

ADDENDUM: Number 01
DATE: December 27, 2022
TO: Interested Bidders
CLIENT: Washington Elementary School District
Phoenix, Arizona
PROJECT: Palo Verde Middle School Roofing Improvements
SITE: Palo Verde Middle School
Phoenix, Arizona
ARCHITECT: Architechnology, Inc.
5229 North 7th Avenue, Suite 101
Phoenix, Arizona 85013



AT PROJECT NO: 21-163

1. INSTRUCTIONS

1. This supplement to Bid Documents is issued prior to the receipt of bids. All Work covered in the supplement shall be included in the original quotation and the Supplement will be considered an integral part of the Contract Documents.
2. All work performed under this Supplement shall be subject to the General Conditions of the Contract and the Specifications for similar work in connection with this Project.



- A. General Items – No changes.
- B. Addendum Drawings. – Change.
 - a. Delete Bid Drawings, dated 12.16.2021 and replace with Addendum No. 01 Drawings, dated 12.27.2022.
- C. Addendum Specifications. – Changes.
 - a. See the attached Addendum No. 1 TPO Adhered TPO Specification, dated 12.27.2022 for roofing decks specified on Addendum No. 1 Drawings, dated 12.27.2022.



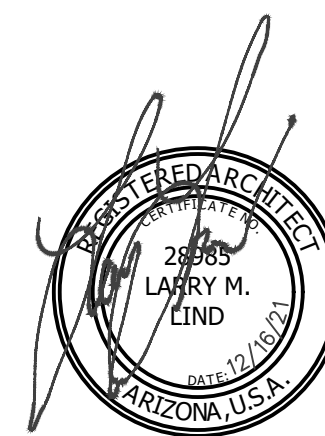
WASHINGTON ELEMENTARY SCHOOL DISTRICT



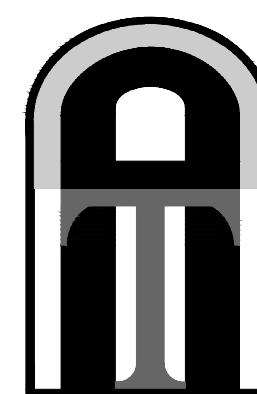
WASHINGTON ELEMENTARY
SCHOOL DISTRICT

ROOFING IMPROVEMENTS PALO VERDE MIDDLE SCHOOL SFB PROJECT NO.: BRG-DSGN-00415

7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051



¹
ADDENDUM 01 12-27-2022



ARCHITECHNOLOGY

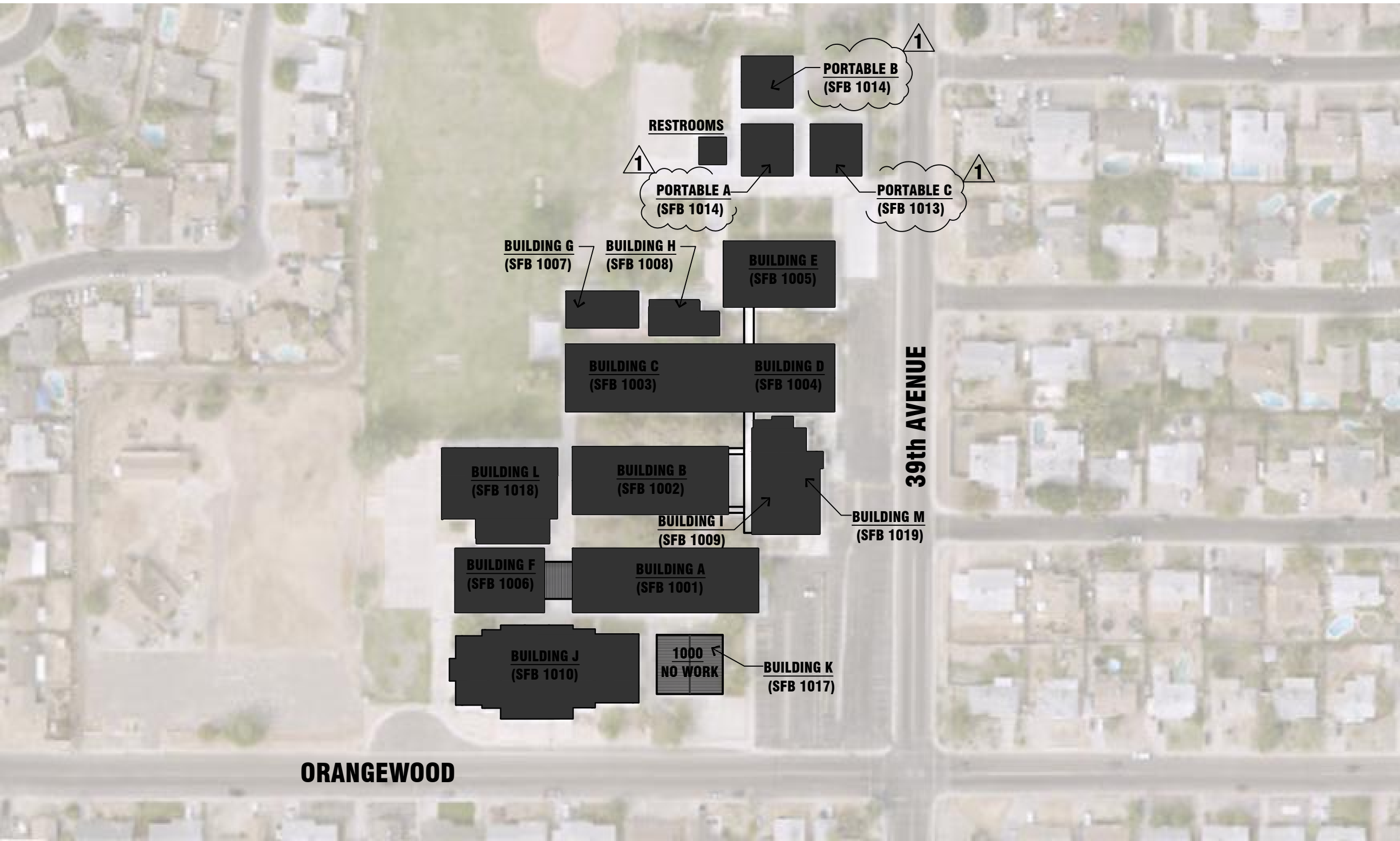
ARCHITECTURE - ROOF CONSULTING
5229 NORTH 7th AVENUE #101
PHOENIX, ARIZONA 85013
PHONE: 602.347.5226
FAX: 602.234.1561



ABBREVIATIONS

A.B.	ANCHOR BOLT	I.D.	INSIDE DIAMETER
ACT	ACOUSTICAL CEILING TILE	INSUL.	INSULATION
A.F.F.	ABOVE FINISHED FLOOR	INT.	INTERIOR
AGGR.	AGGREGATE		
AL.	ALUMINUM	JAN.	JANITOR
ALT.	ALTERNATE	JNT.	JOINT
APPROX.	APPROXIMATE	JST.	JOIST
ARCH.	ARCHITECTURAL		
		KIT.	KITCHEN
BD.	BOARD		
BLDG.	BUILDING	LAB.	LABORATORY
BLK.	BLOCK	LAM.	LAMINATE
BLKG	BLOCKING	LAV.	LAVATORY
BM	BEAM	LT.	LIGHT
BOT.	BOTTOM		
BTWN.	BETWEEN	MAX.	MAXIMUM
B.U.R.	BUILT UP ROOFING	MECH.	MECHANICAL
B.W.	BOTH WAYS	MEMB.	MEMBRANE
		MFR.	MANUFACTURER
C.J.	CONTROL JOINT	M.H.	MANHOLE
CLG.	CEILING	MIN.	MINIMUM
CLKG.	CAULKING	MISC.	MISCELLANEOUS
CLR.	CLEAR	M.O.	MASONRY OPENING
CMU	CONCRETE MASONRY UNIT	MTL.	METAL
COL.	COLUMN	MUL.	MULLION
CONC.	CONCRETE		
CONSTR.	CONSTRUCTION	N	NORTH
CONT.	CONTINUOUS	N.I.C.	NOT IN CONTRACT
C.T.	CARPET TILE	NO.	NUMBER
		NOM.	NOMINAL
		N.T.S.	NOT TO SCALE
DEG.	DEGREE		
DET. / DETL.	DETAIL	O.C.	ON CENTER
D.F.	DRINKING FOUNTAIN	O.D.	OUTSIDE DIAMETER
DIAG.	DIAGONAL	OH.	OVERHEAD
DIA.	DIAMETER	OPG.	OPENING
DN.	DOWN	OPP.	OPPOSITE
DS.	DOWNSPOUT		
DWG.	DRAWING	PCT.	PRE-CAST
		P.L.	PROPERTY LINE
E	EAST	PLAM.	PLASTIC LAMINATE
(E)	EXISTING	P.	PLASTER
EA.	EACH	PYW.D.	PLYWOOD
E.J.	EXPANSION JOINT	PR.	PAIR
E.I.F.S.	EXTERIOR INSULATION & FINISH SYSTEM		
EL. / ELEV.	ELEVATION	R.	RISER
ELEC.	ELECTRICAL	R.D.	ROOF DRAIN
EMER.	EMERGENCY	RE:	REFER TO
ENCL.	ENCLOSURE	REFR.	REFRIGERATOR
EQ.	EQUAL	REQ'D	REQUIRED
EQUIP.	EQUIPMENT	RM	ROOM
E.W.	EACH WAY	R.O.	ROUGH OPENING
E.W.C.	ELECTRIC WATER COOLER		
EXP.	EXPANSION		
EXT.	EXTERIOR	S	SOUTH
		S.C.	SOLID CORE
F.A.	FIRE ALARM	SCHED.	SCHEDULE
F.D.	FLOOR DRAIN	SECT.	SECTION
F.D.C.	FIRE DEPARTMENT CONNECTION	S.F.	SQUARE FOOT
F.E.	FIRE EXTINGUISHER	SHT.	SHEET
F.E.C.	FIRE EXTINGUISHER CABINET	SIM.	SIMILAR
F.F.	FINISH FLOOR	SPEC.	SPECIFICATION
F.H.C.	FIRE HOSE CABINET	SQ.	SQUARE
FIN.	FINISH	S.S.	STAINLESS STEEL
F.L.	FLOW LINE	STAGG.	STAGGERED
FLR.	FLOOR	STD.	STANDARD
FLUOR.	FLUORESCENT	STIFF.	STIFFENER
FND.	FOUNDATION	STL.	STEEL
F.O.B.	FACE OF BRICK	STRUC.	STRUCTURAL
F.O.C.	FACE OF CONCRETE	SUSP.	SUSPENDED
F.S.	FULL SIZE		
FT.	FOOT OR FEET	TR.	READ
FTG.	FOOTING	T & B	TOP AND BOTTOM
FURR.	FURRING	TER.	TERRAZZO
		T & G	TONGUE AND GROOVE
		THK.	THICK
		T/	TOP OF
		TYP.	TYPICAL
		VCT	VINYL COMPOSITION TILE
		VER.	VERIFY
		VERT.	VERTICAL
		W	WEST
		W/	WITH
		W.C.	WATER CLOSET
		WD.	WOOD
		W/O	WITHOUT
H.B.	HOSE BIB		
H.C.	HOLLOW CORE		
H/C	HANDICAPPED		
HDWD.	HARDWOOD		
HDWE.	HARDWARE		
H.M.	HOLLOW METAL		
HR.	HOUR		
HT.	HEIGHT		

REFERENCE SITE PLAN



ORANGEWOOD

NTS

NAILING SCHEDULE

DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE ^{a,b,c,d}	SPACING
JOIST TO SILL OR GIRDER, TOENAIL	3-8d	
1" x 6" SUBFLOOR OR LESS TO EACH JOINT, FACE NAIL	2-8d, 2 staples 1 3/4"	
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d	
SOLE PLATE TO JOIST OR GIRDER, FACE NAIL	16d @ 16" O.C.	
TOP OR SOLE PLATE TO STUD, END NAIL	2-16d	
STUD TO SOLE PLATE, TOE NAIL	3-8d or 2-16d	
DOUBLE STUDS, FACE NAIL	10d @ 24" O.C.	
DOUBLE TOP PLATES, FACE NAIL	10d @ 24" O.C.	
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	3-16d @ 16" O.C.	
DOUBLE TOP PLATES, MIN. 48" OFFSET OF END JOISTS, FACE NAIL IN LAPPED AREA	8-16d	
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3-8d	
RIM JOIST TO TOP PLATE, TOE NAIL	8d @ 6" O.C.	
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS, FACE NAIL	2-10d	
BUILT-UP HEADER, TWO PIECES WITH 1/2" SPACER	16d @ 16" o.c. along each edge	
CONTINUED HEADER, TWO PIECES	16d @ 16" o.c. along each edge	
CEILING JOIST TO PLATE, TOE NAIL	3-8d	
CONTINUOUS HEADER TO STUD, TOE NAIL	4-8d	
CEILING JOIST, LAPS OVER PARTITIONS, FACE NAIL	3-10d	
CEILING JOIST TO PARALLEL RAFTERS, FACE NAIL	3-10d	
RAFTER TO PLATE, TOE NAIL	2-16d	
1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d, 2 staples 1 3/4"	
1" x 6" SHEATHING TO EACH BEARING, FACE NAIL	2-8d, 2 staples 1 3/4"	
1" x 8" SHEATHING TO EACH BEARING, FACE NAIL	2-8d, 3 staples 1 3/4"	
WIDER THAN 1" x 6" SHEATHING TO EACH BEARING, FACE NAIL	3-8d, 4 staples 1 3/4"	
BUILT-UP CORNER STUDS	16d @ 24" O.C.	
BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	10d @ 32" o.c. at top and bottom and staggered	
	2 nails at ends and at each splice	
	2-16d at each bearing	
2" (25MM) PLANKS		
ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS		
TOE NAIL	4-16d	
FACE NAIL	3-16d	
RAFTER TIES TO RAFTERS, FACE	3-8d	
WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING		
5/16" - 1/2"	6-6d common nail (SUBFLOOR, WALL) 12 ^g	
5/16" - 1/2"	6-6d common nail (ROOF) 12 ^g	
19/32" - 1"	6-8d common nail 12 ^g	
1 1/8" - 1 1/4"	6-10d common nail or 6-8d deformed nail 12	

OTHER WALL SHEATHING ^h	FASTENER ^{b,c,d,e}	EDGES ⁱ	INTER. SUPPORTS ^{c,d}
DESCRIPTION OF BUILDING ELEMENTS			
1/2" REGULAR CELLULOASIC FIBERBOARD SHEATHING	1 1/2" galv. roofing nail 6d common nail staple 16 ga., 1 1/2"		3 6
1/2" STRUCTURAL CELLULOASIC FIBERBOARD SHEATHING	1 1/2" galv. roofing nail 8d common nail staple 16 ga., 1 1/2"		3 6
25/32" STRUCTURAL CELLULOASIC FIBERBOARD SHEATHING	1 3/4" galv. roofing nail 8d common nail staple 16 ga., 1 3/4"		3 6
1/2" GYPSUM SHEATHING	1 1/2" galv. roofing nail, 6d common nail, staple galv. 1 1/2", 1 1/4" screws, type w or s		4 8
5/8" GYPSUM SHEATHING	1 3/4" galv. roofing nail, 6d common nail, staple galv. 1 5/8", 1 5/8" screws, type w or s		4 8

WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING	8d deformed nail or 8d common nail	6 12
3/4" OR LESS	8d common nail or 8d deformed nail	6 12
7/8" - 1"	10d common nail or 8d deformed nail	6 12
1 1/8" - 1 1/4"		

- All nails are smooth-common, box or deformed shanks except where otherwise stated.
- Staples are 16 gage wire and have a min. 7/16" on diameter crown width.
- Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater
- Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
- Spacing of fasteners not included in this table shall be based on Table R602.3(1)
- For regions having basic wind speed of 120 mph or greater, 8d deformed nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within min. 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet max.
- For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speeds is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for min. 48-inch distance from ridges, eaves and gable end walls, and 4 inches on center to gable end wall framing
- Gypsum sheathing shall conform to ASTM C 70 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to either AIA 194.1 or ASTM C 208.
- Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and at all roof plane perimeters. Blocking of roof or floor sheathing panel edges perpendicular to the framing members shall not be required at intersection of adjacent roof planes. Floor and roof perimeter shall be supported by framing members or solid blocking.

ROOFING GENERAL NOTES

- ALL NEW ROOF PENETRATIONS TO BE FULLY WATER TIGHT. REPAIR EXISTING METAL FLASHING/FASCIA AS REQUIRED. REFER TO DETAILS.
- ROOF AREA NUMBERS ARE SHOWN FOR ROOF AREA LOCATION COMMUNICATION PURPOSES ONLY.
- ALL MECHANICAL UNITS, EXHAUST FANS, MECHANICAL EQUIPMENT, ETC. MOUNTED ON ROOF SHALL BE PROVIDED WITH CRICKETING AS REQUIRED TO PROVIDE POSITIVE ROOF DRAINAGE, TYPICAL.
- VERIFY ALL ROOF DECK CONDITIONS PRIOR TO ANY ROOFING ACTIVITIES.
- COORDINATE ALL MECHANICAL ROOF MOUNTED EQUIPMENT FOR PROPER CURB REQUIREMENTS AND PENETRATION OPENINGS SO THAT PROPER FLASHING MAY BE INSTALLED AS TO CONFORM WITH THE MANUFACTURER'S STANDARD DETAILS / INSTALLATION REQUIREMENTS.
- NOT ALL PENETRATIONS MAY BE INDICATED. CONTRACTOR TO FIELD VERIFY. FOR TYPICAL VENT AND PIPE PENETRATIONS THROUGH ROOF MEMBRANE, SEE TYPICAL DETAILS
- ALL SHEET METAL FABRICATIONS TO COMPLY WITH THE LATEST SMACNA ARCHITECTURAL SHEET METAL MANUAL - TYPICAL.
- REMOVE ALL EXISTING PARAPET WALL REGLETS (U.N.O.) EXISTING PARAPET WALL COUNTER FLASHING AT REGLET TO BE REMOVED FOR INSTALLATION OF NEW ROOF MEMBRANE. INSTALL NEW COUNTER FLASHING AS REQUIRED TO CONFORM WITH MANUFACTURES ROOF WARRANTY. PAINT ALL REGLETS AND COUNTER FLASHING COLOR TO MATCH ADJACENT PARAPET WALLS.
- MECHANICAL UNITS, EQUIPMENT, VENTS, ETC. SHOWN ARE DIAGRAMMATIC, THEY ARE NOT TO SCALE AND THE LOCATIONS ARE APPROXIMATE. NOT ALL ROOFING PENETRATIONS HAVE BEEN SHOWN. CONTRACTOR TO FIELD VERIFY QUANTITIES, SIZES, AND LOCATIONS OF MECHANICAL AND ELECTRICAL PENETRATIONS PRIOR TO BIDDING. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ADDITIONAL ROOFING PENETRATIONS NOT INDICATED ON DRAWINGS.

CONTRACTOR IS RESPONSIBLE TO VISIT SITE TO ASCERTAIN THE FULL EXTENT OF THE WORK REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR FAILURE TO ASCERTAIN FULL EXTENT OF THE WORK REQUIRED THROUGH VISUAL INSPECTION OF EXISTING CONDITIONS AND THAT DETAILED AND SPECIFIED WITHIN THE CONTRACT DOCUMENTS.

ROOF SLOPED INDICATED ARE APPROXIMATE. CONTRACTOR TO VERIFY IF SLOPE IS PROVIDED IN THE STRUCTURE OF BUILDING OR IF TAPERED INSULATION WILL BE REQUIRED TO PROVIDE SLOPE

CONTRACTOR TO PROVIDE WARRANTED WATER TIGHT ROOF CONSTRUCTION AND FLASHING AT ALL NEW ROOFING INSTALLATIONS EXCEPT AT EXISTING ROOFING TO REMAIN. CONTRACTOR TO VISUALLY INSPECT ALL METAL COPING TO REMAIN FOR POTENTIAL SOURCES OF LEAKS AND PROVIDE REPORT TO ARCHITECT FOR REVIEW.

CONTRACTOR IS RESPONSIBLE FOR INSPECTING INTERIOR ROOF LEADERS TO ENSURE THAT THEY ARE NOT LEAKING. IF LEAKS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ARCHITECT.

GENERAL STRUCTURAL NOTES

- CODE:
INTERNATIONAL BUILDING CODE, IBC 2018 ED.
- LOADS:
ROOF DEAD LOAD - 15 PSF .
ROOF LIVE LOAD - 20 PSF.
WIND DESIGN CRITERIA - PER CHAPTER 16, SECTION 1609, BASIC WIND SPEED 90 MPH, EXPOSURE C.
- STRUCTURAL STEEL:
All structural steel construction to conform to AISC Manual of Steel Construction. Steel materials to be as follows:
Beams-----ASTM A992, Fy=50 ksi
Angles, channels, & plates-----ASTM A36, Fy=36 ksi
Pipe Columns-----ASTM A501, Fy=35 ksi
Steel to steel bolts-----ASTM A-325
Anchor bolts-----ASTM A307
Anchor bolt nuts-----ASTM A563
- All welding to be performed by welders holding valid certificates and having current experience in type of weld shown on the drawings or notes. Certificates shall be those issued by and accepted testing agency. All welding by E70 Series low hydrogen rods. Welding per American Welding Society Standards.
WOOD AND CARPENTRY
All lumber shall bear the stamp of a recognized lumber grading agency. Erect all wood framing in a workmanlike manner. Materials shall be as follows:
Vertical framing Douglas Fir No.2
Horizontal framing Douglas Fir No.1
Ledgers--Douglas Fir No.2
Wood Deck Sheathing board to comply and conform to PS 1. Nail deck per drawings and details.
Rough hardware Rough hardware Simpson
All nails to be common nails, sizes as indicated on nailing schedule and on drawings.
Submit complete calculations and shop drawings for all wood truss members. Shop drawings to include placement drawings, erection drawings, and final and temporary bracing.
- GENERAL:
The contract drawings and specifications represent the finished structure. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect the structure and any surrounding structures during construction. Such measures shall include, but not be limited to, bracing, shoring for loads due to construction equipment, and etc. Observation visits to the site by the Architect shall not include inspection of the above items.
Construction materials shall be spread out if placed on framed floor or roofs. Load shall not exceed the design live load per square foot.
SHOP DRAWINGS:
The following is the minimum shop drawings and submittal that are required for this project. Refer to project specifications for additional requirements and procedures. This list is included in these notes as an aid to the contractor in preparing his submittal. This is not intended to be a complete list of drawings and submittal that the contractor will require to do his work. This list specifically excludes architectural items except where they may have a structural impact. Refer to the specifications for additional shop drawing and submittal requirements and procedures. Incomplete or incorrect submittal will be rejected.
IT IS NOTED THAT THIS PROJECT CONSISTS OF REPAIR AND REPLACEMENT OF COMPONENTS IN AN EXISTING BUILDING. THE CONTRACTOR IS TO EXERCISE CARE NOT TO DAMAGE OTHER PORTIONS OF THE STRUCTURE DURING THESE REPAIRS. PROVIDE ALL NECESSARY SHORING, BARRICADES AND OTHER SAFETY MEASURES AS REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES FOR THIS TYPE OF CONSTRUCTION.
SUPPLEMENTARY STRUCTURAL NOTES
1.01 SPECIAL CONSIDERATION FOR RENOVATION PROJECTS
A. In undertaking work of a rehabilitation or stabilization nature, it is inevitable that there will be conditions unknown to all parties involved. Therefore, certain items of the work may not be fully delineated or specified.
B. The contractor shall preserve conditions of the original work, to the extent possible, with the exception of changes from original conditions explicitly indicated or specified.
C. Contractor to exercise care that damage to existing building is minimized during the repair process and construction.

1.02 WORKMANSHIP
A. Where not more specifically described in any of the various notes of these drawings, workmanship shall conform to all of the methods and operations of best standards and accepted practices of the trade or trades involved, and shall include all items of fabrication, construction or installation regularly furnished or required for completion, including any finish, and for successful operation as intended.
B. All work shall be executed by mechanics skilled in their respective lines of work.
C. When completed, all parts shall have been durably and substantially built and shall present a neat, workmanlike appearance.
1.03 SAFETY
A. Comply with all applicable provisions of Federal, State, and Local laws pertaining to safety.
1.04 DRAWINGS AND SPECIFICATIONS
A. No responsibility will be assumed by the Owner or Engineer for omissions or duplications by the Contractor in the completion of the Contract due to any alleged error in the arrangement of the material in these Specifications or in the Drawings, nor shall any such segregation of work and materials operate to make the Engineer an arbiter in defining limits to the agreements between the Contractor and his Subcontractors and Suppliers.
B. General Conditions, Supplementary General Conditions, Drawings, Specifications, and other contract Documents are complementary. Nothing within the individual Sections of these Specifications shall be considered to waive any requirements of the other Contract Documents.
C. The misplacement, addition, or omission of any letter, word, or punctuation mark, or lack of capitalization of a word, shall in no way damage the true spirit, intent, or meaning of these Specifications.
D. The words "shown," "indicated," "noted," "scheduled," or words of like effect shall be understood to mean that reference is made to the drawings accompanying these Specifications.
E. Standards: Reference to known standards within these Specifications shall mean and intend the latest edition or amendment published prior to the date of these Specifications, unless specifically stated otherwise, and to such portions of it that relate and apply directly to the material or installation called for on the project.

PROJECT INFORMATION

PROJECT NAME:	ROOFING IMPROVEMENTS
OWNER:	WASHINGTON ELEMENTARY SCHOOL DISTRICT 4650 WEST SWEETWATER AVENUE PHOENIX, ARIZONA 85304
PROJECT SITE:	PALO VERDE MIDDLE SCHOOL 7502 S 39th AVENUE PHOENIX, ARIZONA 85051
ARCHITECT:	ARCHITECHNOLOGY INC. LARRY M. LIND, A.I.A. PRINCIPAL ARCHITECT / ROOF CONSULTANT 5229 N. 7TH AVE. STE 101 PHOENIX, ARIZONA 85013 P (602) 347-5226 F (602) 234-1561

WASHINGTON ELEMENTARY SCHOOL DISTRICT

GOVERNING BOARD:	PRESIDENT - TEE LAMBERT
	VICE PRESIDENT - NIKKIE WHALEY
	BOARD MEMBER - JENNI ABBOTT-BAYARDI
	BOARD MEMBER - BILL ADAMS
	BOARD MEMBER - LINDSEY PETERSON
SUPERINTENDENT:	DR. PAUL STANTON

APPLICABLE CODES

CITY OF PHOENIX

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL EXISTING BUILDING CODE
2012 INTERNATIONAL GREEN CONSTRUCTION CODE
2018 INTERNATIONAL SWIMMING POOL AND SPA CODE
2017 NATIONAL ELECTRICAL CODE

SHEET INDEX

G0.0	COVER SHEET
G1.1	PROJECT INFORMATION / REFERENCE SITE PLAN
A1.1	BUILDING A (SFB 1001) AND BUILDING F (SFB 1006) ROOF PLANS
A1.2	BUILDING B (SFB 1002) ROOF PLAN
A1.3	BUILDING C (SFB 1003) AND BUILDING D (SFB 1004) ROOF PLANS
A1.4	BUILDING E (SFB 1005) ROOF PLAN
A1.5	BUILDING G (SFB 1007) AND BUILDING H (SFB 1008) ROOF PLANS
A1.6	BUILDING A,B,C (SFB 1013,1014) & RESTROOM BUILDING ROOF PLANS
A1.7	BUILDING L (SFB 1018) ROOF PLAN
A1.8	BUILDING I (SFB 1009) AND BUILDING M (SFB 1019) ROOF PLANS
A1.9	BUILDING J (SFB 1010) ROOF PLAN
A2.1	DETAILS

WOOD AND CARPENTRY
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B. The contractor shall preserve conditions of the original work, to the extent possible, with the exception of changes from original conditions explicitly indicated or specified.
C. Contractor to exercise care that damage to existing building is minimized during the repair process and construction.

GENERAL NOTES

A. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, LAWS, AND ORDINANCES HAVING JURISDICTION ON THIS PROJECT.

B. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND RESOLVED PRIOR TO PROCEEDING WITH ANY CONSTRUCTION SO INVOLVED.

C. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, CLEARANCES, AND CONDITIONS. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.

D. WE CERTIFY TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DESIGN OF THIS PROJECT COMPLIES WITH THE APPLICABLE PROVISIONS & REQUIREMENTS OF SECTION 34-4-1 TO 34-411 INCLUSIVE OF THE STATUTES OF THE STATE OF ARIZONA.

E. AS PER THE SPECIFICATION SECTION FOR PROJECT CLOSE-OUT, THE ARCHITECT WILL ISSUE A "CERTIFICATE OF SUBSTANTIAL COMPLETION OF THE PROJECT WORK".

F. ANY FUTURE CHANGE OR REVISIONS TO THESE PLANS SHALL BE SUBMITTED TO THE CITY FOR REVIEW, AND APPROVAL PRIOR TO COMMENCING ANY WORK.

G. ALL CHANGES AND/OR REVISIONS SHALL BE NOTED ON THE PLANS BY "CLOUDING" THE AREAS AFFECTED BY THESE REVISIONS OR CHANGES, AND WITH "DELTA'S" INDICATING THE NUMBER OF TIMES THE CHANGES OCCUR. IN ADDITION, THE DATE OF THESE CHANGES OR REVISIONS SHALL BE INDICATED. THIS DATA SHALL ALSO BE PLACED IN THE TITLE BLOCK, IN AN APPROPRIATE BULLETIN OR SCHEDULE.

H. SEE SPECIFICATIONS FOR PRIOR APPROVALS. IF NO PRIOR APPROVAL IS SUBMITTED THEN BID MUST BE TO ROOF MANUFACTURE SPECIFIED AS "BASIS OF DESIGN"



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LARRY M. LIND
28685
12/16/21
ARCHITECT
PHOENIX, ARIZONA

ROOFING IMPROVEMENTS
WASHINGTON ELEMENTARY SCHOOL DISTRICT
PALO VERDE MIDDLE SCHOOL
7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.:	21163
DRAWN BY:	B. TUTTLE
CHECKED BY:	L. LIND
DATE:	12/16/21

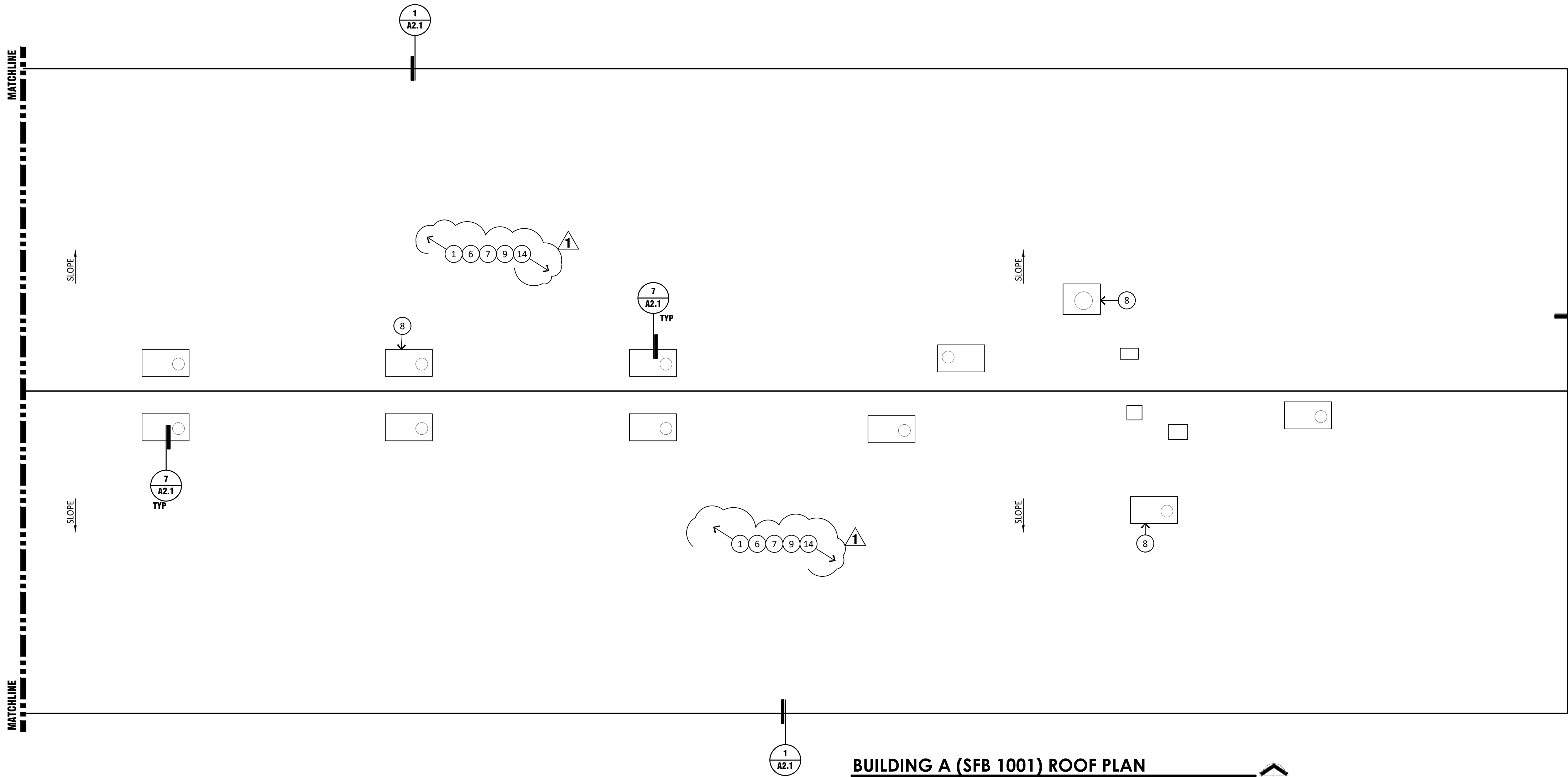
NO.	DATE	COMMENT	REVISIONS
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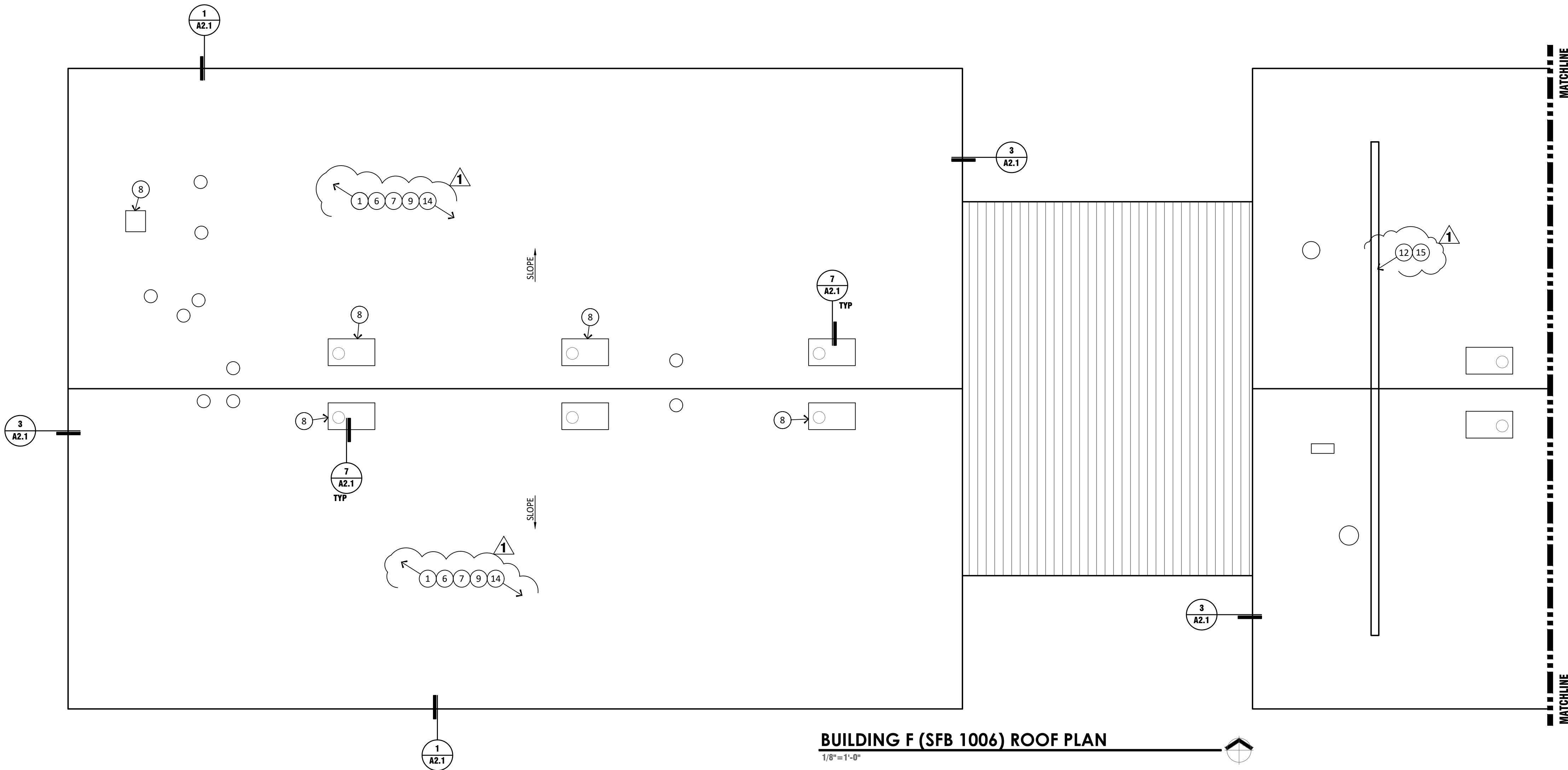
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G1.1



BUILDING A (SFB 1001) ROOF PLAN

1/8"=1'-0"



BUILDING F (SFB 1006) ROOF PLAN

1/8"=1'-0"

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. TPO ROOF OVER BUILT UP ROOF OVER STRUCTURAL DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. MODIFIED BUILT UP ROOF OVER BUILT UP ROOF ON TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK. PREP METAL DECK AS REQUIRED FOR NEW ROOF.

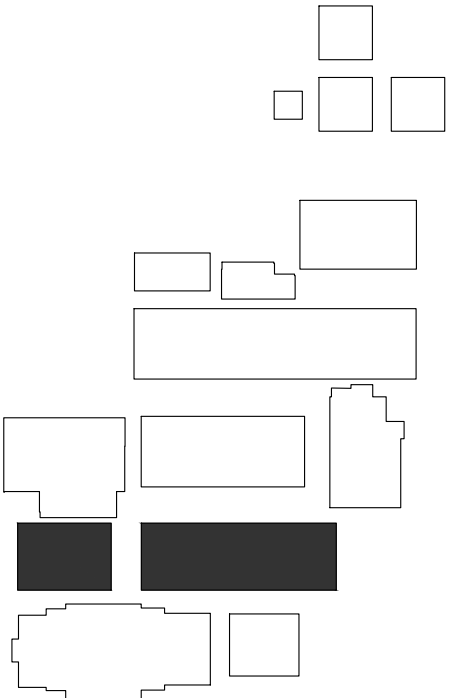
GENERAL NOTES

- CONTRACTOR TO REVIEW SPECIFICATIONS PRIOR TO BID. NOTIFY ARCHITECT OF ANY CONFLICTS.
- KEYNOTES ARE TYPICAL THROUGHOUT
- ANY INCIDENTAL MECHANICAL, PLUMBING OR ELECTRICAL ASSOCIATED WITH ROOFTOP EQUIPMENT SHALL BE PERFORMED BY PROPER LICENSED SUBCONTRACTORS UNDER THIS ROOFING CONTRACT - ALL WORK SHALL BE PERFORMED TO CURRENT CODES
- ADJUST EXISTING ELECTRICAL CONDUIT, CONDENSATE AND UTILITY LINES AS REQUIRED FOR NEW ROOF HEIGHT. PROVIDE NEW DURA BLOK SUPPORTS - TYPICAL - SEE SPECIFICATIONS.
- REMOVE EXISTING LOW VOLTAGE WIRE AND REINSTALL AFTER ROOF REPLACEMENT
- REMOVE AND PATCH ALL ABANDONED OPENINGS. NOTIFY ARCHITECT IF OPENING IS WIDER THAN 12" X 12"
- DEMO ALL ABANDONED PITCH PANS. CAP WATER AND POWER

TYPICAL DETAILS THROUGHOUT

10 A2.1	ROOF TOP PIPE SUPPORT	14 A2.1	PITCH POCKET
11 A2.1	PRE MANUFACTURED SUPPORT CURB	15 A2.1	PIPE PENETRATION
12 A2.1	PASSIVE VENT / AIR INTAKE	18 A2.1	COPING
13 A2.1	EXPANSION JOINT	19 A2.1	EXHAUST FAN

REFERENCE PLAN





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DRAWING TITLE
BUILDING A (SFB 1001) AND
BUILDING F (SFB 1006)
ROOF PLANS

DRAWING NUMBER

A1.1

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
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- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK PREP METAL DECK AS REQUIRED FOR NEW ROOF.

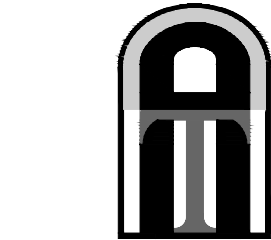
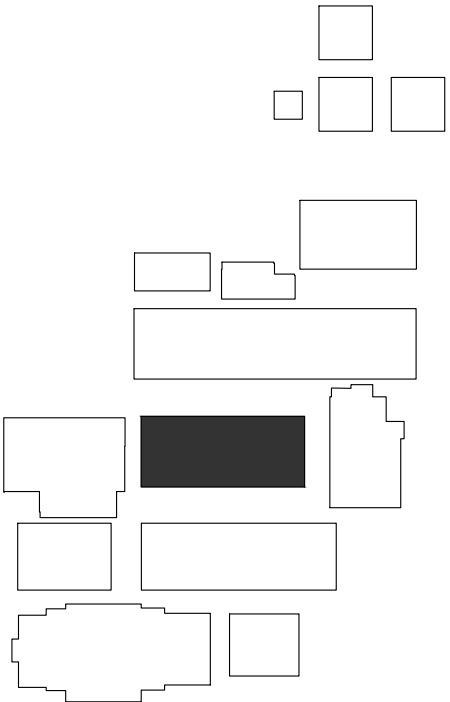
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- ADJUST EXISTING ELECTRICAL CONDUIT, CONDENSATE AND UTILITY LINES AS REQUIRED FOR NEW ROOF HEIGHT. PROVIDE NEW DURA BLOK SUPPORTS - TYPICAL - SEE SPECIFICATIONS.
- REMOVE EXISTING LOW VOLTAGE WIRE AND REINSTALL AFTER ROOF REPLACEMENT
- REMOVE AND PATCH ALL ABANDONED OPENINGS. NOTIFY ARCHITECT IF OPENING IS WIDER THAN 12" X 12"
- DEMO ALL ABANDONED PITCH PANS. CAP WATER AND POWER

TYPICAL DETAILS THROUGHOUT

10 A2.1 ROOF TOP PIPE SUPPORT	14 A2.1 PITCH POCKET
11 A2.1 PRE MANUFACTURED SUPPORT CURB	15 A2.1 PIPE PENETRATION
12 A2.1 PASSIVE VENT / AIR INTAKE	16 A2.1 COPING
13 A2.1 EXPANSION JOINT	19 A2.1 EXHAUST FAN

REFERENCE PLAN



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PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
CHECKED BY: L. LIND
DATE: 12/16/21

NO.	DATE	COMMENT	REVISIONS
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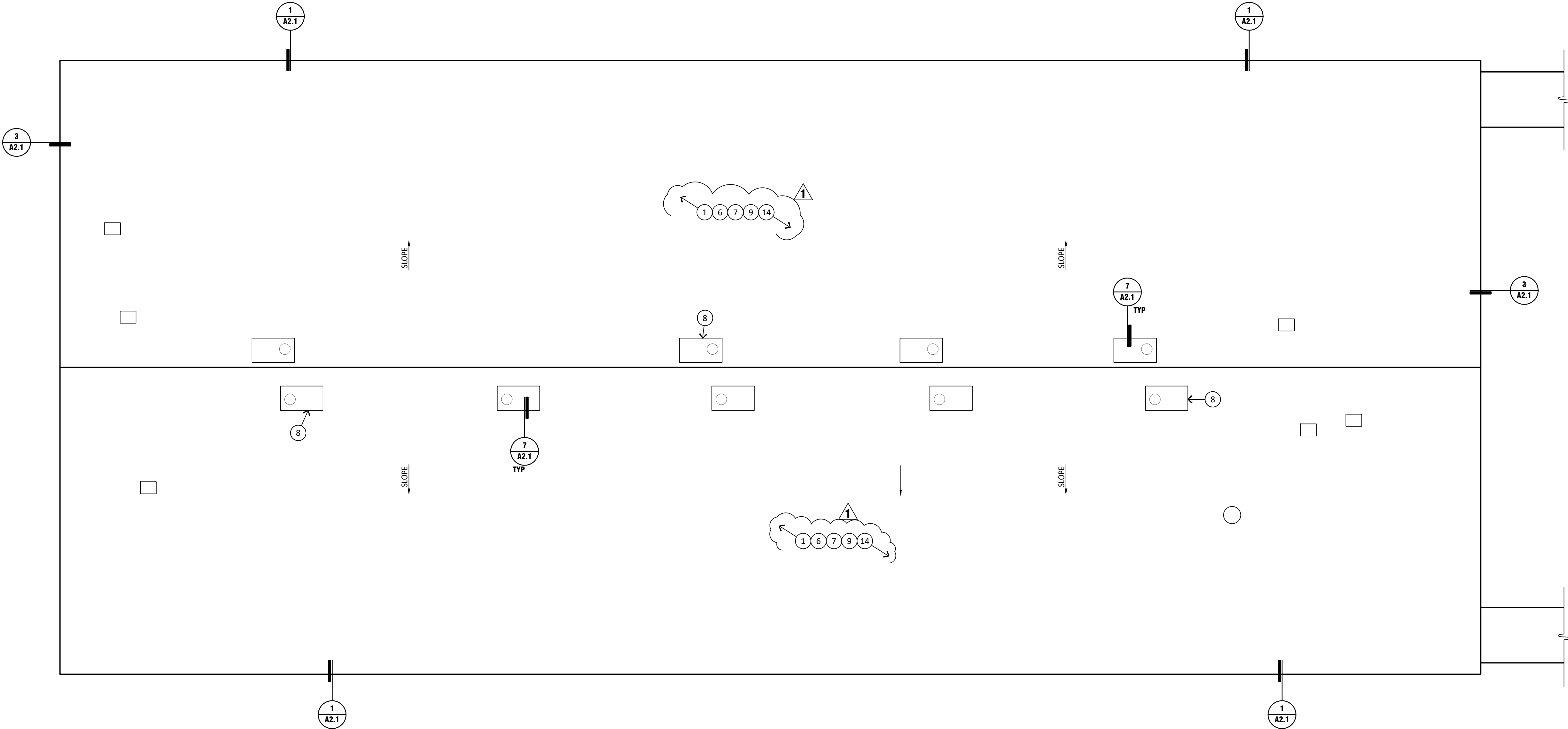
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DRAWING TITLE

BUILDING B (SFB 1002)
ROOF PLAN

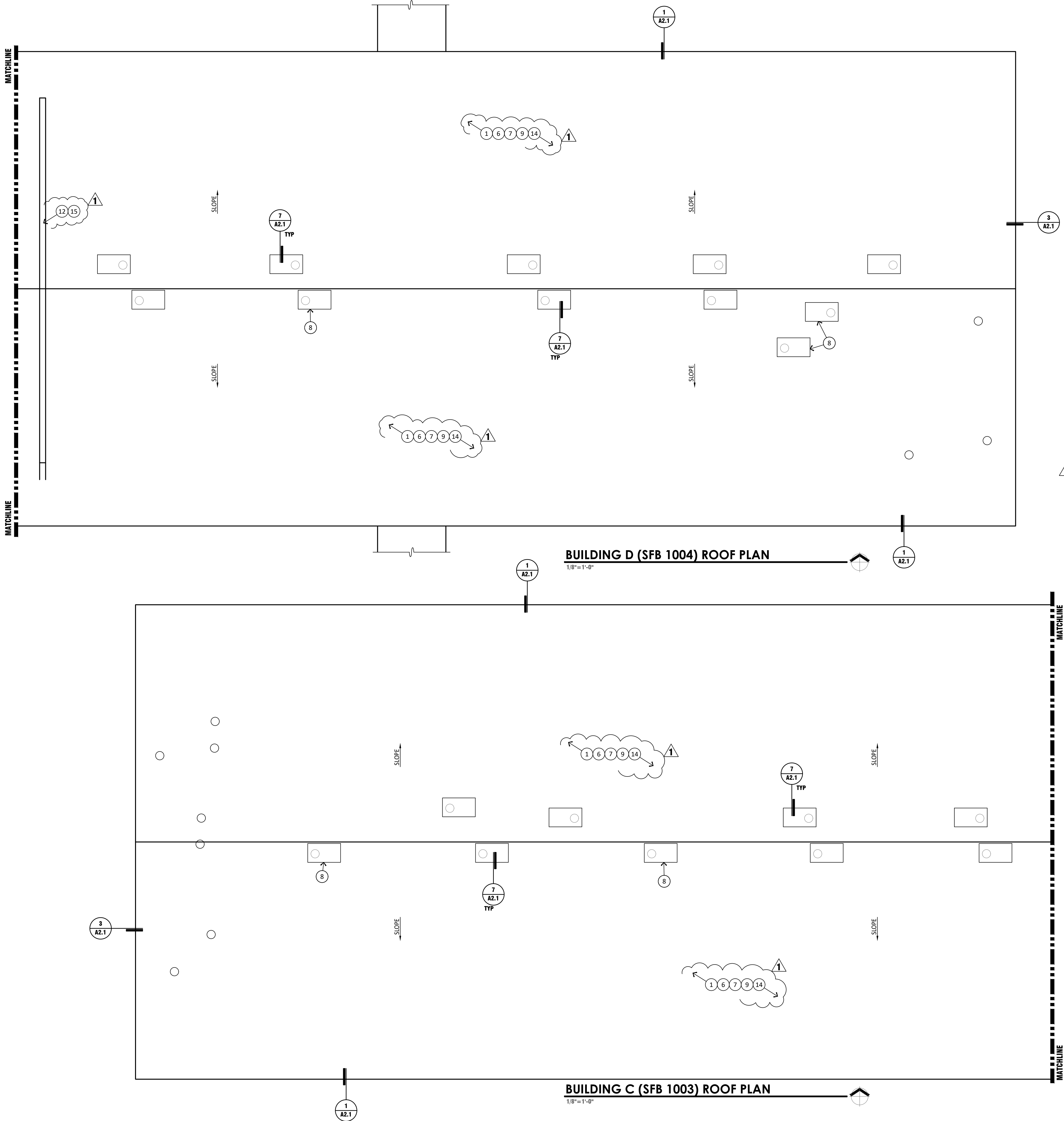
DRAWING NUMBER

A1.2



BUILDING B (1002) ROOF PLAN

1/8"=1'-0"



KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. TPO ROOF OVER BUILT UP ROOF OVER STRUCTURAL DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. MODIFIED BUILT UP ROOF OVER BUILT UP ROOF ON TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
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- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK. PREP METAL DECK AS REQUIRED FOR NEW ROOF.

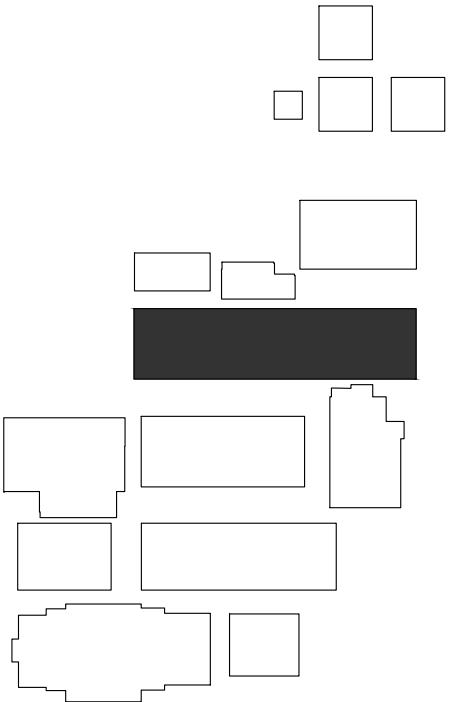
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- ADJUST EXISTING ELECTRICAL CONDUIT, CONDENSATE AND UTILITY LINES AS REQUIRED FOR NEW ROOF HEIGHT. PROVIDE NEW DURA BLOK SUPPORTS - TYPICAL - SEE SPECIFICATIONS
- REMOVE EXISTING LOW VOLTAGE WIRE AND REINSTALL AFTER ROOF REPLACEMENT
- REMOVE AND PATCH ALL ABANDONED OPENINGS. NOTIFY ARCHITECT IF OPENING IS WIDER THAN 12" X 12"
- DEMO ALL ABANDONED PITCH PANS. CAP WATER AND POWER

TYPICAL DETAILS THROUGHOUT

10 A2.1 ROOF TOP PIPE SUPPORT	14 A2.1 PITCH POCKET
11 A2.1 PRE MANUFACTURED SUPPORT CURB	15 A2.1 PIPE PENETRATION
12 A2.1 PASSIVE VENT / AIR INTAKE	16 A2.1 COPING
13 A2.1 EXPANSION JOINT	19 A2.1 EXHAUST FAN

REFERENCE PLAN

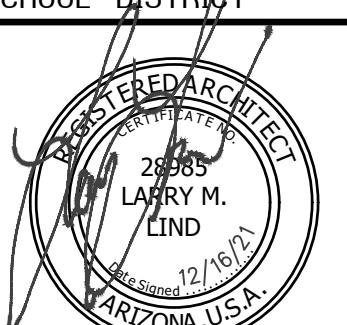




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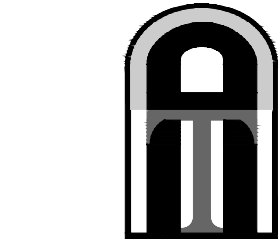
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DRAWING TITLE
BUILDING C (SFB 1003)
ROOF PLAN

DRAWING NUMBER

A1.3



Architect

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DRAWING TITLE

BUILDING E (SFB 1005)
ROOF PLAN

DRAWING NUMBER

A1.4

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. TPO ROOF OVER BUILT UP ROOF OVER STRUCTURAL DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. MODIFIED BUILT UP ROOF OVER BUILT UP ROOF ON TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
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- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
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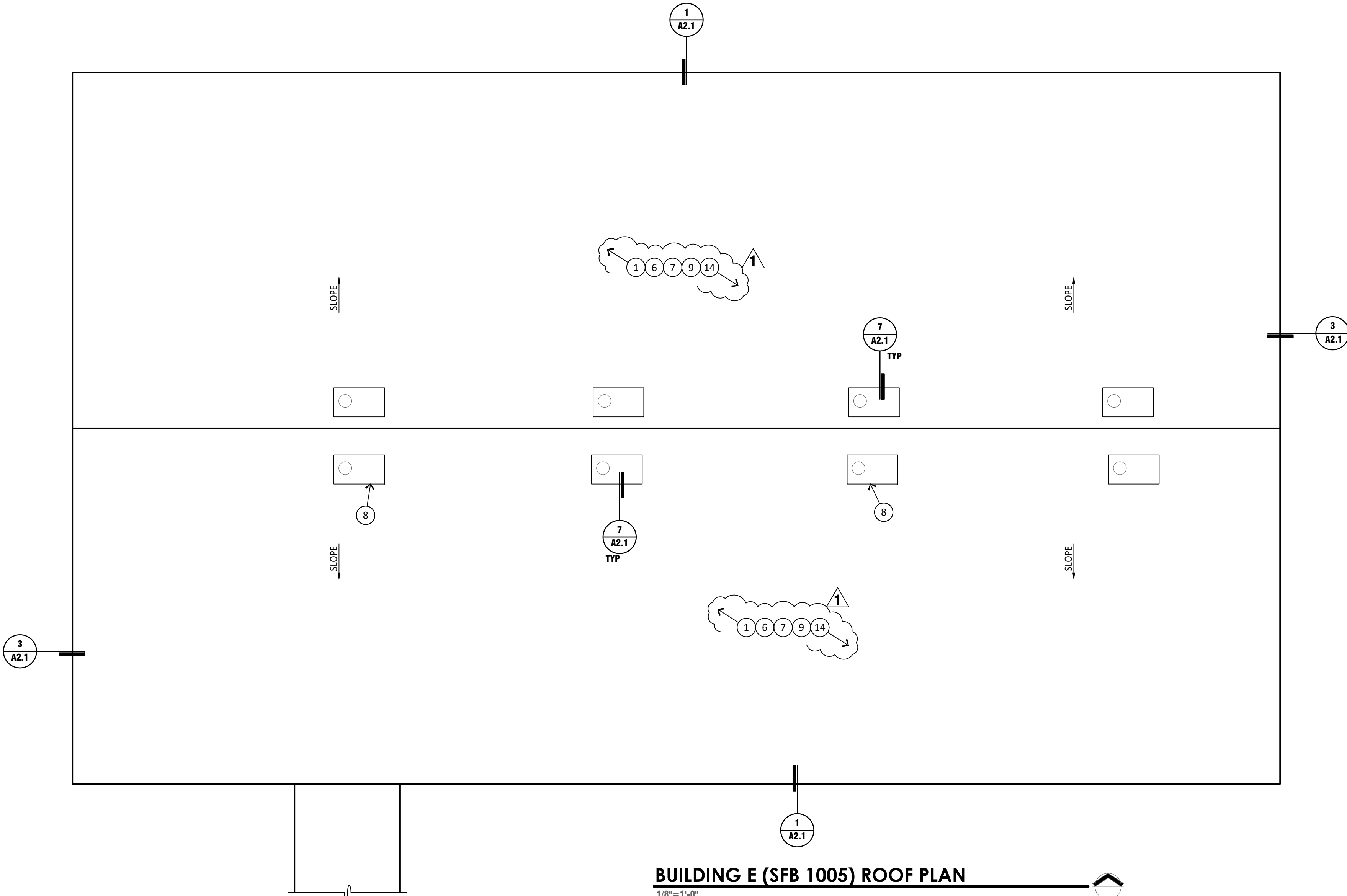
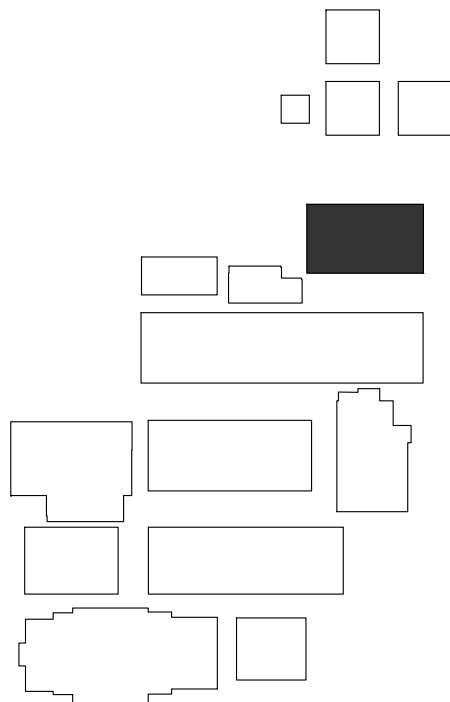
GENERAL NOTES

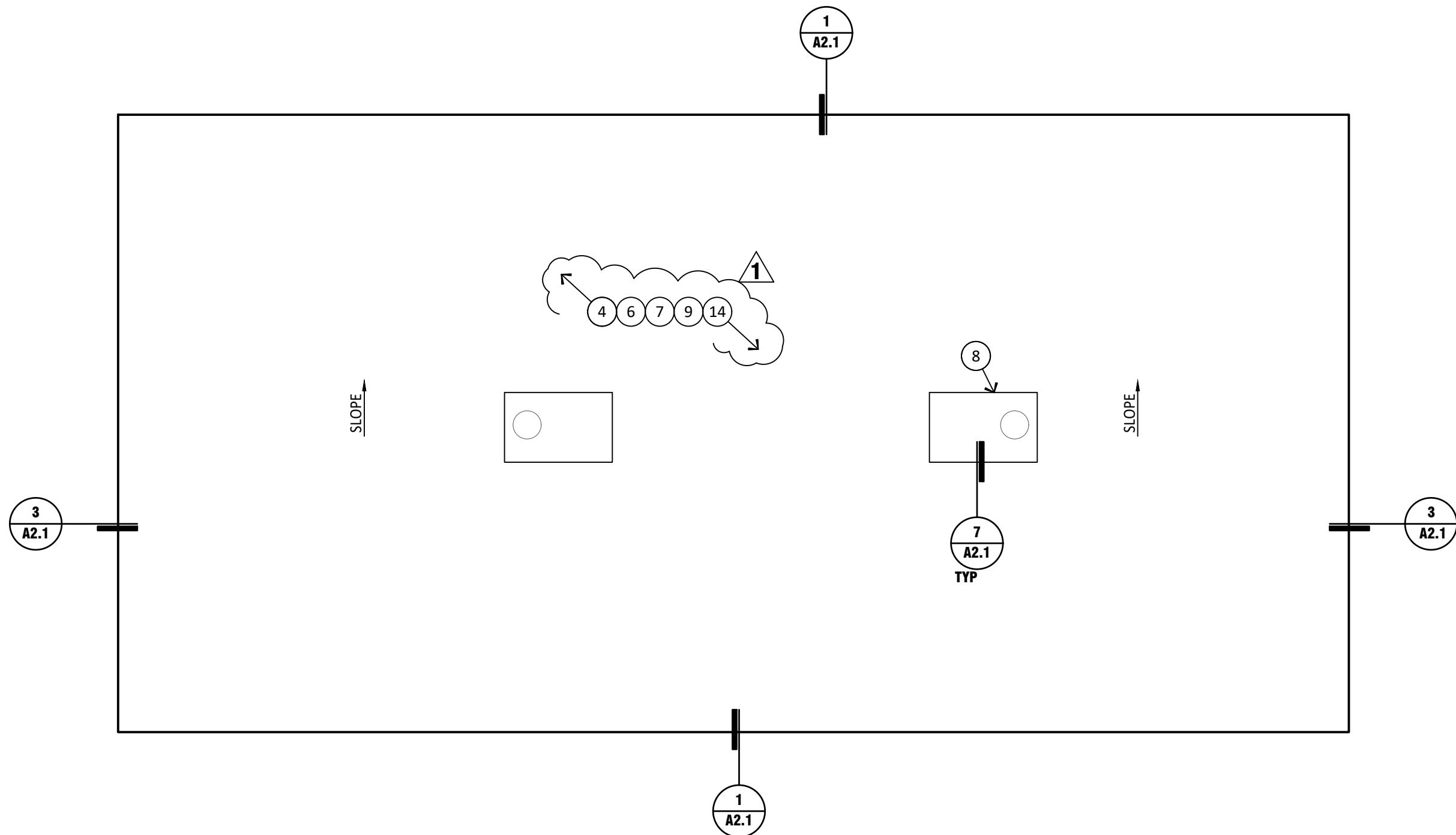
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- ADJUST EXISTING ELECTRICAL CONDUIT, CONDENSATE AND UTILITY LINES AS REQUIRED FOR NEW ROOF HEIGHT. PROVIDE NEW DURA BLOK SUPPORTS - TYPICAL - SEE SPECIFICATIONS.
- REMOVE EXISTING LOW VOLTAGE WIRE AND REINSTALL AFTER ROOF REPLACEMENT
- REMOVE AND PATCH ALL ABANDONED OPENINGS. NOTIFY ARCHITECT IF OPENING IS WIDER THAN 12" X 12"
- DEMO ALL ABANDONED PITCH PANS. CAP WATER AND POWER

TYPICAL DETAILS THROUGHOUT

10 A2.1 ROOF TOP PIPE SUPPORT	14 A2.1 PITCH POCKET
11 A2.1 PRE MANUFACTURED SUPPORT CURB	15 A2.1 PIPE PENETRATION
12 A2.1 PASSIVE VENT / AIR INTAKE	16 A2.1 COPING
13 A2.1 EXPANSION JOINT	19 A2.1 EXHAUST FAN

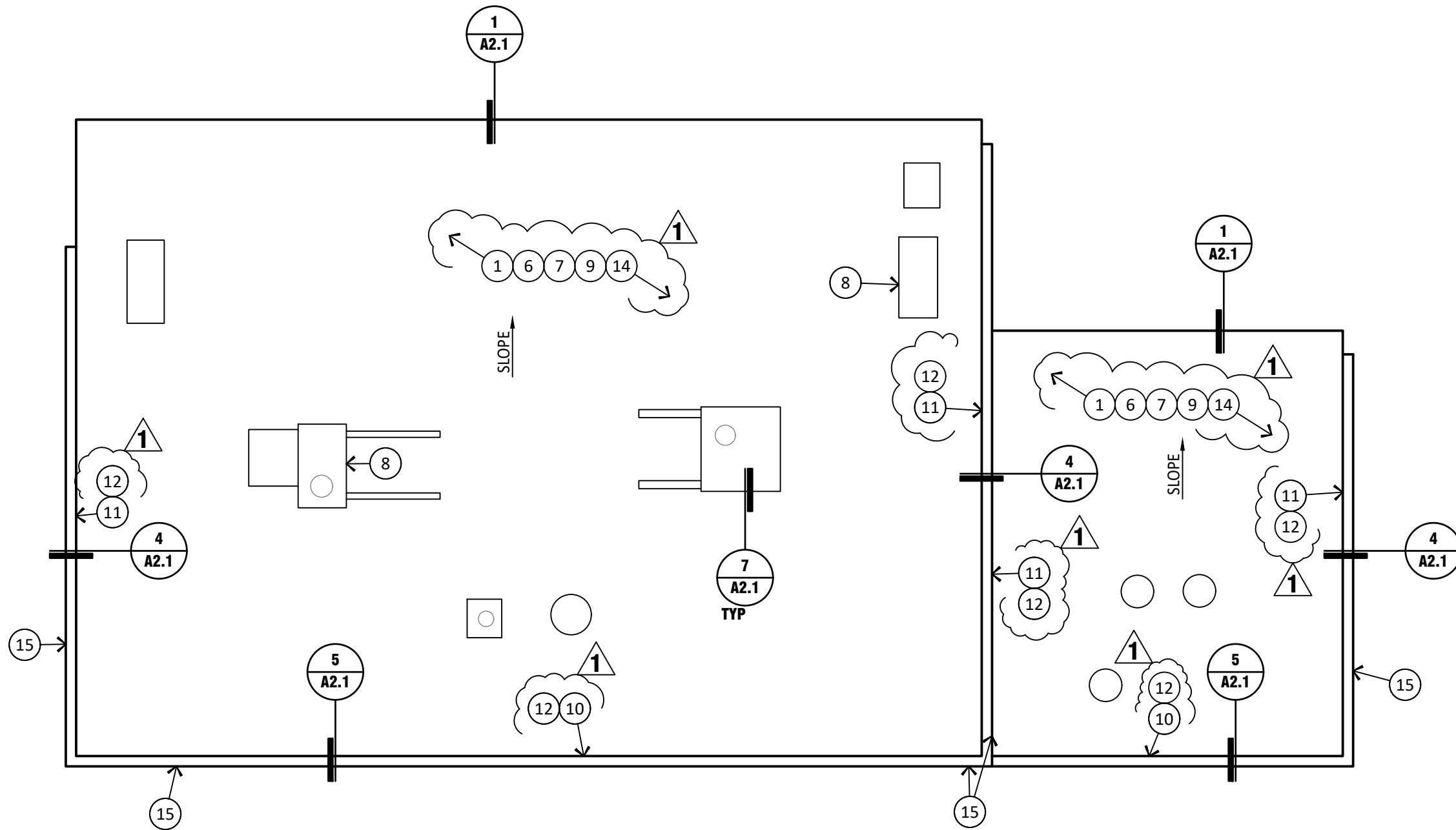
REFERENCE PLAN





BUILDING G (SFB 1007) ROOF PLAN

1/8"=1'-0"



BUILDING H (SFB 1008) ROOF PLAN

1/8"=1'-0"

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. TPO ROOF OVER BUILT UP ROOF OVER STRUCTURAL DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. MODIFIED BUILT UP ROOF OVER BUILT UP ROOF ON TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK. PREP METAL DECK AS REQUIRED FOR NEW ROOF.

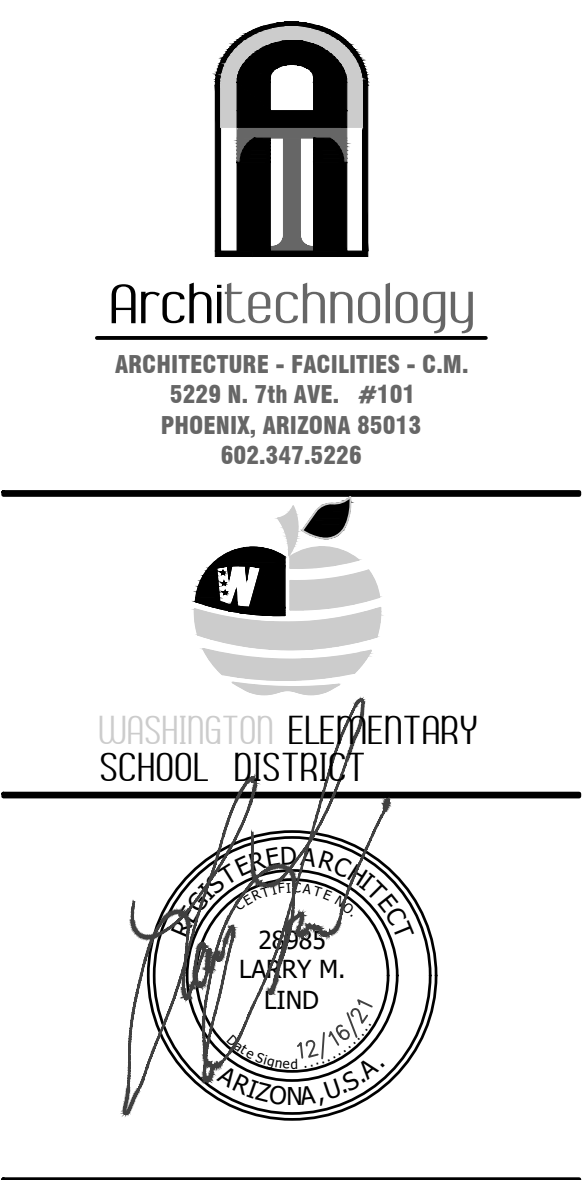
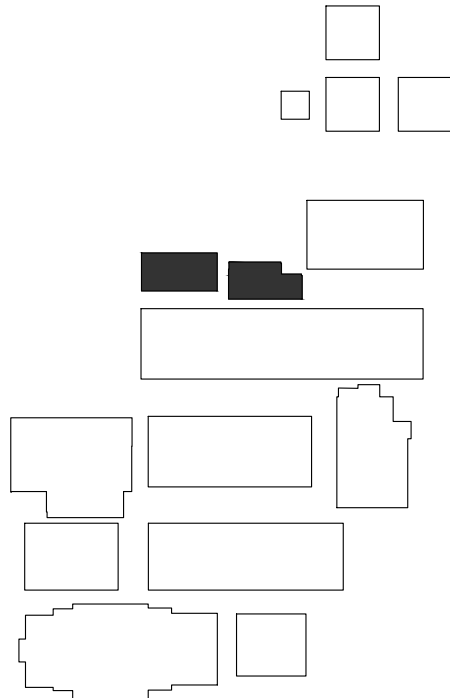
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- DEMO ALL ABANDONED PITCH PANS. CAP WATER AND POWER

TYPICAL DETAILS THROUGHOUT

10 A2.1 ROOF TOP PIPE SUPPORT	14 A2.1 PITCH POCKET
11 A2.1 PRE MANUFACTURED SUPPORT CURB	15 A2.1 PIPE PENETRATION
12 A2.1 PASSIVE VENT / AIR INTAKE	18 A2.1 COPING
13 A2.1 EXPANSION JOINT	19 A2.1 EXHAUST FAN

REFERENCE PLAN



ROOFING IMPROVEMENTS WASHINGTON ELEMENTARY SCHOOL DISTRICT PALO VERDE MIDDLE SCHOOL 7502 NORTH 39th AVENUE PHOENIX, ARIZONA 85051 SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
CHECKED BY: L. LIND
DATE: 12/16/21

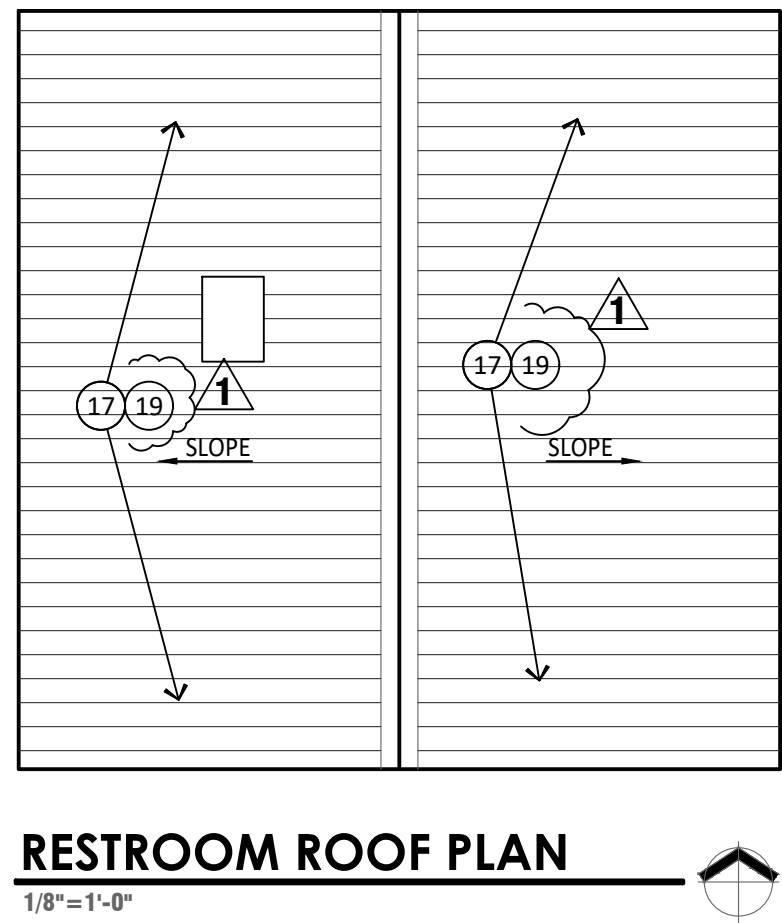
NO.	DATE	COMMENT	REVISIONS
1	12/27/22	ADDENDUM 01	

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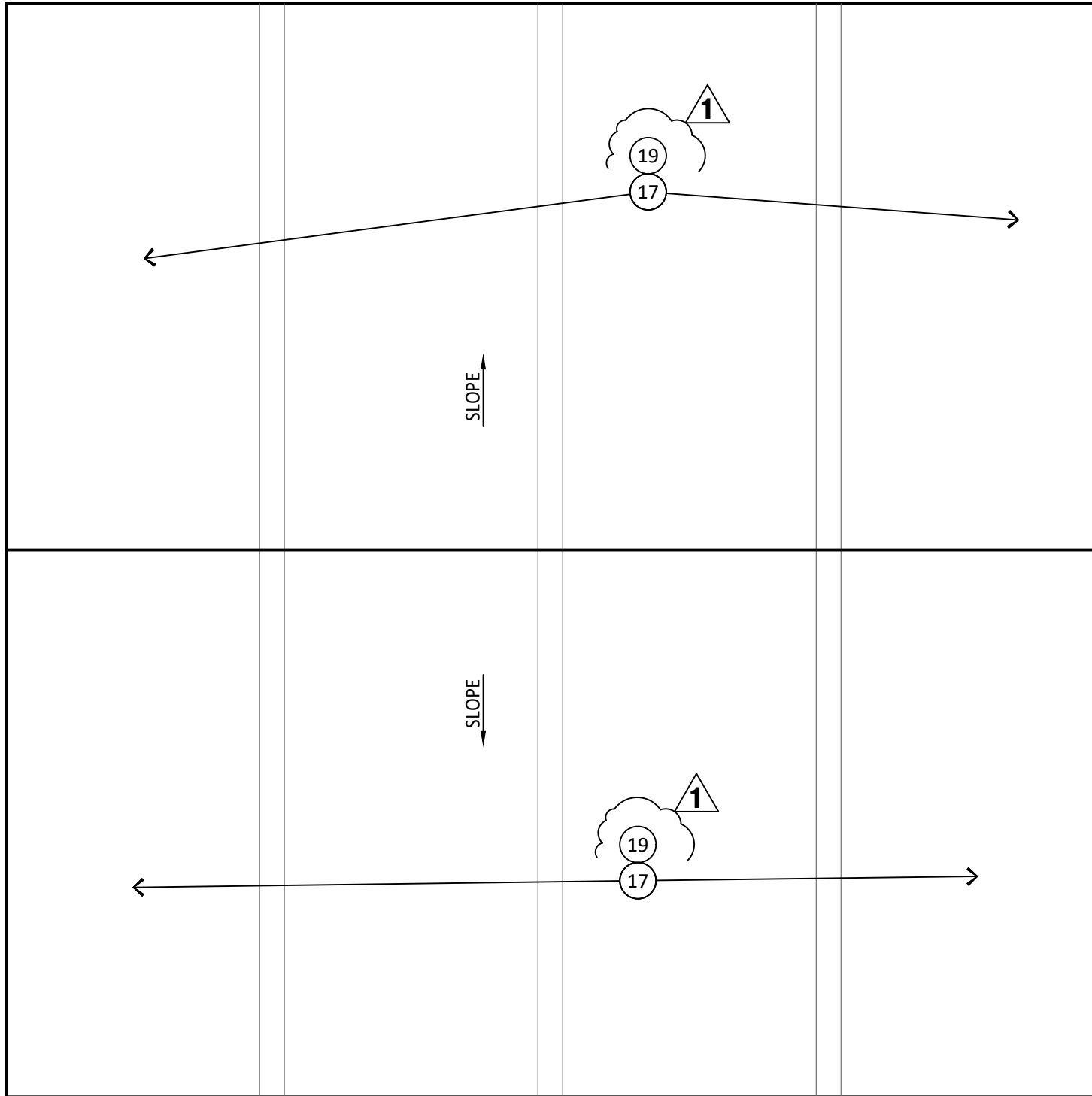
DRAWING TITLE
BUILDING G (SFB 1007) AND
BUILDING H (SFB 1008)
ROOF PLANS

DRAWING NUMBER

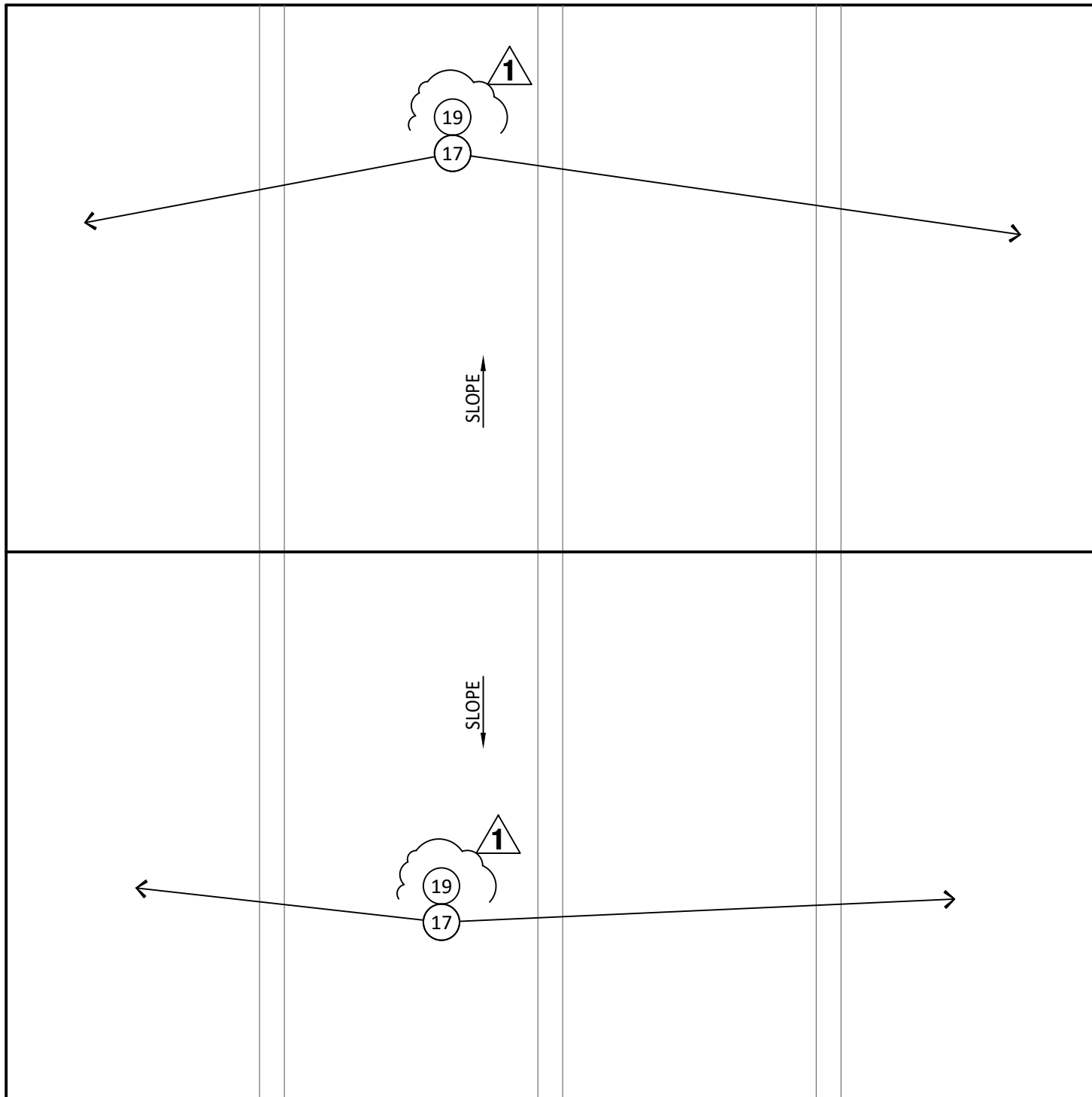
A1.5



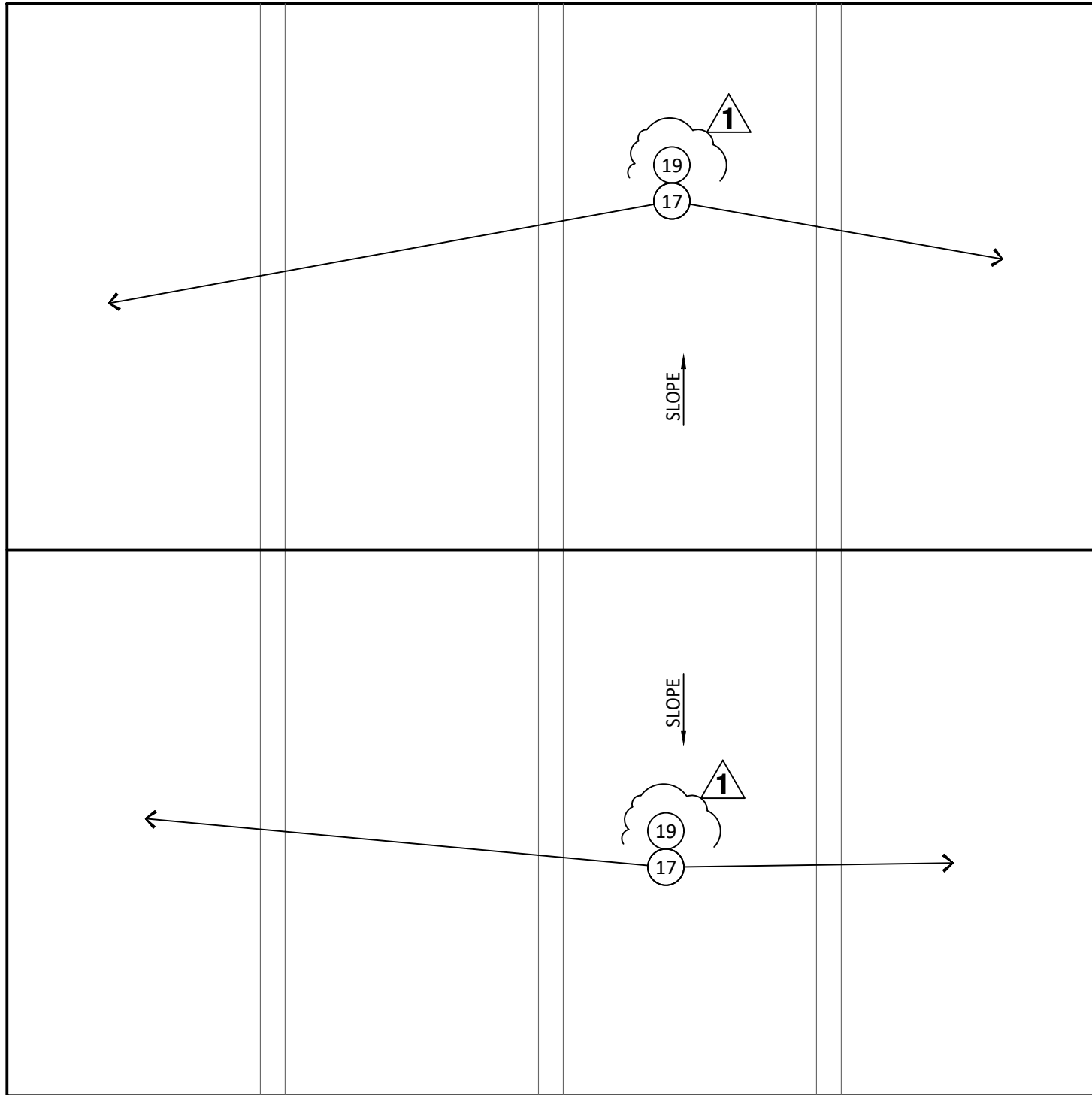
RESTROOM ROOF PLAN
1/8"=1'-0"



BUILDING A (SFB 1001) ROOF PLAN
1/8"=1'-0"



BUILDING A (SFB 1001) ROOF PLAN
1/8"=1'-0"



BUILDING A (SFB 1001) ROOF PLAN
1/8"=1'-0"

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
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- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
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- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
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- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK PREP METAL DECK AS REQUIRED FOR NEW ROOF.

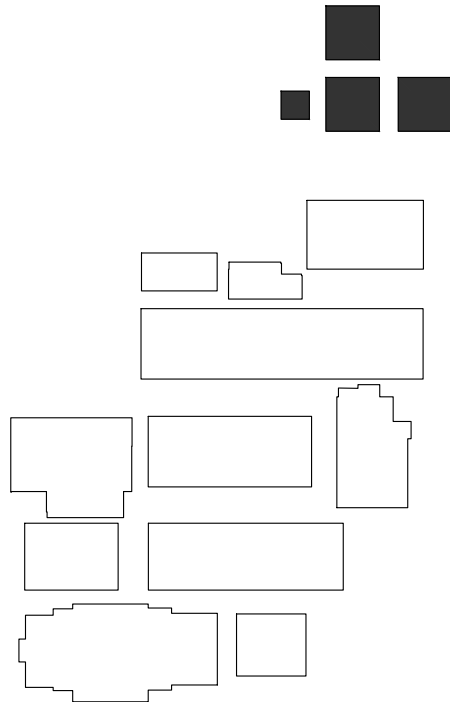
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TYPICAL DETAILS THROUGHOUT

10 A2.1	ROOF TOP PIPE SUPPORT	14 A2.1	PITCH POCKET
11 A2.1	PRE MANUFACTURED SUPPORT CURB	15 A2.1	PIPE PENETRATION
12 A2.1	PASSIVE VENT / AIR INTAKE	16 A2.1	COPING
13 A2.1	EXPANSION JOINT	19 A2.1	EXHAUST FAN

REFERENCE PLAN



ROOFING IMPROVEMENTS
WASHINGTON ELEMENTARY SCHOOL DISTRICT
PALO VERDE MIDDLE SCHOOL
7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

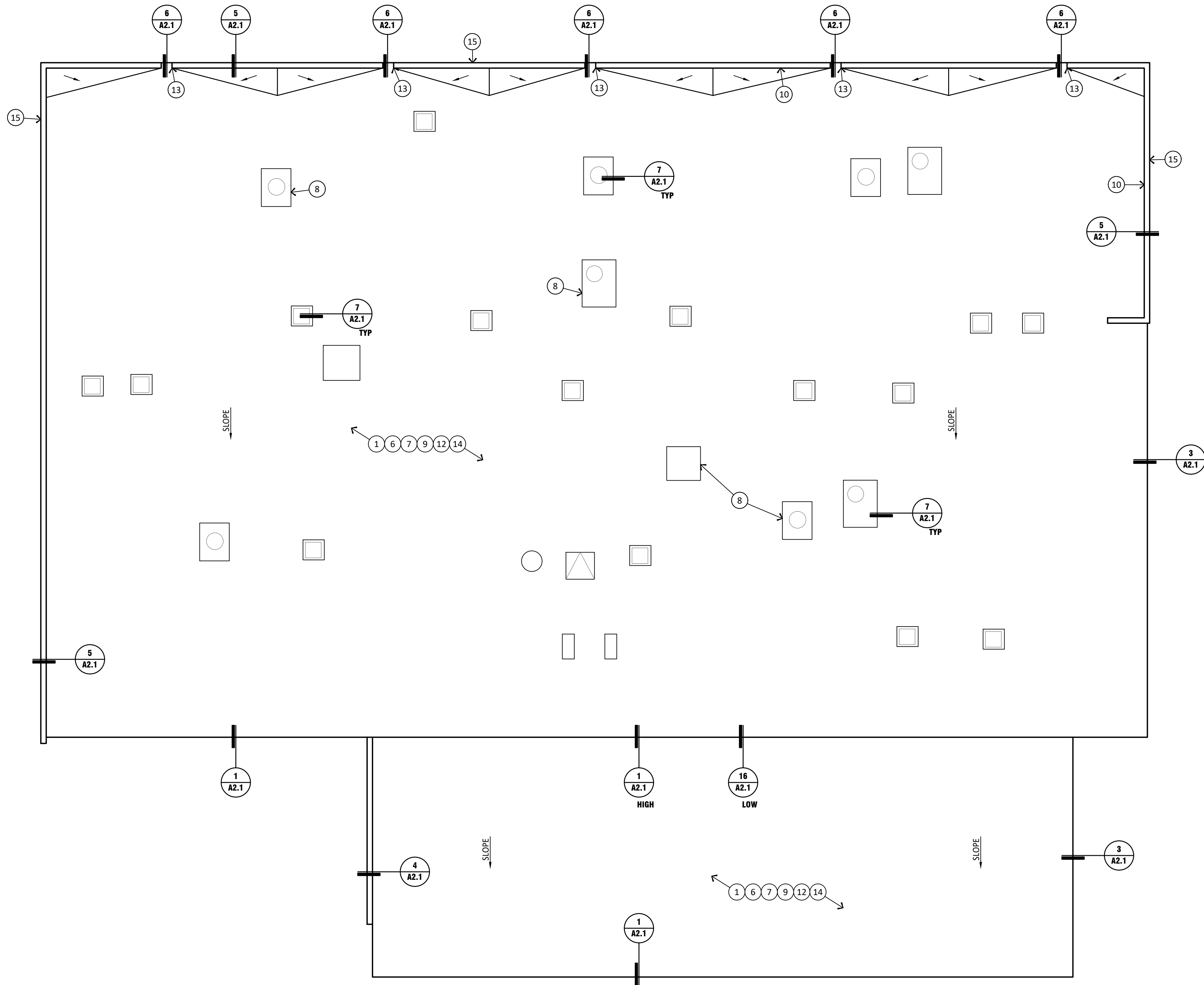
PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
CHECKED BY: L. LIND
DATE: 12/16/21

NO.	DATE	COMMENT	REVISIONS
1	12/27/22	ADDENDUM 01	

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DRAWING TITLE
PORTABLE A,B,C (SFB)
1013,1014 AND RESTROOM
BUILDING
ROOF PLANS
DRAWING NUMBER

A1.6



BUILDING L (SFB 1018) ROOF PLAN

1/8"=1'-0"

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
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- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
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- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK. PREP METAL DECK AS REQUIRED FOR NEW ROOF.

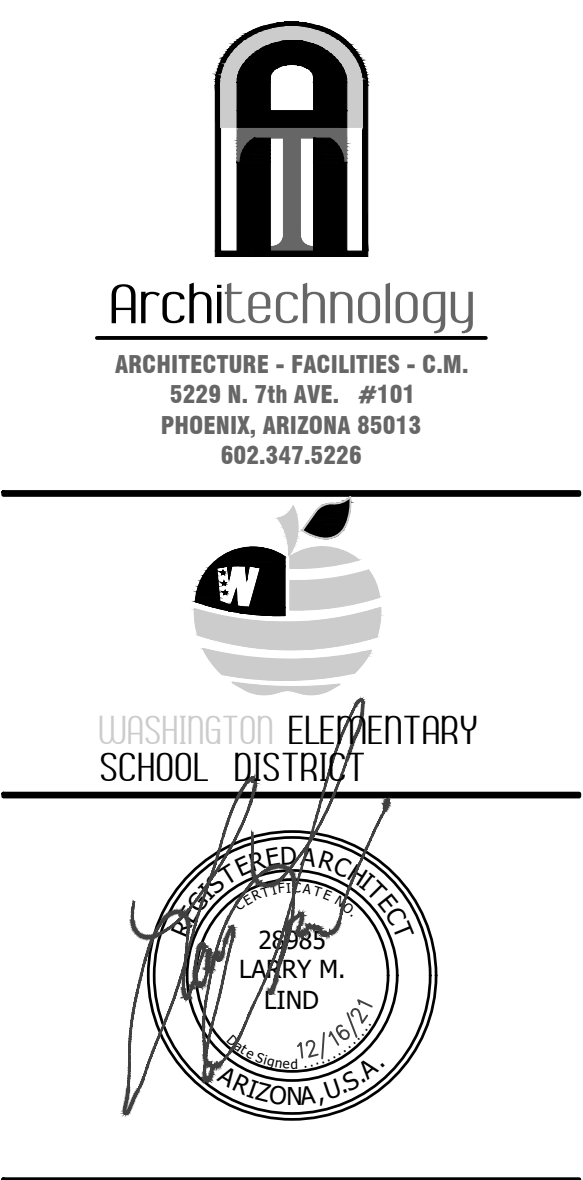
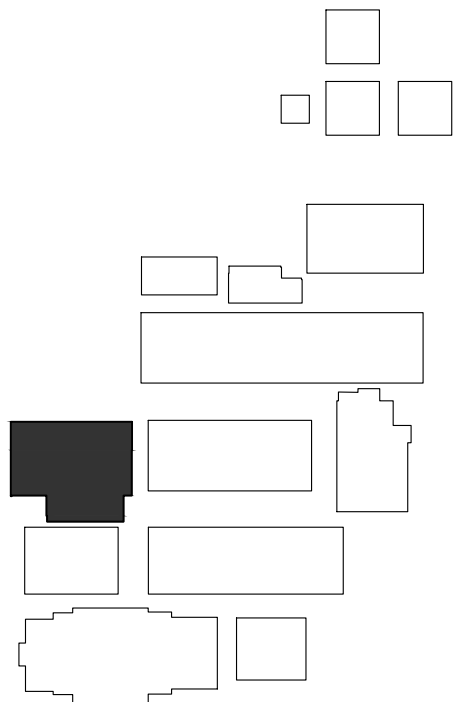
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TYPICAL DETAILS THROUGHOUT

10 A2.1 ROOF TOP PIPE SUPPORT	14 A2.1 PITCH POCKET
11 A2.1 PRE MANUFACTURED SUPPORT CURB	15 A2.1 PIPE PENETRATION
12 A2.1 PASSIVE VENT / AIR INTAKE	16 A2.1 COPING
13 A2.1 EXPANSION JOINT	19 A2.1 EXHAUST FAN

REFERENCE PLAN



ROOFING IMPROVEMENTS
WASHINGTON ELEMENTARY SCHOOL DISTRICT
PALO VERDE MIDDLE SCHOOL
7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
CHECKED BY: L. LIND
DATE: 12/16/21

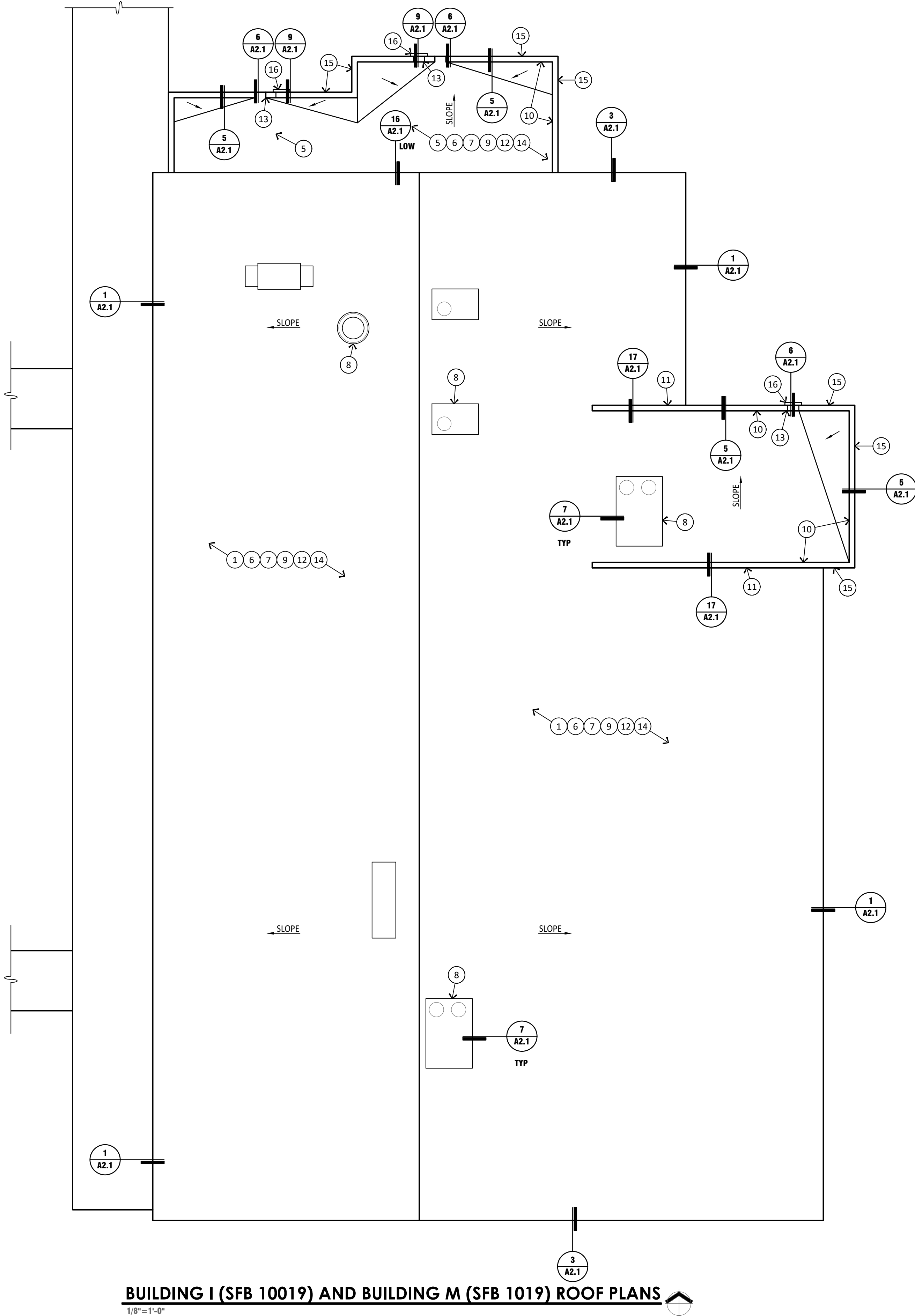
NO.	DATE	COMMENT	REVISIONS
1	12/27/22	ADDENDUM 01	

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DRAWING TITLE
BUILDING L (SFB 1018)
ROOF PLAN

DRAWING NUMBER

A1.7



KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
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- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
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- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK. PREP METAL DECK AS REQUIRED FOR NEW ROOF.

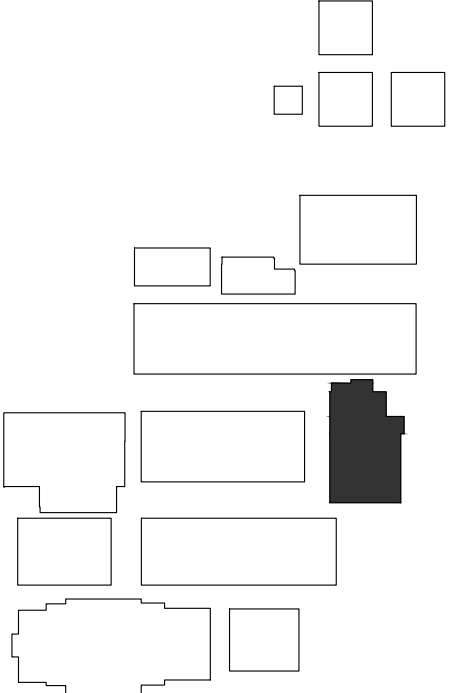
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TYPICAL DETAILS THROUGHOUT

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12 A2.1	PASSIVE VENT / AIR INTAKE	18 A2.1	COPING
13 A2.1	EXPANSION JOINT	19 A2.1	EXHAUST FAN

REFERENCE PLAN



ROOFING IMPROVEMENTS
WASHINGTON ELEMENTARY SCHOOL DISTRICT
PALO VERDE MIDDLE SCHOOL
7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
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DRAWING TITLE
BUILDING I (SFB 1009) AND BUILDING M (SFB 1019) ROOF PLANS

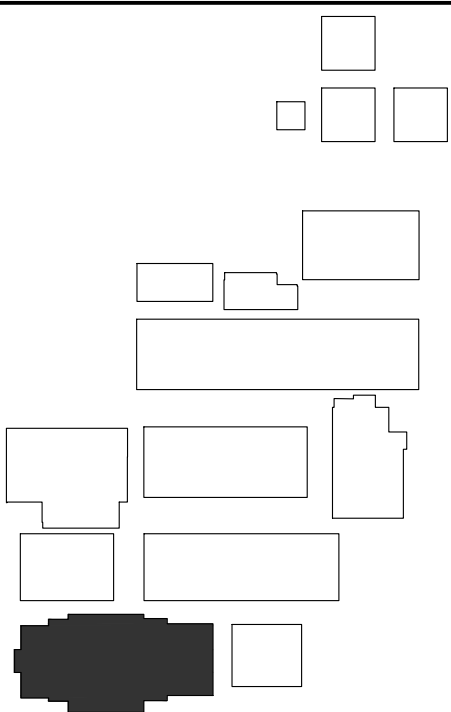
DRAWING NUMBER

A1.8

TYPICAL DETAILS THROUGHOUT

10 A2.1	ROOF TOP PIPE SUPPORT	14 A2.1	PITCH POCKET
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13 A2.1	EXPANSION JOINT	19 A2.1	EXHAUST FAN

REFERENCE PLAN

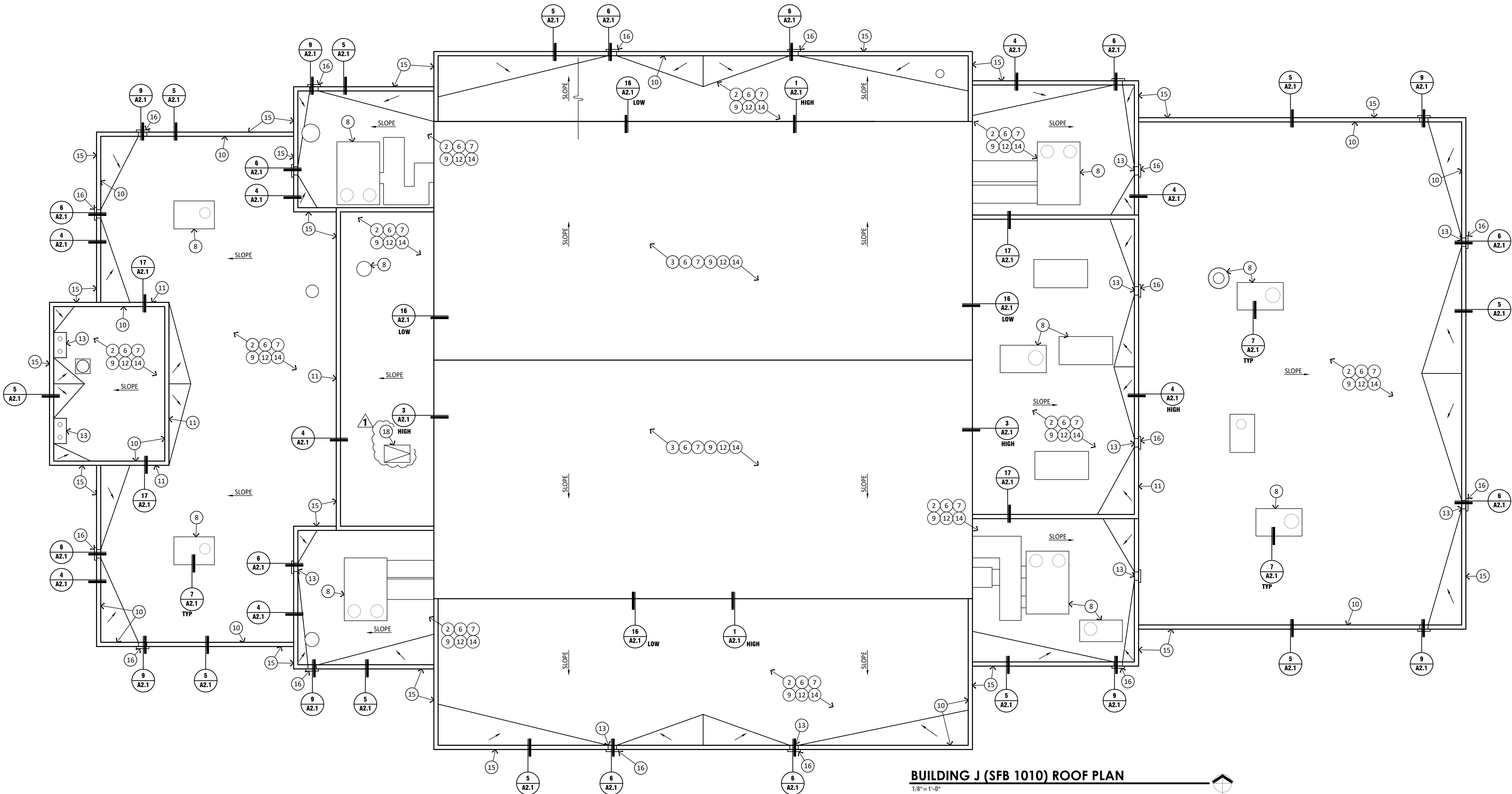


GENERAL NOTES

- CONTRACTOR TO REVIEW SPECIFICATIONS PRIOR TO BID. NOTIFY ARCHITECT OF ANY CONFLICTS.
- KEYNOTES ARE TYPICAL THROUGHOUT
- ANY INCIDENTAL MECHANICAL, PLUMBING OR ELECTRICAL ASSOCIATED WITH ROOFTOP EQUIPMENT SHALL BE PERFORMED BY PROPER LICENSED SUBCONTRACTORS UNDER THIS ROOFING CONTRACT - ALL WORK SHALL BE PERFORMED TO CURRENT CODES
- ADJUST EXISTING ELECTRICAL CONDUIT, CONDENSATE AND UTILITY LINES AS REQUIRED FOR NEW ROOF HEIGHT. PROVIDE NEW DURA BLOK SUPPORTS - TYPICAL - SEE SPECIFICATIONS.
- REMOVE EXISTING LOW VOLTAGE WIRE AND REINSTALL AFTER ROOF REPLACEMENT
- REMOVE AND PATCH ALL ABANDONED OPENINGS, NOTIFY ARCHITECT IF OPENING IS WIDER THAN 12" X 12"
- DEMO ALL ABANDONED PITCH PANS, CAP WATER AND POWER

KEYED NOTES

- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON PLYWOOD OR TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. FOAM ROOF WITH COATING OVER BUILT UP ROOF OVER 1/2" COVER BOARD OVER 3" ISO ON METAL DECK. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. TPO ROOF OVER BUILT UP ROOF OVER STRUCTURAL DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- EXISTING ROOF CONSISTS OF TWO SYSTEMS. MODIFIED BUILT UP ROOF OVER BUILT UP ROOF ON TECTUM. REMOVE EXISTING ROOFING SYSTEM TO DECK. CLEAN AND PREP DECK AS REQUIRED FOR NEW ROOF - SEE SPECIFICATIONS
- GRIND EXISTING FOAM TO DECK SO THAT THE SURFACE IS CLEAN AND LEVEL FOR NEW ROOF INSTALLATION
- INSTALL NEW ROOFING ON 1/2" COVER BOARD OVER 5" RIGID INSULATION. TYPICAL - SEE SPECIFICATIONS.
- REMOVE AND REPLACE ALL METAL FLASHINGS, REGLETS, AND COUNTER FLASHINGS - TYPICAL - SEE SPECIFICATIONS.
- PROVIDE NEW FLASHING AT MECHANICAL CURBS. RAISE CURBS AS REQUIRED FOR MINIMUM 8" FLASHING. ENSURE CONDENSATE LINES ARE PROPERLY SUPPORTED. REMOVE AND REPLACE DUCT SEALANTS. - SEE SPECIFICATIONS - TYPICAL
- REMOVE EXISTING SLEEPERS UNDER CONDUIT AND PIPE. PROTECT DURING CONSTRUCTION ACTIVITIES. PROVIDE NEW DURA-BLOK SUPPORTS - TYPICAL
- CLEAN EXISTING PARAPET WALLS ON ROOF SIDE. WRAP WALLS 4'-0" HIGH AND UNDER WITH KEE MEMBRANE THAT EXTENDS UP AND OVER NEW TREATED WOOD SLEEPERS.
- PROVIDE BLOCK FILL AND SEAL ROOF SIDE OF PARAPET WALL
- REMOVE ALL CONSTRUCTION JOINT CAULKING FROM ROOF SIDE OF PARAPET AND REPLACE PER SPECIFICATIONS
- PROVIDE NEW SUMPS AS REQUIRED AT EXISTING SCUPPER AND DRAIN LOCATIONS. CLEAR ALL DRAIN LEADERS AND ENSURE PROPER OPERATION - SEE SPECIFICATIONS - TYPICAL
- RAISE DUCT AS REQUIRED FOR PROPER FLASHING - TYPICAL
- PROVIDE NEW TREATED WOOD NAILERS AND METAL COPING CAPS PER SPECIFICATIONS
- PROVIDE NEW SHEET METAL SCUPPERS
- PROVIDE REPAIRS TO LAPS, SEAMS, RIVETS, PENETRATIONS AND OTHERS AS REQUIRED ON METAL ROOFS. SEAL AS REQUIRED - VERIFY IN FIELD. SEE SPECIFICATIONS
- PROVIDE NEW ROOF HATCH TYP. SEE DETAIL 20/A2.1
- PROVIDE NEW SINGLE PLY ROOF SYSTEM OVER COVERBOARD OVER EXISTING METAL ROOF DECK PREP METAL DECK AS REQUIRED FOR NEW ROOF.



BUILDING J (SFB 1010) ROOF PLAN

1/8" = 1'-0"

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WASHINGTON ELEMENTARY
SCHOOL DISTRICT

ROOFING IMPROVEMENTS
 WASHINGTON ELEMENTARY SCHOOL DISTRICT
 PALO VERDE MIDDLE SCHOOL
 7502 NORTH 39th AVENUE
 PHOENIX, ARIZONA 85051
 SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.:	21163
DRAWN BY:	B. TUTTLE
CHECKED BY:	L. LIND
DATE:	12/16/21

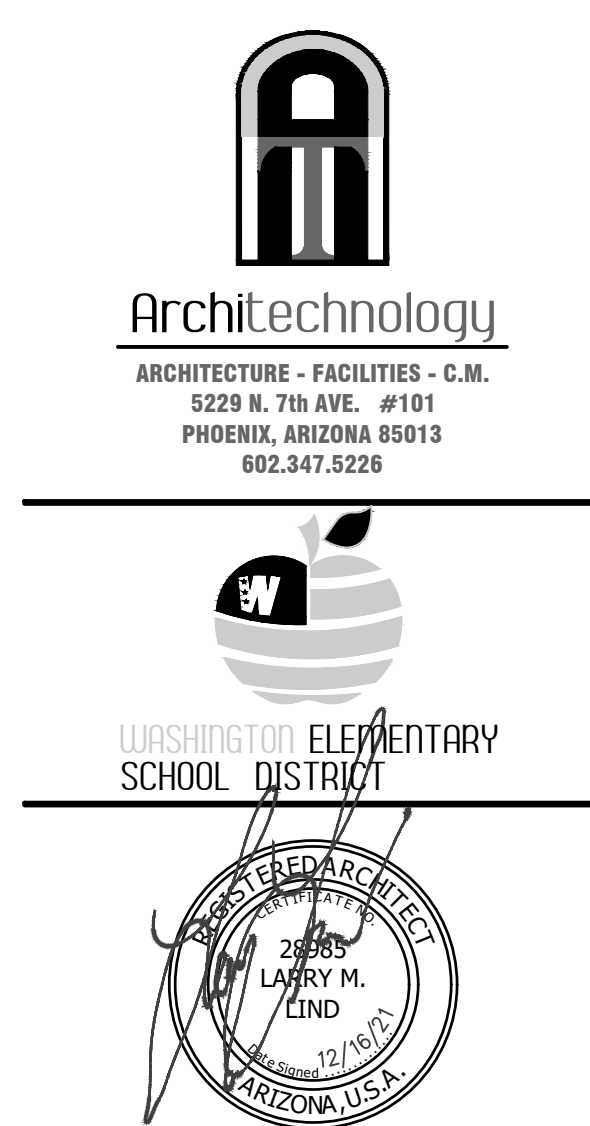
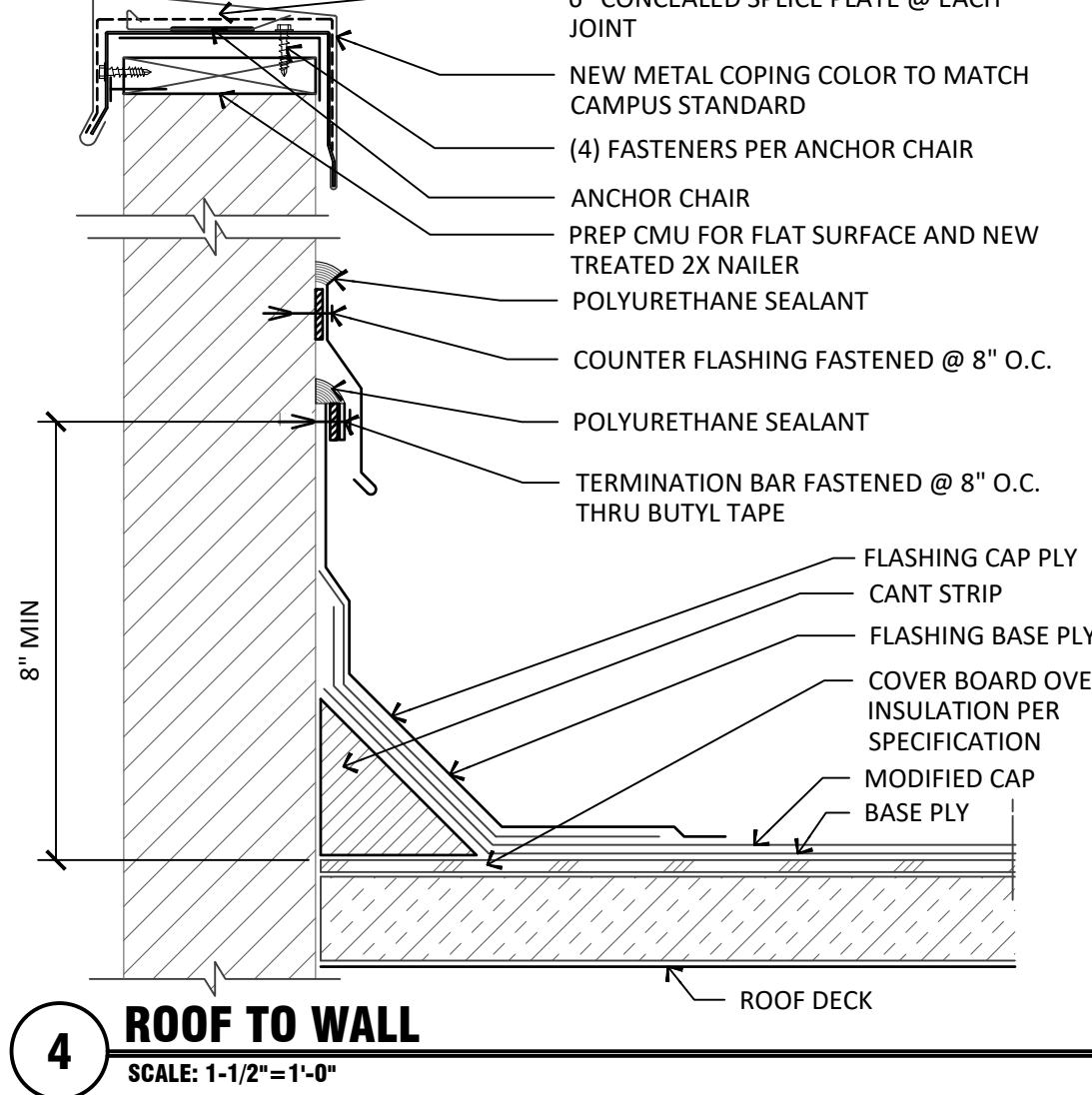
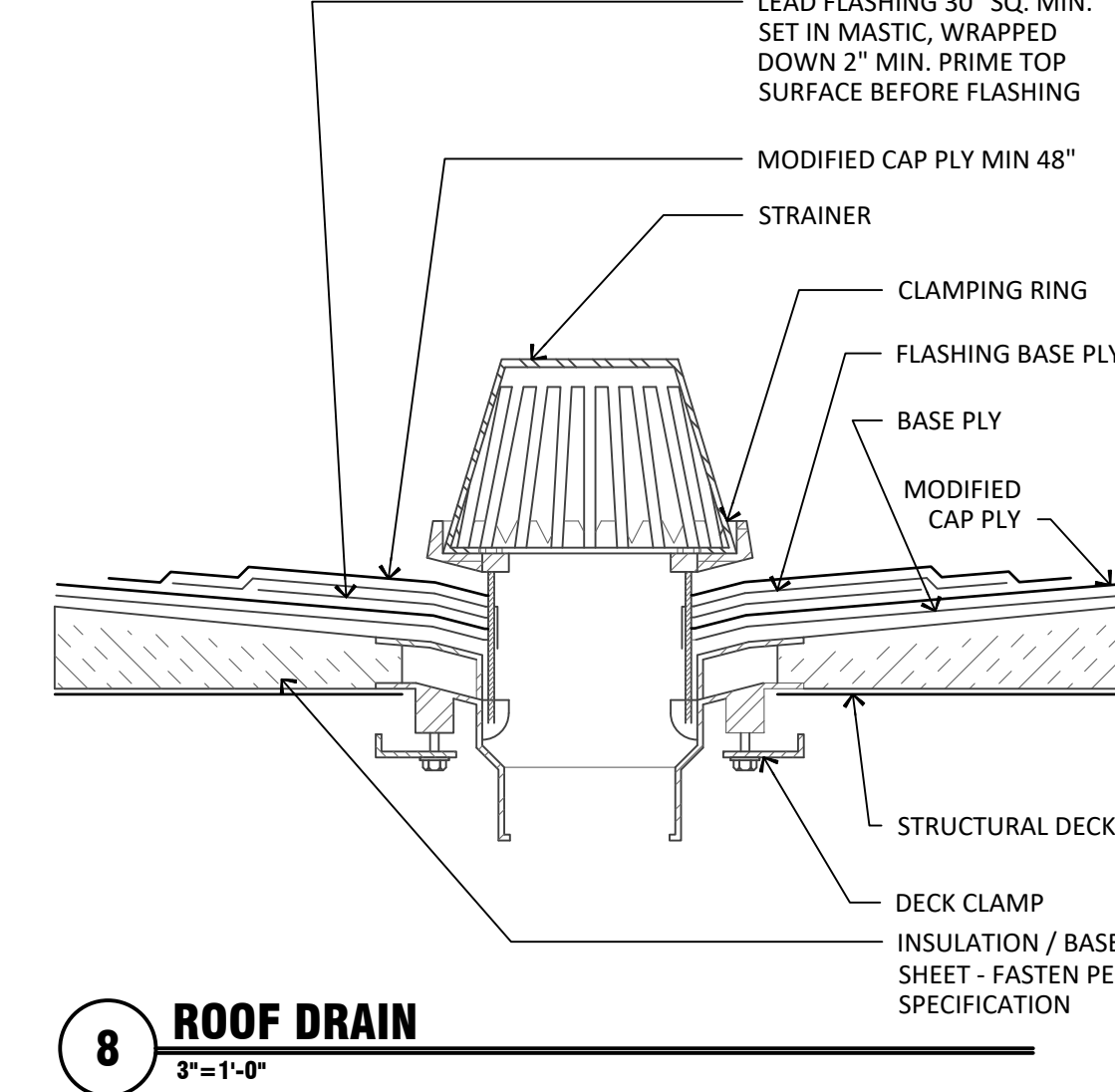
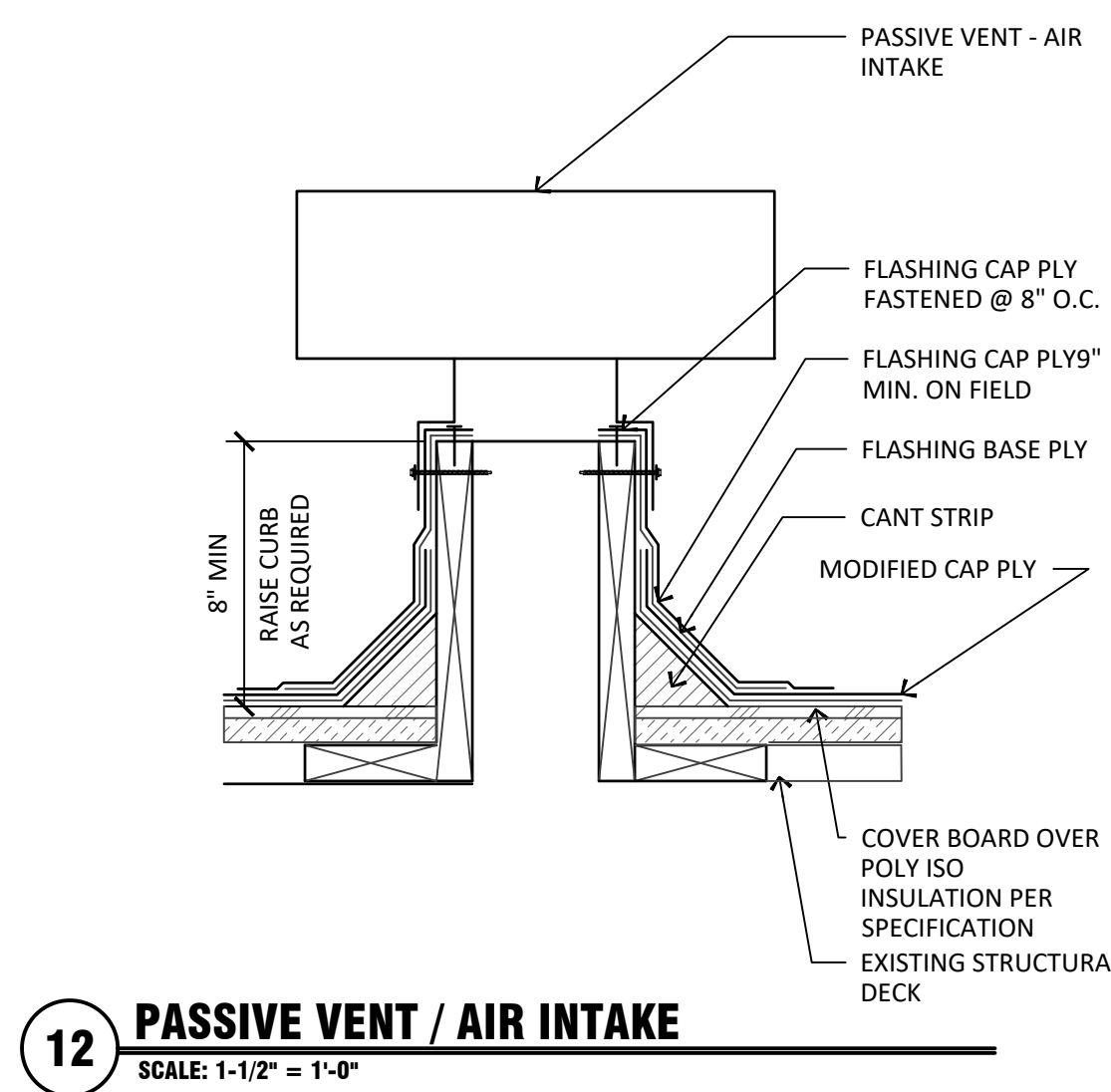
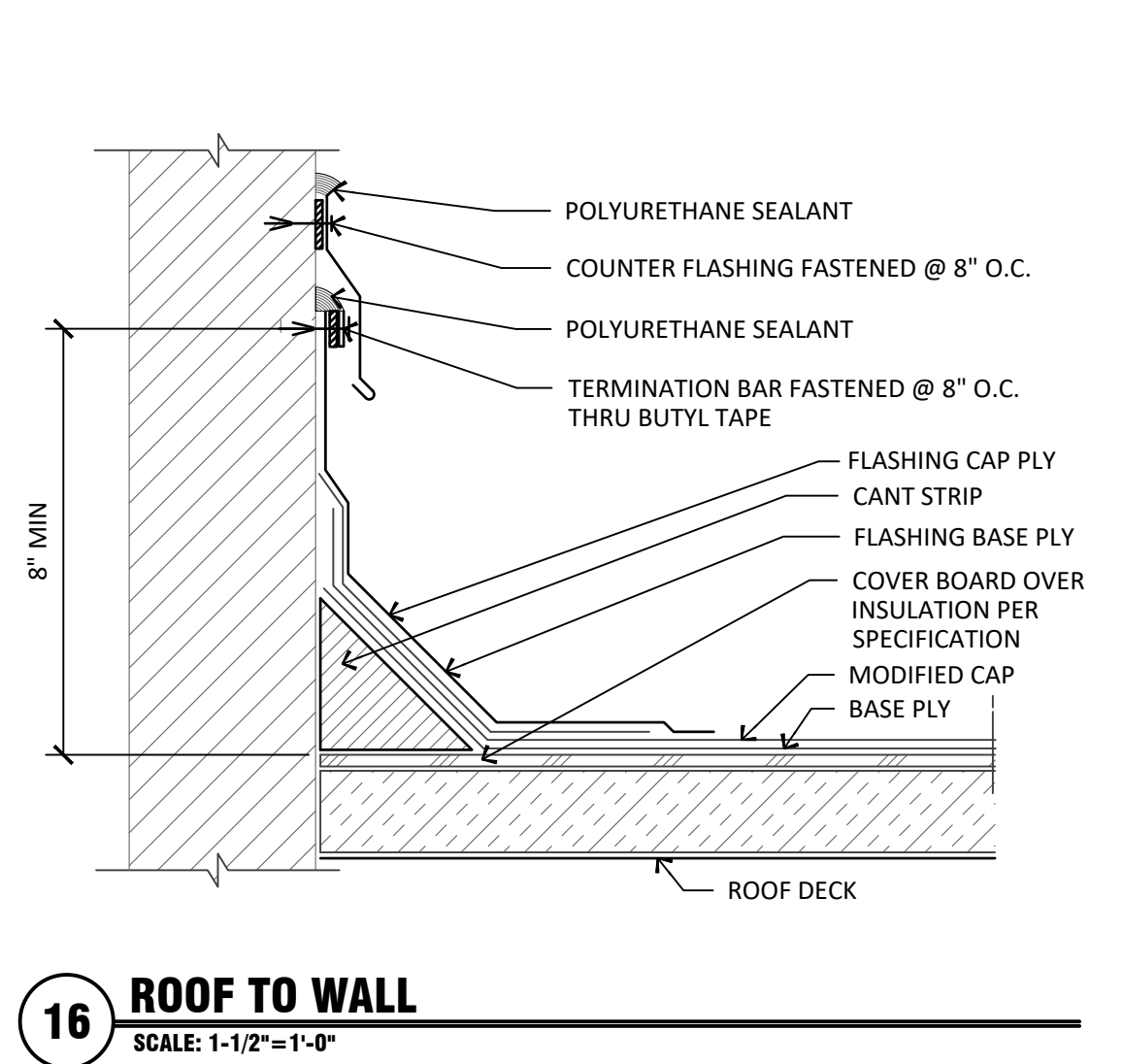
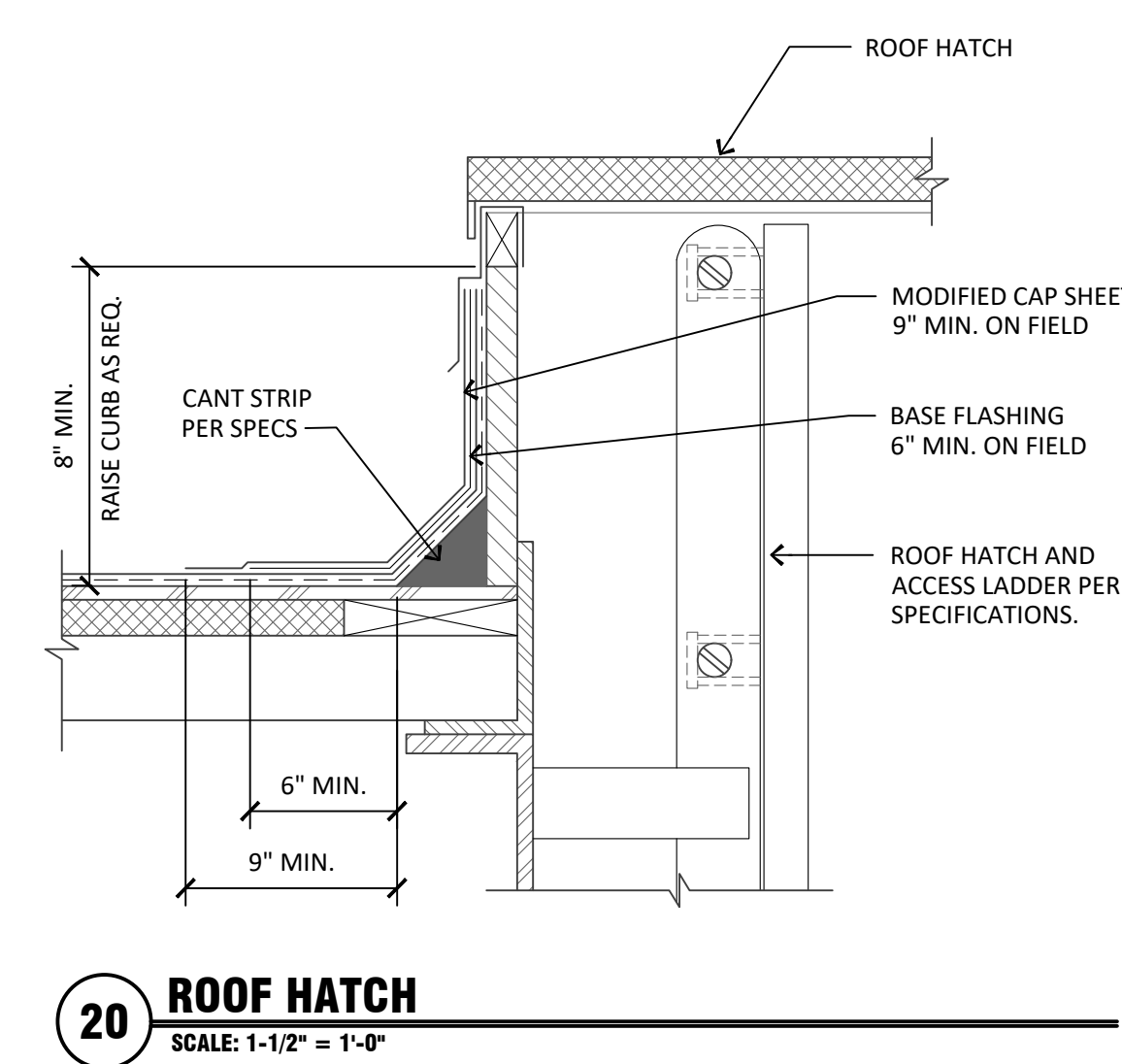
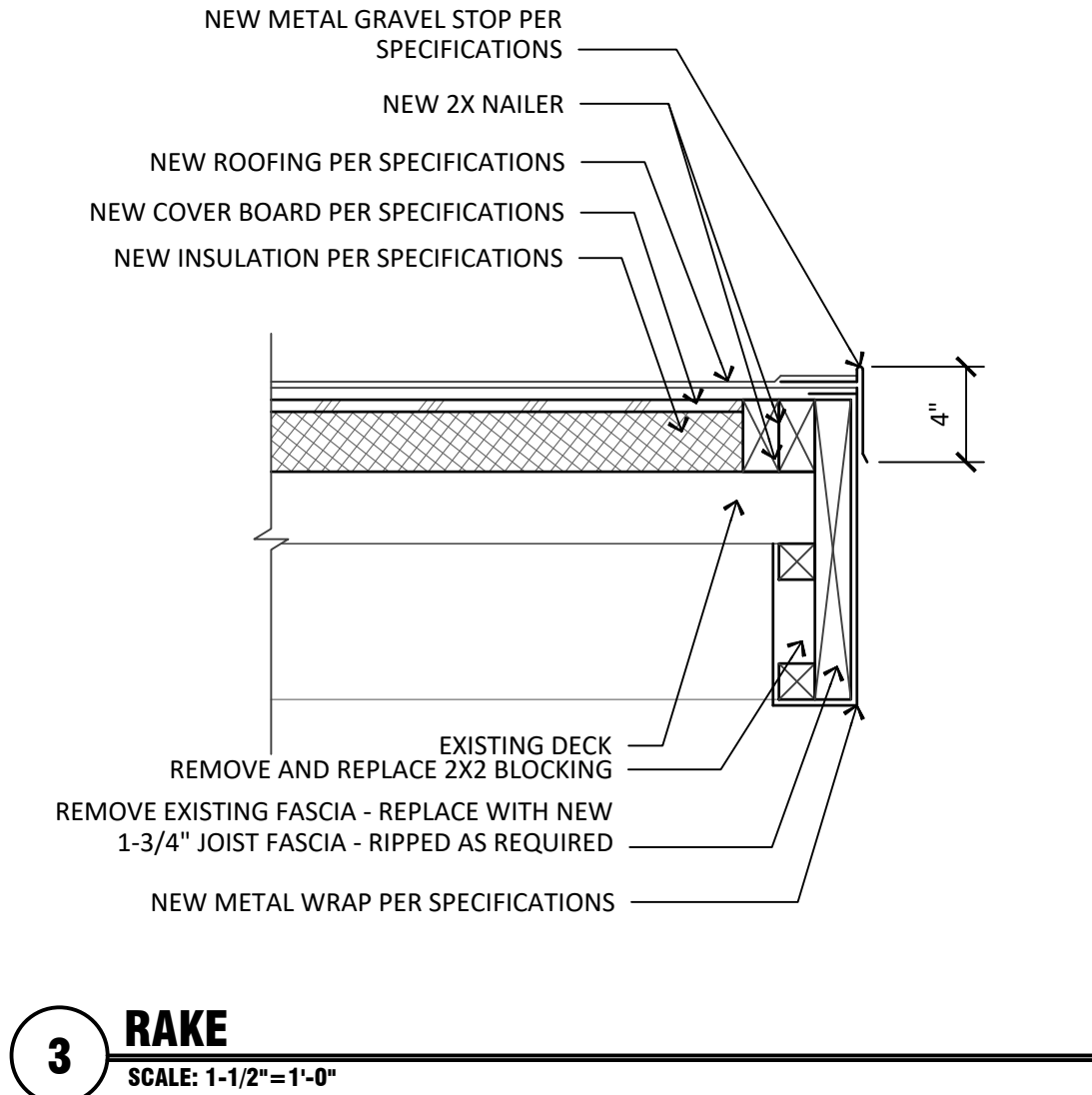
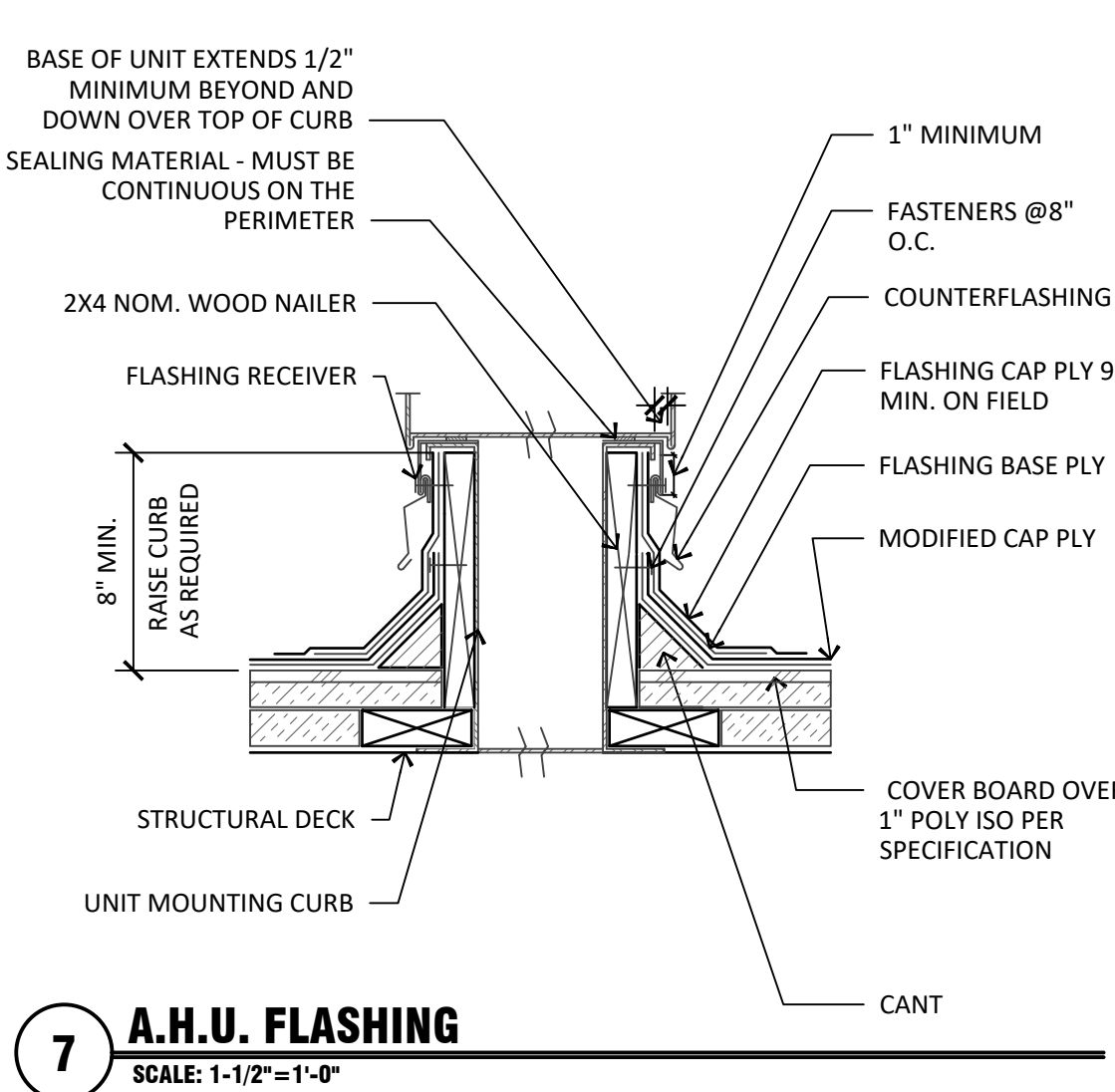
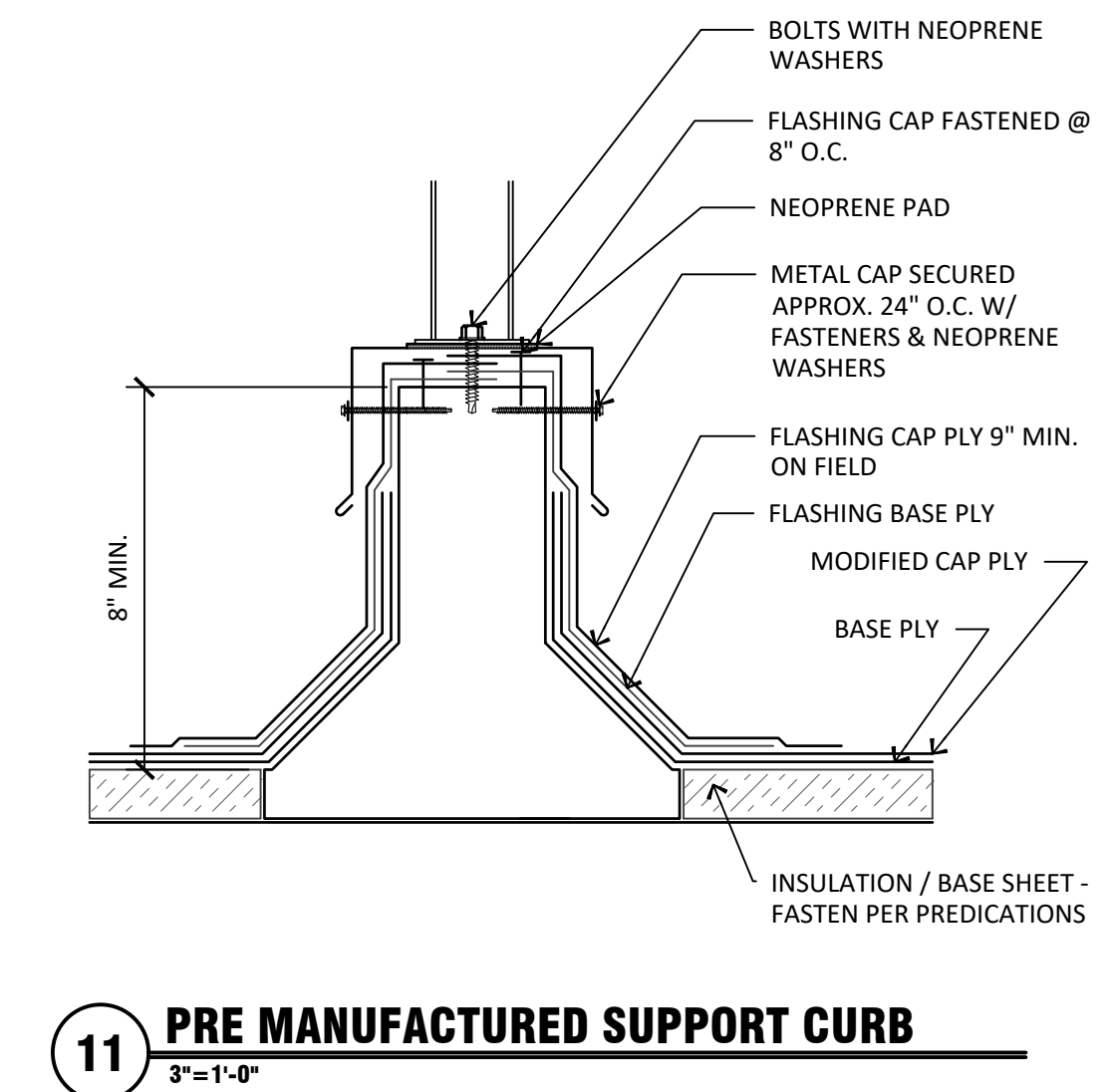
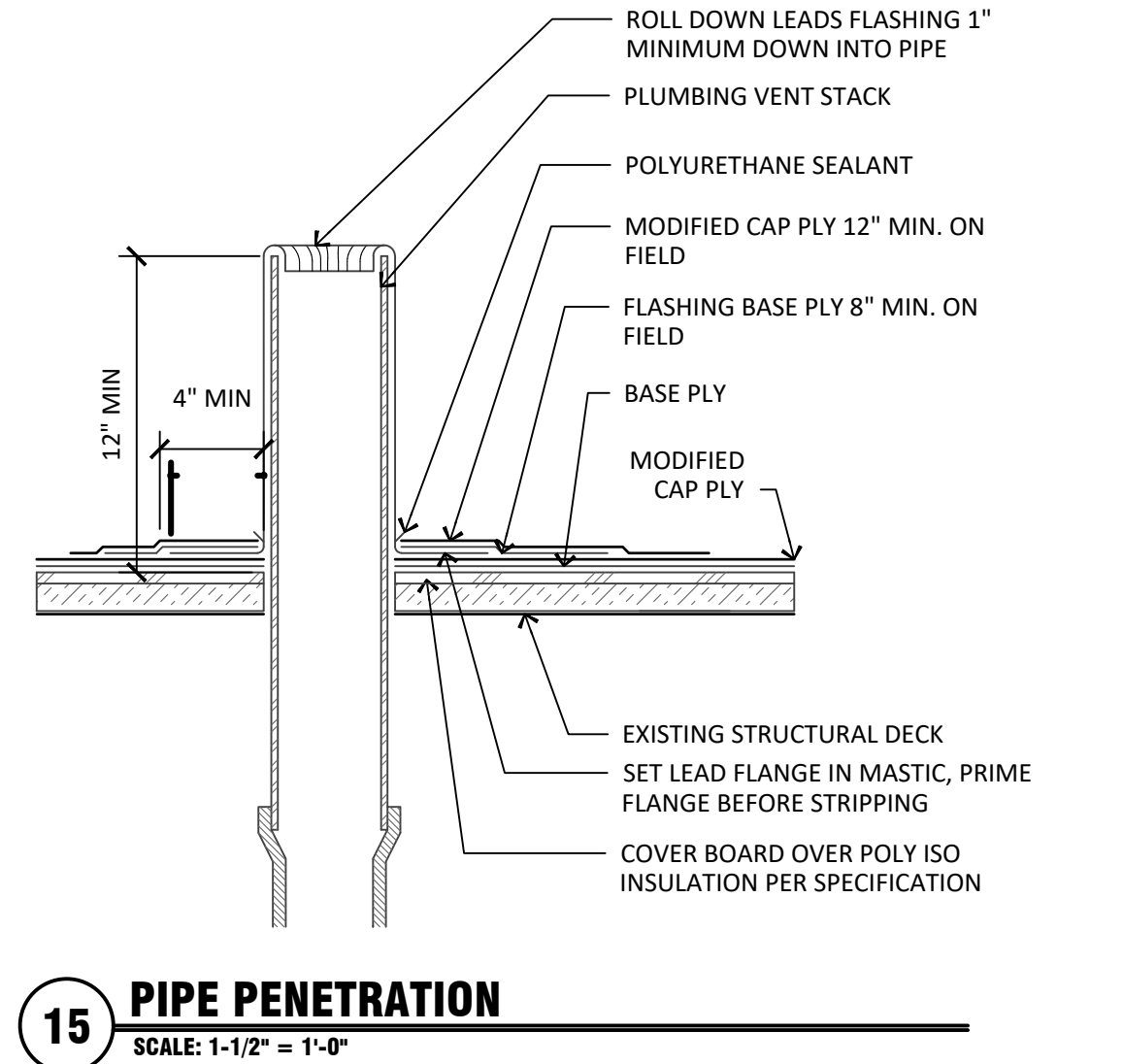
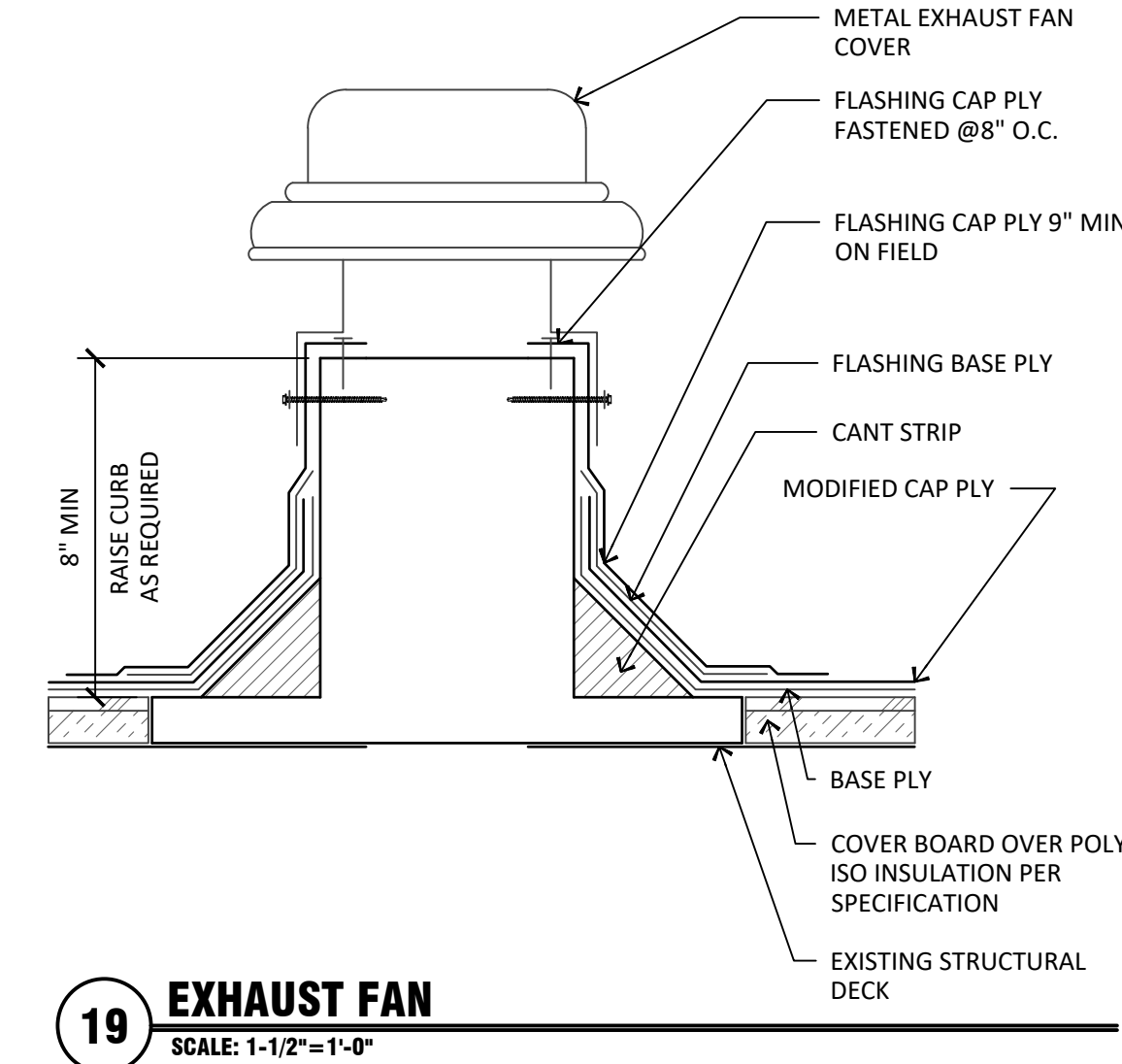
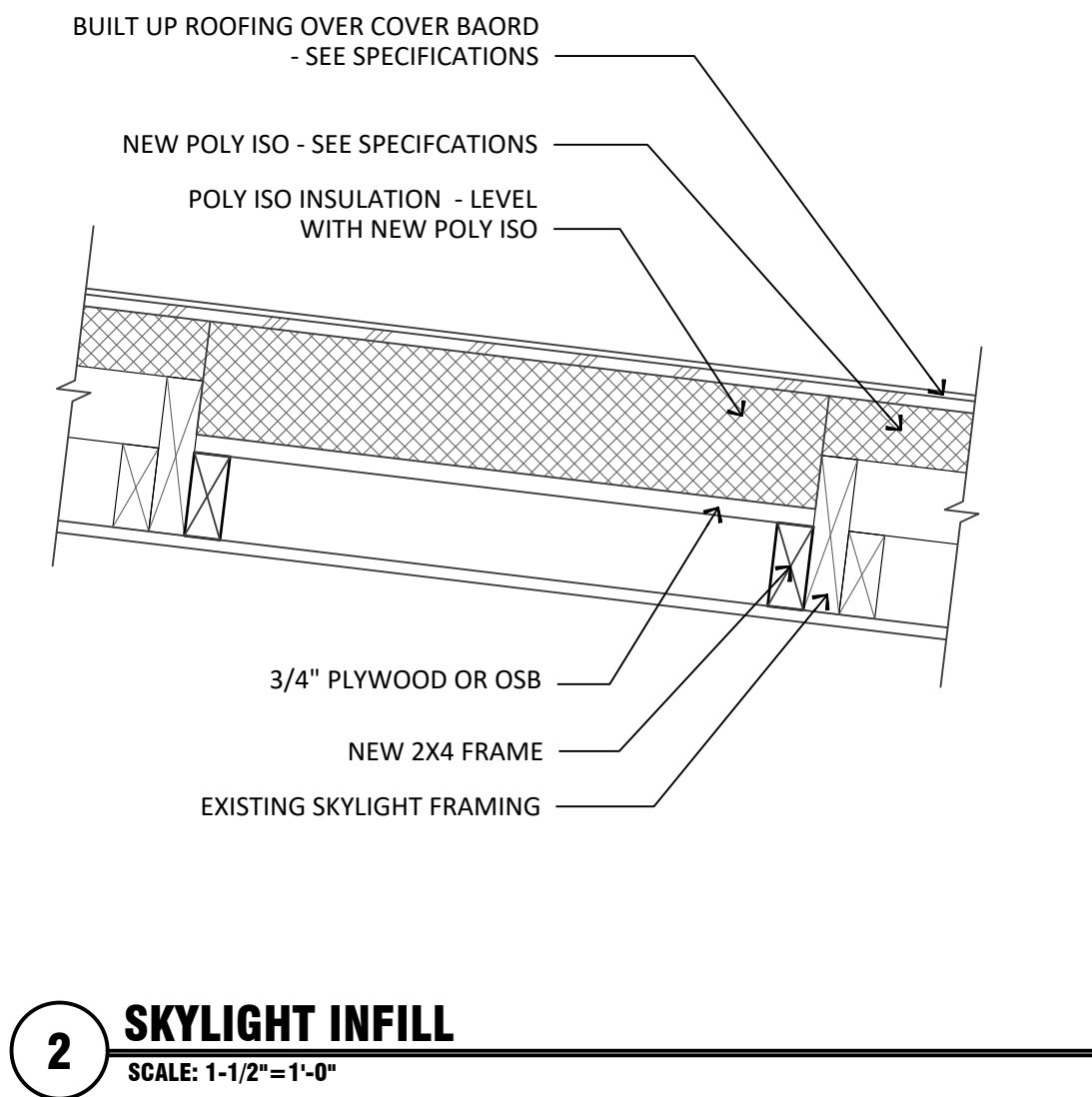
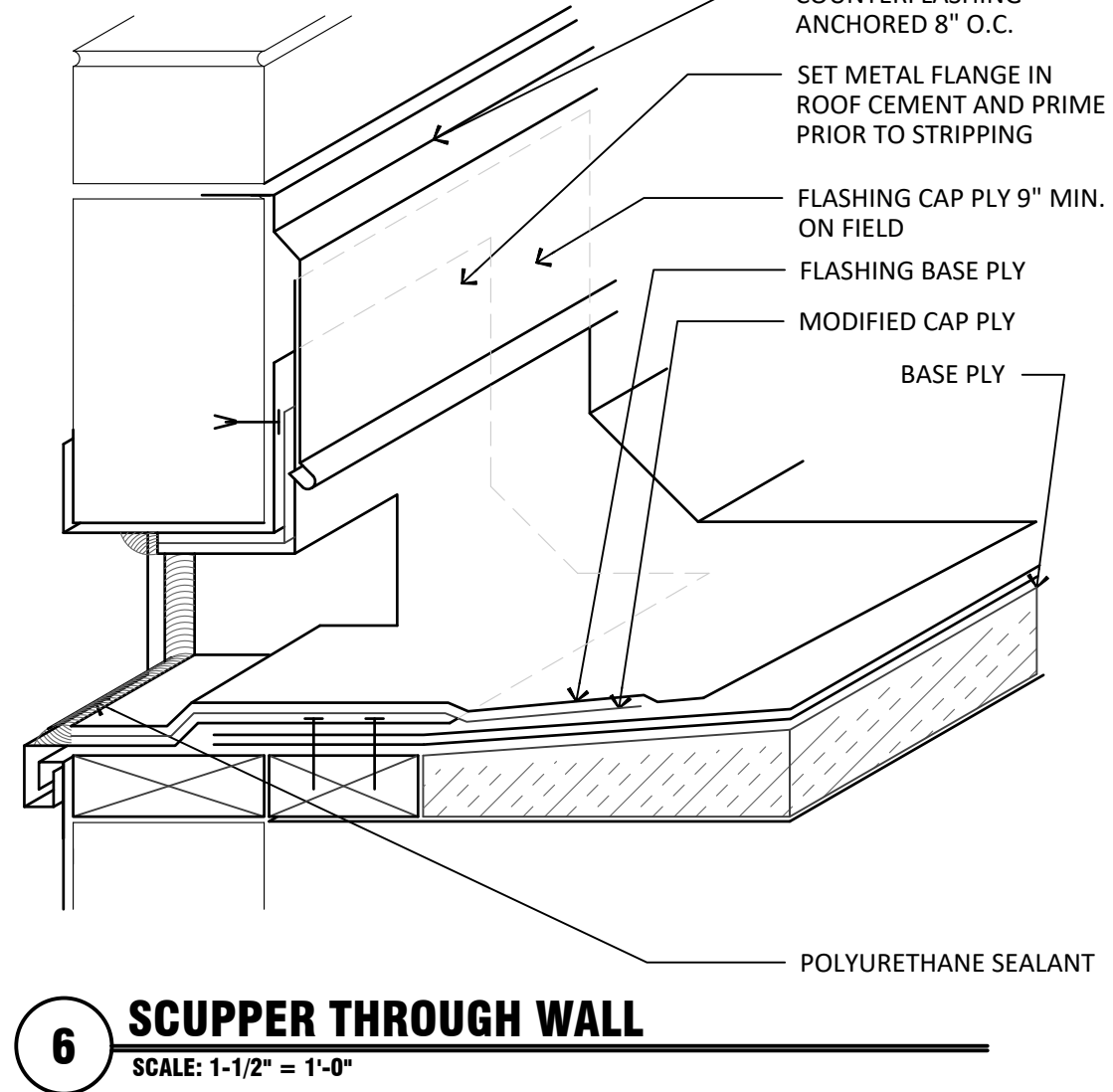
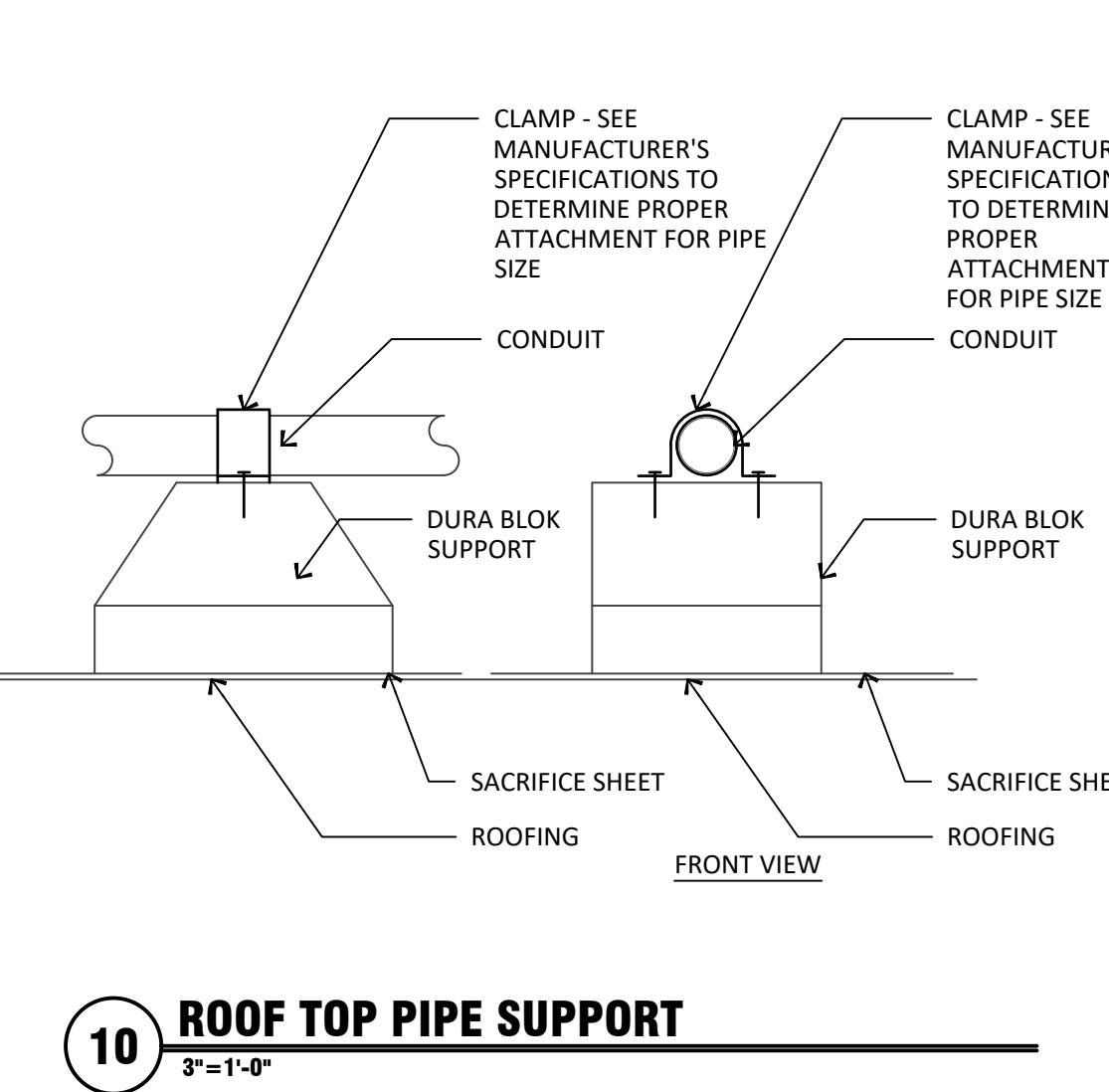
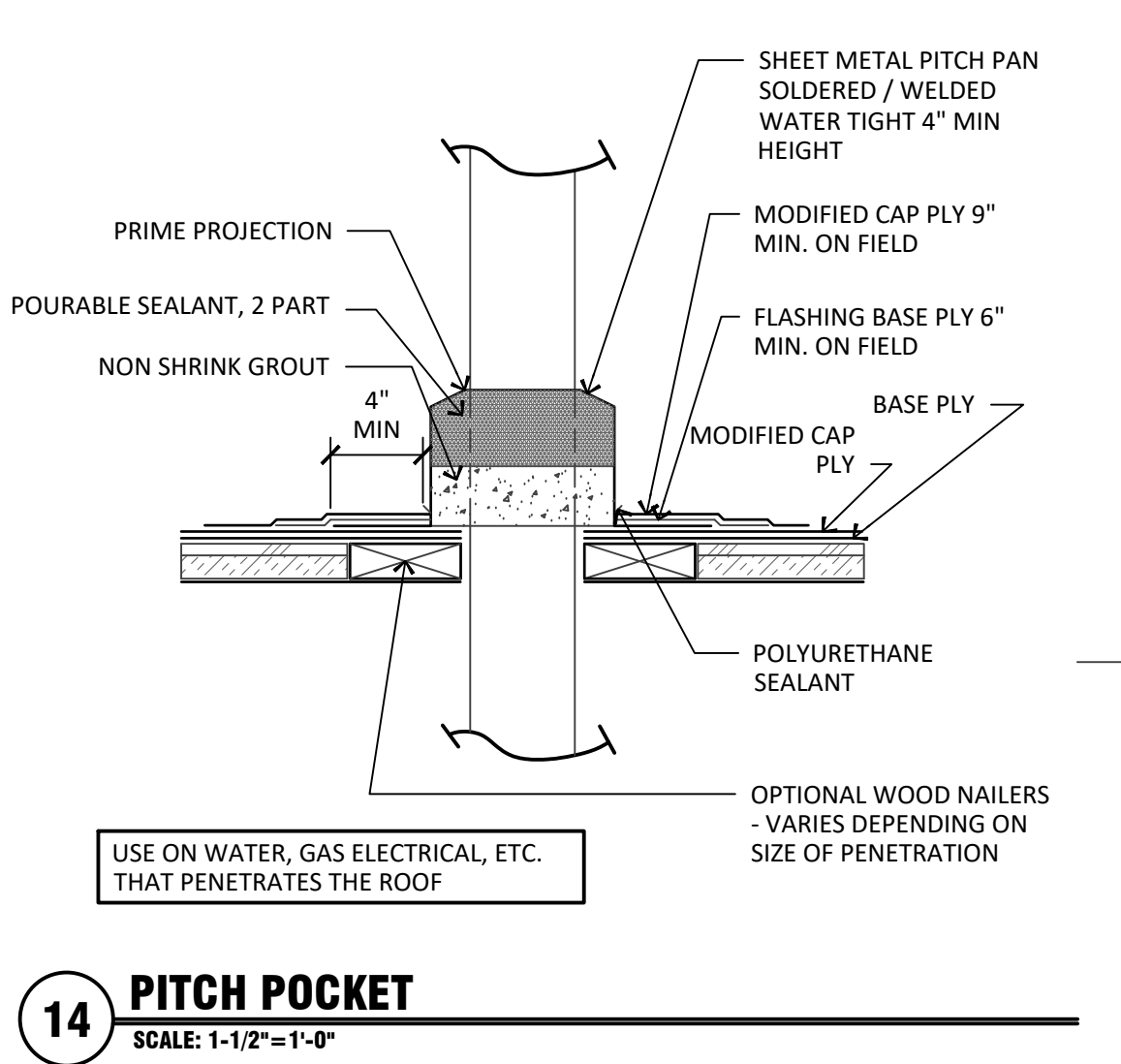
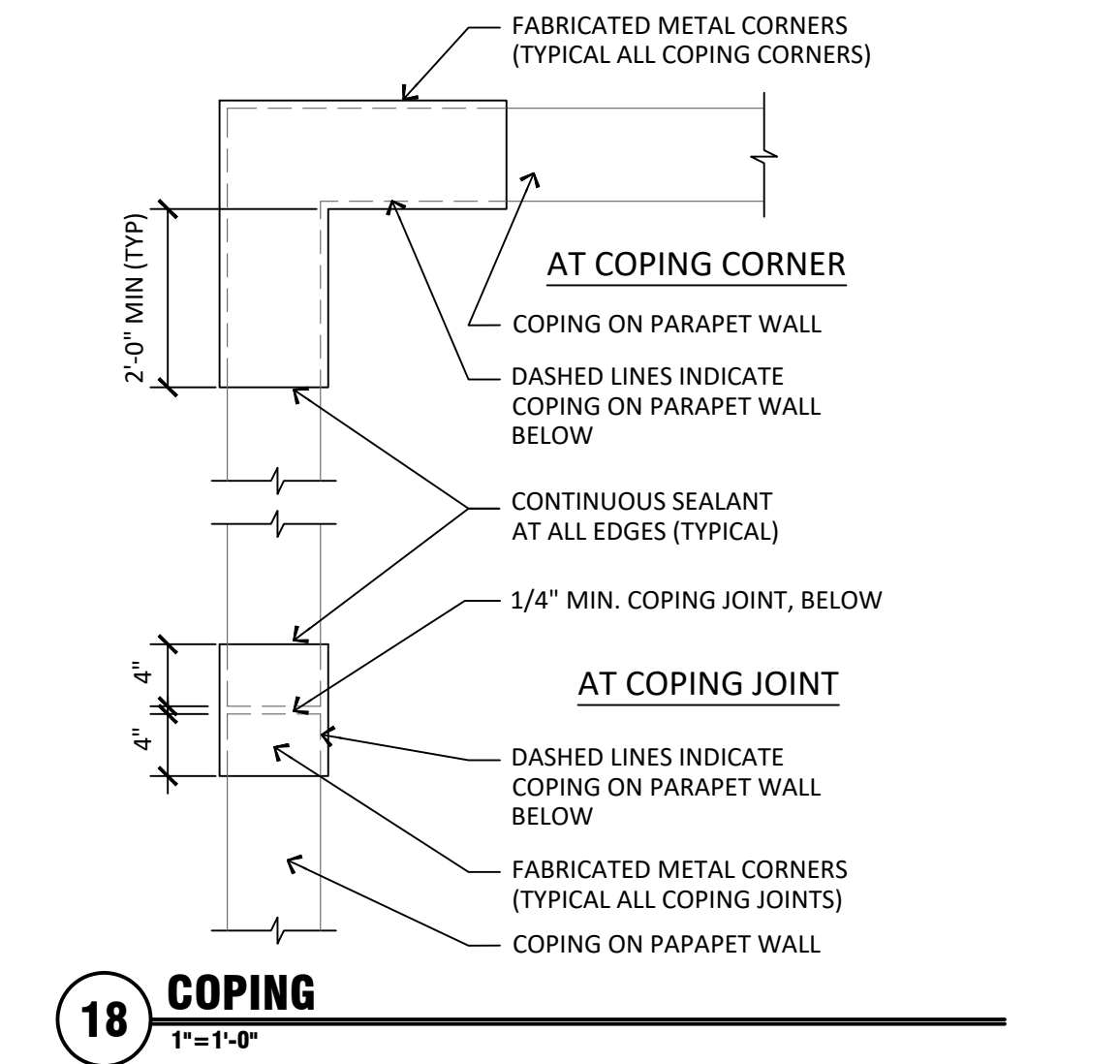
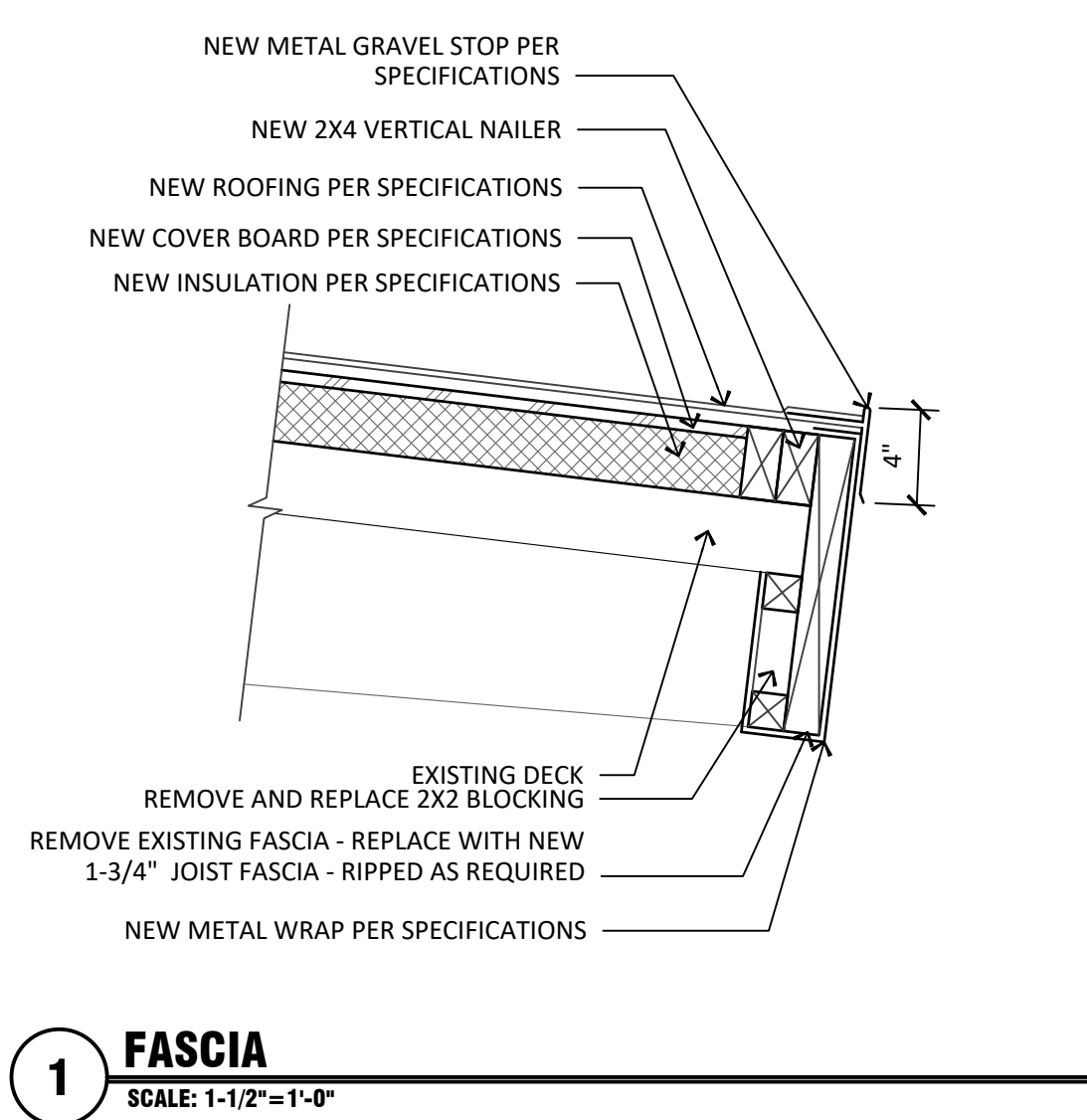
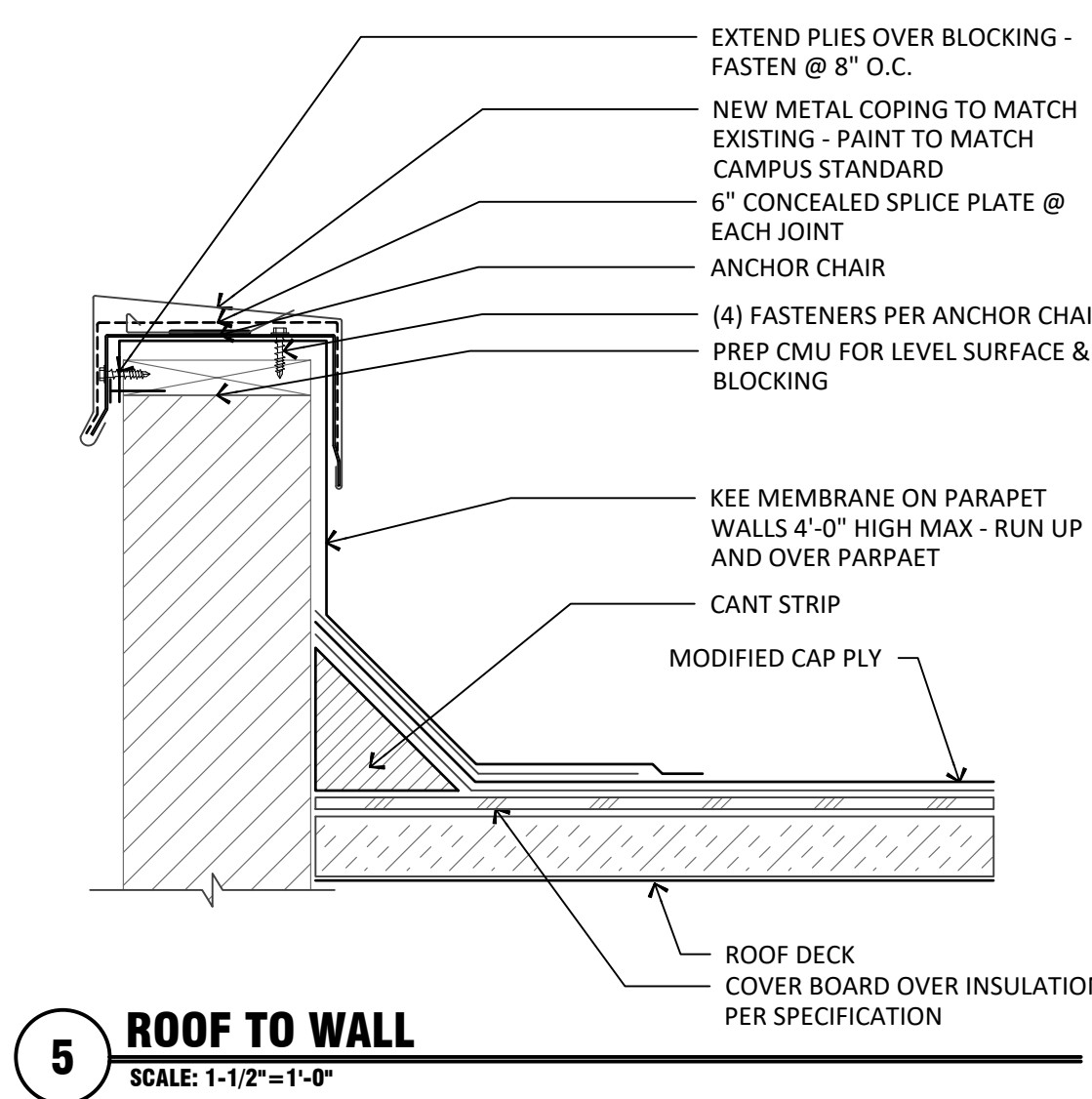
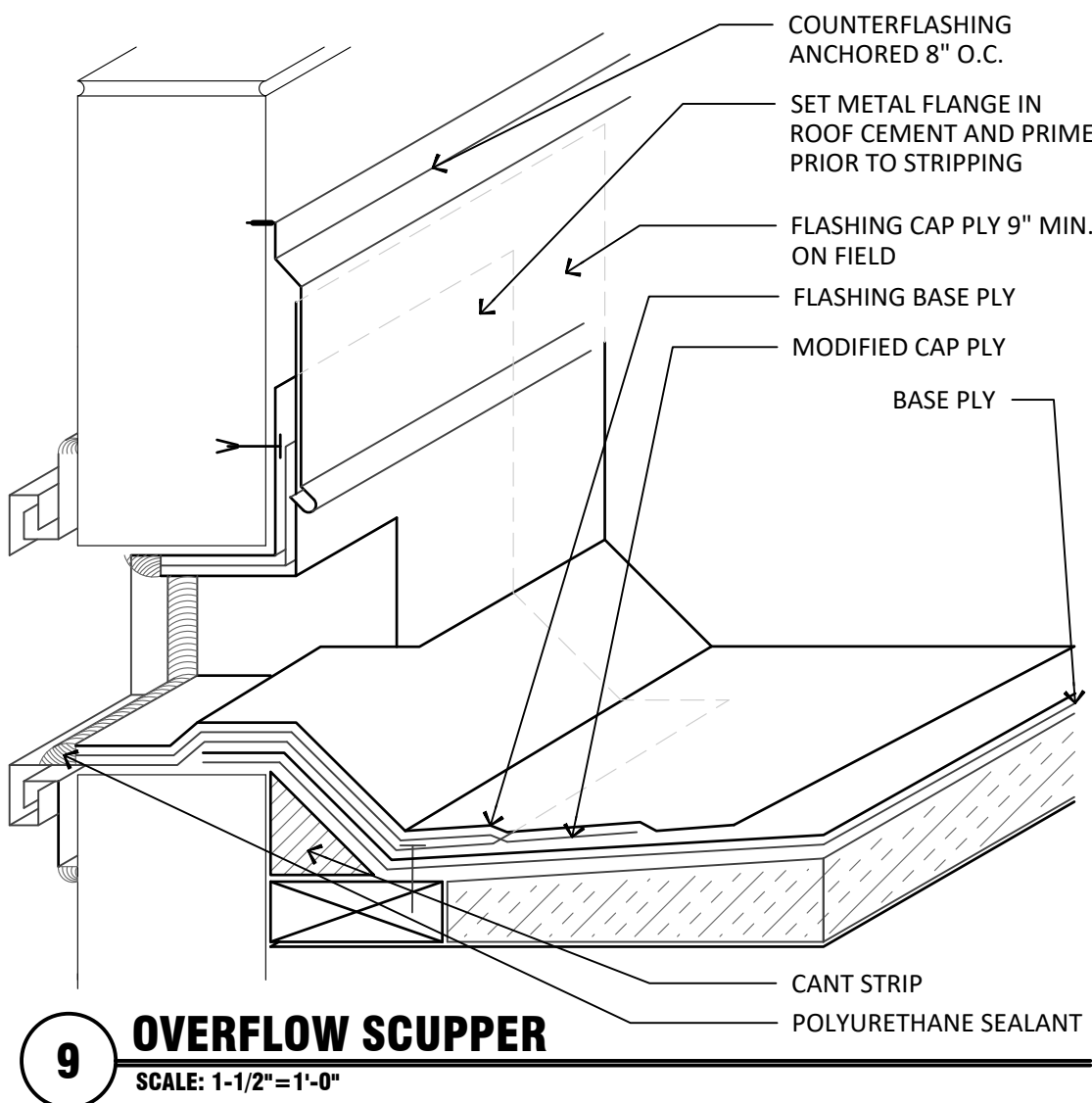
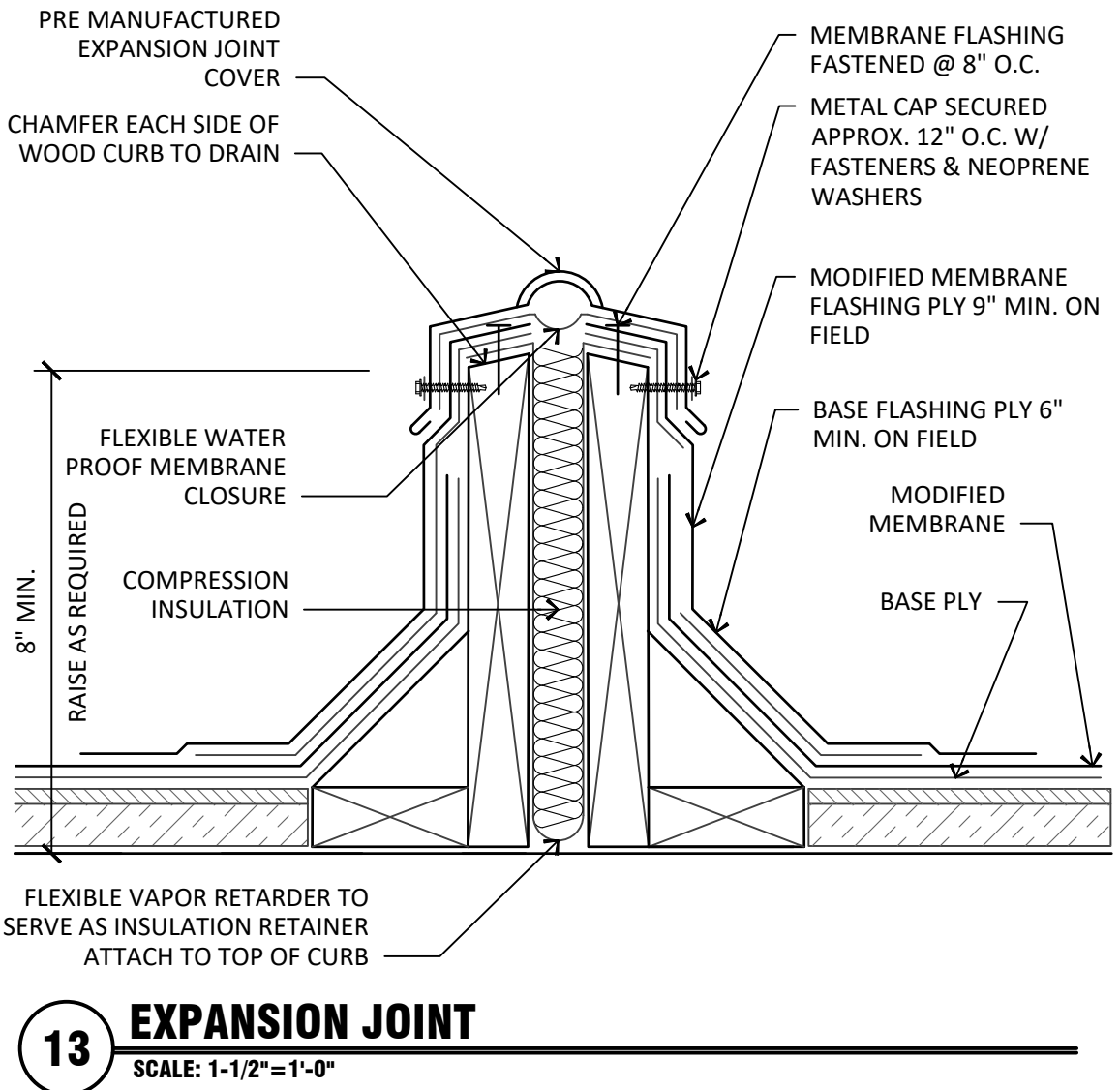
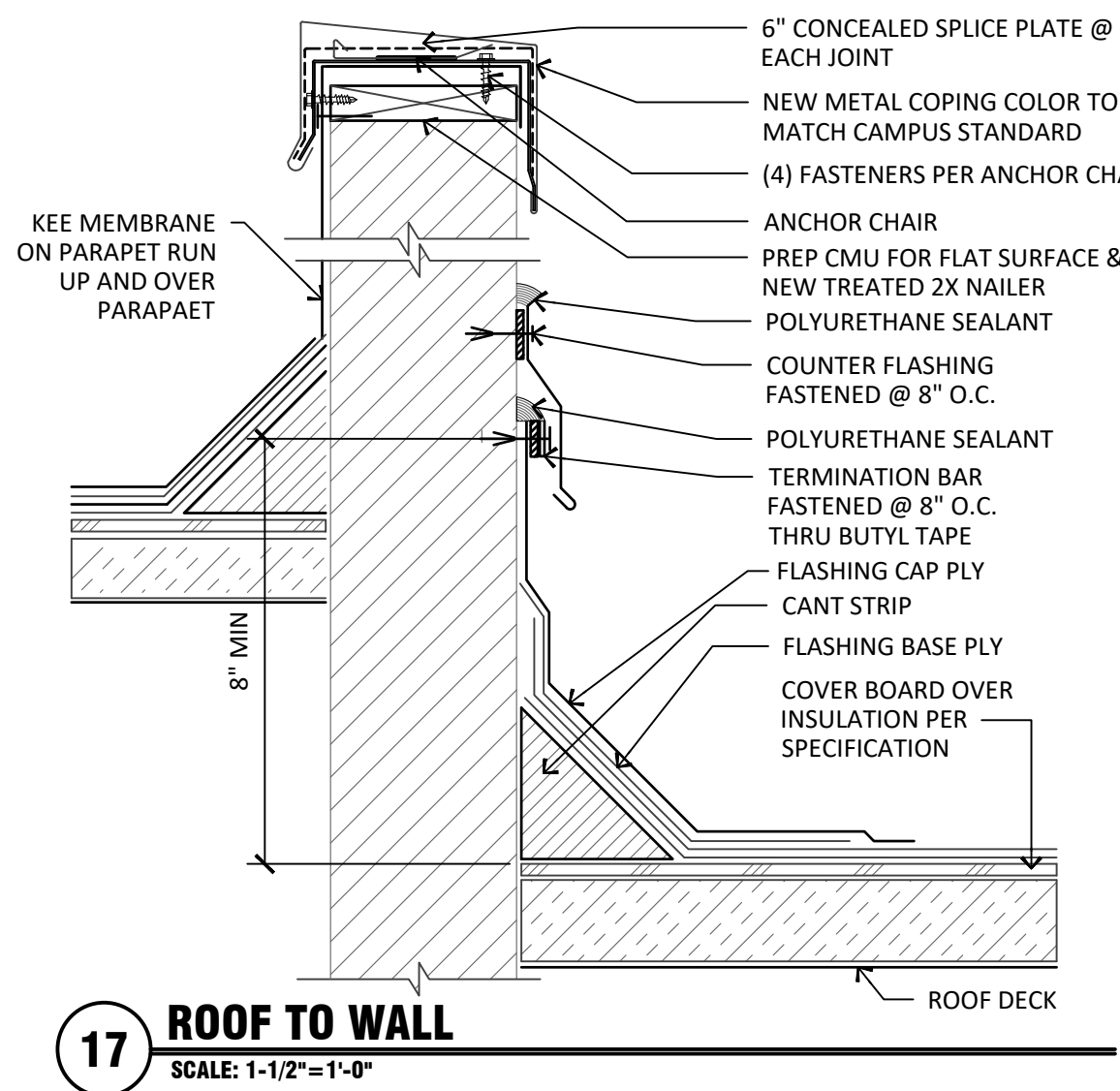
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1	12/27/22	ADDENDUM 01	

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DRAWING TITLE
 BUILDING J (SFB 1010)
 ROOF PLAN

DRAWING NUMBER
 A1.9



ROOFING IMPROVEMENTS
WASHINGTON ELEMENTARY SCHOOL DISTRICT
PALO VERDE MIDDLE SCHOOL
7502 NORTH 39th AVENUE
PHOENIX, ARIZONA 85051
SFB PROJECT NO.: BRG-DSGN-00415

PROJECT NO.: 21163
DRAWN BY: B. TUTTLE
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REVISIONS			
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DRAWING TITLE

DETAILS

DRAWING NUMBER

A2.1

SECTION 07 54 23

PART 1 GENERAL

The project, Palo Verde Middle School located in **Phoenix, AZ**, includes the provision of a complete TPO Membrane Adhered Roofing System as specified on roof decks per Addendum No.1, dated 12.27.2022.

1.01 SUMMARY

- A. Furnish and install elastomeric sheet roofing system, including:
 - 1. Roofing manufacturer's requirements for the specified warranty.
 - 2. Preparation of roofing substrates.
 - 3. Wood nailers for roofing attachment.
 - 4. Insulation.
 - 5. Cover boards.
 - 6. Elastomeric membrane roofing.
 - 7. Metal roof edging and copings.
 - 8. Flashings.
 - 9. Walkway pads.
 - 10. Other roofing-related items specified or indicated on the drawings or otherwise necessary to provide a complete weatherproof roofing system.
- B. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- C. Comply with the published recommendations and instructions of the roofing membrane manufacturer.
- D. Commencement of work by the Contractor shall constitute acknowledgement by the Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. Any modification of the Contract Sum will be made in accordance with the stipulations of the Contract Documents stated elsewhere.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers associated with roofing and roof insulation.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.
- C. Section 07 71 00 - Roof Specialties: Manufactured copings, fascias, gravel stops, and other flashing-related items.
- D. Section 07 72 00 - Roof Accessories: Roof hatches, vents, and manufactured curbs.
- E. Section 22 10 06 - Plumbing Specialties: Roof drains

1.03 REFERENCES

- A. Referenced Standards: These standards form part of this specification only to the extent they are referenced as specification requirements.
 - 1. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2010.
 - 2. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2013.
 - 3. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer; 2009.

4. ASTM D1004 - Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting; 2009.
5. ASTM D1079 - Standard Terminology Relating to Roofing and Waterproofing; 2013.
6. ASTM D1621 - Standard Test Method for Compressive Properties Of Rigid Cellular Plastics; 2010.
7. ASTM D1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics; 2008.
8. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing; 2011a.
9. FM DS 1-28 - Wind Design; Factory Mutual System; 2007.
10. FM DS 1-29 - Roof Deck Securement and Above-Deck Roof Components; Factory Mutual System; 2006.
11. PS 1 - Structural Plywood; 2009.
12. PS 20 - American Softwood Lumber Standard; 2010.
13. SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; 2003. (ANSI/SPRI ES-1)

1.04 SUBMITTALS

A. Product Data:

1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
2. Where UL or FM requirements are specified, provide documentation that shows that the roofing system to be installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.

B. Shop Drawings: Provide:

1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
2. For tapered insulation, provide project-specific layout and dimensions for each board.

C. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.

D. Specimen Warranty: Submit prior to starting work.

E. Samples: Submit samples of each product to be used.

1.05 QUALITY ASSURANCE

A. Applicator Qualifications: Roofing installer shall have the following:

1. At least ten years' experience in installing specified system.
2. At least two project examples of successful installs of specified system within the same calendar year.
3. Capability to provide payment and performance bond to building owner.

- B. Pre-Installation Conference: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
 - 1. Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.
 - 2. Notify Architect well in advance of meeting.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

1.07 WARRANTY

- A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- B. Warranty: 20-year Limited Warranty covering membrane, roof insulation, and membrane accessories.

Limit of Liability: No dollar limitation.

- 1. Scope of Coverage: Repair leaks in the roofing system caused by:
 - a. Ordinary wear and tear of the elements.
 - b. Manufacturing defect in brand materials.
 - c. Defective workmanship used to install these materials.
 - d. Damage due to winds up to 55 mph.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer - Roofing System: Firestone Building Products or Equal.
 - 1. Roofing systems manufactured by others may be acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
 - a. Specializing in manufacturing the roofing system to be provided.
 - b. Minimum fifteen years of experience manufacturing the roofing system to be provided.
 - c. Able to provide a no dollar limit, single source roof system warranty that is backed by corporate assets in excess of one billion dollars.
 - d. ISO 9002 certified.
 - e. Able to provide polyisocyanurate insulation that is produced in own facilities.
- B. Manufacturer of Insulation and Cover Boards: Same manufacturer as roof membrane.
- C. Manufacturer of Metal Roof Edging: Same manufacturer as roof membrane.
 - 1. Metal roof edging products by other manufacturers are not acceptable.
 - 2. Field- or shop-fabricated metal roof edgings are not acceptable.
- D. Substitution Procedures: See instructions to bidders.
 - 1. Submit evidence that the proposed substitution complies with the specified requirements.

2.02 ROOFING SYSTEM DESCRIPTION

- A. Roofing System:
 - 1. Membrane: Thermoplastic Polyolefin (TPO) single-ply membrane.
 - 2. Thickness: As specified elsewhere
 - 3. Membrane Attachment: Adhered.
 - 4. Slope: When deck is sloped but not enough; provide additional slope of 1/4 inch per foot (1:48) by means of tapered insulation.

5. Comply with applicable local building code requirements.
 6. Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification.
- B. Insulation:
1. Total System R Value: **8.6**.
 2. Maximum Board Thickness: 1.5 inches (38.1 mm); use as many layers as necessary; stagger joints in adjacent layers when applicable.
 3. Base Layer: Polyisocyanurate foam board, non-composite.
 - a. Attachment: **Low-rise polyurethane adhesive.**
- C. Cover Board: Gypsum-Based Cover Board:
1. Thickness: 0.50 inch (12.8mm).
 2. R-Value: negligible.
 - a. Attachment: **Low-rise polyurethane adhesive.**
- D. Crickets and Saddles: Tapered insulation of same type as specified for top layer; slope as indicated.

2.03 TPO MEMBRANE MATERIALS

- A. Roofing Membrane: Flexible, heat weldable sheet composed of thermoplastic polyolefin polymer and ethylene propylene rubber; complying with ASTM D6878, with polyester weft inserted reinforcement and the following additional characteristics:
1. Thickness: 0.080 inch (2.03 mm) plus/minus 10 percent, with coating thickness over reinforcement of 0.030 inch (0.76 mm) plus/minus 10 percent.
 2. Puncture Resistance: 415 lbf (1868 N), minimum, when tested in accordance FTM 101C Method 2031.
 3. Solar Reflectance: 0.79 minimum, when tested in accordance with ASTM C1549.
 4. Color: White.
- B. Bonding Adhesive: Neoprene and SBR rubber blend, formulated for compatibility with the membrane other substrate materials, including masonry, wood, and insulation facings.
- C. Membrane Fasteners (supplemental, where required): Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- D. Curb and Parapet Flashing: Same material as membrane, with encapsulated edge which eliminates need for seam sealing the flashing-to-roof splice; precut to 18 inches (457 mm) wide.
- E. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.
1. Thickness: 0.060 inch (1.52 mm) plus/minus 10 percent.
 2. Tensile Strength: 1550 psi (10.7 MPa), minimum, when tested in accordance with ASTM D638 after heat aging.
 3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D638 after heat aging.
 4. Tearing Strength: 12 lbf (53 N), minimum, when tested in accordance with ASTM D1004 after heat aging.
 5. Color: White.
- F. Tape Flashing: 5-1/2 inch (140 mm) nominal wide TPO membrane laminated to cured rubber polymer seaming tape, overall thickness 0.065 inch (1.6 mm) nominal.
- F. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing.
- G. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches (33 mm) wide by 0.10 inch (2.5 mm) thick.
- H. Cut Edge Sealant: Synthetic rubber-based, for use where membrane reinforcement is exposed.

- I. General Purpose Sealant: EPDM-based, one part, white general purpose sealant.
- J. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.
- K. Roof Walkway Pads: Non-reinforced TPO walkway pads, 0.130 inch (3 mm) by 30 inches (760 mm) by 40 feet (12.19 m) long with patterned traffic bearing surface.

2.04 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C 1289 Type II Class 1, with the following additional characteristics:
 - 1. Thickness: As indicated elsewhere.
 - 2. Size: 48 inches (1220 mm) by 48 inches (1220 mm), nominal.
 - 3. R-Value (LTTR): 1.5 inch (75 mm) Thickness: 8.6, minimum.
 - 4. Compressive Strength: 20 psi (138 kPa) when tested in accordance with ASTM C 1289.
 - 5. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
 - 6. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
 - 7. Acceptable Product: Flat and/or Tapered ISO
- B. Gypsum-Based Cover Board: Non-combustible, water resistant gypsum core with embedded glass mat facers, complying with ASTM C 1177/C 1177M, and with the following additional characteristics:
 - 1. Size: 48 inches (1220 mm) by 48 inches (1220 mm), nominal.
 - 2. Thickness: 0.50 inch (12.8mm).
 - 3. Surfacing: Primed Fiberglass Mat.
 - 4. Surface Water Absorption: Surface Water Absorption (ASTM C473): Nominal 1.0 grams.
 - 5. Water Absorption (ASTM C473): Less than 5 percent of weight.
 - 6. Spanning Capability: As recommended by manufacturer for maximum flute spans.
 - 7. Surface Burning Characteristics: Flame spread of 0, smoke developed of 0, when tested in accordance with ASTM E 84.
 - 8. Combustibility: Non-combustible, when tested in accordance with ASTM E 136.
 - 9. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
 - 10. Mold Growth Resistance: Zero growth, when tested in accordance with ASTM D 3273 for minimum of 4 weeks.
- C. Insulation Adhesive: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesive furnished by roof membrane manufacturer.

2.05 METAL ACCESSORIES

- A. Metal Roof Edging and Fascia: Continuous metal edge member serving as termination of roof membrane and retainer for metal fascia; watertight with no exposed fasteners; mounted to roof edge nailer.
 - 1. Wind Performance:
 - a. Membrane Pull-Off Resistance: 100 lbs/ft (1460 N/m), minimum, when tested in accordance with ANSI/SPRI ES-1 Test Method RE-1, current edition.
 - b. Fascia Pull-Off Resistance: At least the minimum required when tested in accordance with ANSI/SPRI ES-1 Test Method RE-2, current edition.
 - c. Provide product listed in current Factory Mutual Research Corporation Approval Guide with at least FM 1-270 rating.
 - 2. Description: Two-piece; 45 degree sloped galvanized steel sheet edge member securing top and bottom edges of formed metal fascia.
 - 3. Fascia Face Height: 5 inches (127 mm).
 - 4. Edge Member Height Above Nailer: 1-1/4 inches (31 mm).
 - 5. Length: 144 inches (3650 mm).
 - 6. Functional Characteristics: Fascia retainer supports while allowing for free thermal cycling

- of fascia.
7. Aluminum Bar: Continuous 6063-T6 alloy aluminum extrusion with pre-punched slotted holes; miters welded; injection molded EPDM splices to allow thermal expansion.
 8. Anchor Bar Cleat: 20 gage, 0.036 inch (0.9 mm) G90 coated commercial type galvanized steel with pre-punched holes.
 9. Curved Applications: Factory modified.
 10. Fasteners: Factory-provided corrosion resistant fasteners, with drivers; no exposed fasteners permitted.
 11. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, scuppers, and end caps; minimum 14 inch (355 mm) long legs on corner pieces.
 12. Scuppers: Welded watertight.
 13. Accessories: Provide matching brick wall cap, downspout, extenders, and other special fabrications as shown on the drawings.
- B. Parapet Copings: Formed metal coping with galvanized steel anchor/support cleats for capping any parapet wall; watertight, maintenance free, without exposed fasteners; butt type joints with concealed splice plates; mechanically fastened as indicated.
1. Wind Performance:
 - a. At least the minimum required when tested in accordance with ANSI/SPRI ES-1 Test Method RE-3, current edition.
 - b. Provide product listed in current Factory Mutual Research Corporation Approval Guide with at least FM 1-90 rating.
 2. Description: Coping sections allowed to expand and contract freely while locked in place on anchor cleats by mechanical pressure from hardened stainless steel springs factory attached to anchor cleats; 8 inch (200 mm) wide splice plates with factory applied dual non-curing sealant strips capable of providing watertight seal.
 3. Material and Finish: 24 gage, 0.024 inch (0.06 mm) thick galvanized steel with Kynar 500 finish in manufacturer's standard color; matching concealed joint splice plates; factory-installed protective plastic film.
 4. Dimensions:
 - a. Wall Width: As indicated on the drawings.
 - b. Piece Length: Minimum 144 inches (3650 mm).
 - c. Curved Application: Factory fabricated in true radius.
 5. Anchor/Support Cleats: 20 gage, 0.036 inch (0.9 mm) thick prepunched galvanized cleat with 12 inch (305 mm) wide stainless steel spring mechanically locked to cleat at 72 inches (1820 mm) on center.
 6. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, corners, intersections, curves, pier caps, and end caps; minimum 14 inch (355 mm) long legs on corner, intersection, and end pieces.
 7. Fasteners: Factory-furnished; electrolytically compatible; minimum pull out resistance of 240 pounds (109 kg) for actual substrate used; no exposed fasteners.

2.06 ACCESSORY MATERIALS

- A. Wood Nailers: PS 20 dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.
1. Width: 3-1/2 inches (90 mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
 2. Thickness: Same as thickness of roof insulation.

PART 3 INSTALLATION

3.01 GENERAL

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where

manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.

- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F (15 to 25 degrees C).
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
 - 1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
 - 2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
 - 3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- I. Consult membrane manufacturer's instructions, container labels, and Safety Data Sheets (SDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

3.02 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptance of project conditions and requirements.

3.03 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch (6 mm) wide with fill material acceptable insulation to membrane manufacturer.
- D. Seal, grout, or tape deck joints, where needed, to prevent seepage of foreign materials into building.

3.04 INSULATION AND COVER BOARD INSTALLATION

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.

- B. Install insulation in a manner that will not compromise the vapor retarder integrity.
- C. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- D. Lay roof insulation in courses parallel to roof edges.
- E. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch (6 mm). Fill gaps greater than 1/4 inch (6 mm) with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch (6 mm).
- D. Low Rise Polyurethane Foam Adhesive: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesive furnished by roof membrane manufacturer.

3.05 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams, bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - 1. Exceptions: Round pipe penetrations less than 18 inches (460 mm) in diameter and square penetrations less than 4 inches (200 mm) square.
- G. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

3.06 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
 - 1. Follow roofing manufacturer's instructions.
 - 2. Remove protective plastic surface film immediately before installation.
 - 3. Install water block sealant under the membrane anchorage leg.
 - 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
 - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
 - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- C. Scuppers: Set in sealant and secure to structure; flash as recommended by manufacturer.
- D. Roofing Expansion Joints: Install as shown on drawings and as recommended by roofing manufacturer.

- E. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches (200 mm) high above membrane surface.
 - 1. Use the longest practical flashing pieces.
 - 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
 - 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - 4. Provide termination directly to the vertical substrate as shown on roof drawings.
- F. Roof Drains:
 - 1. Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.
 - 2. Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch (12 to 19 mm) of membrane to extend inside clamping ring past drain bolts.
 - 3. Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
 - 4. Apply sealant on top of drain bowl where clamping ring seats below the membrane
 - 5. Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.
- G. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
- H. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
- I. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches (50 mm) deep, with at least 1 inch (25 mm) clearance from penetration, sloped to shed water.
- J. Structural Steel Tubing: If corner radii are greater than 1/4 inch (6 mm) and longest side of tube does not exceed 12 inches (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.

3.07 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch (25 mm) and maximum of 3.0 inches (75 mm) from each other to allow for drainage.
 - 1. If installation of walkway pads over field fabricated splices or within 6 inches (150 mm) of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches (150 mm) on either side.
 - 2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

3.08 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.09 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.10 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION