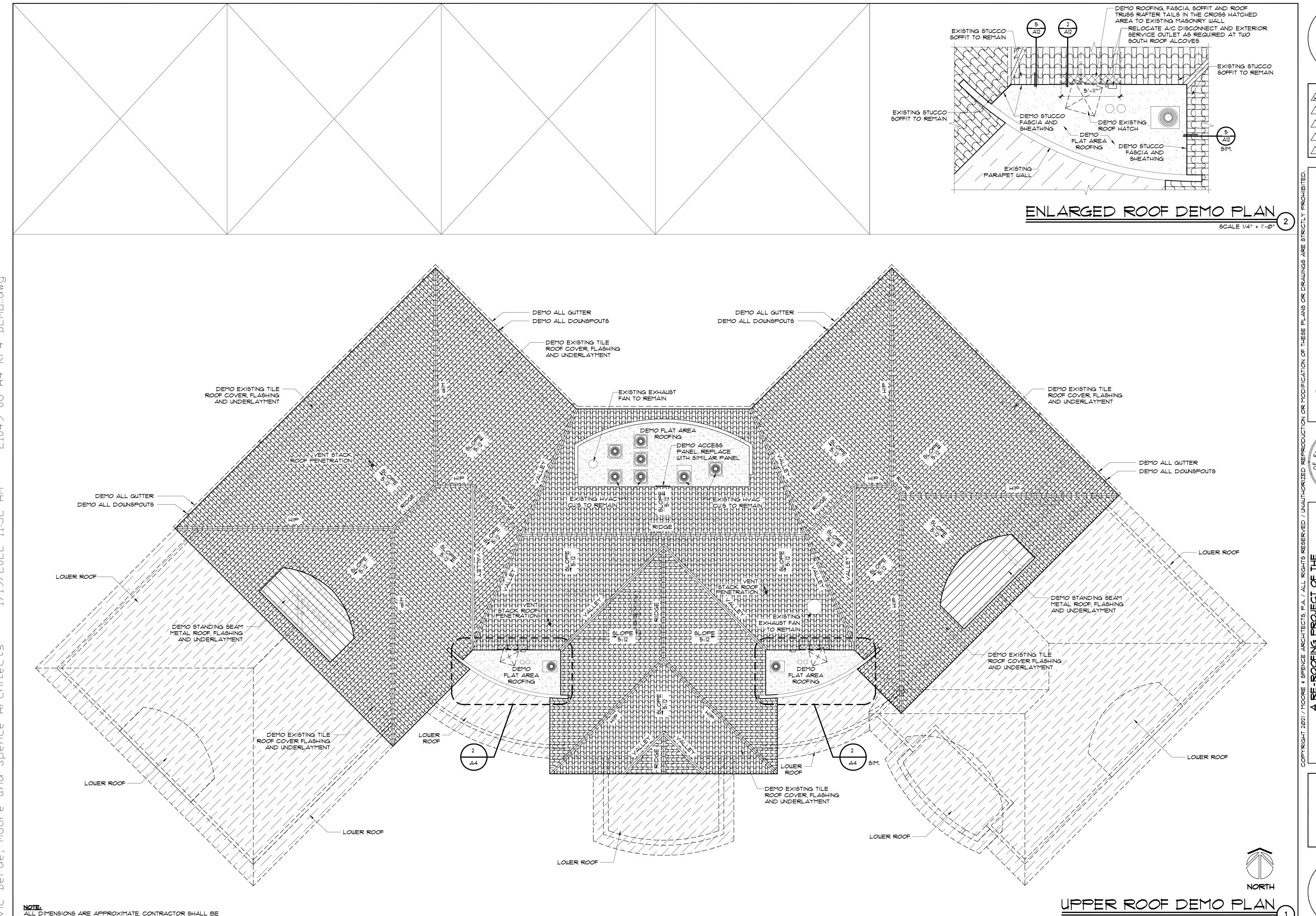
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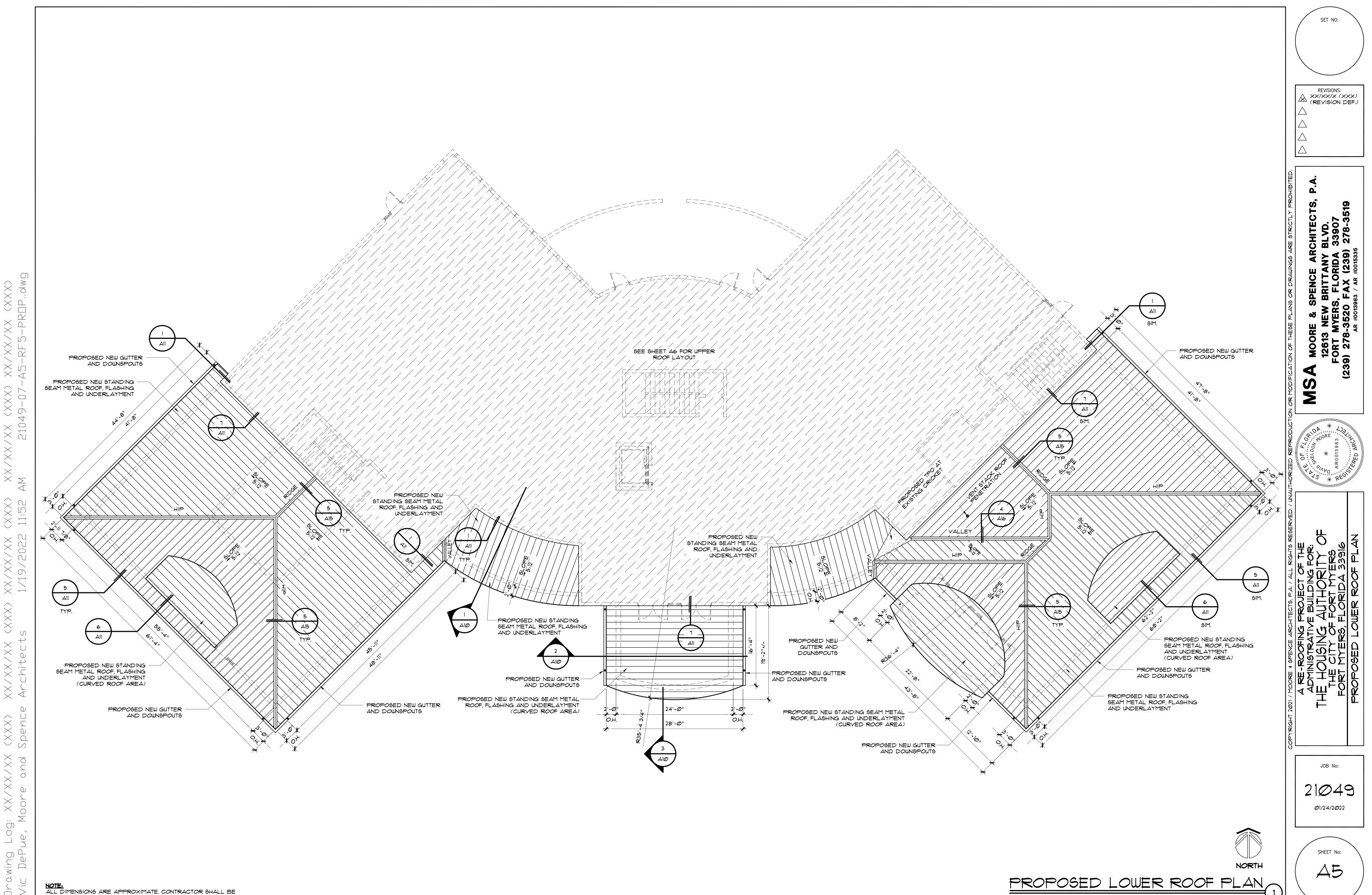


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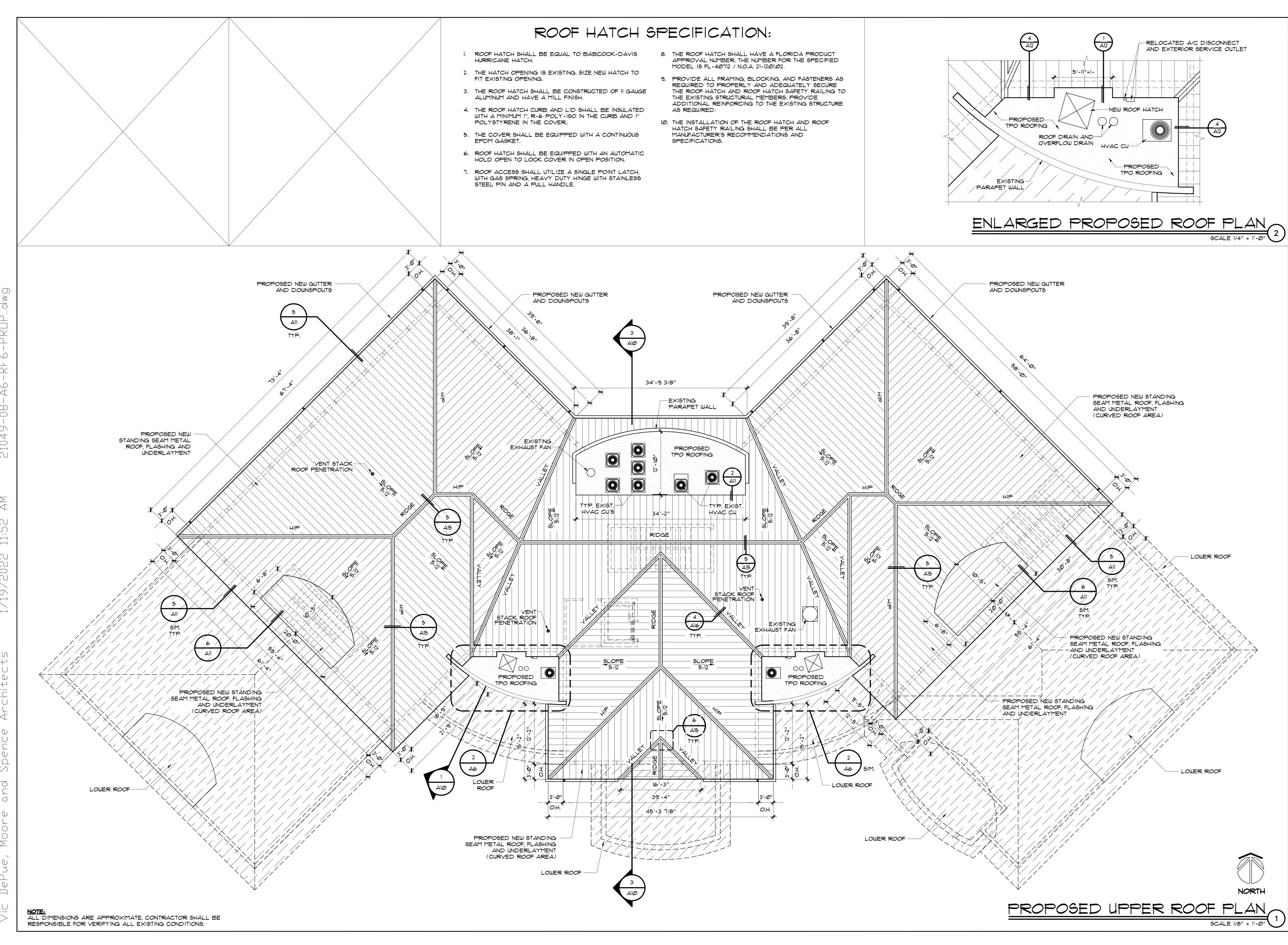
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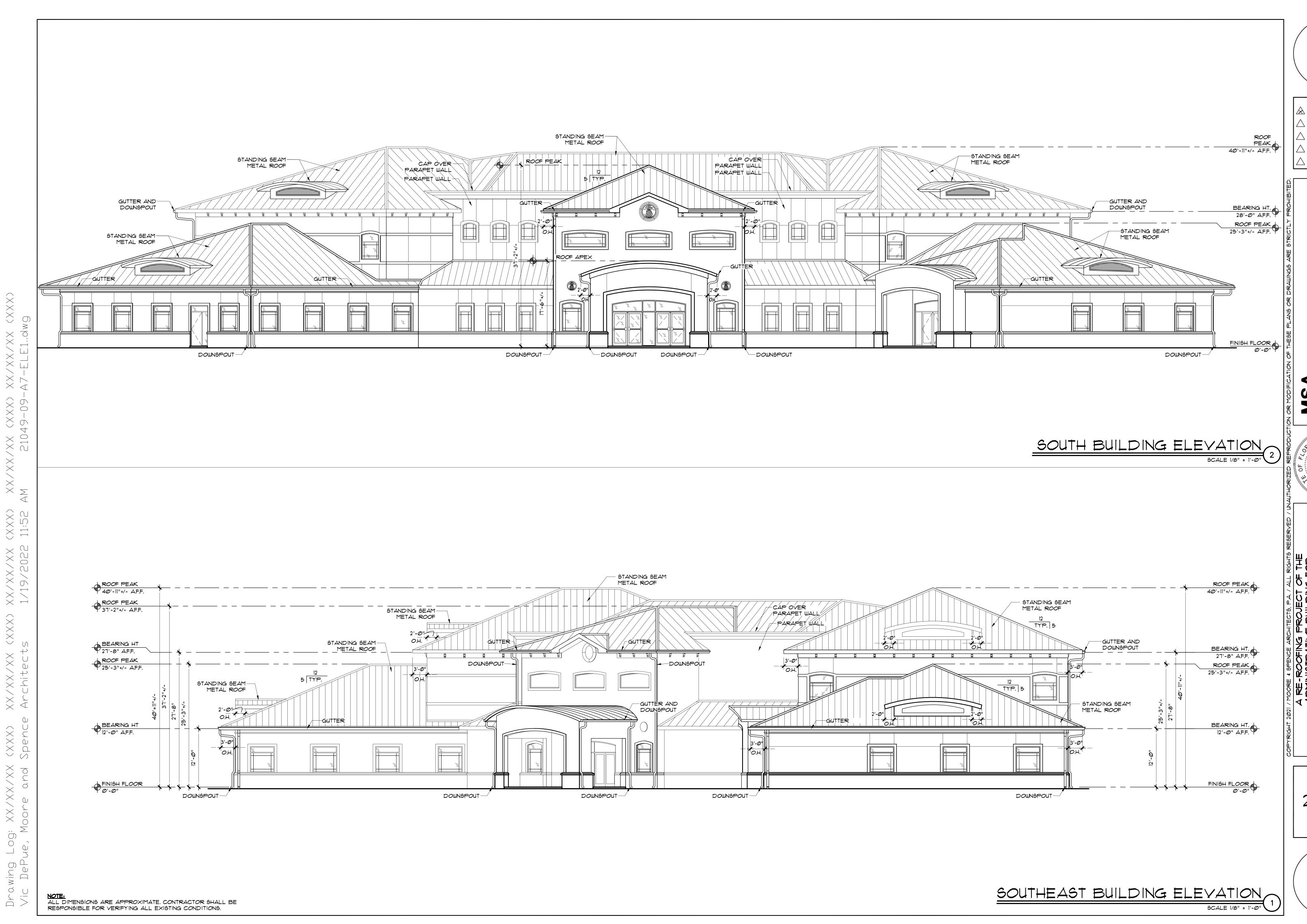


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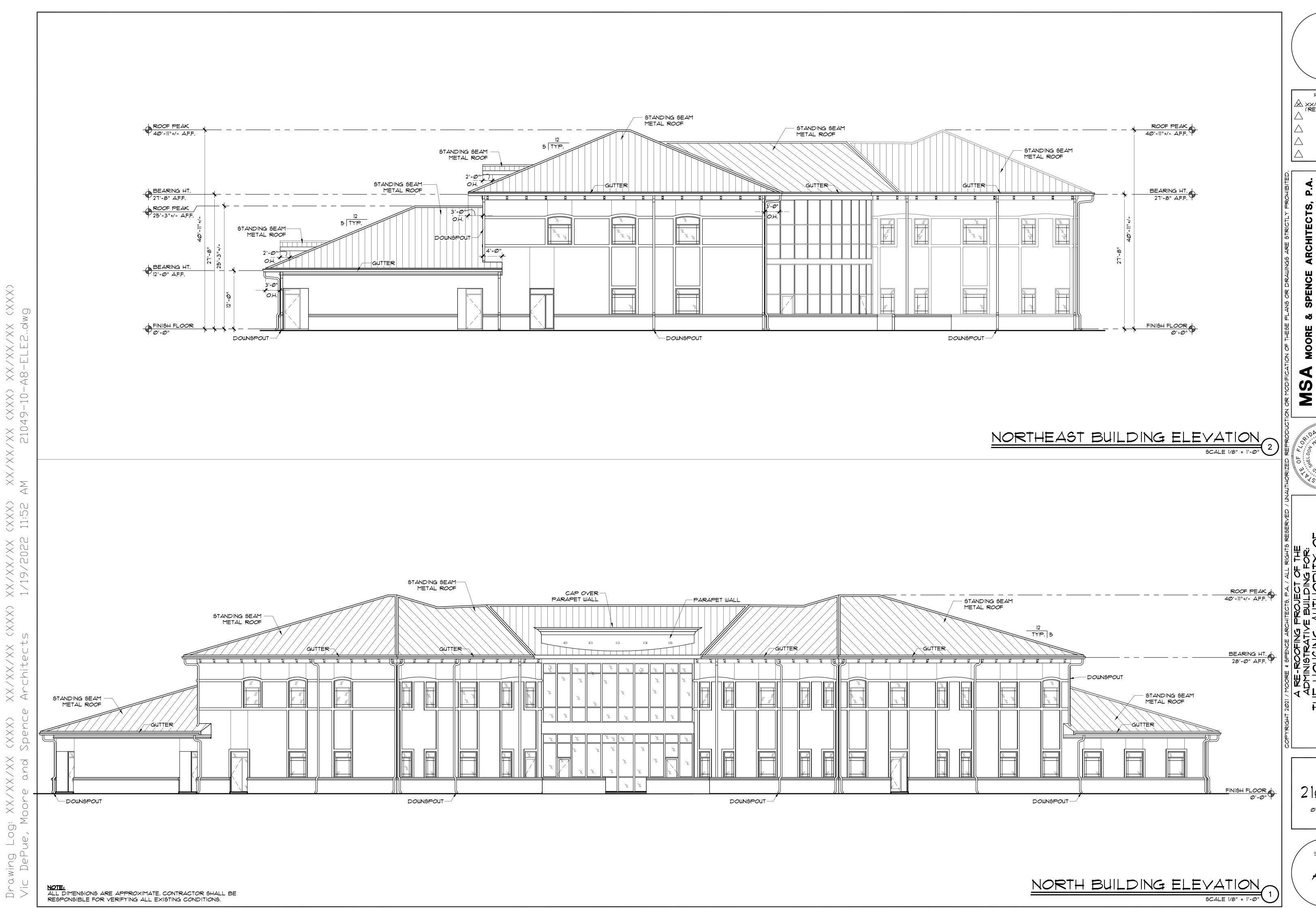
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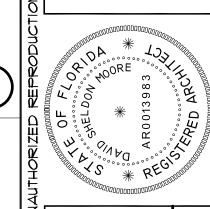


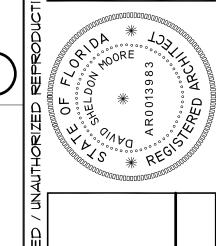
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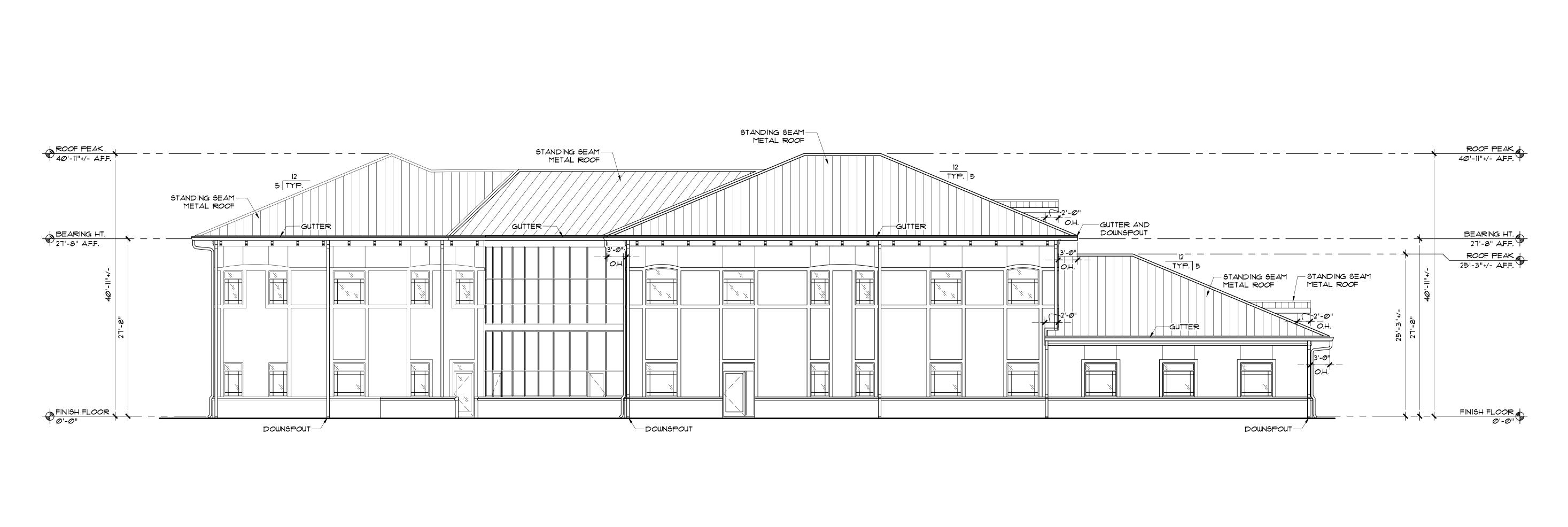
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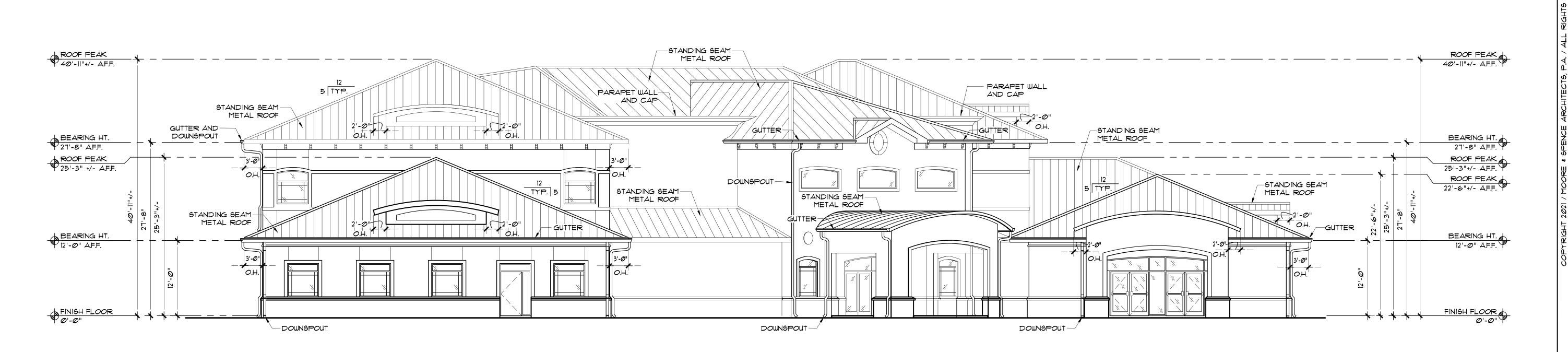


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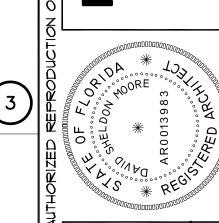
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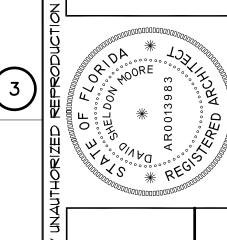
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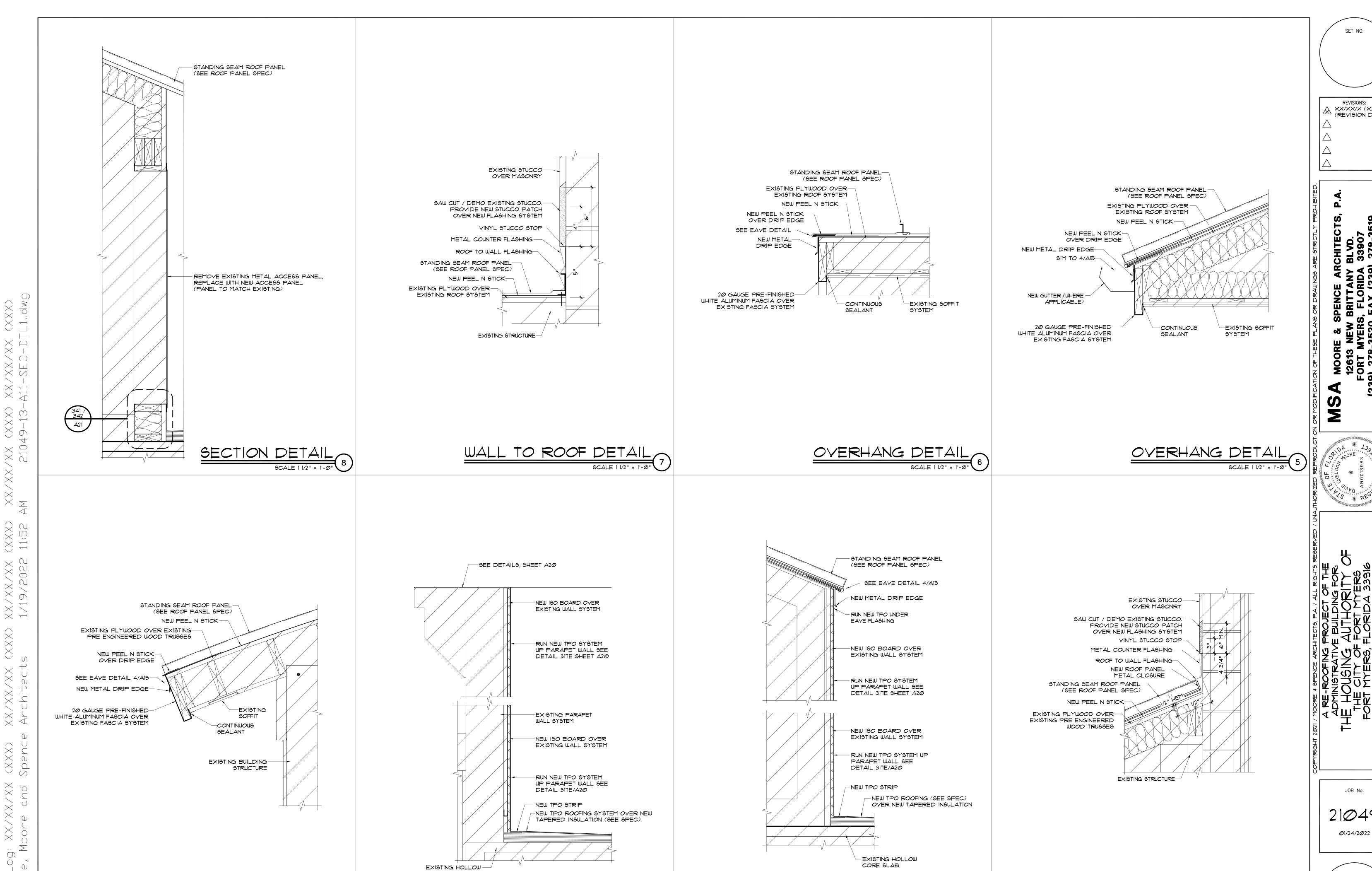
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WALL TO ROOF DETAIL

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CORE SLAB

OVERHANG DETAIL

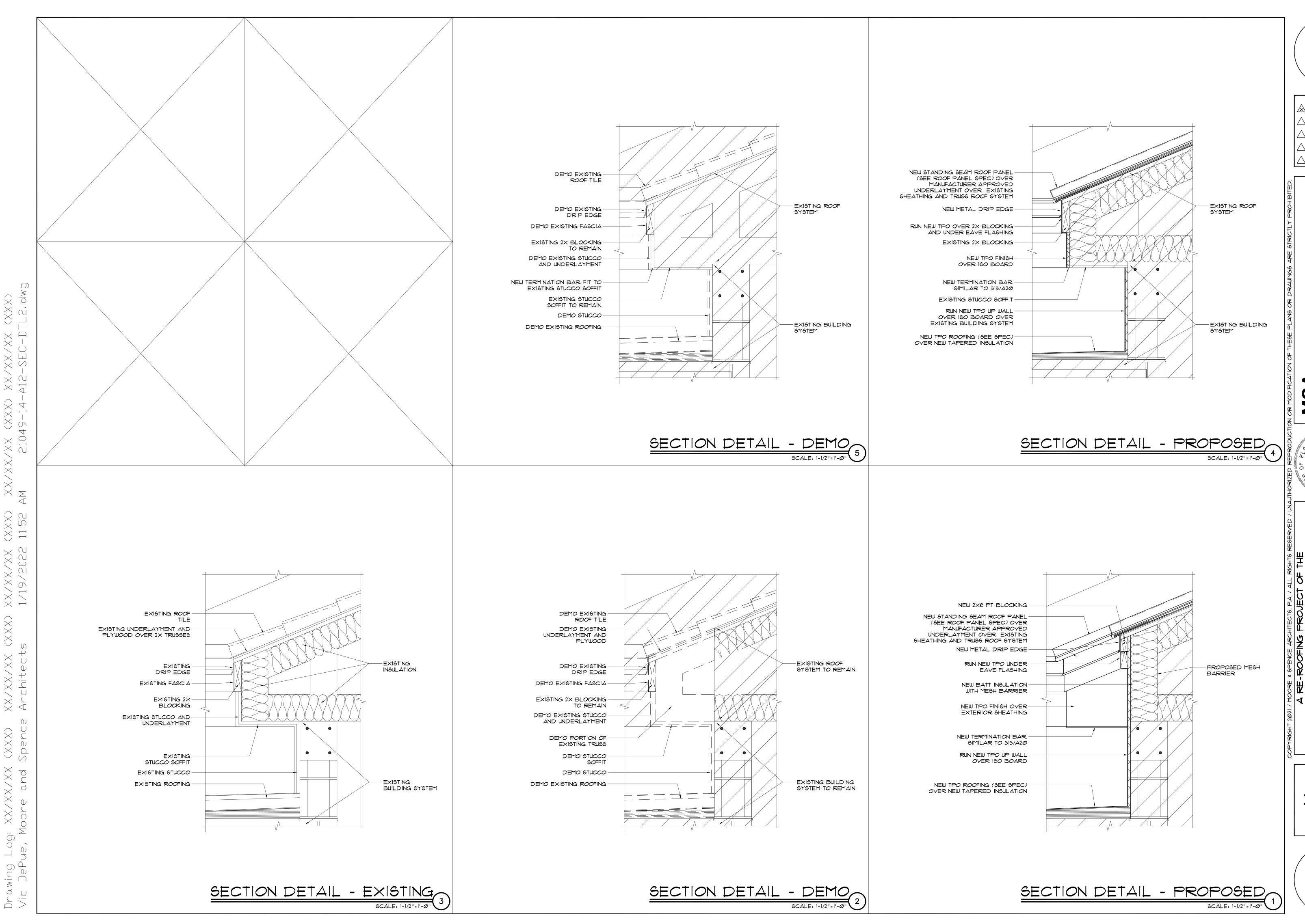
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1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at project site.
- 1. Meet with Owner, Architect, metal panel Installer, metal panel manufacturer's representative, and installers whose work interfaces with or affects metal panels,
- including installers of roof accessories and roof-mounted equipment. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid
- 3. Review methods and procedures related to metal panel installation, including manufacturer's written instructions.
- 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
- 5. Review structural loading limitations of sheathing and trusses during and after
- 6. Review flashings, special details, drainage, penetrations, equipment curbs, and
- condition of other construction that affect metal panels. 7. Review governing regulations and requirements for insurance, certificates, and
- tests and inspections if applicable. 8. Review temporary protection requirements for metal panel systems during and
- after installation. 9. Review procedures for repair of metal panels damaged after installation.
- 10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.

B. Shop Drawings:

Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.

2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale sufficient in size to be easily legible, preferably at 3" equals 12".

C. Calculations:

- Include calculations with registered engineer seal, verifying roof panel and attachment method resist wind pressures imposed on it pursuant to applicable building codes.
- D. Samples for Initial Selection: For each type of metal panel indicated with factoryapplied color finishes.
 - Include similar Samples of trim and accessories involving color selection.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
- 1. Metal Panels: 12" long by actual panel width. Include clips, fasteners, closures, and other metal panel accessories.

INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Manufacturer and Installer.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.
- 1.6 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in architectural sheet metal products.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

- 1. Build mockup of typical roof area and eave as shown on Drawings; approximately 48 inches square by full thickness, including attachments and underlayment.
- 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
- 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels until installation. Remove as panels are being installed. Verify film is not left on installed panels.

1.8 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

WARRANTY

A. Special Galvalume Substrate Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

- a. Structural failures including rupturing, or perforating.
- b. Deterioration of metals and other materials beyond normal weathering.
- 2. Warranty Period: 20 years and 6 months from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to
 - ASTM D 2244. b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, chipping, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.
- C. Special Watertightness Warranty: Manufacturer's No Dollar Limit Form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain watertight, including leaks, within specified warranty period.
- Warranty Period: 20 years from date of Substantial Completion.
- Shop drawings must be provided to, reviewed, and approved by panel manufacturer prior to panel system installation.
- Inspections by panel system manufacturer technical representative are required. Perform first inspection when underlayment and flashing are in place and second inspection when the roof is complete.
- D. Special Installer Warranty: Furnish a written warranty signed by the Panel Applicator guaranteeing materials and workmanship for watertightness of the roofing system, flashings, penetrations, and against all leaks.
- 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592 or UL 580:
- Wind Loads: As indicated on Drawings.
- 2. Other Design Loads: As indicated on Drawings

- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E 1680 and ASTM E 283 at the following test-pressure difference:
- 1. Test-Pressure Difference: 6.24 lbf/sq. ft.
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 and ASTM E 331 at the following test-pressure difference:
- 1. Test-Pressure Difference: 15 lbf/sq. ft.
- D. Hydrostatic Head Resistance: No water penetration when tested according to ASTM
- E. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
- 1. Uplift Rating: UL 90.
- F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
- 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.
- B. Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and panel striations between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.
- Basis-of-Design Product: Subject to compliance with requirements, provide Berridge Manufacturing Company; Double-Lock Zee-Lock (180° Seam) or equal product.
- Metallic-Coated Steel Sheet: Aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.

- Nominal Thickness: 0.024 inch
- Exterior Finish: Two-coat fluoropolymer, Mica fluoropolymer, or Metallic fluoropolymer. Finish shall be based on manufacturer's full range of color
- c. Painted materials shall have a removable plastic film to protect the paint during roll forming, shipping, and handling.
- d. Color: As selected by Architect from manufacturer's full range.
- 3. Clips: Continuous Zee-rib to accommodate thermal movement.
 - a. Material: 0.024-inch nominal thickness, zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet.
- 4. Joint Type: Double folded.
- 5. Panel Coverage: 16 inches.
- 6. Panel Height: 2.0 inches.

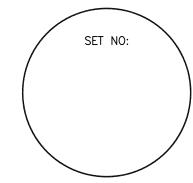
UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 40 mils thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.
- 1. Thermal Stability: Stable after testing at 240 deg F; ASTM D 1970.
- 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D 1970.
- 3. Manufacturers: Subject to compliance with requirements, provide products equal to the following:
- a. Polyglass Polystick MTS Plus

MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645; cold-formed, metalliccoated steel sheet, ASTM A 653/A 653M, G90 coating designation or ASTM A 792/A 792M, Class AZ50 coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

CONTINUED ON SHEET A14



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Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match roof fascia.

E. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts to match gutters.

F. Roof Curbs: Fabricated from same material as roof panels, 0.029 inch nominal thickness; galvalume or stainless steel; supply an integral full-length cricket for curbs wider than 24 inches supported by a structural deck. Fabricate curb flashing from 0.029 inch. On open framing, provide roof underlayment and decking at and about roof curb per roofing manufacturer's requirements. Maintain a minimum of 1/2 of roofing panel width on each side of roof curb, and start panels a minimum of 9 inches up slope of roof curb, flashing roofing panels to roof curb per roofing manufacturer's requirements. Fabricate curb and sub-framing to withstand indicated loads of size and height of roof top equipment. Where required insulate roof curbs with rigid

G. Panel Fasteners: Zinc-coated steel, corrosion resisting steel, zinc cast head, or nylon capped steel, type and size as approved for the applicable loading requirements.

H. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are non-staining, and do not damage panel finish.

1. Joint Sealant: Silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.

2.5 FABRICATION

A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using factory set, non-adjustable, portable rollforming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

2. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.

Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

2.6 FINISHES

A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Steel Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat applied by panel manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.2 ± 0.05 mil primer coat, to provide a total dry film thickness of 0.95± 0.10 mil. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

2. Mica Fluoropolymer: AAMA 621. Two-coat fluoropolymer finish with suspended mica flakes containing not less than 70 percent PVDF resin by weight in color coat applied by panel manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.2 ± 0.05 mil primer coat, to provide a total dry film thickness of 0.95± 0.10 mil. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

3. Metallic Fluoropolymer: AAMA 621. Two-coat fluoropolymer finish with suspended metallic flakes containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat applied by panel manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.75 ± 0.05 mil over 0.2 ± 0.05 mil primer coat, to provide a total dry film thickness of 0.95 ± 0.10 mil. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

4. Concealed Finish: Apply pretreatment and manufacturer's standard white or lightcolored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.35 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel

2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.

B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before

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

3.2 PREPARATION

A. Miscellaneous Supports: Install sub-framing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below and on drawings, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 36 inches. Roll laps with roller. Cover underlayment within 14 days or as directed by the underlayment product manufacturer.

1. Apply over the entire roof surface.

2. At minimum apply over the roof area indicated below:

a. Valleys, from lowest point to highest point, for a distance on each side of 18 inches. Overlap ends of sheets not less than 6 inches.

b. Rake edges for a distance of 18 inches.

Hips and ridges for a distance on each side of 12 inches.

d. Roof-to-wall intersections for a distance from wall of 18 inches. e. Around dormers, chimneys, skylights, and other penetrating elements for a distance from element of 18 inches.

B. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

3.4 METAL PANEL INSTALLATION

A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.

Shim or otherwise plumb substrates receiving metal panels to be level to 1/4 inch in 20 ft.

2. Flash and seal metal panels at perimeter of all openings. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.

Locate and space fastenings in uniform vertical and horizontal alignment.

Install flashing and trim as metal panel work proceeds. Panels should be continuous without end laps.

6. Align bottoms of metal panels and fasten.

7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Fasteners:

Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.

C. Anchor Clips: Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturers' written

D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel

E. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.

Install clips to supports with self-tapping fasteners.

Install pressure plates, if required, at locations indicated in manufacturer's written installation instructions.

Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel are completely engaged.

F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.

G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof and weather-resistant performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and

H. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

I. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 48 inches o.c. in between.

1. Provide elbows at base of downspouts to direct water away from building. 2. Connect downspouts to underground drainage system at all existing locations.

J. Roof Curbs: Install flashing around bases where they meet metal roof panels.

K. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

ERECTION TOLERANCES

A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing.

B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.

C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

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RIDGE/HIP CAP; 4" END LAPS WITH-CONTINUOUS SEALANT AT LAPS. POP RIVET TO ZEE CLOSURE 40" O.C. MAX. ZEE CLOSURE CUT TO FIT ——— BETWEEN SEAMS AT HIPS. USE CONTINUOUS BEAD OF SEALANT Z-23 AT RIDGE BETWEEN ZEE-LOCK PANEL AND ZEE CLOSURE BERRIDGE-ZEE-LOCK PANEL -#30 FELT OR BERRIDGE CONTINUOUS ZEE-RIB WITH -APPROVED PEEL & STICK (OPTIONAL) VINYL WEATHERSEAL UNDERLAYMENT FASTENERS; MIN. 3-- SOLID SHEATHING PER ZEE CLOSURE ZEE CLOSURE RIDGE/HIP CAP F = FINISH SIDENOTE: ALL FLASHING GAUGES TO BE FV = FIELD VERIFY EQUAL TO THE ASSOCIATED PANEL GAUGE UNLESS NOTED OTHERWISE

NO. 12 HEX HEAD FASTENERS-ATTACH THROUGH SUPPORT

TOP SUPPORT CLIP-

BOTTOM SUPPORT CLIP

CLIPS ONLY

PURLIN OR HIGH RIBS OF METAL

DECK, TOP OF SOLID SHEATHING,

DETAIL Z-6 MAY BE USED.

OR RIGID INSULATION

1. FOR RIBS LESS THAN OR EQUAL TO 10'0" OVER SOLID SHEATHING, AN ALTERNATE

BERRIDGE ZEE-LOCK PANEL-CONTINUOUS ZEE-RIB WITH ---(OPTIONAL) VINYL WEATHERSEAL FIELD CUT SEAM AND FORM -PANEL PAN AROUND EAVE FLASHING - #30 FELT OR BERRIDGE APPROVED GAP; SEE NOTE 1 BELOW PEEL & STICK UNDERLAYMENT. INSTALL MIN. 12" STRIP PLY OF PEEL & STICK MAXIMUM EXPANSION OF OR 36" OF FELT OVER EAVE FLASHING. PANEL + 1/2" — FASTENERS; 20"O.C. MAX. EAVE FLASHING; 4" END - SOLID SHEATHING LAPS WITH CONTINUOUS SEALANT AT LAPS 1. THE "GAP" BETWEEN EAVE FLASHING AND PANEL (SEE DETAIL ABOVE) CAN BE INCREASED TO ALLOW FOR LINEAR EXPANSION AND CONTRACTION OF PANELS. NOTE 1/2" OF PAN MUST BE ENGAGED WITH EAVE FLASHING WHEN PANEL HAS EXPANDED TO ITS MAXIMUM LENGTH REFER TO NOMINAL LINEAR EXPANSION CHART (ZI-6) 2. GAP BETWEEN EAVE FLASHING AND PANEL MUST BE ADJUSTED TO SUIT TEMPERATURE DURING INSTALLATION. 3. WHEN THIS DETAIL IS USED DIRECTLY OVER RIGID INSULATION, WOOD BLOCKING OR A MINIMUM 16 GA. SUPPORT IS REQUIRED FOR THE STRUCTURAL ATTACHMENT OF FASTENERS. 4. REFERENCE BERRIDGE'S WEB SITE FOR APPROVED UNDERLAYMENT AND SEALANT TYPES CONSULT BERRIDGE MANUFACTURING'S ENGINEERING DEPARTMENT REGARDING FASTENER TYPE & SPACING. (REFERENCE INSTALLATION INSTRUCTIONS & LOAD CHARTS FOR MIN. FASTENER REQUIREMENTS) MIN. 1" OR MAXIMUM— EXPANSION OF PANEL F = FINISH SIDENOTE: ALL FLASHING GAUGES TO BE FV = FIELD VERIFYEQUAL TO THE ASSOCIATED PANEL GAUGE UNLESS NOTED OTHERWISE

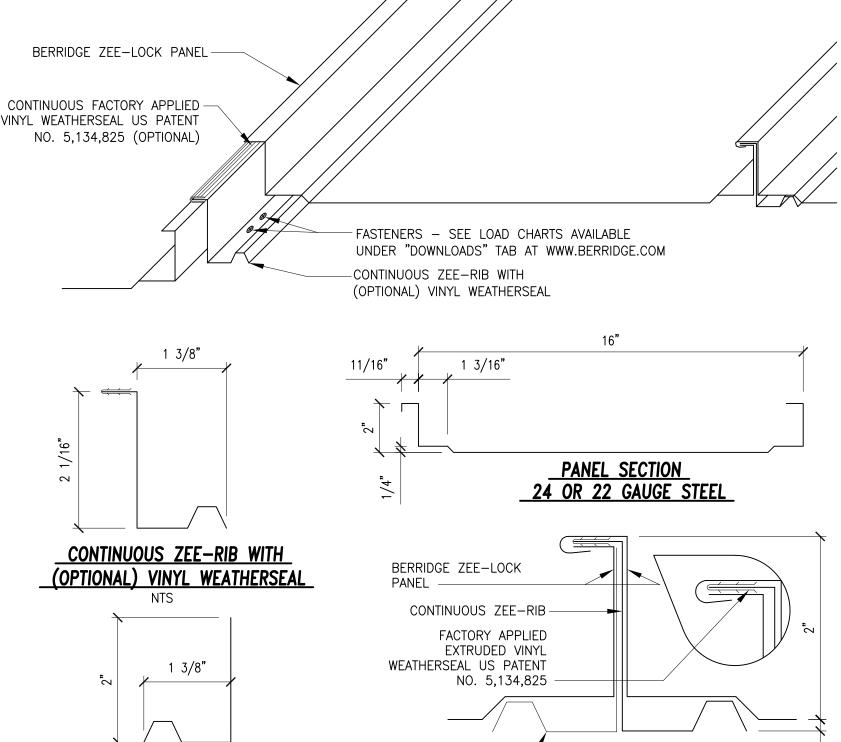
RIDGE / HIP DETAIL SOLID SHEATHING 7 21 NO SCALE 5

EAVE DETAIL @ PANEL TURNDOWN SOLID SHEATHING,

1. WHEN THIS DETAIL IS USED DIRECTLY OVER RIGID INSULATION, WOOD BLOCKING OR A MINIMUM 16 GA. SUPPORT IS REQUIRED FOR THE STRUCTURAL ATTACHMENT OF FASTENERS.

2. REFERENCE BERRIDGE'S WEB SITE FOR APPROVED UNDERLAYMENT AND SEALANT TYPES CONSULT BERRIDGE MANUFACTURING'S ENGINEERING DEPARTMENT REGARDING FASTENER TYPE & SPACING. (REFERENCE INSTALLATION INSTRUCTIONS & LOAD CHARTS FOR MIN. FASTENER REQUIREMENTS).

EAVE FLASHING



PANEL SUPPORT (OPTIONAL)

PANEL SUPPORT (OPTIONAL)

CONTINUOUS ZEE-RIB WITH (OPTIONAL) VINYL WEATHERSEAL

5" X 5", 24 GAUGE BEARING PLATE,— CENTER BETWEEN RIBS HIGH RIBS OF METAL DECK, TOP OF SOLID SHEATHING, OR RIGID INSULATION - FASTENER; ATTACH THROUGH BEARING PLATE INTO STRUCTURE 1. ONLY FOR USE WITH 10'-0" ZEE RIB, SEE ALTERNATE DETAIL Z-5 FOR ZEE RIB LONGER

THAN 10 FEET.

2. NOT FOR USE OVER OPEN FRAMING.

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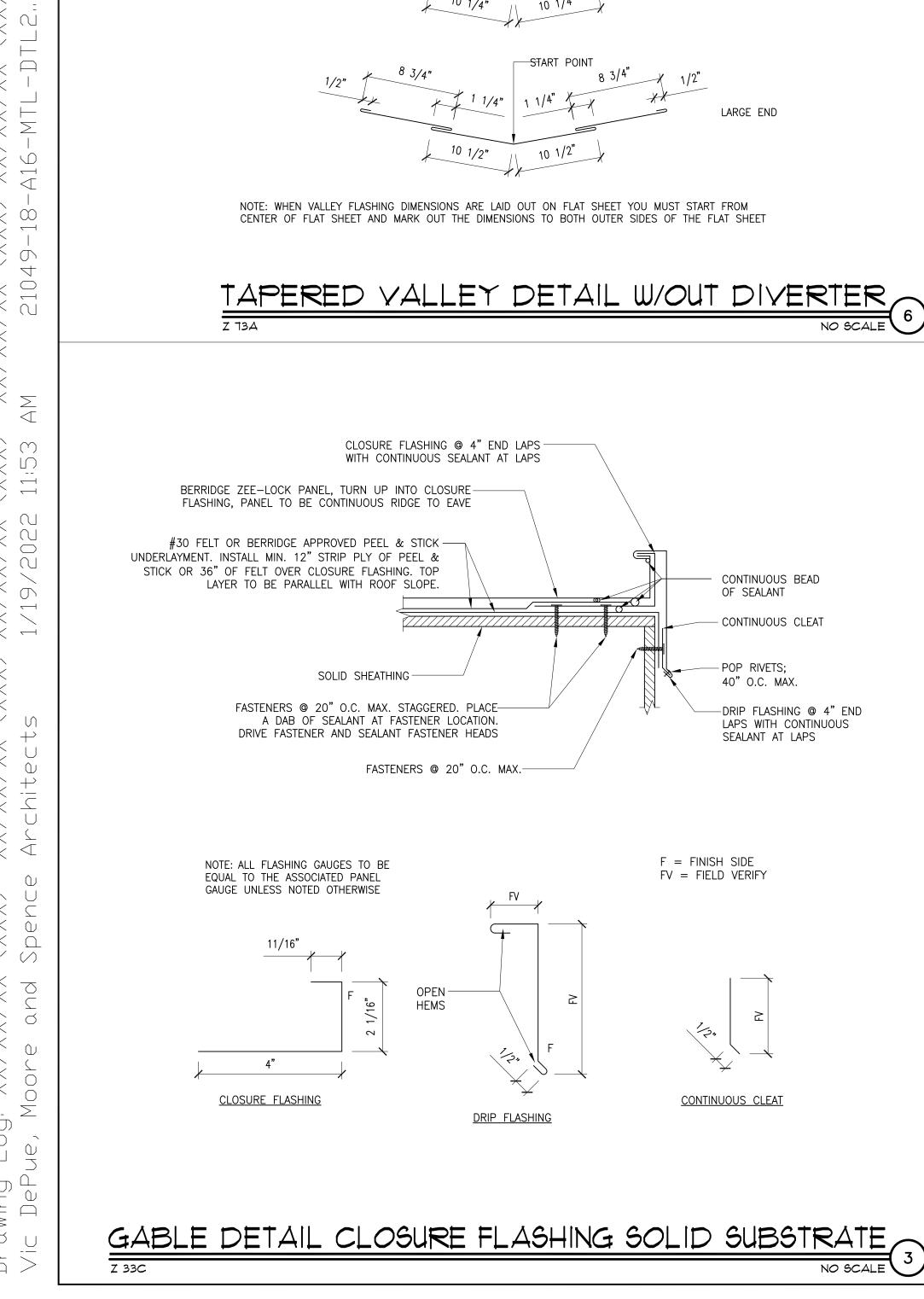
BEARING PLATE DETAI

BEARING PLATE DETAIL

XX/XX/X (XXX)
(REVISION DEF.)

EC

JOB No: 21049 Ø1/24/2**Ø**22



FOR USE WITH 48" FLAT SHEET

FOR USE WITH 42" FLAT SHEET

NOTE: WHEN VALLEY FLASHING DIMENSIONS ARE LAID OUT ON FLAT SHEET YOU MUST START FROM

CENTER OF FLAT SHEET AND MARK OUT THE DIMENSIONS TO BOTH OUTER SIDES OF THE FLAT SHEET

LARGE END

LARGE END

CONTINUOUS BEAD

- CONTINUOUS CLEAT

-DRIP FLASHING @ 4" END

LAPS WITH CONTINUOUS

SEALANT AT LAPS

OF SEALANT

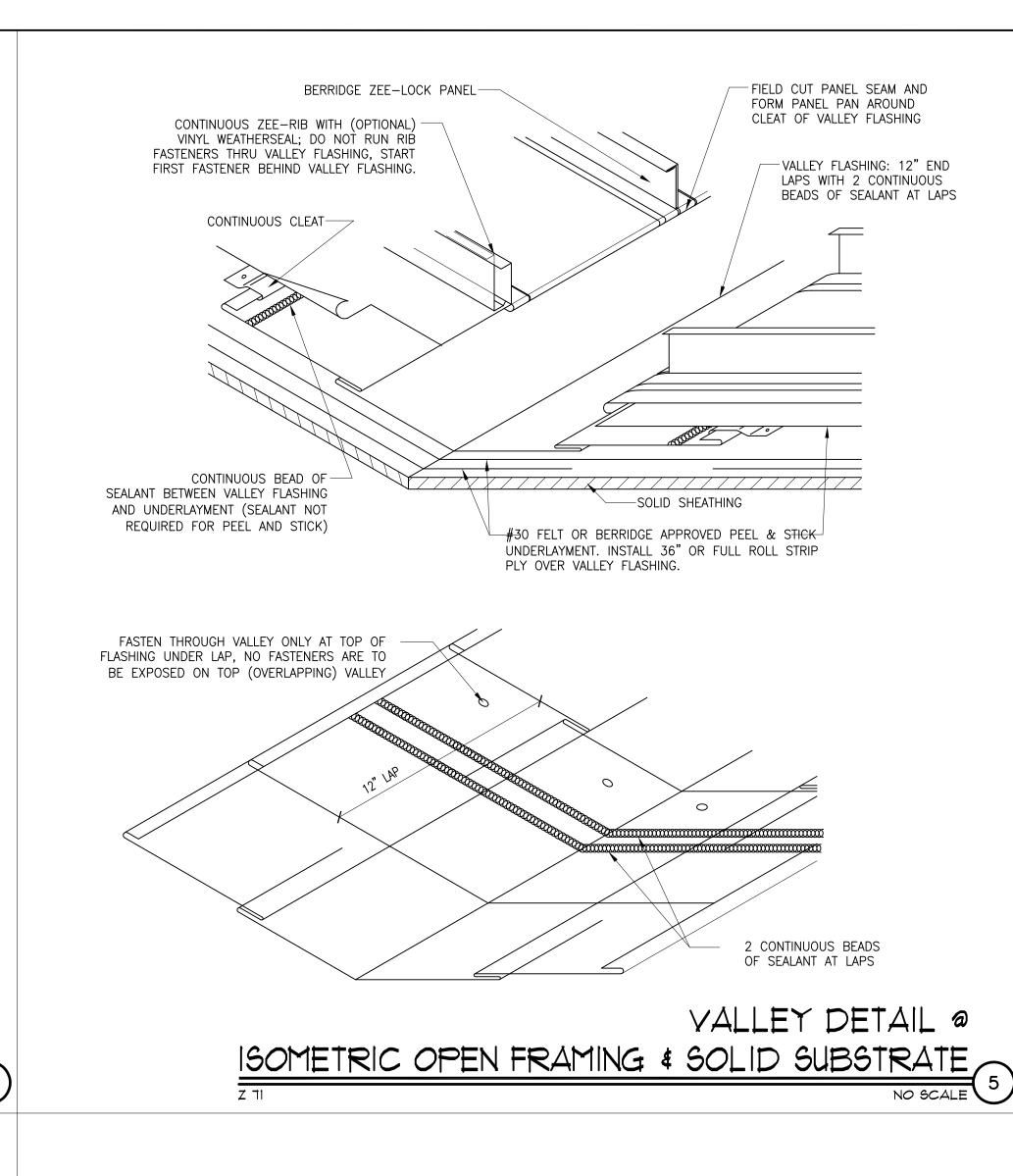
- POP RIVETS;

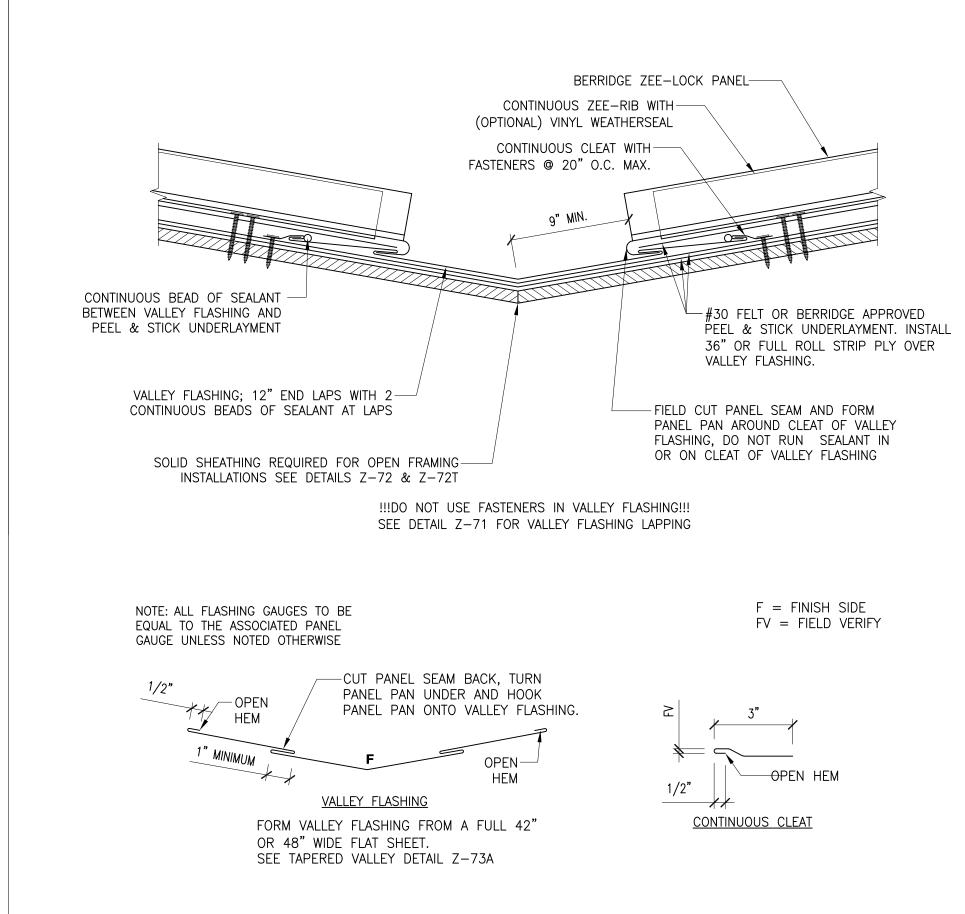
F = FINISH SIDE

FV = FIELD VERIFY

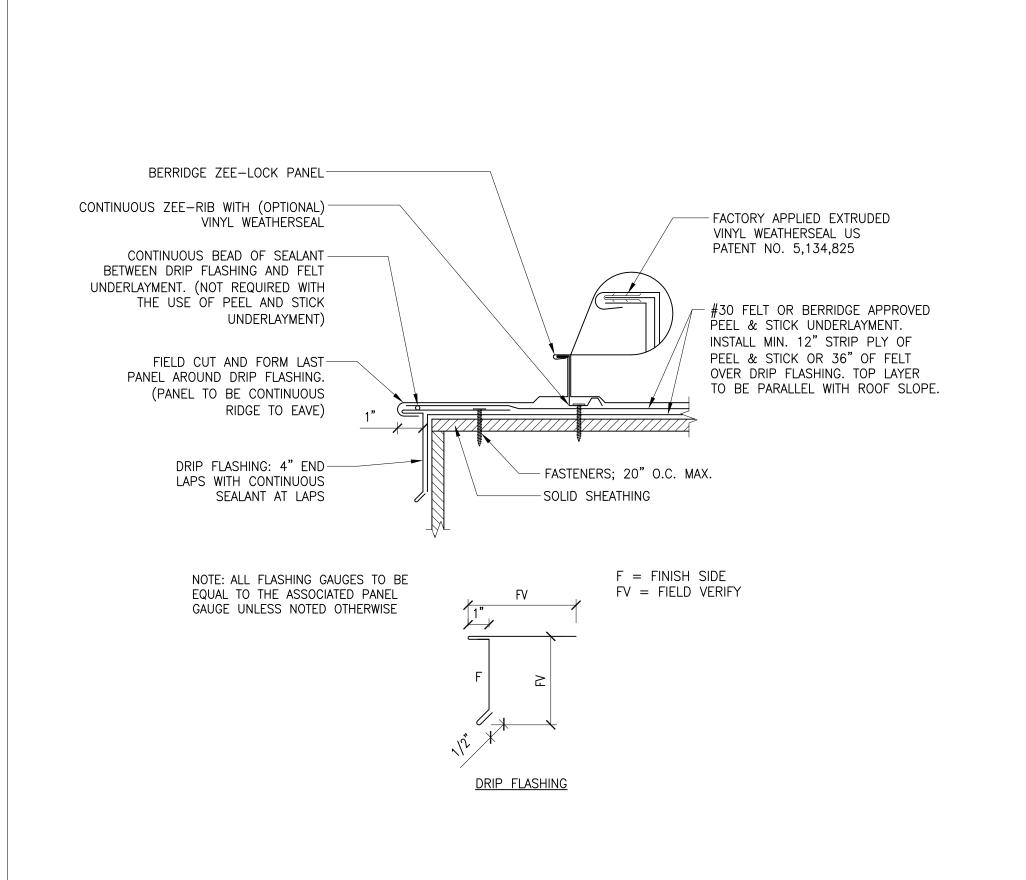
CONTINUOUS CLEAT

40" O.C. MAX.

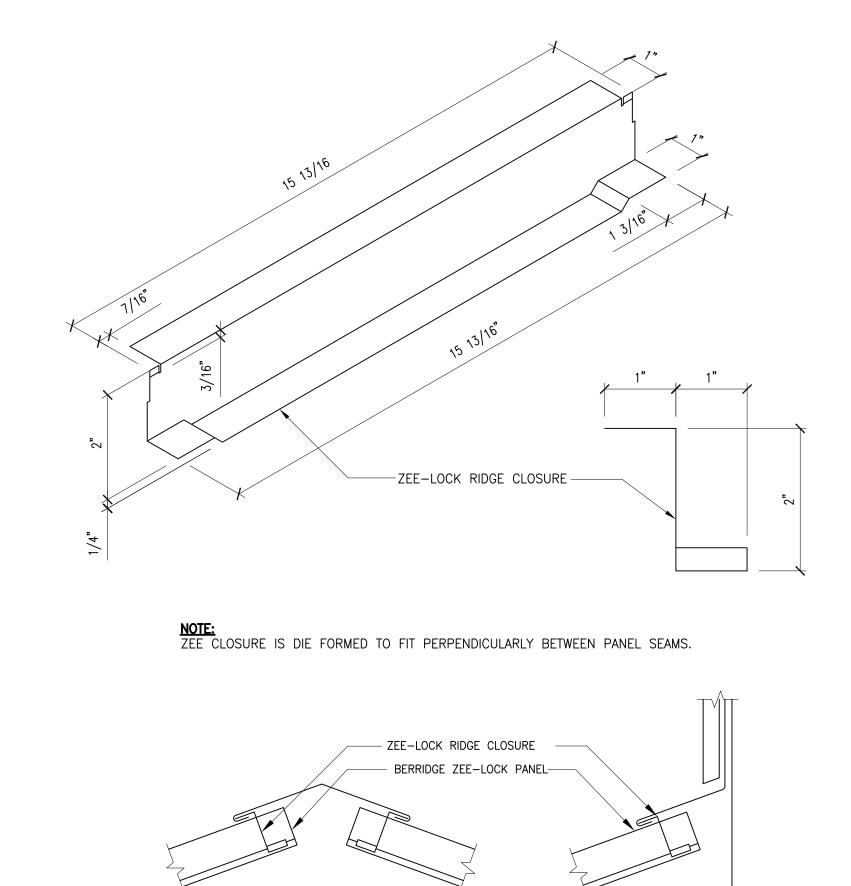












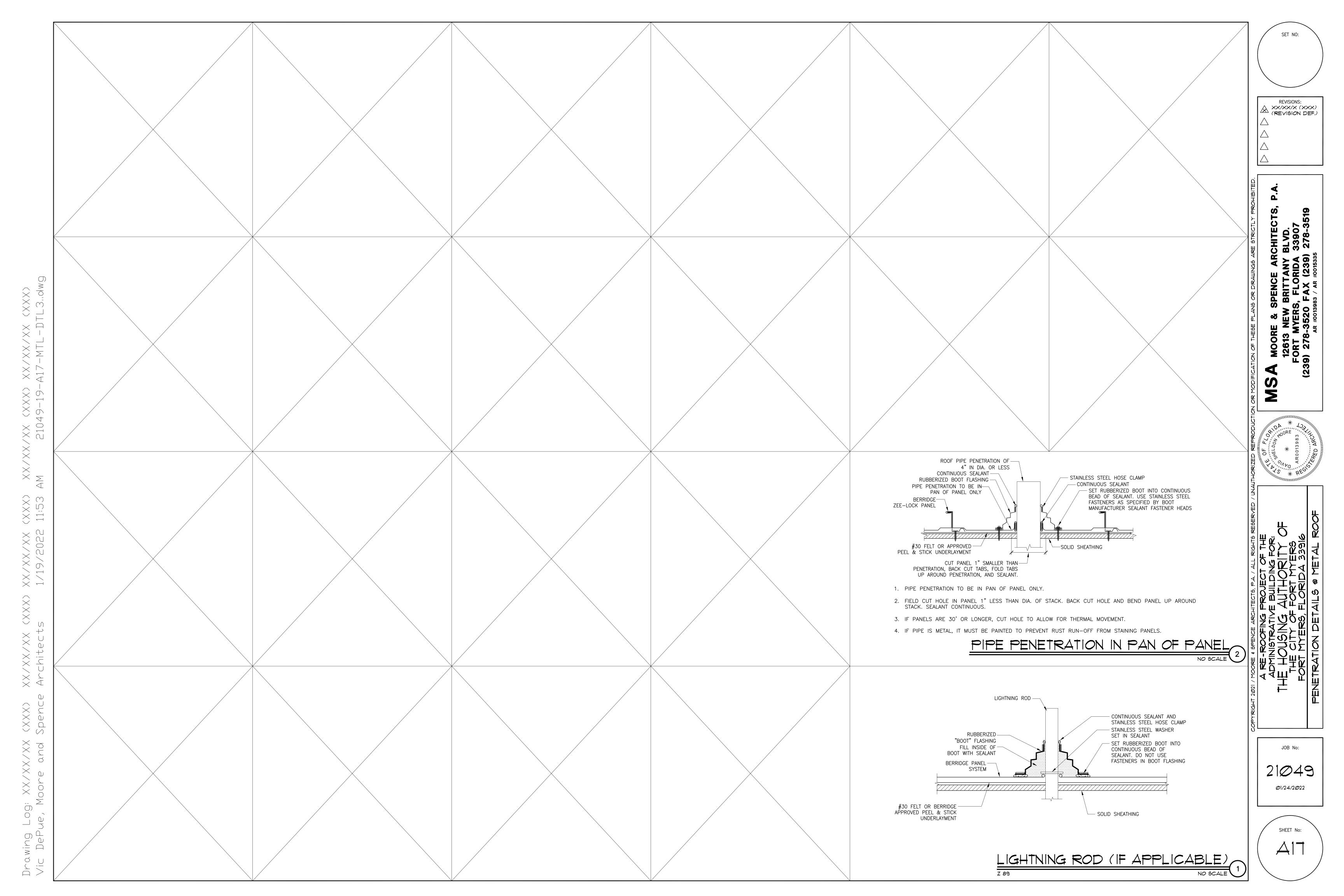
RIDGE



TOP WALL

XX/XX/X (XXX)
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JOB No: 21049 Ø1/24/2**Ø**22



2. Thermoplastic Polyolefin Flashings

3. Thermoplastic Polyolefin Accessories 4. Tapered Roof Insulation

B. Related Trades Rough Carpentry

2. Sheet Metal Flashing and Trim 3. Plumbing Specialties

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM) - Annual Book of ASTM Standards 1. ASTM D-751 – Standard Test Methods for Coated Fabrics

2. ASTM D-2137 - Standard Test Methods for Rubber Property—Brittleness Point of Flexible

Polymers and Coated Fabrics 3. ASTM E-96 - Standard Test Methods for Water Vapor Transmission of Materials

4. ASTM D1204 - Standard Test Method for Linear Dimensional Changes of Non-Rigid Thermoplastic Sheeting or Film at Elevated Temperature

5. ASTM D-471 - Standard Test Method for Rubber Property—Effect of Liquids

6. ASTM D-1149 - Standard Test Methods for Rubber Deterioration—Cracking in an Ozone Controlled Environment

7. ASTM C-1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer

8. ASTM C-1371 - Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers

9. ASTM E 903 – Standard Test Method for Solar Absorptance, Reflectance, and Transmission of Materials Using Integrating Spheres

B. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural

Sheet Metal Manual

C. National Roofing Contractors Association (NRCA)

D. American Society of Civil Engineers (ASCE)

E. U.S. Green Building Council (USGBC) 1. Leadership in Energy and Environmental Design (LEED)

F. Factory Mutual (FM Global) - Approval Guide

G. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide (TGFU R1306)

H. California Title 24 Energy Efficient Standards

ENERGY STAR

J. Cool Roof Rating Council (CRRC)

1.03 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section

1.04 SUBMITTALS

A. Product Data: Provide product data sheets for each type of product indicated in this section.

B. Shop Drawings: Provide manufacturers standard details and approved shop drawings for the roof system specified.

C. Samples: Provide samples of insulations, fasteners, membrane materials and accessories for

D. Certificates: Installer shall provide written documentation from the manufacturer of their authorization to install the roof system, and eligibility to obtain the warranty specified in this section.

1.05 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Roofing manufacturer shall provide a roofing system that meets or exceeds all criteria listed in this section. The roofing materials, installation, and warranty shall be equal to or exceeds the performance of GAF Thermoplastic Single-Ply Roofing. The GAF Thermoplastic Single-Ply Roofing System has been established as the minimum standard to be applied to this project. Other manufacturers who are equal to or exceed these standards set forth in this specification shall be considered an acceptable substitution.

B. It is suggested that alternate systems be reviewed and approved prior to submittal of a bid proposal. Materials not submitted and approved in advance may be rejected at the time of shop drawing review, if they are found not to meet the minimum standards specified. It will be the contractor's responsibility, at no additional compensation, to provide an acceptable product and installation within the original contract terms.

C. Installer's Qualifications:

1. Installer shall be certified by the Roofing Material Manufacturer to install the roofing system in compliance with Manufacturer's recommendations, specifications, and warranty requirements. Certification shall be equal to the GAF installer classification of Master or Master Select contractor as defined and certified by GAF.

D. Source Limitations: All components listed in this section shall be provided by a single manufacturer or approved by the primary roofing manufacturer.

E. Final Inspection:

Manufacturer's representative shall provide a comprehensive final inspection after completion of the roof system. All application errors must be addressed, and final punch list completed.

1.06 PRE-INSTALLATION CONFERENCE

A. Prior to scheduled commencement of the roofing installation and associated work, conduct a meeting at the project site with the installer, architect, owner, roofing material manufacturer representative and any other persons directly involved with the performance of the work. The installer shall record conference discussions to include decisions and agreements reached (or disagreements) and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to roofing work.

1.07 PERFORMANCE REQUIREMENTS

A. The roofing material manufacturer/supplier shall provide all primary roofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

1.08 REGULATORY REQUIREMENTS

A. All work shall be performed in a safe, professional manner, conforming to all federal, state, and local

B. Florida Building Code: Provide a roofing system which will achieve a -232.5 psf wind uplift rating. Wind uplift ratings shall be listed in the most current Florida Building Code Evaluation Report or Miami Dade Notice of Acceptance.

1.09 DELIVERY, STORAGE AND HANDLING

A. Deliver all roofing materials to the site in original containers, with factory seals intact. All products are to carry the manufacturer's label.

B. Store all bucket goods in their original undamaged containers in a clean, dry location within their specified temperature range. Reference data sheets for product storage requirements.

C. Do not expose materials to moisture in any form before, during or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.

D. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each workday. Do not remove any protective tarpaulins until immediately before the material will be installed.

1.10 PROJECT CONDITIONS

A. Weather

Proceed with roofing only when existing and forecasted weather conditions permit.

Ambient temperatures must be above 45°F when applying hot asphalt or water-based adhesives.

1.11 WARRANTY

A. Provide Manufacturer's warranty equal to the GAF EverGuard® Diamond Pledge™ Guarantee with sole source edge-to-edge coverage and no monetary limitation where the manufacturer agrees to repair or replace components in the roofing system, which cause a leak due to a failure in materials or workmanship.

1. Duration: Twenty (20) years from the date of completion. a) Covered components include manufacturer's roofing membrane, liquid-applied membrane or

coating, base flashing, high wall waterproofing flashing, insulation, expansion joint covers, preflashed accessories, and metal flashings used by the contractor of record that meet SMACNA

b) Materials and workmanship of listed products within this section are included when installed in accordance with the manufacturer's current application and specification requirements. c) Leaks caused by any non-manufacturer materials, such as the roof deck, existing materials, or

non-manufacturer insulation are not covered.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. Acceptable manufacturers shall provide a complete roofing system equal to the GAF system specified. The acceptable manufacturer's system shall use materials that are equal to and substantially comparable to the specified products. The materials shall be similar in composition, the thickness of materials shall be equal to or exceed those specified. The manufacturer shall require the use of certified installers. The manufacturer's warranty shall meet or exceed the coverages for the specified manufacturer's warranty.

2.02 INSULATION

A. Equal to rigid, tapered polyisocyanurate board, with a glass-reinforced cellulosic felt facer. Conforms to or exceeds the requirements of ASTM C 1289 Type II, Class 1, Grade 2. EnergyGuard™ Tapered Polyiso Insulation, with the following characteristics:

1. Board Thickness: 1/4" Tapered (Min. 1.5" Start)

2. Thermal Resistance (LTTR value) of: varies

3. Board Size: 4' x 4' 4. Compressive Strength: 20 psi

2.03 COVER BOARD

A. Underlayment or overlayment board with a water-resistant and silicone treated gypsum core with glass fiber facers embedded on both sides, and pre-primed on one side. Equal to GP Dens-Deck®

Prime Roof Board, distributed by GAF. 1. Board Thickness: 1/2"

2. Board Size: 4' x 4' 3. Thermal Resistance (R value) of: .56

2.04 MEMBRANE MATERIALS

A. A smooth type, polyester scrim reinforced thermoplastic polyolefin membrane for use as a single ply roofing membrane. Meets or exceeds the minimum requirements of ASTM D-6878. UL Listed, FM Approved, Dade County Product Approval, Florida Building Code Approved. White membrane is Energy Star Listed, CRRC Listed and Title 24 Compliant.

1. Equal to EverGuard® TPO 80 Mil Membrane by GAF. a) 10' X 100', each roll contains 1000 sq. ft. of material weighing 420 lbs.

2.05 CURB/WALL FLASHING MEMBRANE

A. GENERAL

Membrane flashing should be of the same type and thickness as the roof membrane

2. TPO Membranes and flashing shall be white in color. 3. Fleece-Back membranes are an optional flashing membrane that may be a solution when a

contaminated substrate is encountered.

B. FLASHING MEMBRANE

1. A smooth type, polyester scrim reinforced thermoplastic polyolefin membrane for use as a single ply roofing membrane. Meets or exceeds the minimum requirements of ASTM D-6878. UL Listed, FM Approved, Dade County Product Approval, Florida Building Code Approved. White membrane is Energy Star Listed, CRRC Listed and Title 24 Compliant. a) Equal to EverGuard® TPO 80 Mil Membrane by GAF.

2.06 ADHESIVES, SEALANTS and PRIMERS

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A. Sprayable, solvent-based contact adhesive for bonding the TPO Membranes shall be provided by and of the same manufacturer as the TPO Membrane being installed on the project. Equal to EverGuard® TPO Quick Spray Adhesive by GAF.

B. Two component, construction grade low-rise polyurethane foam adhesive as may be required shall be approved by and of the same manufacturer as the TPO Membrane. The "A" and "B" components are dispensed from two pre-pressurized disposable cylinders utilizing a two-component disposable foam applicator. Equal to LRF Adhesive XF distributed by GAF and as appropriate for the manufacturer's roofing system being installed.

C. Solvent based liquid, required to protect field cut edges of TPO membranes. Applied directly from a squeeze bottle. Material shall be used shall be of the same manufacturer or the TPO Membranes being installed and equal to EverGuard® TPO Cut Edge Sealant, by GAF.

D. Solvent based primer for preparing surfaces to receive butyl based adhesive tapes, shall be provided as required for the TPO Membrane being installed and by the same manufacturer as the TPO Membrane. The solvent-based primer shall be equal to EverGuard® TPO Primer, by GAF.

E. Solvent based seam cleaner used to clean exposed or contaminated seam prior to heat welding shall be as required for the TPO Membrane being installed and shall be of the same manufacturer as the TPO Membrane. The solvent cleaner shall be equal to EverGuard® TPO Seam Cleaner, by

F. Solvent based, trowel grade synthetic elastomeric sealant. Durable and UV resistant suitable for use where caulk is typically used. Material shall be approved for use with the TPO Membrane being installed and of the same manufacturer of the TPO Membrane. Equal to FlexSeal™ Caulk Grade Roof Sealant by GAF.

G. Commercial grade roofing sealant suitable for sealing the upper lip of exposed termination bars and penetrations and around clamping rings and comes with a 20 yr. Itd warranty against leaks caused by manufacturing defects. Meets the performance criteria of ASTM D412, ASTM D2196, ASTM D1475 and ASTM D1644. Material shall be approved for use with the TPO Membrane being installed and of the same manufacturer of the TPO Membrane. Equal to FlexSeal™ Roof Sealant, by GAF.

H. Low VOC solvent-based primer for preparing surfaces to receive butyl based adhesive tapes, acceptable to and manufactured by the TPO Membrane manufacturer may be used.

I. Low VOC TPO cleaner designed to clean exposed or contaminated seams prior to heat welding to remove any residual soap or revitalize aged membranes acceptable to and manufactured by the TPO Membrane manufacturer may be used. Contains only 50 grams per liter of Volatile Organic Content and has been formulated using a blend of primarily VOC-exempt ingredients to be in compliance with air quality regulations for single ply roofing products.

J. One part butyl based high viscosity sealant suitable for sealing between flashing membrane and substrate surface behind exposed termination bars and for sealing between roofing membrane and drain flange. Material shall be approved for use with the TPO Membrane being installed and of the same manufacturer of the TPO Membrane. Equal to EverGuard® Water Block, by GAF.

K. One-part, moisture-cure, self-leveling sealant designed for use in pitch pans on single ply roof systems. Material shall be approved for use with the TPO Membrane being installed and of the same manufacturer of the TPO Membrane. Equal to EverGuard® One-Part Pourable Sealant.

L. All adhesives, sealants, and primers shall be sole source and shall be provided by and manufactured by the same manufacturer of the TPO roofing system being installed.

2.07 FLASHING ACCESSORIES

A. GENERAL FLASHING ACCESSORIES

1. A smooth type, unreinforced thermoplastic polyolefin-based membrane for use as an alternative flashing/reinforcing material for penetrations and corners. Required whenever preformed vent boots cannot be used, in White, 0.055 inches (55 mils) nominal thickness and sheet size: 24in x 50ft. Equal to EverGuard® TPO Detailing Membrane, by GAF, and approved and manufactured by the TPO Membrane manufacturer.

2. An 8-inch (20 cm) wide smooth type, polyester scrim reinforced thermoplastic polyolefin membrane strip for use as a cover strip over coated metal and stripping-in coated metal flanges and general repairs: 0.045 inches (45 mils) nominal thickness with 100-foot length, in White. Equal to EverGuard® TPO Flashing Membrane, by GAF, and approved and manufactured by the TPO Membrane manufacturer.

3.24-gauge steel with 0.025" thick TPO based film as required for fabrication into metal gravel stop and drip edge profiles, metal base and curb flashings, sealant pans, and scupper sleeves. Standard sheet size 4' x 10', sheet weight 47 lbs. Custom sizes available. Equal to EverGuard® TPO Coated Metal, by GAF, and approved and manufactured by the TPO Membrane manufacturer.

4. Extruded aluminum termination bar with angled lip caulk receiver and lower leg bulb stiffener. Prepunched slotted holes at 6" on center or 8" on center. 3/4" x 10' with 0.090" cross section, DRILL-TEC™ Termination Bar, equal to GAF and approved and manufactured by the TPO Membrane manufacturer.

5. .055" thick smooth type, unreinforced thermoplastic polyolefin membrane designed for use as a conforming membrane seal over T-joints in 60 and 80 mil membrane applications. EverGuard® T-Joint Patches, by GAF or equal approved and manufactured by the TPO Membrane manufacturer.

B. ROOF EDGE ACCESSORIES

1. A 6 inch (14 cm) wide, smooth type, heat-weldable polyester scrim reinforced thermoplastic polyolefin membrane strip. Designed for use as a cover strip over noncoated metal edges and flanges Equal to EverGuard® TPO Heat-Weld Cover Tape, by GAF. Equal materials must meet the minimum standards of the specified product

and be manufactured by the same manufacturer as the TPO Membrane to be installed. 2. A 6 inch (14 cm) wide, smooth type, polyester scrim reinforced thermoplastic polyolefin membrane strip with a factory laminated butyl tape. Designed for use as a cover strip over non-coated metal edges and flanges. Equal to EverGuard® TPO Cover Tape, by GAF. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

a) Solvent based liquid, required to protect field cut edges of EverGuard TPO membranes. Applied directly from a squeeze bottle, shall be equal to EverGuard® TPO Cut Edge Sealant, by GAF. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

b) Commercial grade roofing sealant suitable for sealing the upper lip of exposed termination bars and penetrations and around clamping rings and comes with a 20 yr. ltd warranty against leaks caused by manufacturing defects. Meets the performance criteria of ASTM D412, ASTM D2196, ASTM D1475 and ASTM D1644, equal to FlexSeal™ Roof Sealant, by GAF. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

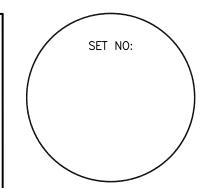
C. WALL & CURB ACCESSORIES

1. 045" reinforced TPO membrane with pressure sensitive adhesive, to be installed on horizontal surfaces using plates and fasteners as a base attachment in fully adhered systems. Equal to EverGuard Extreme [®] RTA (Roof Transition Anchor) Strip[™], by GAF®. Equal materials must meet the minimum standards of the specified product and be

manufactured by the same manufacturer as the TPO Membrane to be installed. 2. .045" or .060" thick reinforced TPO membrane fabricated corners. Four corners are required to flash the curb, equal to EverGuard Extreme ® Corner Curb Wraps, by GAF®. Equal materials must meet the minimum standards of the specified product and be

manufactured by the same manufacturer as the TPO Membrane to be installed. 3. 0.060" thick molded TPO membrane outside corners of base and curb flashing. Hot-air welds directly to EverGuard[®] TPO membrane. Equal to EverGuard Extreme [®] TPO Universal Corners by GAF®. Equal materials must meet the minimum standards of the specified

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be manufactured by the same manufacturer as the TPO Membrane to be installed. 5. 8" diameter, nominal .050" vacuum formed unreinforced TPO membrane for use in flashing outside corners of base and curb flashings, Equal to EverGuard Extreme® TPO Fluted Corner, by GAF®. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be

D. PENETRATION ACCESSORIES

1. 0.075" thick molded TPO membrane sized to accommodate most common pipe and conduits, (1" (25.4 mm) to 6" diameter pipes), including square tube. Hot air welded directly to EverGuard® TPO membrane, supplied with stainless steel clamping rings, Equal to EverGuard Extreme® TPO Preformed Vent Boots by GAF®. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

2. 0.045" or 0.60" thick molded TPO membrane preformed boots are split to accommodate most common pipes and conduits and available in three standard sizes, Equal to EverGuard Extreme® TPO Split Pipe Boots, by GAF®. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

3. 0.045" or 0.60" thick molded TPO membrane preformed square boots are split to accommodate most common square penetrations and conduits and available in three standard sizes, Equal to EverGuard Extreme® TPO Square Tube Wraps, by GAF®. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

4. .070 thick molded penetration pocket to provide structure and foundation for the application of a pourable sealant for a variety of roof penetrations and weldable. Equal to EverGuard Extreme® TPO Pourable Sealer Pocket. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

5. 055" thick smooth type, unreinforced thermoplastic polyolefin membrane designed for use as a conforming membrane seal over T-joints 80 mil membrane applications. Equal to EverGuard® TPO Drain by GAF®. Equal materials must meet the minimum standards of the specified product and be manufactured by the same manufacturer as the TPO Membrane to be installed.

PART 3 EXECUTION

3.01 SITE CONDITIONS

A. Obtain verification that the building structure can accommodate the added weight of the new roofing

B. Confirm the adequacy of the new roofing system to provide positive slope to drain. Eliminate ponding areas by the addition of drainage locations or by providing additional pitch to the roof

C. Prepare substrate surfaces thoroughly prior to application of new roofing materials. This is particularly important for re-cover and reroofing applications. Providing a smooth, even, sound, clean, and dry substrate minimizes the likelihood that underlying deficiencies will cause premature deterioration or even failure of the new roofing system.

D. All defects in the roof deck or substrate must be corrected by the responsible parties before new roofing work commences. Verify that the deck surface is dry, sound, clean, and smooth, and free of depressions, waves, or projections.

E. Protect building surfaces against damage and contamination from roofing work.

F. Where work must continue over completed roof areas, protect the finished roofing system from G. Deck preparation is the sole responsibility of the building owner or roofing contractor. All defects in

the roof deck or substrate must be corrected before roofing work commences.

H. Refer to the TPO Manufacturer's Roof Guarantee Program for specific requirements for extended

3.02 SUBSTRATE PREPARATION

A. Tear-off

1. Remove all existing roofing materials to the roof decking, including flashings, metal edgings, drain leads, pipe boots, and pitch pockets, and clean substrate surfaces of all asphalt and adhesive contaminants.

2. Confirm the quality and condition of the roof decking by visual inspection. Fastener pull-out testing must be conducted by the roof fastener manufacturer.

3. Secure all loose decking. Remove and replace all deteriorated decking.

4. Remove abandoned equipment and equipment supports. 5. Confirm that the height of equipment supports will allow the installation of full-height flashings.

A. Structural Concrete Deck

Minimum Min. 2,500 psi compressive resistance (98,066 kilogram-force/square centimeter) The deck must be smooth, level and cannot be wet or frozen. If deck is determined to be wet.

Only poured in place concrete decks that provide bottom side drying are acceptable. Decks that are installed over non-vented metal decks or pans that remain in place may trap moisture in the deck beneath the roof system and are not acceptable.

4. Treat cracks greater than 1/8" (3 mm) in width in accordance with the deck manufacturer's

In all retrofit roof applications, it is required that deck be inspected for defects. Any defects are to be corrected per the deck manufacturer's recommendations prior to the new roof

Code standards apply when their requirements exceed those listed here. When insulation or roofing is to be adhered with hot asphalt, prime the deck with asphalt/concrete primer, ASTM D 41 at the rate of one gallon per 100 square feet (0.4 L/m2). Allow the primer to dry prior to the application of the roofing system.

B. Plywood Deck

1. Plywood sheathing must be exterior grade, minimum 4 ply, and not less than 3/4" (19 mm)

2. Preservatives or fire retardants used to treat the decking must be compatible with roofing

3. The deck must be installed over joists that are spaced 24" (610 mm) o.c. or less.

4. The deck must be installed so that all four sides of each panel bear on and are secured to joist and cross blocking. The panels must be secured in accordance with APA-The Engineered Wood Association recommendations "H" clips are not acceptable

5. Panels must be installed with a 1/8" to 1/4" (3mm - 6mm) gap between panels and must match vertically at joints to within 1/8" (3mm).

6. Decking should be kept dry and roofed promptly after installation.

7. Deck shall be attached with approved fasteners at required spacing. Consult local building codes for specific requirements

3.03 NAILER INSTALLATION

A. Acceptable Material

1. Solid Blocking: Non-pressure treated wood as required, #2 Grade or better, nominal 1 1/4" (30 mm) x 4" (102 mm) with a minimum thickness of 3 1 /2" (88 mm).

2. Shim Material: Plywood, 1 /2" (13 mm) x width to match solid blocking. 3. Verify the condition of existing roof nailers and anchor to resist 250 lb. per ft. (550 kg) load

applied in any direction. New nailers should meet same load requirements. 4. DRILL-TEC™ HD screws, of equal, 18" (457 mm) o.c. attachment to structural wood, steel decks with a 1" (25 mm) thread embedment.

5. DRILL-TEC™ spikes, HD screws, or equal 18" (457 mm) o.c. attachment to concrete decks. Min. 1" (25 mm) shank or thread penetration.

6. Wood nailers attached to gypsum, concrete, cellular concrete, and cementitious wood fiber must be fastened 12" (305 mm) o.c., through the nailer into the substrate with substrate approved DRILL-TEC™ fasteners.

7. Three anchors per length of wood nailer minimum.

B. Metal Blocking

1. 20 Ga. galvanized steel box with pre-punched holes and supplied with corrosion-resistant

2. Secure in place using provided #14 x 1½-in. universal fasteners through pre-punched holes to

3. Install end cap and top of box section with #14 x 1½-in. universal fasteners.

3.04 INSTALLATION - GENERAL

A. Install GAF®'s EverGuard® TPO roofing system or equal TPO roofing system according to all current application requirements in addition to those listed in this section.

B. Install GAF® EverGuard® TPO Specification #: TFAT180 or equal TPO roofing system specification.

C. Start the application of membrane plies at the low point of the roof or at the drains, so that the flow of water is over or parallel to, but never against the laps.

3.05 INSULATION

A. GENERAL

1. Do not apply roof insulation or roofing until all other work trades have completed jobs that require them to traverse the deck on foot or with equipment. A vapor retarder coated lightly with asphalt may be applied to protect the inside of the structure prior to the insulation and final roofing installation. Before the application of the insulation, any damage or deterioration to the vapor retarder must be repaired.

2. Do not install wet, damaged, or warped insulation boards.

3. Insulation boards installed in multiple layers must have the joints between boards staggered in all directions a minimum of 6" (152 mm) between layers.

4. Butt insulation boards together with a 1/4" (6.3 mm) maximum space between adjoining boards. Fit insulation boards around penetrations and perimeter with a 1/4" (6.3 mm) maximum space between board and penetration. Do not kick insulation boards into place.

4. Hot-air weld all flashing membranes, accessories, and coated metal. A minimum 2" wide (hand

5. Non-coated metal edge details must be installed in accordance with TPO manufacturer's current

6. The supplied TPO roofing systems shall use coated metal edges where applicable. Bonding

5. Insulation boards installed over steel decking must have boards placed perpendicular to deck flutes with edges over flute surface for bearing support.

6. Install tapered insulation to provide a sump area a minimum of 36" x 36" (914 mm x 914 mm)

7. Wood nailers must be 3-1/2" (8.9 cm) minimum width or 1" (25 mm) wider than metal flange. They shall be of equal thickness as the insulation and be treated for rot resistance. All nailers must be securely fastened to the deck.

8. Miter and fill the edges of the insulation boards at ridges, valleys, and other changes in plane to prevent open joints or irregular surfaces. Avoid breaking or crushing of the insulation at the

9. Insulation should not be installed over new lightweight insulating concrete.

10. Remove and replace insulation boards that become wet or damaged after installation. 11. Pre-drilling is required for concrete decks and may be required for gypsum concrete and cementitious wood fiber decks.

12. Where insulation is to be adhered in insulation adhesive, adhesion testing is required. The maximum board size for Polyiso roof insulation is 4' x 4'. Gypsum boards and max ½" HD Wood Fiberboard/Perlite may be adhered in 4' x 8 boards except where code requirements supersede. 13. Do not install any more insulation than will be completely waterproofed each day.

3.06 INSULATION – BASE LAYER

A. LRF Adhesive XF or equal.

Adhesion test is required.

2. The substrate must be free of and debris, dust, dirt, oil, grease, and standing water before

applying the adhesive. 3. Dispense Adhesive using supplied canister system in a ribbon pattern to achieve proper coverage rates for insulation attachment: a) Field: 12" o.c.

c) Corners: 4" o.c.

b) Perimeter: 6" o.c.

3.07 INSULATION – 2ND LAYER

A. LRF Adhesive XF

1. The substrate must be free of and debris, dust, dirt, oil, grease, and standing water before

2. Dispense LRF Adhesive XF using supplied canister system in a ribbon pattern to achieve proper coverage rates for insulation attachment: a) Field: 12" o.c.

b) Perimeter: 6" o.c. c) Corners: 4" o.c.

3.08 SINGLE PLY MEMBRANE APPLICATION

A. GENERAL

1. Substrates must be inspected and accepted by the contractor as suitable to receive and hold roof 2. Place roof membrane so that wrinkles and buckles are not formed. Any wrinkles or buckles must

be removed from the sheet prior to permanent securement.

3. Membrane that has been exposed for more than 12 hours or has become contaminated will require additional cleaning methods.

a) Light Contamination - Membrane that has been exposed overnight up to a few days to debris, foot traffic, or dew or light precipitation can usually be cleaned with a white cloth moistened with a manufacturer approved TPO Cleaner.

b) Dirt-Based Contamination - Membrane that is dirt encrusted will require the use of a lowresidue cleaner, such as Formula 409® and a mildly abrasive scrubbing pad to remove the dirt. This must be followed by cleaning with a white cloth moistened with a manufacturer approved TPO Cleaner for TPO membranes.

c) Exposure-Based Contamination - Membrane that is weathered or oxidized will require the use of a manufacturer approved cleaner, conditioner, and a mildly abrasive scrubbing pad to remove the weathered/oxidized top surface layer. This must be followed by cleaning with a white cloth moistened with the manufacturer approved cleaner for TPO membranes. Unexposed membrane left in inventory for a year or more may need to be cleaned as instructed above. Be sure to wait for solvent to flash off prior to welding.

 d) Chemical-Based Contamination - Membrane that is contaminated with bonding adhesive, asphalt, flashing cement, grease and oil, and most other contaminants usually cannot be cleaned sufficiently to allow an adequate heat weld to the membrane surface. These membranes should be removed and replaced.

B. Fully Adhered

1. All work surfaces should be clean, dry, and free of dirt, dust, debris, oils, loose and/or embedded gravel, unadhered coatings, deteriorated membrane, and other contaminants that may result in a surface that is not sound or is uneven.

2. Overlap roof membrane a minimum of 3" (76 mm) for end laps. For fleece-back membrane, butt ends together and cover joint with 8" (203 mm) wide EverGuard® Flashing Strip heat-welded. Membranes are provided with lap lines along the side laps.

3. Best practice is to install membrane so that the side laps run across the roof slope lapped toward drainage points.

4. All exposed sheet corners must be rounded a minimum of 1" (25 mm).

5. Use full-width rolls throughout the field and perimeter of the roof where possible. 6. Membrane laps shall be heat-welded together. All welds shall be continuous, without voids or

partial welds. Welds shall be free of burns and scorch marks. 7. Weld shall be a minimum of 1" (25.4 mm) in width for automatic machine welding and a minimum

2" in width for hand welding. Code requirements may supersede these instructions. 8. Roof membrane must be mechanically attached along the base of walls with screws and plates 6"

9. Adhesive should be applied to the membrane at the following rate: a) (Quick Spray) Applied at a total rate of 0.71 lbs. /sq., equally to both the substrate and the

underside of the membrane. Coverage rates may vary depending on the porosity of the substrate or as required by the TPO Manufacturer. 10. Use appropriate bonding adhesive for substrate surface, applied with a solvent-resistant roller, brush, or squeegee.

11. Adhere approximately one half of the membrane sheet at a time. One half of the sheet's length shall be folded back in turn to allow for adhesive application. Lay membrane into adhesive once the bonding adhesive is tacky to the touch.

12. Roll membrane with a weighted roller to ensure complete bonding between adhesive and 13. Prevent seam contamination by keeping the adhesive application a few inches back from the

14. Reference the Adhesive securement tables in the EverGuard® Application and Specifications Manuals for substrate adhesion and compatibility.

15. Roll in membrane using a 150 lb. membrane roller or equivalent. 16. To reduce thermal bridging, a full spray of approved Low Rise Foam Adhesive may be used to attach individual insulation layers or adhere the top layer to a mechanically fastened bottom

3.09 FLASHINGS

B. GENERAL

1. All penetrations must be at least 24" (61 cm) from curbs, walls, and edges to provide adequate

space for proper flashing. 2. Flash all perimeter, curb, and penetration conditions with coated metal, membrane flashing, and flashing accessories as appropriate to the site condition.

3. All coated metal and membrane flashing corners shall be reinforced with preformed corners or non-reinforced membrane.

adhesive and/or cover tape is not acceptable. 7. All cut edges of reinforced membrane must be sealed with TPO Cut Edge Sealant as manufactured by the TPO manufacturer.

construction details and requirements.

8. Flashings and accessories shall be provided as required to comply with the TPO Roofing manufacturer's installation and warranty requirements. 9. Consult the specific TPO Manufacturer's Application and Specifications Manual or Contractor Installation Services for information on specific construction details.

welder) weld or minimum 1 - 1/2" automatic machine weld is required.

3.10 ROOF PROTECTION

A. Protect all partially and fully completed roofing work from other trades until completion.

B. Whenever possible, stage materials in such a manner that foot traffic is minimized over completed

C. When it is not possible to stage materials away from locations where partial or complete installation has taken place, temporary walkways and platforms shall be installed to protect all completed roof areas from traffic and point loading during the application process.

D. Temporary tie-ins shall be installed at the end of each workday and removed prior to commencement of work the following day.

3.11 CLEAN-UP

A. All work areas are to be kept clean, clear, and free of debris at all times.

B. Do not allow trash, waste, or debris to collect on the roof. These items shall be removed from the

C. All tools and unused materials must be collected at the end of each workday and stored properly off the finished roof surface and protected from exposure to the elements.

E. Properly clean the finished roof surface after completion, and make sure the drains and gutters are

D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.

F. Clean and restore all damaged surfaces to their original condition.

END OF SECTION

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C

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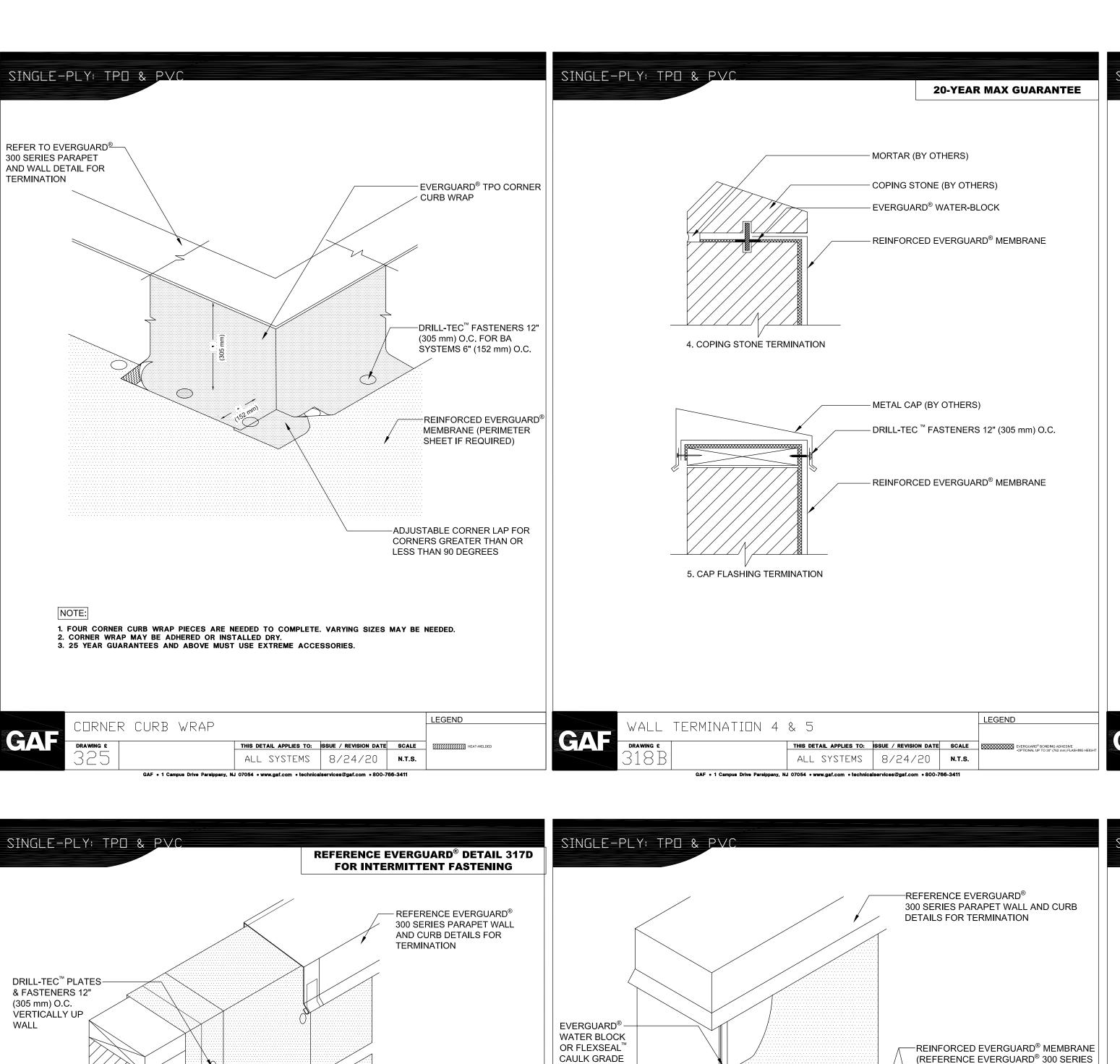
Ø1/24/2Ø22 SHEET No:

21049



HEAT-WELD LAPS-

(3.05 m) CAN BE DRY HUNG WITHOUT ADHESIVE.



SEALANT

DRILL-TEC[™]-**TERMINATION**

BAR FASTENED

6" (152 mm) O.C.

METAL EDGING -

(REFER TO EVERGUARD®

MECHANICALLY ATTACHED SYSTEMS ONLY.

200 SERIES DETAILS)

W/ DRILL-TEC **FASTENERS**

-REINFORCED 5' (1.52 m) WIDE

EVERGUARD® MEMBRANE

-RUN MEMBRANE WIDTH

VERTICALLY UP AND OVER

 $^{ extsf{-}}$ REINFORCED EVERGUARD $^{ extsf{@}}$

MEMBRANE (PERIMETER

SHEET IF REQUIRED)

MULTIPLE LAYERS OF

INSULATION -ROOF DECK/SUBSTRATE

THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE HEAT-WELD LAPS

ALL SYSTEMS | 8/24/20 | N.T.S.

1. WALL HEIGHTS OVER 10' (3.05 M) HIGH REQUIRE THE ENTIRE WALL TO BE FULLY ADHERED. UNDER 10'

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IGH WALL FLASHING WITH 5' (1.52 m) WIDE

ENERGYGUARD™ ROOF

FOR WALL BASE ATTACHMENT)

-MULTIPLE LAYERS OF

INSULATION

WOOD NAILER, 2" (50.8 mm) x 4"

DECK (OPTIONAL)

THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE

ALL SYSTEMS | 8/24/20 | N.T.S.

1. FLEXSEAL? CAULK GRADE SEALANT IS TO BE ADDED TO ALL TERMINATION BAR EDGES, OPEN HOLES, AND DRILL-TEC? FASTENER HEADS.

3. IF EVERGUARD? FREEDOM? MEMBRANE IS USED, BONDING ADHESIVE IS NOT NEEDED AND WALL MUST BE

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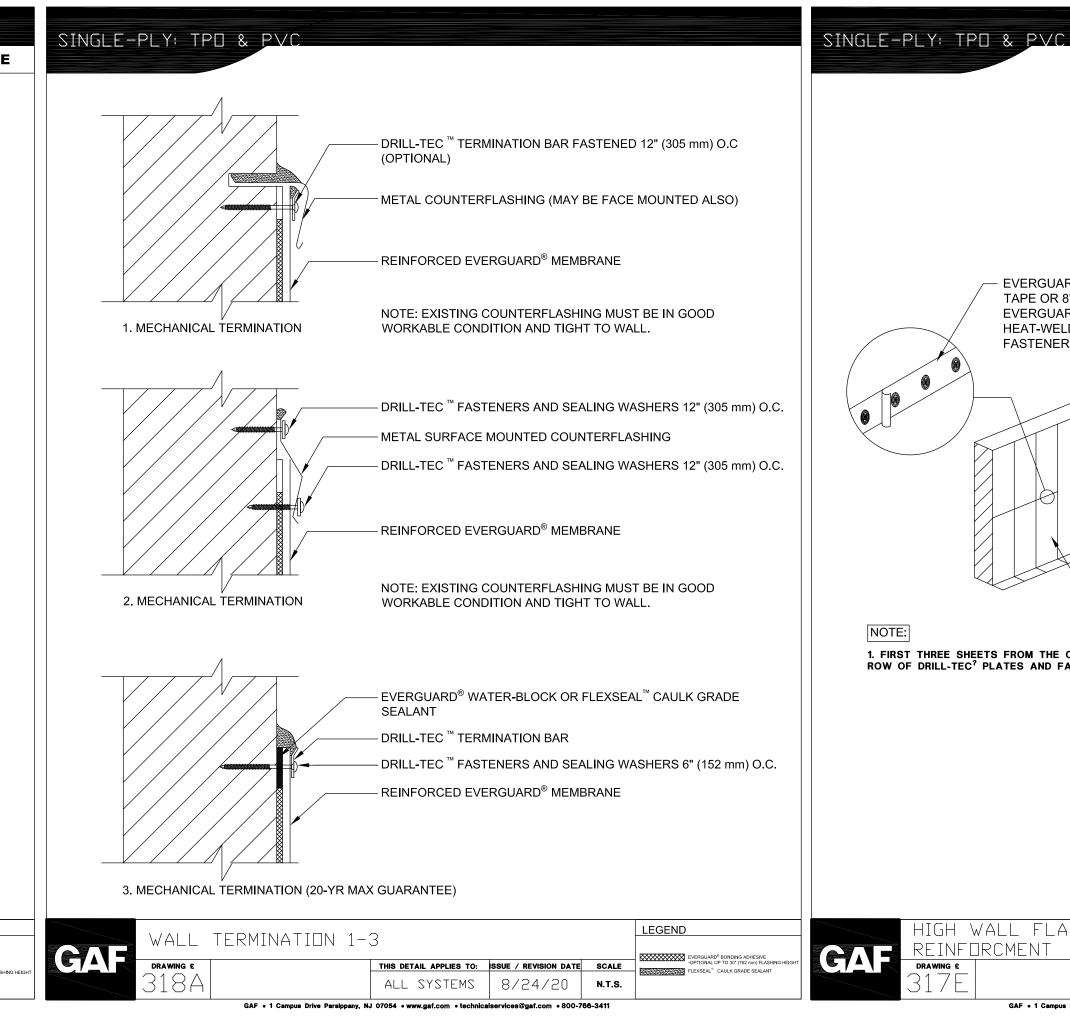
2. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A COVER BOARD IS REQUIRED ON

WALL EDGE FLASHING WITH TERMINATION BAR

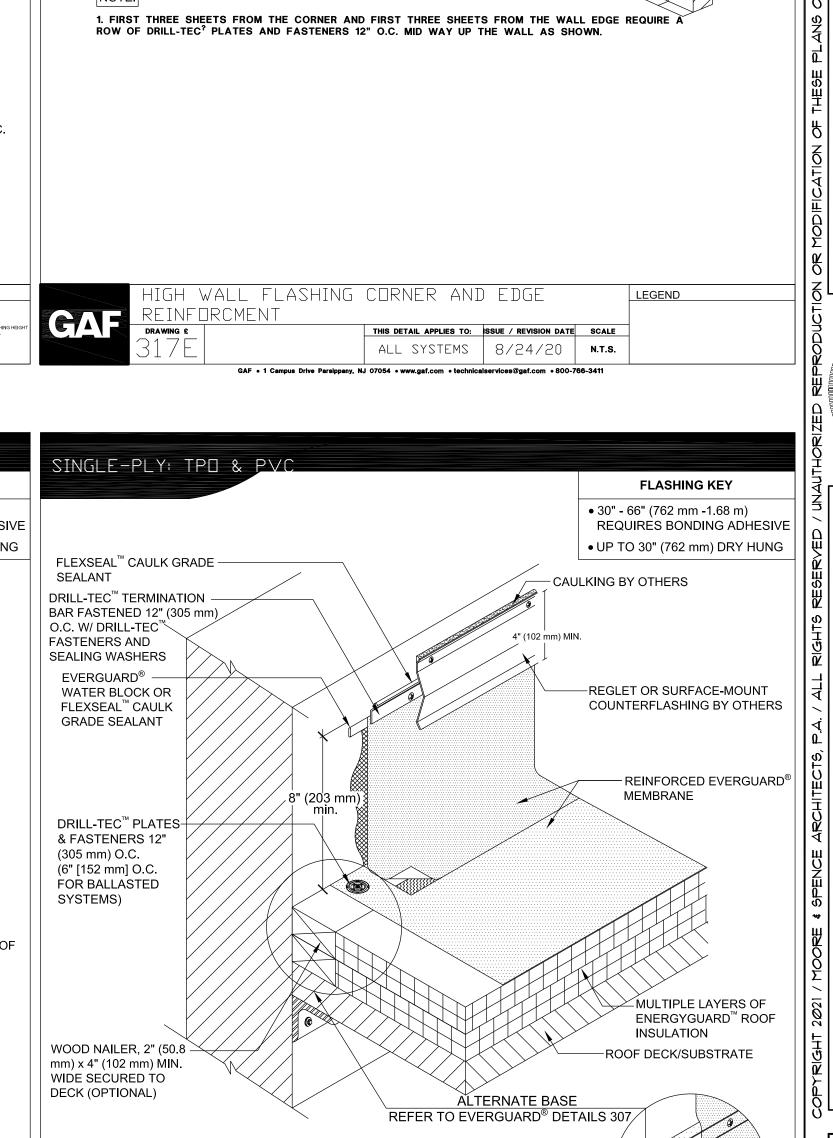
(102 mm) MIN. WIDE SECURED TO

ROOF DECK/SUBSTRATE

ENERGYGUARD[™] ROOF



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REINFORCED EVERGUARD®

MEMBRANE - 5 FT. (1.52 m)

WIDE SHEETS

- EVERGUARD® TPO COVER TAPE OR 8" (203 mm)

FASTENERS.

EVERGUARD® FLASHING STRIP

HEAT-WELDED OVER ROW OF

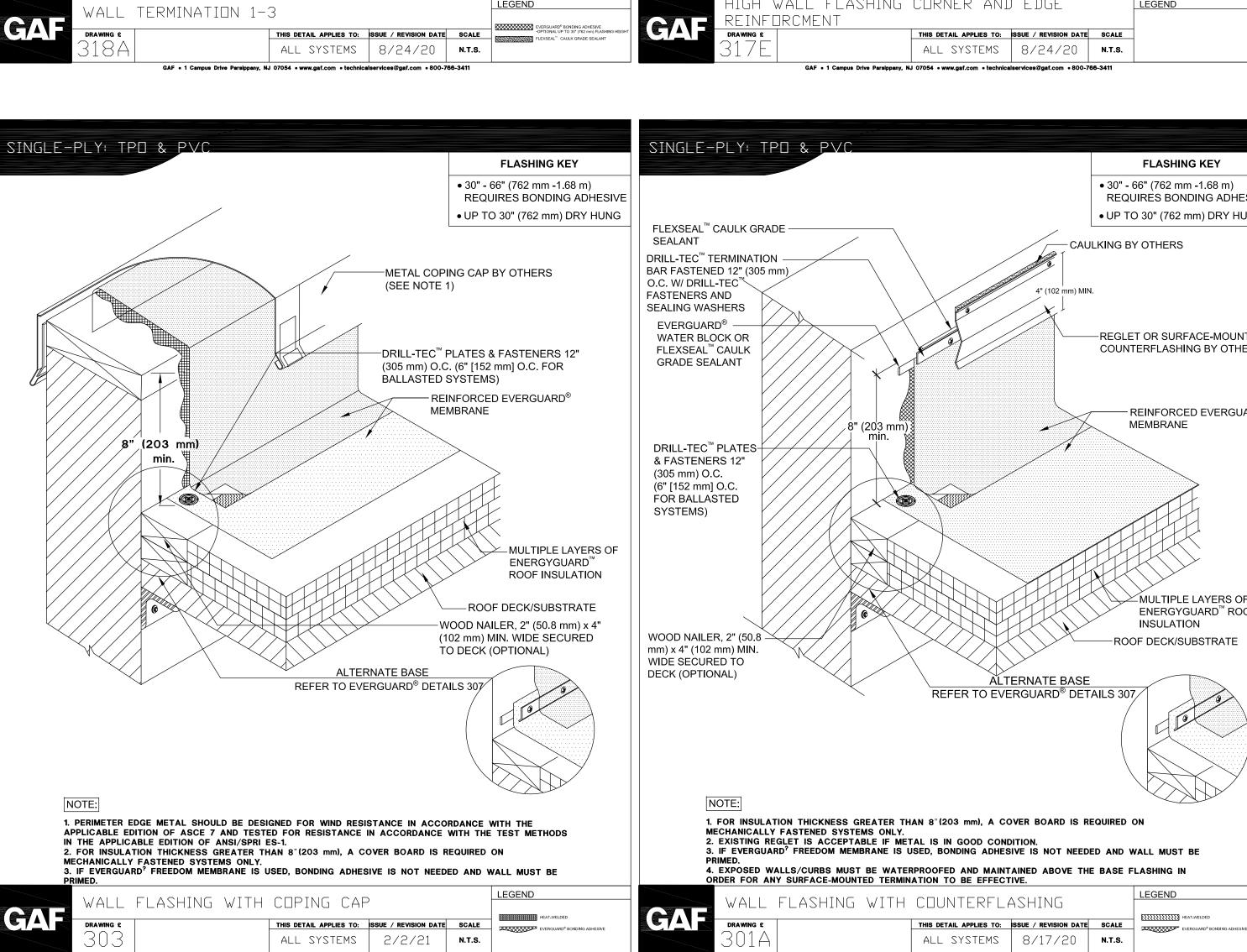
FOR 5' (1.52 m) WIDE SHEETS

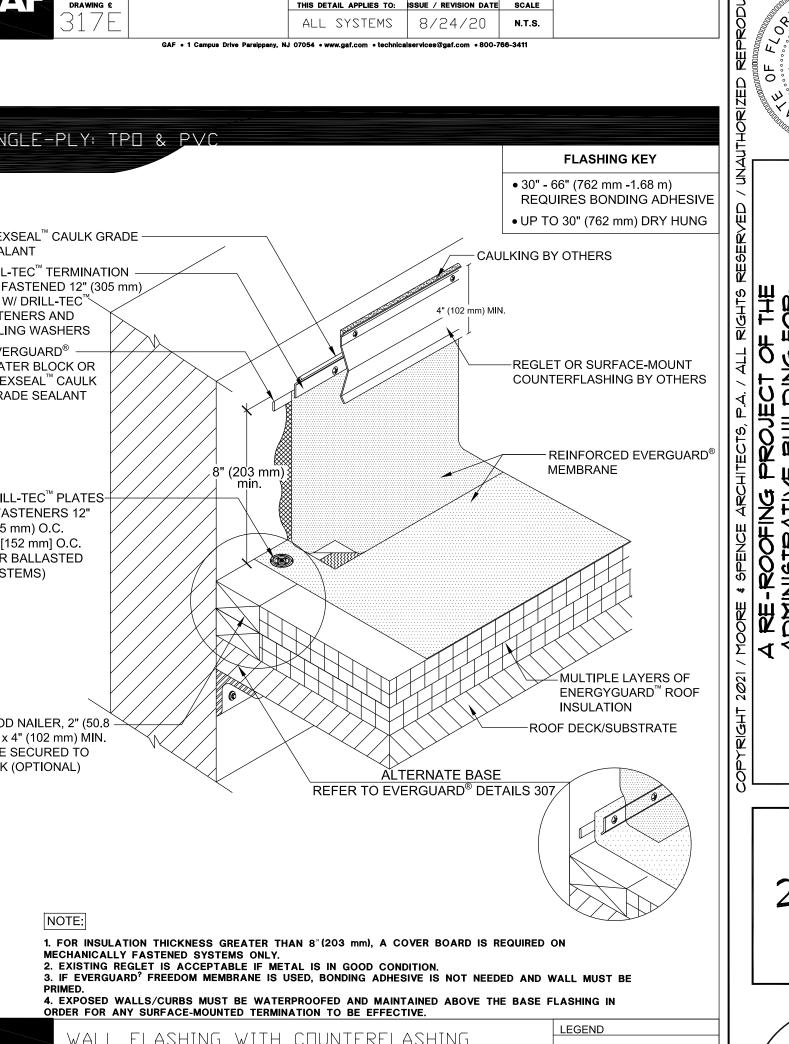
REFERENCE EVERGUARD® DETAIL 317B

- DRILL-TEC[™] PLATES &

HORIZONTALLY

FASTENERS 12" (305 mm) O.C.





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JOB No: Ø1/24/2**Ø**22

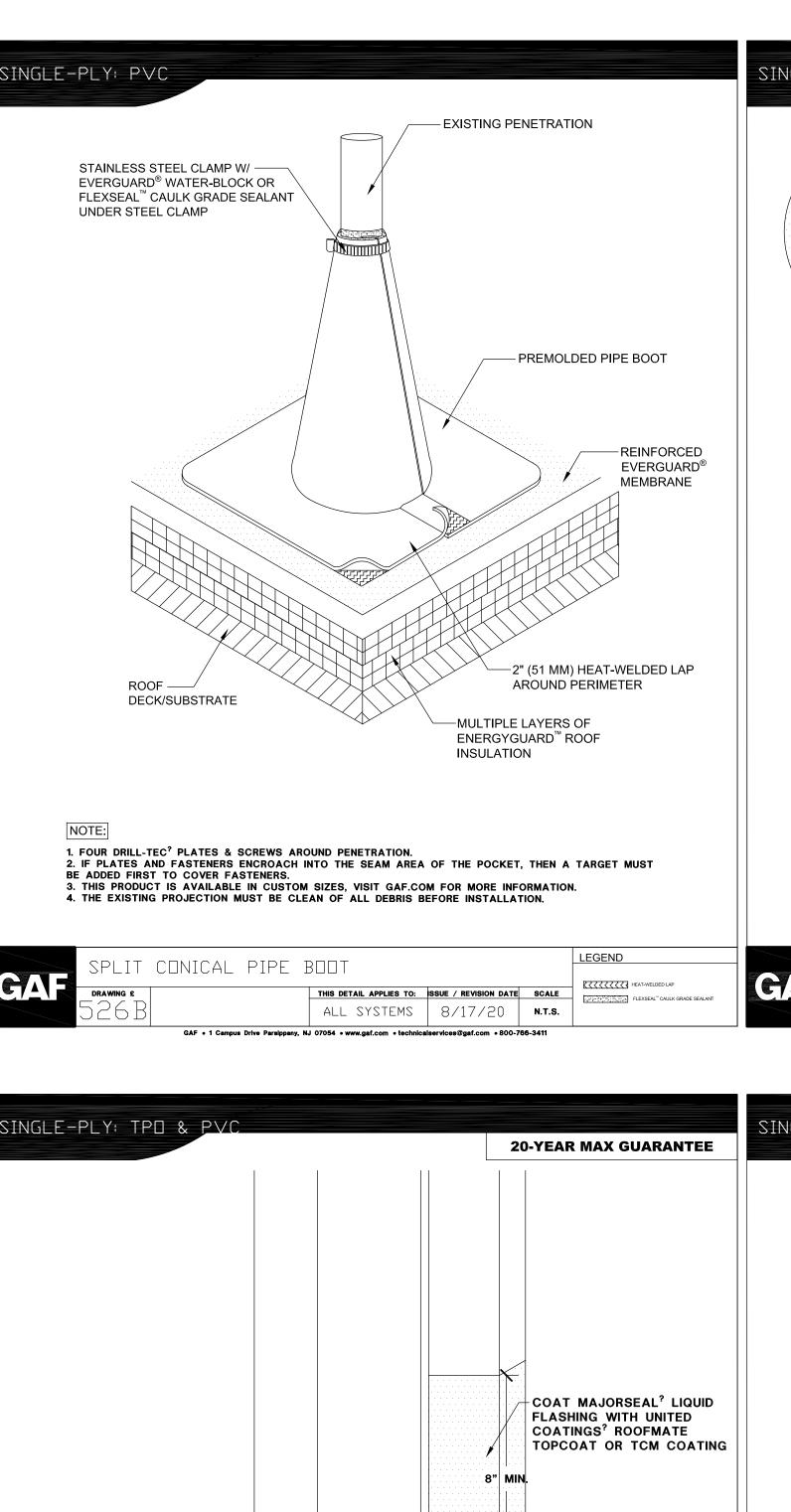


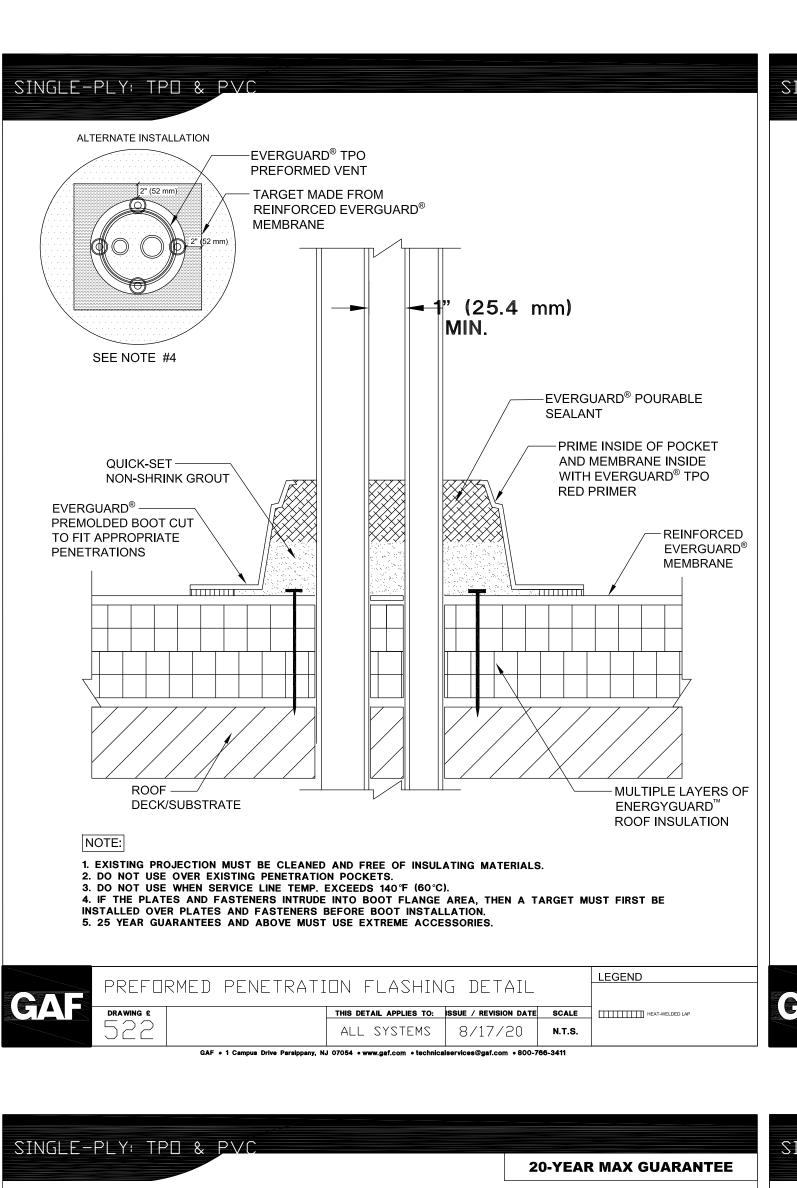
IF VERTICAL HEIGHT OF DOOR

SILL IS LESS THAN 6" MIN.

REINSTALL SILL PLATE IN A

BEAD OF M-BOND[™] ADHESIVE





IF VERTICAL HEIGHT OF DOOR -SILL IS LESS THAN 6" MIN.

REINSTALL SILL PLATE IN A

BEAD OF M-BOND[™] ADHESIVE

TOP LAYER OF

MAJORSEAL? LIQUID

FLASHING EXTENDS

FLASHING FABRIC UNITED COATINGS

ROOFMATE FABRIC BASE LAYER OF MAJORSEAL? LIQUID

MEMBRANE

1. EVERGUARD? TPO MEMBRANE MUST BE PRIMED WITH GAF TPO RED PRIMER IN ALL AREAS THAT

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MAJORSEAL? LIQUID FLASHING OR ROOFMATE COATING WILL BE USED.

LOW DOOR SILL FLASHING

-DECK/ SUBSTRATE

LEGEND

THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE

ALL SYSTEMS 8/24/20 N.T.S.

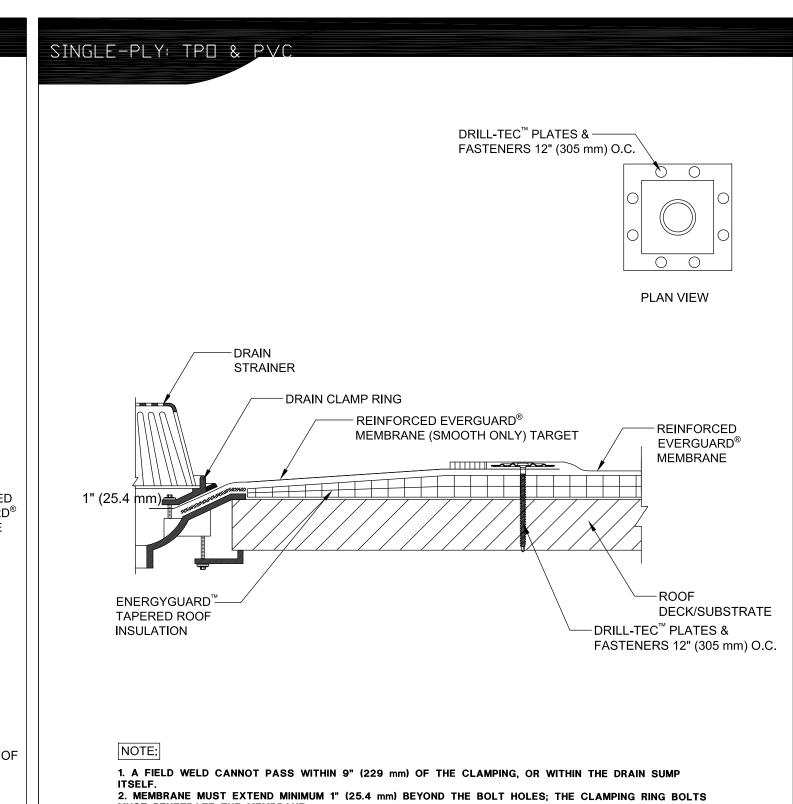
UNITED COATINGS® ROOFMATE FA

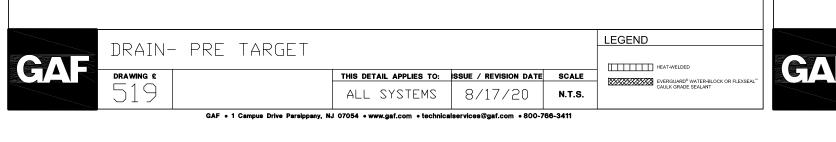
MINIMUM 2" (52 mm) PAST

FLASHING

REINFORCED EVERGUARD®

WITH GAF TPO RED

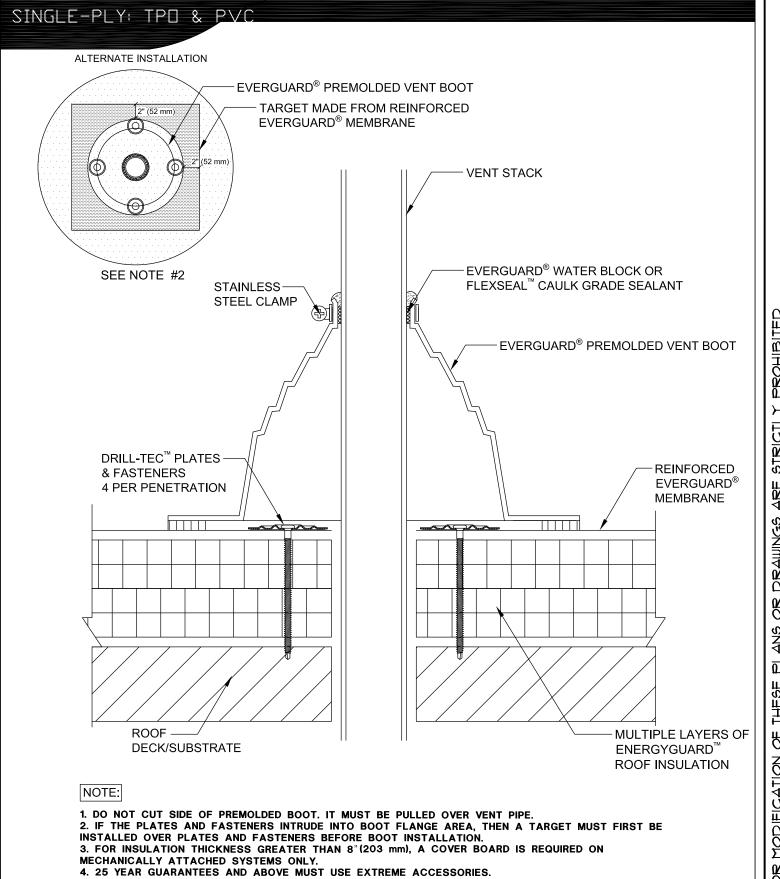




3. TAPER INSULATION TO CREATE A ROOF SUMP MINIMUM 36" \times 36" (0.914 m \times 0.914 m) IN SIZE IF

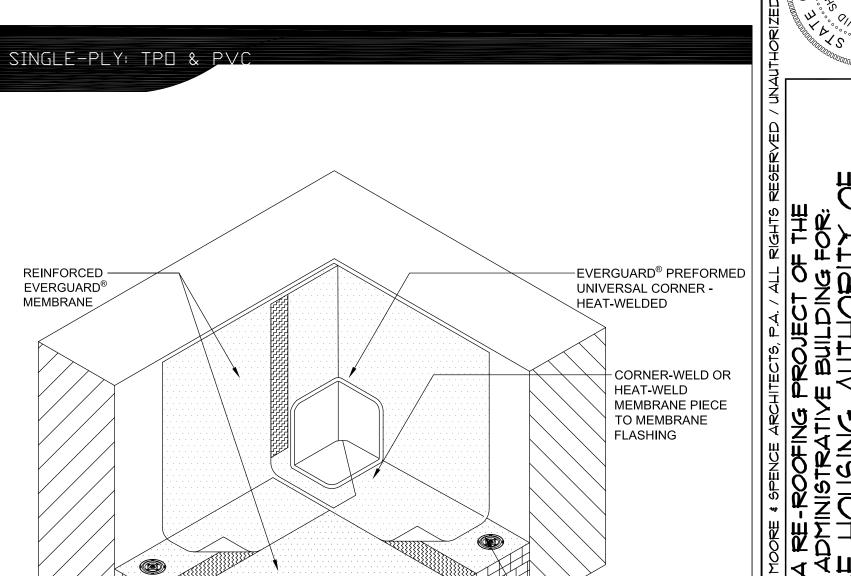
4. IF ASPHALT OR ASPHALTIC PRODUCT IS PRESENT, STOP AT BEGINNING OF SUMP AND FLASH WITH

5. DO NOT RUN SEPARATION SHEET INTO BOWL AREA IF USED IN SYSTEM.



PREMOLDED VENT BOOT FLASHING DETAIL

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LEGEND

FOR BALLASTED SYSTEMS)

MULTIPLE LAYERS OF

ENERGYGUARD™

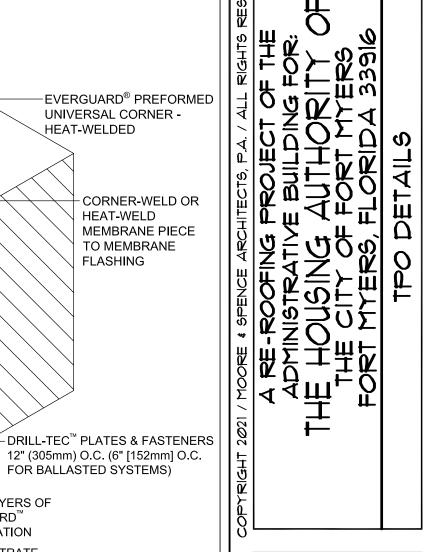
ROOF DECK/SUBSTRATE

ROOF INSULATION

THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE

ALL SYSTEMS | 8/17/20 | N.T.S.

HEAT-WELDED

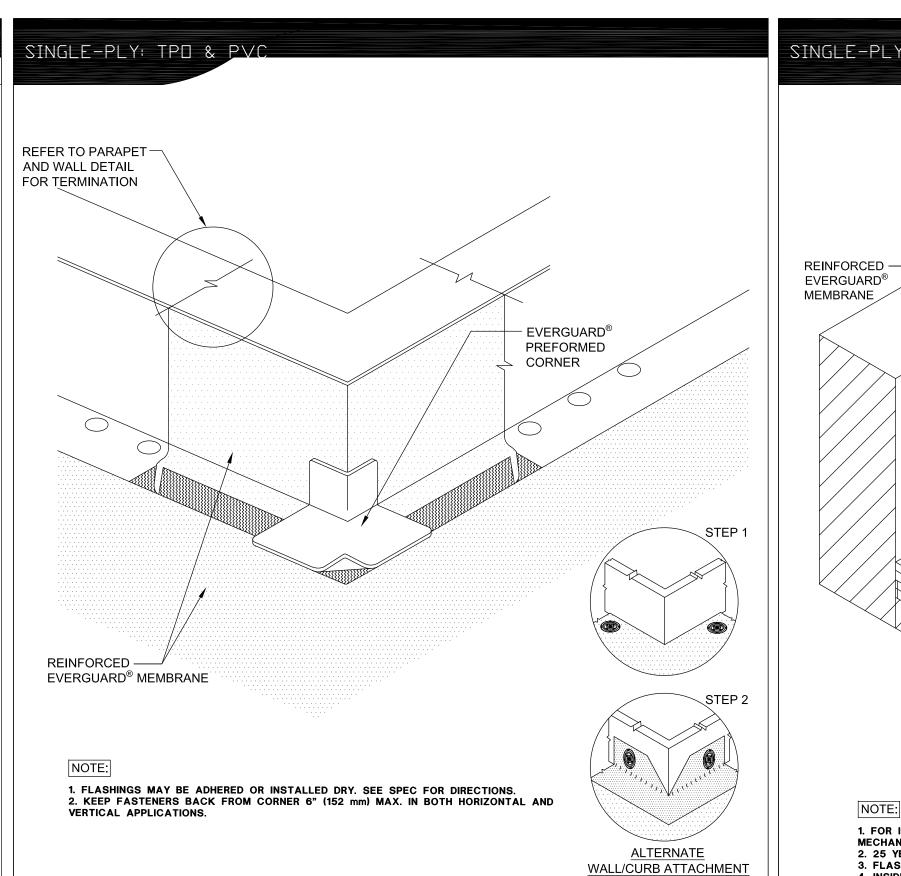


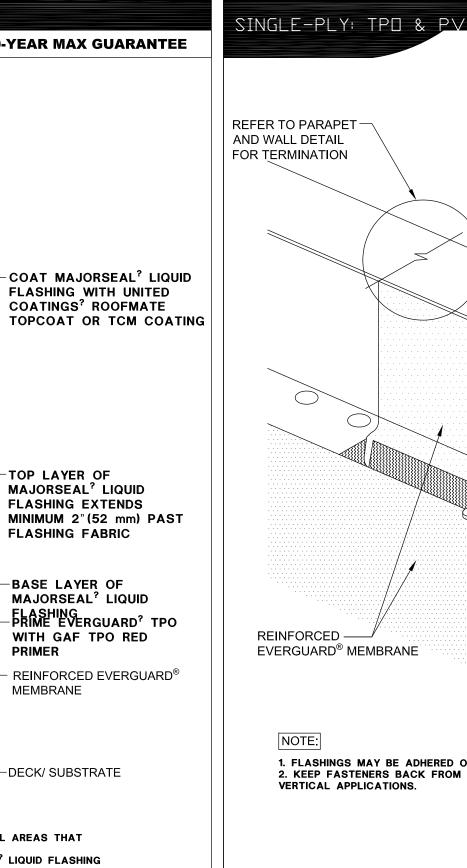
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SHEET No:





TOP LAYER OF

BASE LAYER OF

PRIMER

MEMBRANE

-DECK/ SUBSTRATE

LEGEND

UNITED COATINGS® RO

1. EVERGUARD? TPO MEMBRANE MUST BE PRIMED WITH GAF TPO RED PRIMER IN ALL AREAS THAT

2. IF VERTICAL HEIGHT OF DOOR SILL IS LESS THAN 6" MIN. EXTEND MAJORSEAL? LIQUID FLASHING

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THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE

ALL SYSTEMS | 8/24/20 | N.T.S.

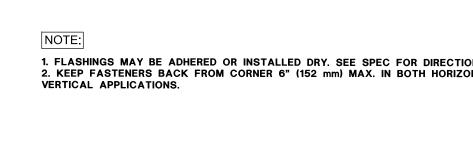
MAJORSEAL? LIQUID FLASHING OR ROOFMATE COATING WILL BE USED.

SYSTEM UNDER DOOR SILL. SEE DETAIL 303MM FOR MORE DETAILS.

RAISED DOOR SILL FLASHING

APPLICABLE.

SMOOTH TPO.



SIDE CORNER REINFORCEMENT CAN-PREFORMED CORNER DETAI THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE ALL SYSTEMS | 8/24/20 | N.T.S.

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NSIDE CORNER REINFORCMENT PREFORMED UNIVERSAL CORNER

MECHANICALLY ATTACHED SYSTEMS ONLY.

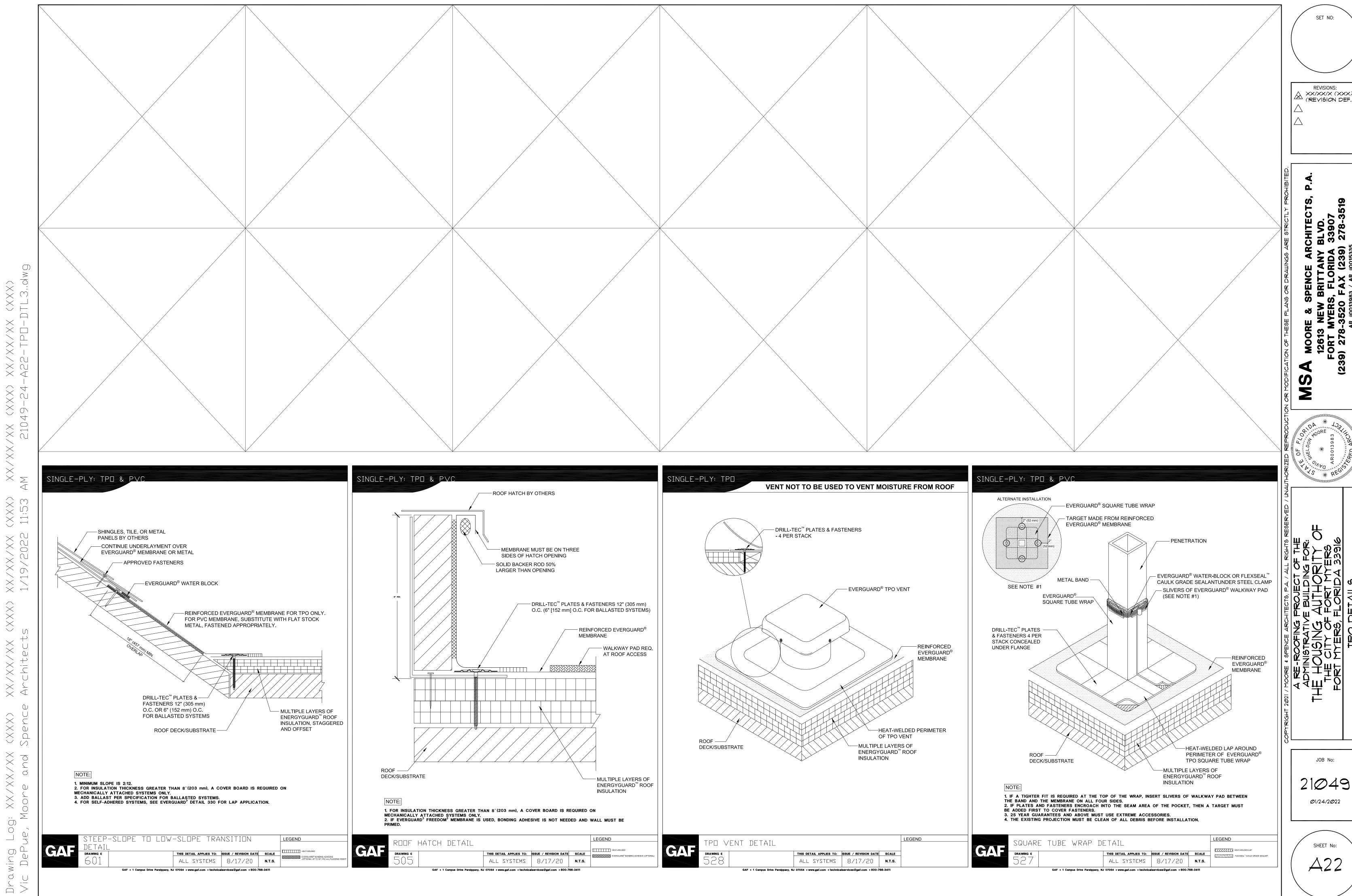
LEGEND THIS DETAIL APPLIES TO: SSUE / REVISION DATE SCALE ALL SYSTEMS | 8/24/20 | N.T.S. GAF • 1 Campus Drive Parsippany, NJ 07054 • www.gaf.com • technicalservices@gaf.com • 800-766-341

1. FOR INSULATION THICKNESS GREATER THAN 8" (203 mm), A COVER BOARD IS REQUIRED ON

2. 25 YEAR GUARANTEES AND ABOVE MUST USE EXTREME ACCESSORIES

3. FLASHINGS MAY BE ADHERED OR INSTALLED DRY. REFER TO 300 SERIES.

4. INSIDE CORNERS MAY ALSO BE FIELD-FABRICATED USING UNREINFORCED MEMBRANE.



REVISIONS:

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SHEET No:

JOB No:

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