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CONSTRUCTION PLANS
ROOF REPLACEMENT

AT
SOUTH SIDE SECONDARY PUMP STATION
6213 SOUTH SHERIDAN ROAD (APPROX)
GPS 36.073222, -95.903817
CITY OF TULSA OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
PROJECT NO. SP 18-03R
ACCOUNT NO. 7403323-542601

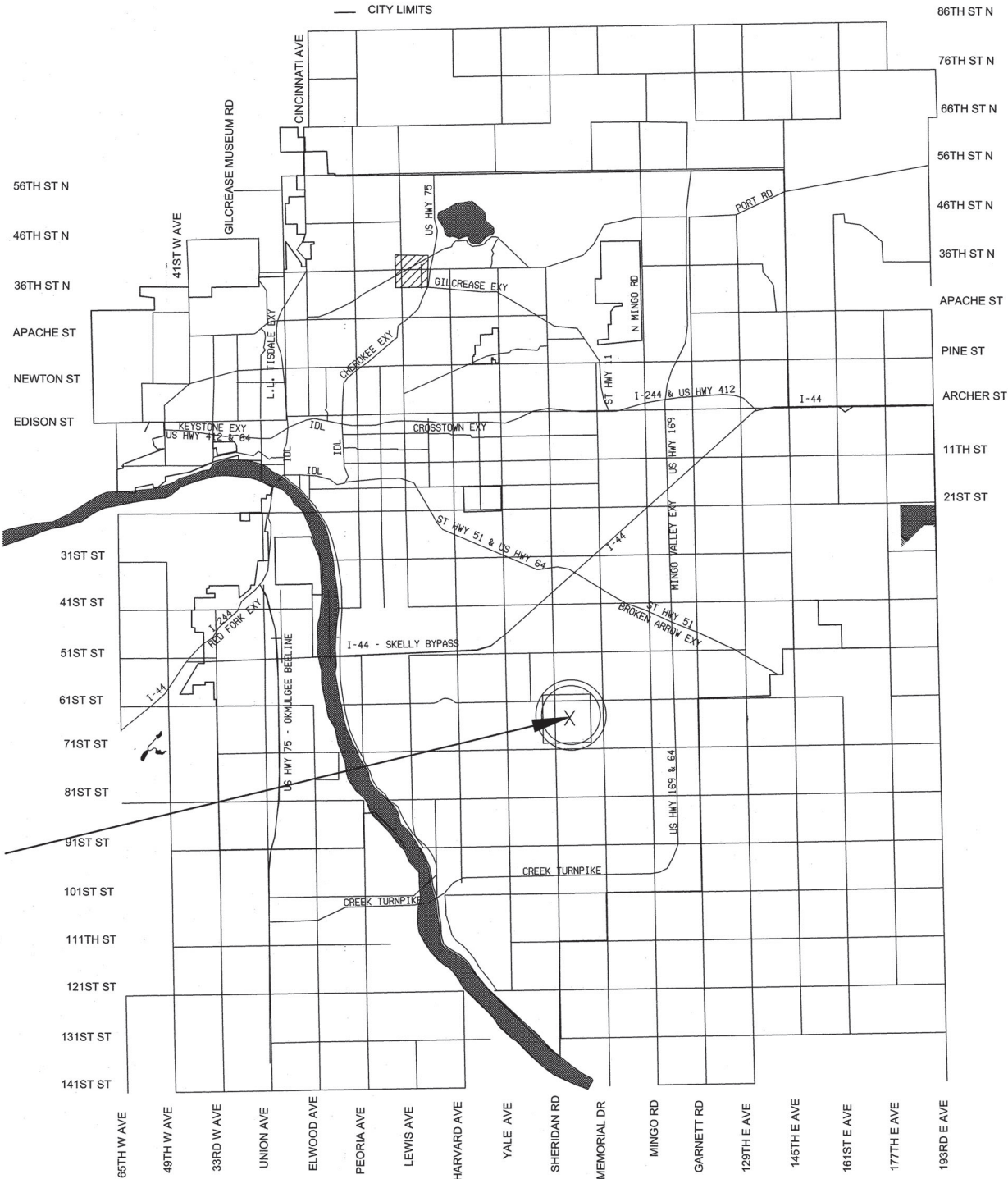
GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA CODES AND ORDINANCES, ENGINEERING SERVICES STANDARDS & SPECIFICATIONS (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES)

CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAVING, AND ANY OTHER ITEMS LOCATED WITHIN AND OUTSIDE THE WORK AREA. ANY DAMAGE TO PERMANENT ITEMS INCURRED BY THE CONTRACTOR THROUGH HIS WORK IN THIS CONTRACT SHALL BE REPAIRED TO ORIGINAL CONDITION, BY THE CONTRACTOR. AT HIS OWN EXPENSE.

CONTRACTORS SHALL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF, AND REMOVAL OF ALL UTILITIES.

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.




UTILITY COORDINATION	
	NUMBER
ENGINEERING SERVICES	
WATER DESIGN	918-596-9566
WASTEWATER DESIGN	918-596-9564
TRANSPORTATION DESIGN	918-596-9636
TRAFFIC ENGINEERING DESIGN	918-596-9749
STORMWATER DESIGN	918-596-9498
PARKS MAINTENANCE	918-596-2486
OKLAHOMA NATURAL GAS CO.	918-831-8293
COX COMMUNICATIONS	918-286-4666
PUBLIC SERVICE CO. / AEP	918-599-2233
AT&T	918-576-2142
BUILDING AND OPERATIONS	918-596-9389
CALL OKIE	800-522-6543 OR 811



OKLAHOMA ONE-CALL
SYSTEM, INC.
1-800-552-6543
OR DIAL 811

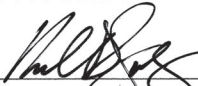



PLANS PREPARED BY:

 CYNTERGY, L.L.C.
810 SOUTH CINCINNATI
SECOND FLOOR
TULSA, OK. 74119
918-877-6000
CYNTERGY ENGINEERING P.L.L.C. CA#3537
EXP. 6-30-22

ROOF CONSULTANTS
5350 E. 46TH ST. SUITE 116
TULSA, OK 74135
918-660-6844



APPROVED BY

CITY ENGINEER

DIRECTOR OF WATER & SEWER

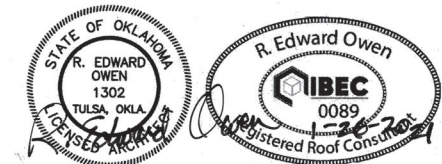
03.03.21
DATE
3.2.21
DATE

SSS PUMP STATION - ROOF REPLACEMENT SP18-03R

PAY ITEM SCHEDULE				
	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY
000		ALL PAY ITEMS	NA	NA
001	BIDDING DOCUMENTS & DIVISION ONE	GENERAL REQUIREMENTS	EA	1
002	012100	OWNER ALLOWANCE	ALLOW	1
003	061100	REMOVE AND REPLACE DAMAGED WOOD NAILERS	LF	100
004	030130	CONCRETE DECK REPAIR	SF	100
005	070150	PREPARATION FOR REROOFING REMOVE ROOF AT AREA 1 & 2	SF	3145
006	070150	PREPARATION FOR REROOFING REMOVE ROOF AREA 3	SF	515
007	074100	PRIME ROOF DECK SURFACE AND INSTALL VAPOR BARRIER	SF	3145
008	051200	STRUCTURAL STEEL FRAMING W16X31	LF	67
009	051200	STRUCTURAL STEEL FRAMING W16X40	LF	63
010	051200	STRUCTURAL STEEL FRAMING HSS6X6X1/4	LF	74
011	054000	COLD-FORMED STEEL FRAMEWORK TO SUPPORT NEW METAL SOFFIT PANELS	SF	943
012	054000	COLD-FORMED STEEL FURRING FOR NEW METAL FASCIA	SF	200
013	053100	22 GAUGE METAL DECK	SF	3948
014	054400	COLD-FORMED STEEL TRUSSES	LF	5800
015		NOT USED		
016	061400	PLYWOOD CATWALK FOR ATTIC	SF	90
017	074100	2-1/2" ISOCYANURATE ROOF INSULATION MECHANICALLY FASTENED	SF	3948
018	074100	2" ISOCYANURATE ROOF INSULATION WITH NAIL BASE (TOTAL THICKNESS 2-1/2") MECHANICALLY FASTENED	SF	3948
019	074100	ICE & WATER SHIELD UNDERLAYMENT	SF	3948
020	074100	PREFINISHED STANDING SEAM METAL ROOF PANELS	SF	3948
021	074200	NEW PREFINISHED METAL SOFFIT PANELS	SF	958
022	076200	PREFINISHED METAL FASCIA PANELS & TRIM	LF	238
023	076223	PREFINISHED GUTTER & DOWNSPOUT SYSTEM	EA	1
024	083100	ACCESS PANEL FOR ATTIC	EA	1
025	099100	PAINT FOR ATTIC ACCESS PANEL	EA	1
026	220000	PLUMBING	EA	1
027	230000	HEATING, VENTILATING AND AIR CONDITIONING (HVAC)	EA	1
028	260000	ELECTRICAL	EA	1

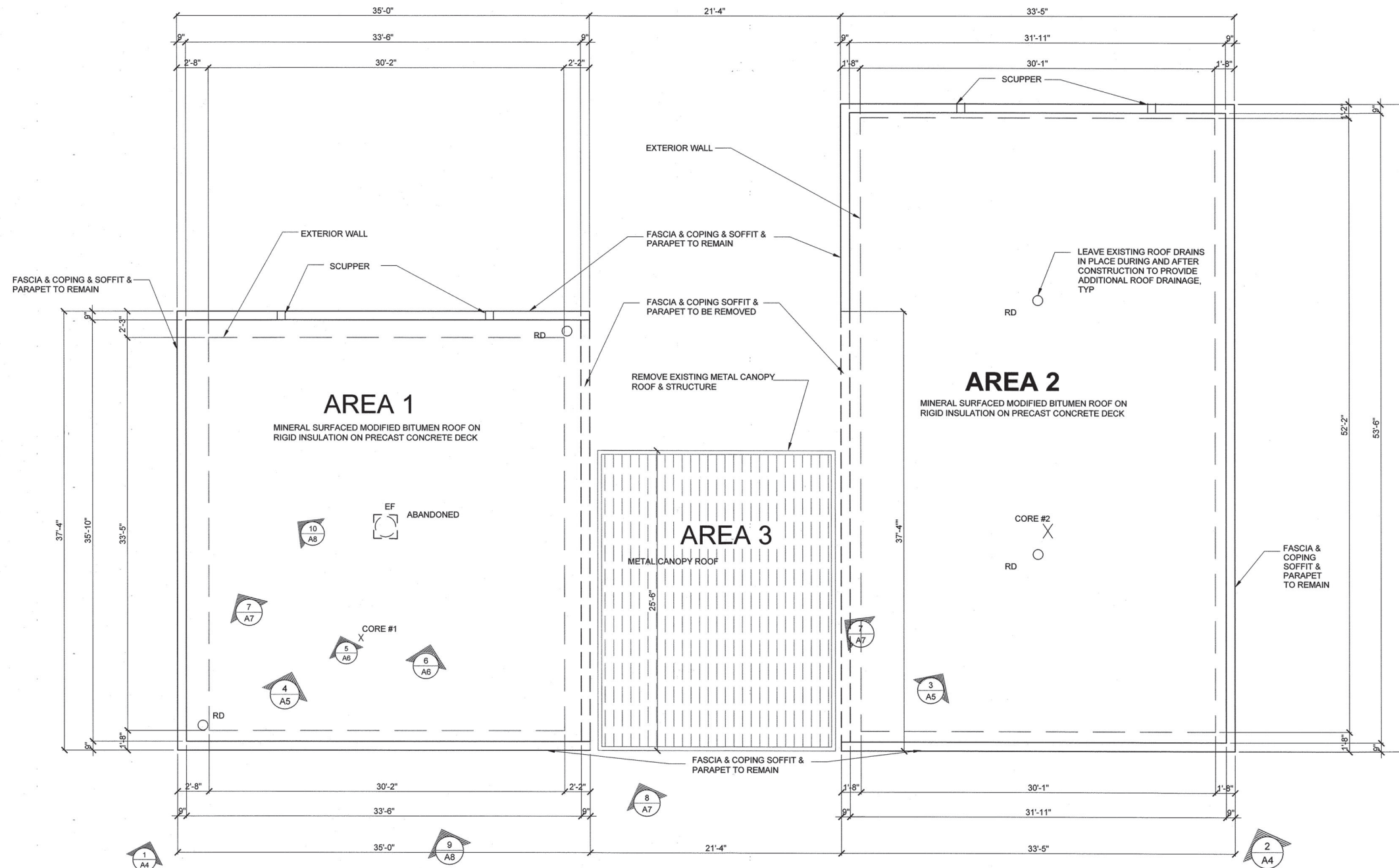
UNIT KEY	
Allow	Allowance
EA	Each
LF	Linear Feet
SF	Square Feet
SQ	Square (100 Square Feet)

SYMBOLS LEGEND	
SLOPE	ROOF SLOPE (NEW)
CORE #	ROOF CORE CUT LOCATION
E.F.	EXHAUST FAN (TO REMAIN)
E.F.	EXHAUST FAN TO BE REMOVED
RD	ROOF DRAIN (TO REMAIN)
	EXISTING STRUCTURE (TO BE REMOVED)
	PHOTO NUMBER
	REPORT SHEET NUMBER RE: APPENDIX IN SPECS
	DETAIL NUMBER
	SHEET NUMBER
DS	DOWN SPOUT
	NEW METAL SOFFIT PANELS
	NEW VENTED METAL SOFFIT PANELS
	3/4" PLYWOOD CATWALK IN ATTIC ABOVE AREA 3 NEW SOFFIT



OKLAHOMA CERTIFICATE OF AUTHORITY #911
EXPIRES 7-30-2021

ROOF REPLACEMENT AT SOUTH SIDE SECONDARY PUMP STATION	
PROJECT NO. SPI8-03R CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT	
PLANS AND ESTIMATES PREPARED BY: CYNTERGY, L.L.C.	
ROOF CONSULTANTS 5350 E. 46TH ST. SUITE 116 TULSA, OK 74135 918-660-6844	
MARK	REVISION
BY	DATE
PLAN SCALE:	DRAWN
AS NOTED	DESIGNED
	SURVEY
PROFILE SCALE:	PROJ. MGR.
HORIZONTAL:	LEAD ENGR.
1" =	FIELD MGR.
VERTICAL:	RECOMMENDED
1" =	DESIGN MANAGER
FILE:	DRAWING:
ATLAS PAGE NO.	DATE:
SHEET NAME:	SHEET 1 OF 11 SHEETS
PAY ITEM SCHEDULE	
PI	



SCOPE OF WORK

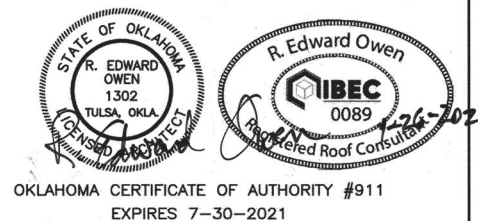
1. REMOVE EXISTING ROOF & INSULATION AT AREAS 1 & 2 DOWN TO DECK.
2. REMOVE EXISTING METAL ROOF PANELS, COLUMNS AND BEAMS AREA 3.
3. REMOVE EXISTING ABANDONED EXHAUST FAN & CURB & COVER ROOF DECK OPENING WITH 24 GA. SHEET METAL AT AREA 1.
4. INSTALL VAPOR BARRIER ON CLEANED AND PREPARED CONCRETE DECK.

ROOF AREA 1 1,307 S.F.
ROOF AREA 2 1,838 S.F.
ROOF AREA 3 515 S.F.

TOTAL ROOF AREA 3,660 S.F.

1 DEMOLITION PLAN

3/16" = 1'-0"



ROOF REPLACEMENT AT
SOUTH SIDE SECONDARY PUMP STATION

PROJECT NO. SPI8-03R
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:

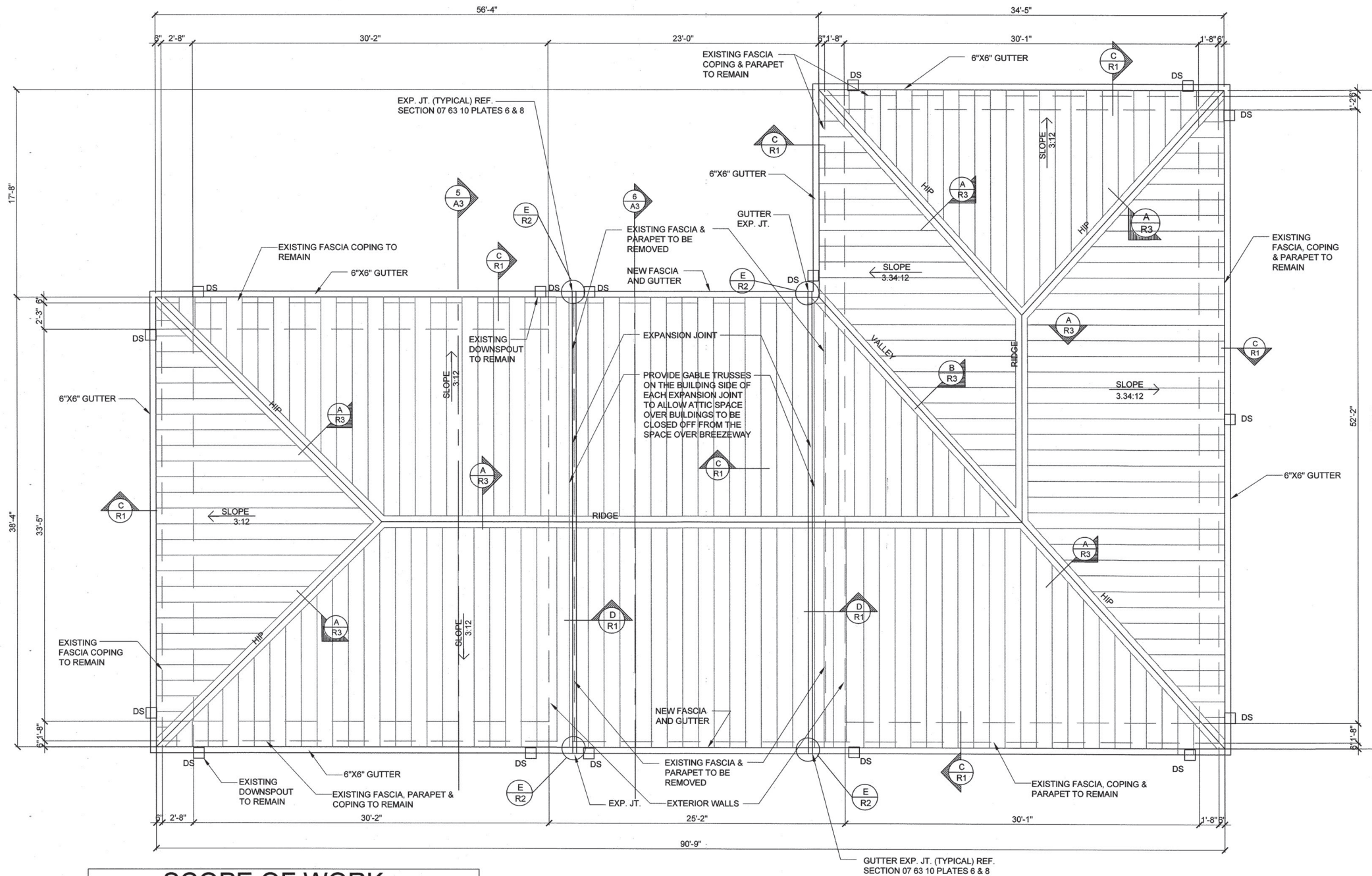
CYNTERGY, L.L.C.

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TULSA, OK 74135
918-660-6844

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	LLV	
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	My Yea	
					LEAD ENGR.	Tom 3/1/21	
				HORIZONTAL:	FIELD MGR.	Tom 3/1/21	
					RECOMMENDED:	HAS 2-21	
				VERTICAL:	DESIGN MANAGER		
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				ATLAS PAGE NO.			
				SHEET NAME:			
				ROOF DEMOLITION PLAN			

SHEET 2 OF 11 SHEETS
SHEET NO. **A1**

DATE: 3/3/21



SCOPE OF WORK

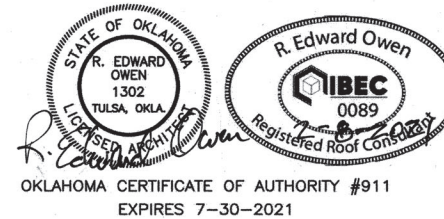
1. INSTALL (1) LAYER 2-1/2" ISOCYANURATE FOAM INSULATION AND (1) 2" LAYER ISOCYANURATE FOAM INSULATION WITH 1/2" NAIL BASE TOP LAYER MECHANICALLY FASTENED TO NEW METAL DECK.
2. INSTALL ICE & WATER SHIELD UNDERLAYMENT ON NAIL BASE.
3. INSTALL STANDING SEAM METAL ROOF SYSTEM. REFER TO SECTION 07 41 00.
4. INSTALL GUTTERS & DOWN SPOUTS

ROOF AREA	3,948 S.F.	EXPANSION JT.	77 L.F.
GUTTER LENGTH	295 L.F.	HIP LENGTH	124 L.F.
DOWN SPOUT LENGTH	169 L.F.	VALLEY LENGTH	24 L.F.
RIDGE LENGTH	76 L.F.	FASCIA AREA	1,550 S.F.

1

NEW ROOF PLAN

3/16" = 1'-0"



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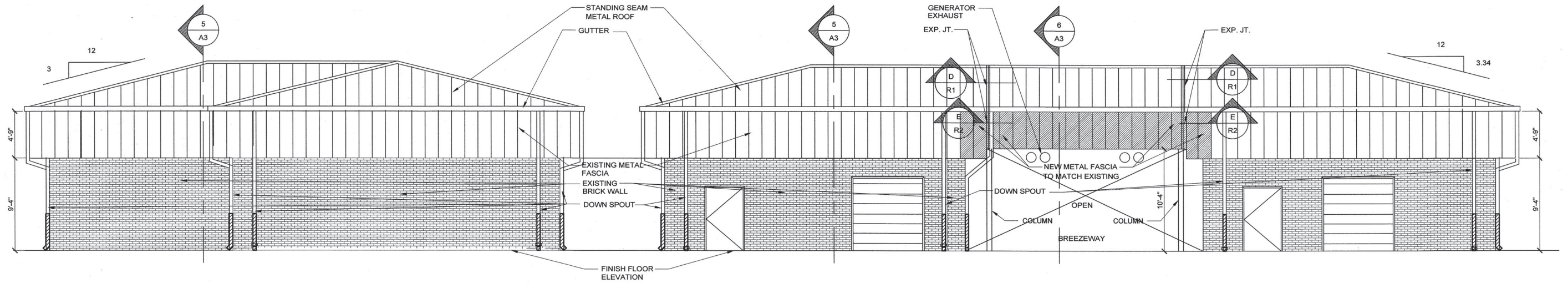
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918-660-6844

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				AS NOTED	DESIGNED	LLV	
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	MA 2/21	
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				1" =	FIELD MGR.	Brew 2/21	
				VERTICAL:	RECOMMENDED	HHS 2-21	
				1" =	DESIGN MANAGER		
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				ATLAS PAGE NO.			
				SHEET NAME:			
				NEW ROOF PLAN			

DATE: 3/3/21

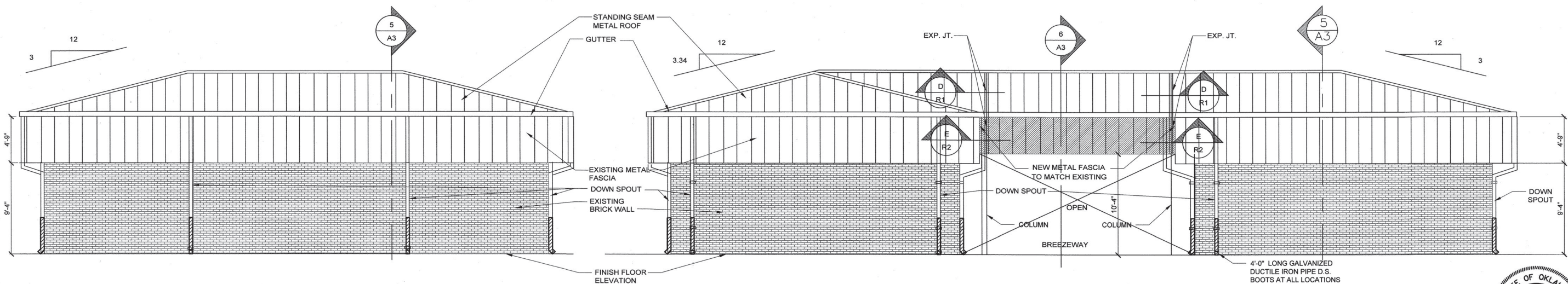
SHEET 3 OF 11 SHEETS

SHEET NO. A2



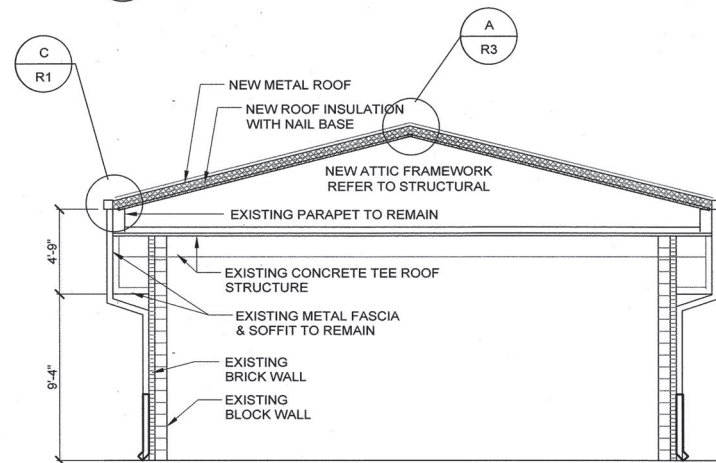
1 WEST ELEVATION
3/16" = 1'-0"

2 SOUTH ELEVATION
3/16" = 1'-0"

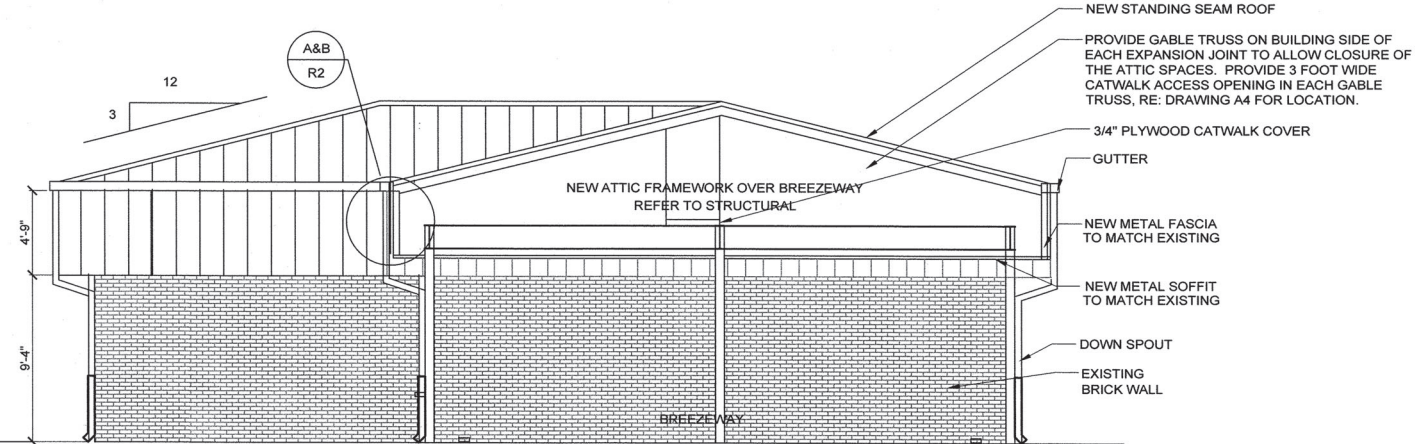


3 EAST ELEVATION
3/16" = 1'-0"

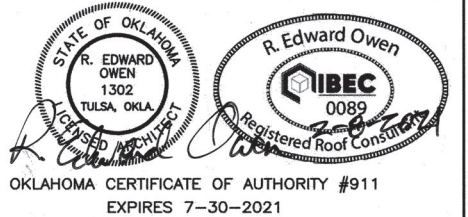
4 NORTH ELEVATION
3/16" = 1'-0"



5 BUILDING SECTION
3/16" = 1'-0"



6 BUILDING SECTION
AT BREEZEWAY
3/16" = 1'-0"



ROOF REPLACEMENT AT
SOUTH SIDE SECONDARY PUMP STATION

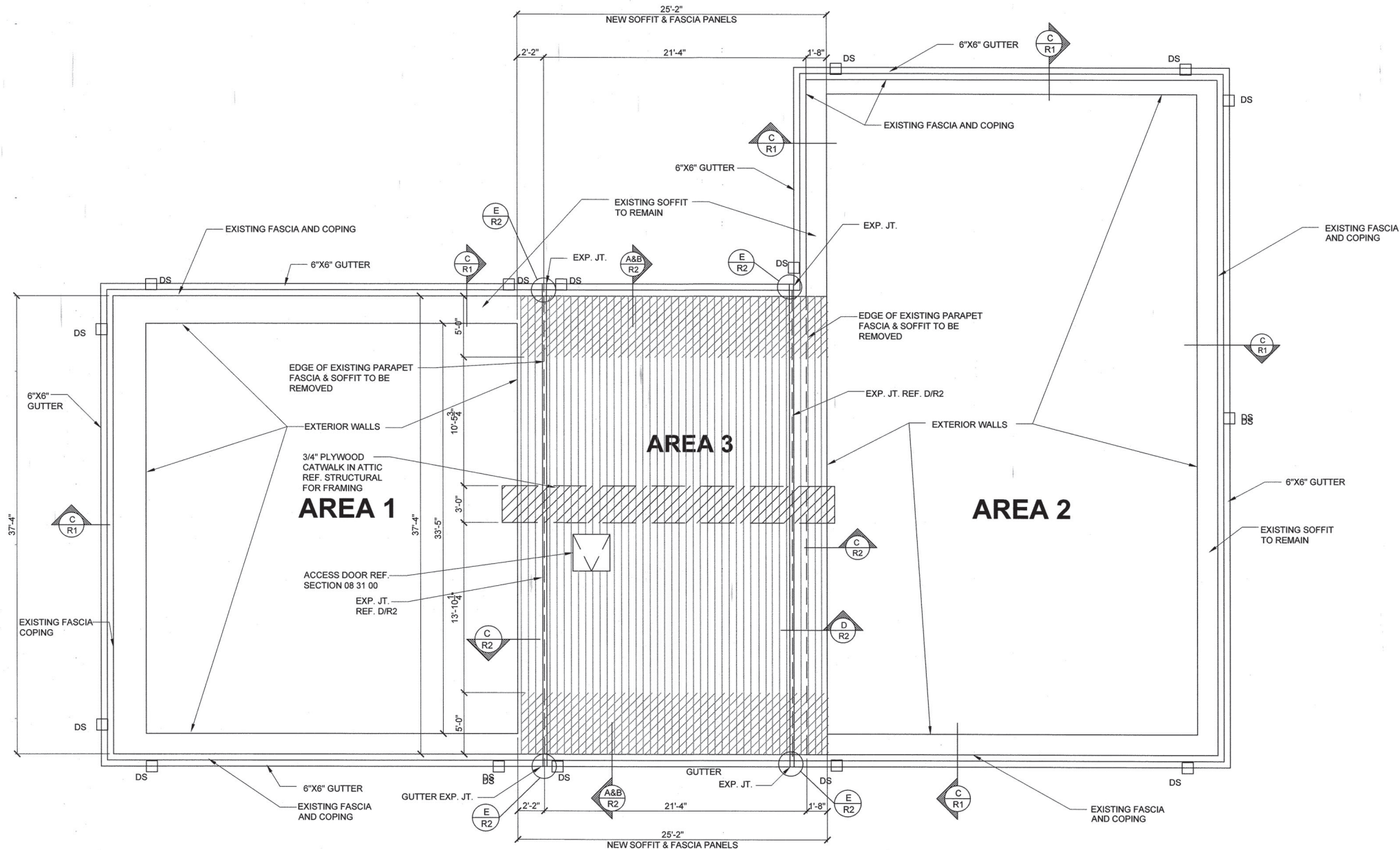
PROJECT NO. SPI8-03R
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
CYNERGY, L.L.C.

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918-660-6844

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				AS NOTED	DESIGNED	LLV	
					SURVEY		
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				EXTERIOR ELEVATIONS AND BUILDING SECTION			

A3

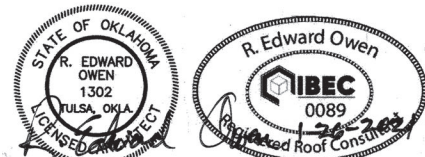


SCOPE OF WORK

1. INSTALL NEW SOFFIT PANELS ON NEW ROOF FRAMEWORK IN AREA 3 AT 10'-4" A.F.F. PROVIDE 5'-0" VENTED FLUSH SOFFIT PANELS EVERY OTHER ROW AT NORTH & SOUTH EAVES.
2. INSTALL ACCESS DOOR IN NEW SOFFIT UNDER RIDGE.
3. PROVIDE 3/4" PLYWOOD CATWALK SURFACE IN AREA 3 UNDER RIDGE ABOVE SOFFIT.
4. EXISTING SOFFIT & FASCIA TO REMAIN AT DESIGNATED AREAS OF AREAS 1 & 2.

REFLECTED SOFFIT PLAN

3/16" = 1'-0"



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ENGINEERING SERVICES DEPARTMENT

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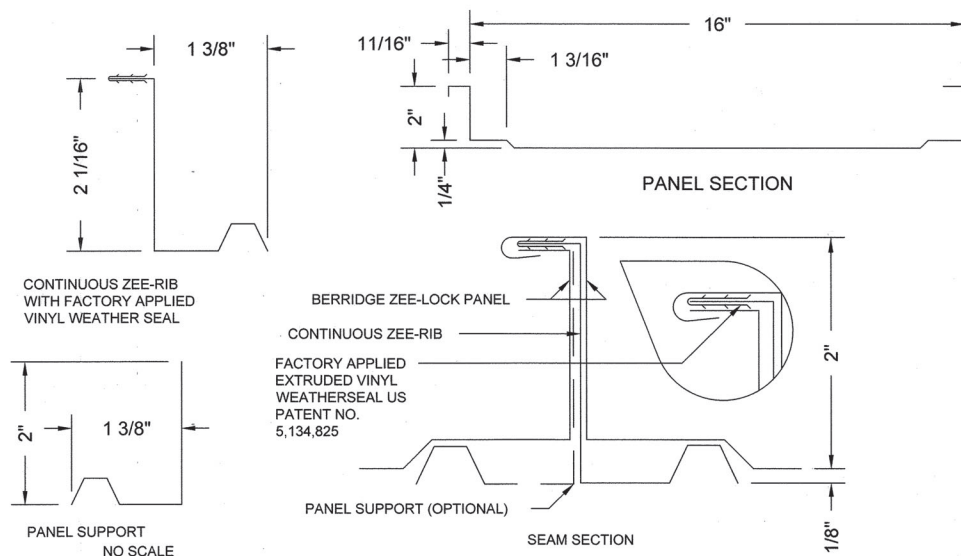


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918-660-6844

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	LLV	
					SURVEY		
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					LEAD ENGR.	Mr. 2/21	
				HORIZONTAL:	FIELD MGR.	Mr. 2/21	
				1" =	RECOMMENDED	Mr. 2-21	
				VERTICAL	DESIGN MANAGER		
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				REFLECTED SOFFIT PLAN			

DATE: 3/3/21
SHEET 5 OF 11 SHEETS
SHEET NO. A4

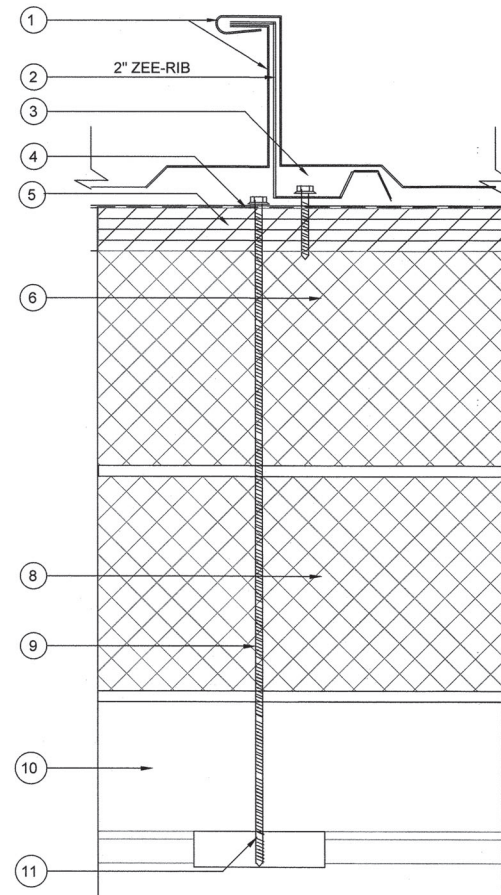


CONTINUOUS ZEE-RIB WITH VINYL WEATHERSEAL

NOT TO SCALE

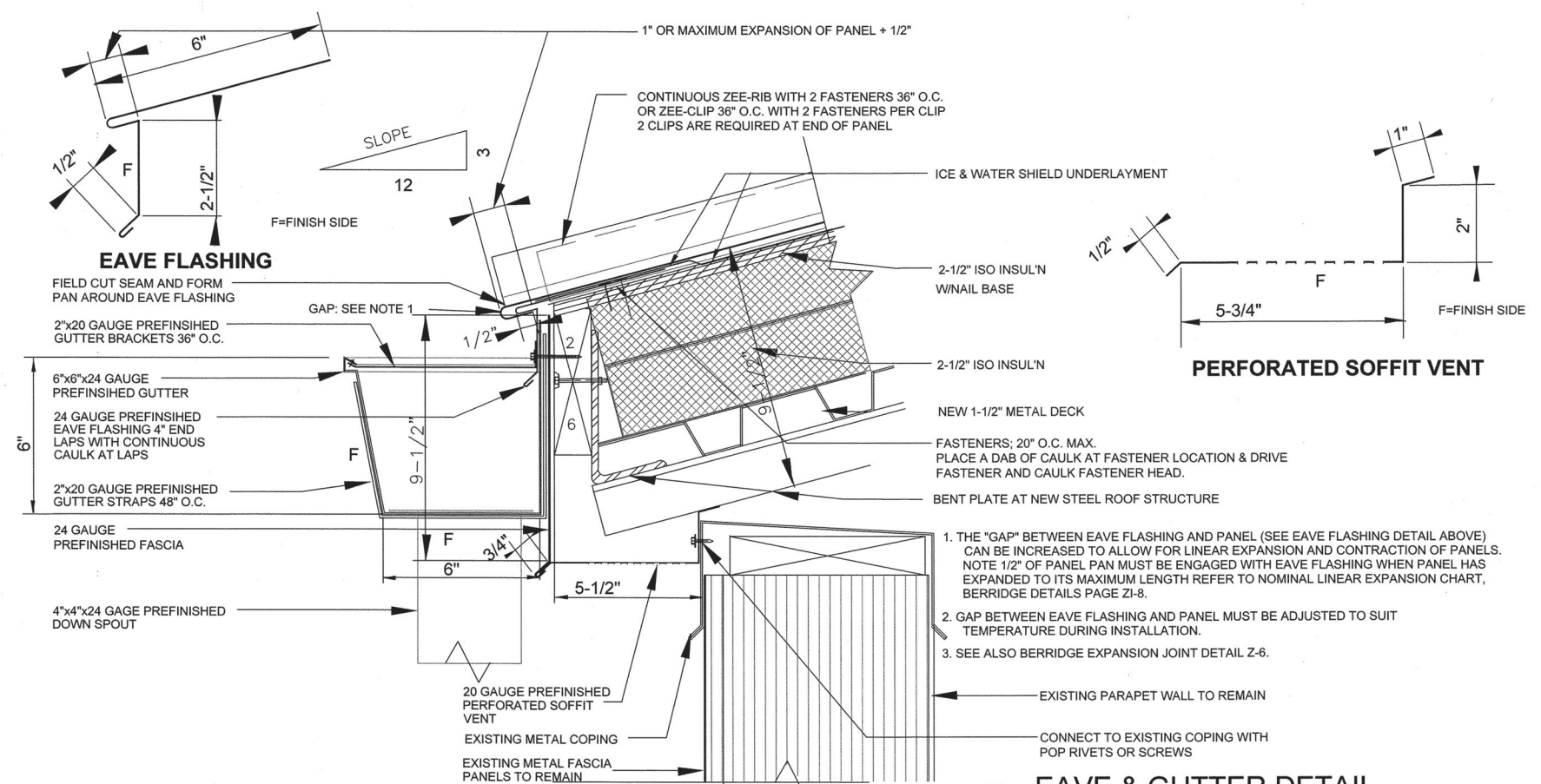
NOTES:

1. BERRIDGE ZEE-LOCK PANEL * - NO. 22 MSG MINIMUM THICKNESS COATED STEEL, (MIN. YIELD STRENGTH 40,000 PSI) 16 IN. WIDE, 2 IN. HIGH. PANELS. WITH EXTRUDED VINYL WEATHERSEAL ADJACENT PANELS ARE SEAMED TOGETHER ALONG SIDE LAPS USING AN ELECTRIC SEAMING TOOL - BERRIDGE MANUFACTURING CO. - "ZEE-LOCK PANEL"
2. BERRIDGE ZEE-RIB (CONTINUOUS) * - ONE PIECE ASSEMBLY FABRICATED FROM 22 MSG COATED STEEL, (MIN. YIELD STRENGTH 40,000 PSI) ZEE-RIB LOCATED AT EACH PANEL SIDE LAP BEING CONTINUOUS.
3. FASTENERS (SCREWS) - FOR ATTACHING "ZEE-RIB" (ITEM 2) TO NAIL BASE INSULATION (ITEM 5 & 6) USE NO. 12 SELF-DRILLING, SELF-TAPPING STEEL SCREWS. ONE FASTENER AT 24" O.C.
4. ICE & WATER SHIELD UNDERLAYMENT CONTINUOUS.
5. 1/2" NAIL BASE FACTORY INSTALLED ON INSULATION.
6. 2-1/2" THICK ISOYANURATE FOAM NAIL BASE ROOF INSULATION MECHANICALLY FASTENED.
8. 2-1/2" ISOYANURATE FOAM ROOF INSULATION MECHANICALLY FASTENED.
9. FASTENERS.
10. NEW METAL ROOF DECK.
11. NEW SUPPORTING STEEL STRUCTURE.



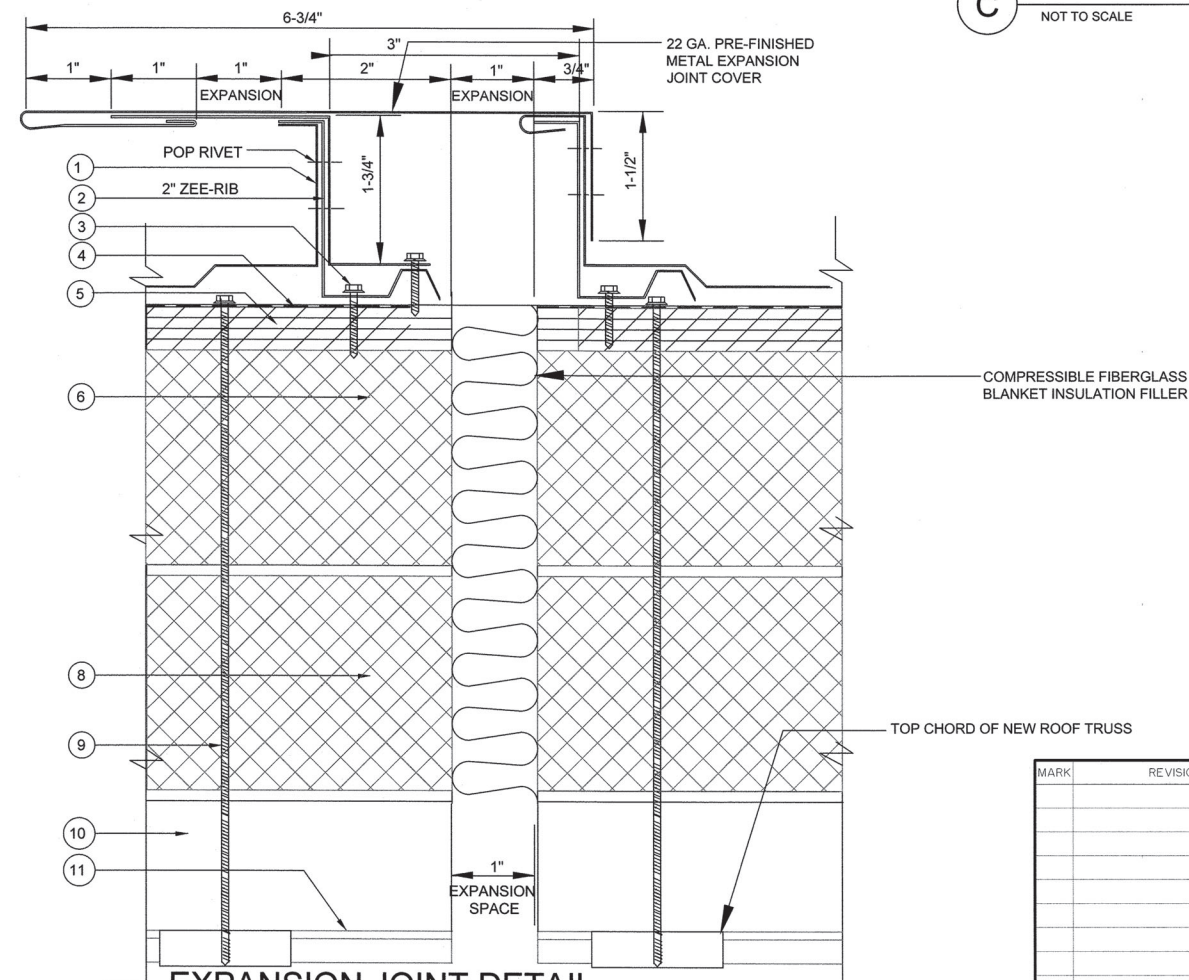
TYPICAL ROOF SEAM

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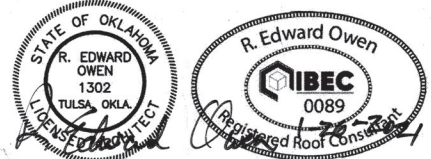
EAVE & GUTTER DETAIL

NOT TO SCALE



EXPANSION JOINT DETAIL

NOT TO SCALE



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ROOF REPLACEMENT AT SOUTH SIDE SECONDARY PUMP STATION

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ENGINEERING SERVICES DEPARTMENT

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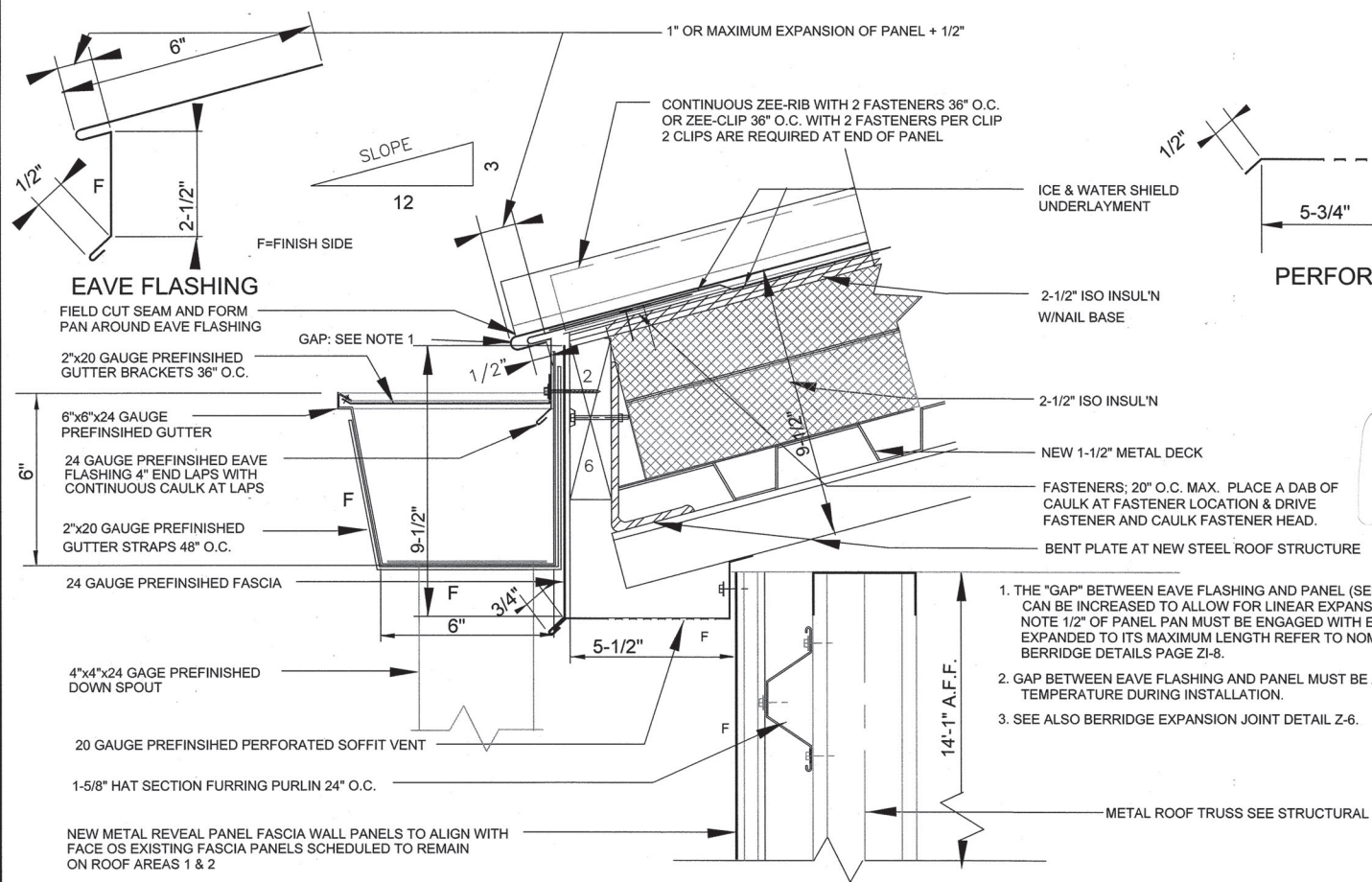


CYNTERGY, L.L.C.

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918-660-6844

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				AS NOTED	DESIGNED	LLV	
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				PROFILE SCALE:	PROJ. MGR.	NK 1/21	
				HORIZONTAL: Γ =	LEAD ENGR.	JMMH 2/21	
					FIELD MGR.	BW 2/21	
				VERTICAL Γ =	RECOMMENDED:	HKS 2-21	
					DESIGN MANAGER		
				FILE:	DRAWING:		CITY ENGINEER 
				ATLAS PAGE NO:			DATE: 3/3/21
				SHEET NAME:			SHEET 6 OF 11 SHEETS
				METAL ROOF DETAILS			SHEET NO. R1

R1



A EAVE & GUTTER DETAIL AT BREEZEWAY

NOT TO SCALE

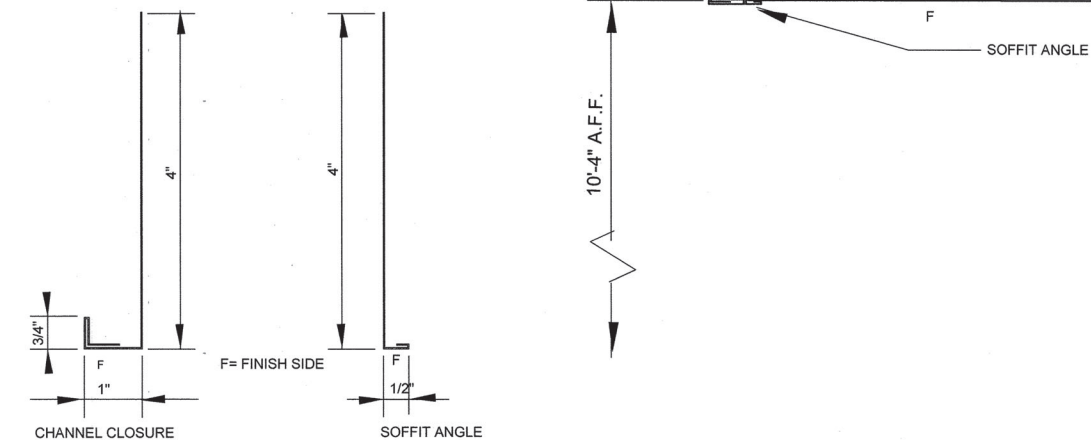
NEW METAL REVEAL PANEL FASCIA WALL PANELS TO ALIGN WITH FACE OS EXISTING FASCIA PANELS SCHEDULED TO REMAIN ON ROOF AREAS 1 & 2

METAL ROOF TRUSS FRAMING SEE STRUCTURAL

1-5/8" HAT SECTION FURRING PURLIN 24" O.C.

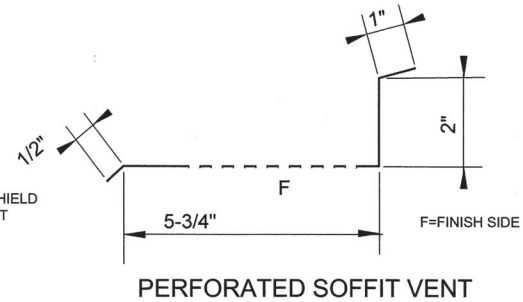
FLUSH PANEL SOFFIT WITH FLUSH SEAM

CHANNEL CLOSURE BUTT END JOINTS FOR WEEP



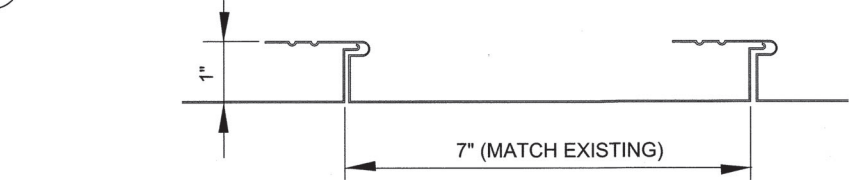
B NEW FASCIA & SOFFIT AT BREEZEWAY

NOT TO SCALE

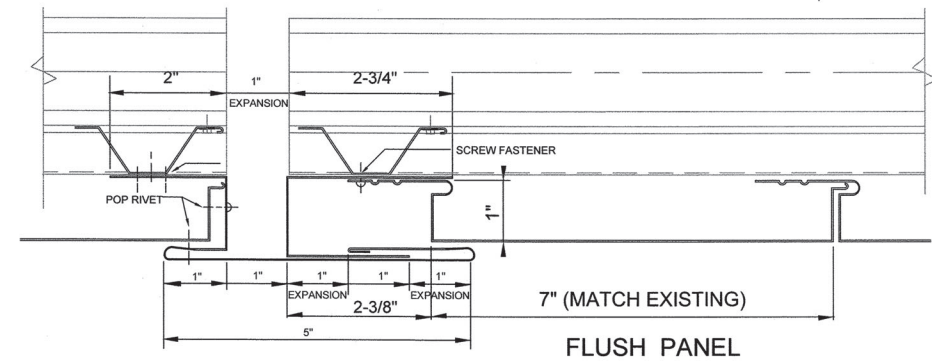


C SOFFIT AT BREEZEWAY FASCIA

NOT TO SCALE

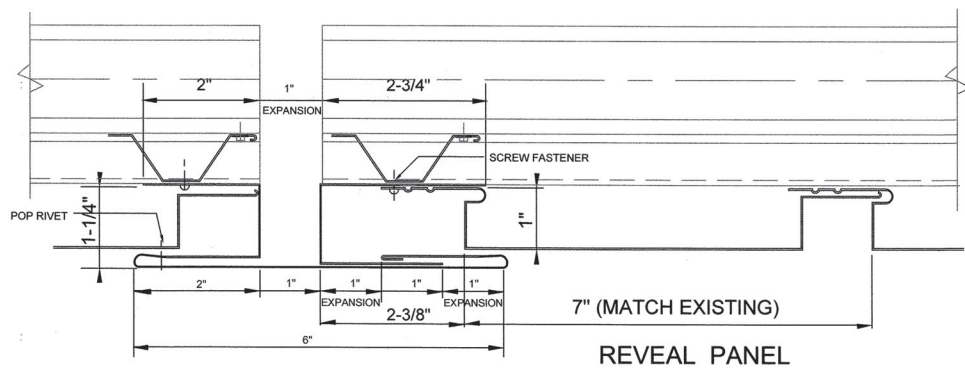


FLUSH PANEL



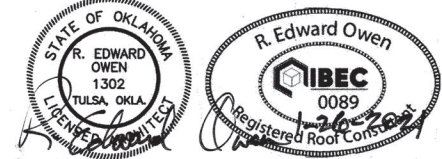
D SOFFIT EXPANSION JOINT

NOT TO SCALE



E FASCIA EXPANSION JOINT

NOT TO SCALE



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ROOF REPLACEMENT AT
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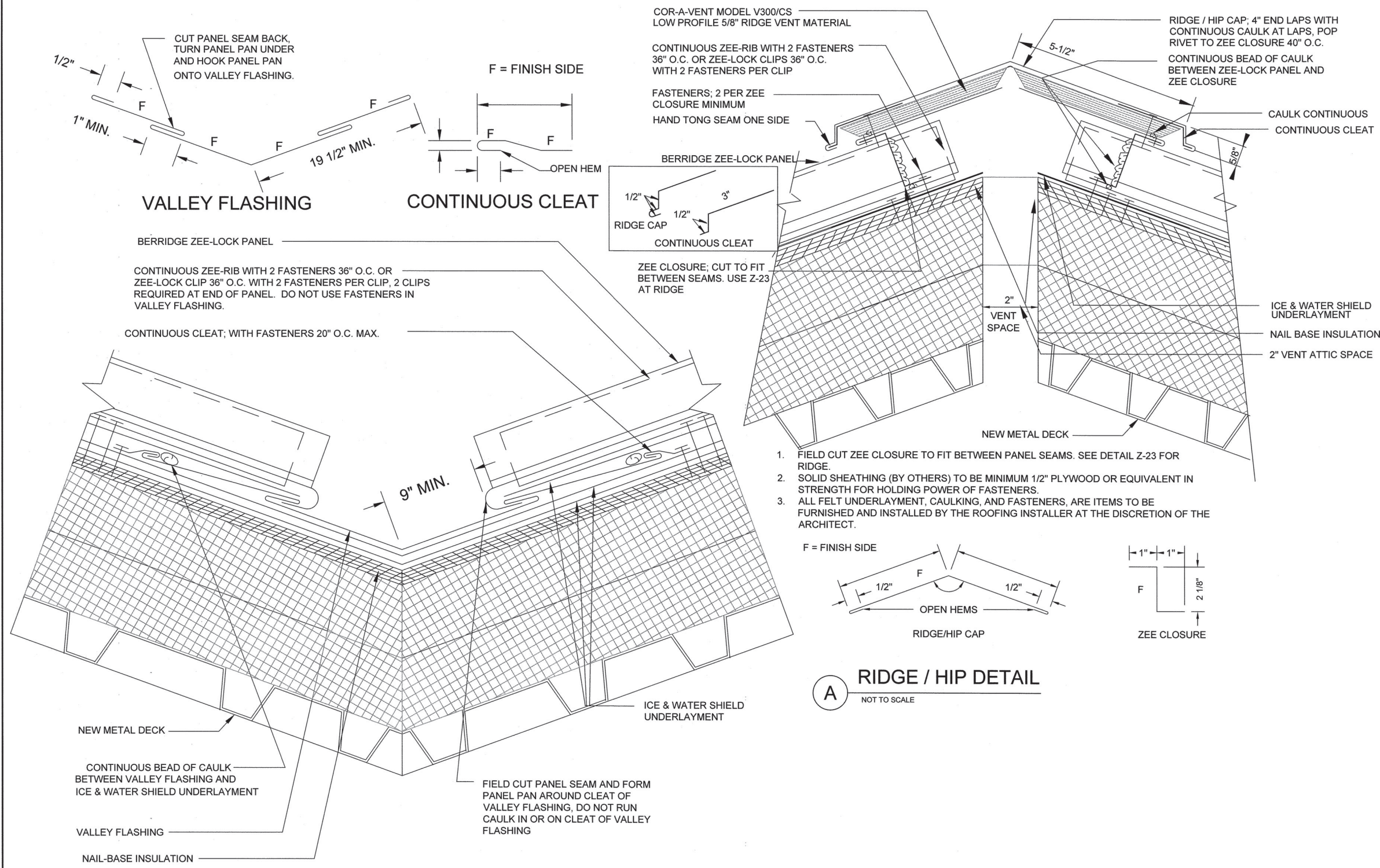
CYNERGY, L.L.C.

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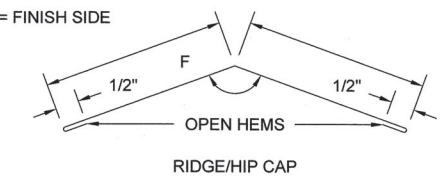
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				PROFILE SCALE:	PROJ. MGR.	LLV	
					LEAD ENGR.	LLV	
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				VERTICAL:	DESIGN MANAGER	LLV	
				FILE:	DRAWING:		
				ATLAS PAGE NO.			
				SHEET NAME:			

FASCIA & SOFFIT DETAILS

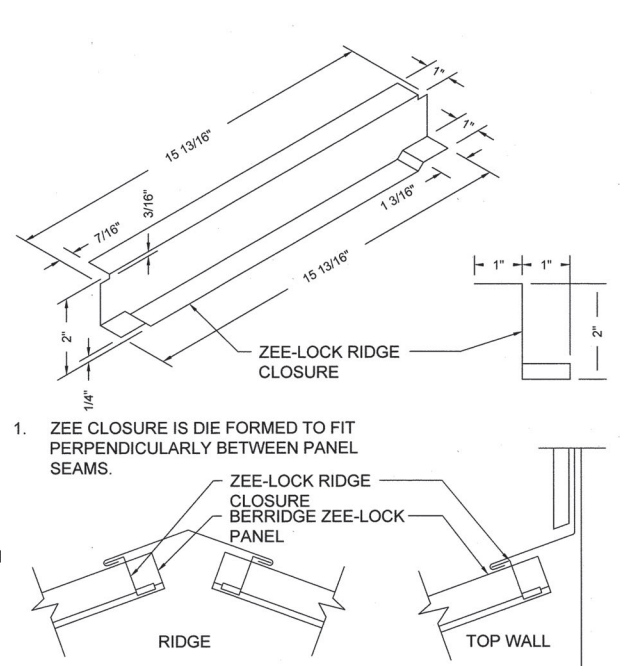
R2



1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN PANEL SEAMS. SEE DETAIL Z-23 FOR RIDGE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



A RIDGE / HIP DETAIL
NOT TO SCALE



B RIDGE HIP CLOSURE

STATE OF OKLAHOMA
R. EDWARD OWEN
1302
TULSA, OKLA.
LICENSED PROFESSIONAL ENGINEER

R. Edward Owen
IBEC
0089
1-26-2021
Registered Roof Consultant

OKLAHOMA CERTIFICATE OF AUTHORITY #911
EXPIRES 7-30-2021

REFER TO BERRIDGE DETAIL Z-71 FOR VALLEY FLASHING LAPPING

1. FOR EXPANSION AND CONTRACTION OF PANELS, SEE ZI-8 AND Z-10.
2. SOLID SHEATHING TO BE A MINIMUM OF 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

B VALLEY DETAIL
NOT TO SCALE

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	LLV	
					SURVEY		
				PROFILE SCALE:	PROJ. MGR.	Mr. Van	
					LEAD ENGR.	2/12/21	
				HORIZONTAL:	FIELD MGR.	2/12/21	
				1" =	RECOMMENDED	Has 2-21	
				VERTICAL:	DESIGN MANAGER		
				1" =			
				FILE:	DRAWING:		
				ATLAS PAGE NO.			
				SHEET NAME:			
				METAL ROOF DETAILS			

DATE: 2/3/21
SHEET 8 OF 11 SHEETS
SHEET NO. R3

DESIGN CRITERIA

1.	THE STRUCTURAL DESIGN IS BASED ON THE DESIGN REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.			
2.	ROOF DESIGN LOADS			
	LIVE LOAD	20	PSF	
	CATWALK LIVE LOAD	20	PSF	
	DEAD LOADS	MAX	MIN	
	METAL ROOFING	2.5	PSF	2.5
	NAIL BASE	1	PSF	1
	INSULATION	12	PSF	2
	METAL DECKING	2.5	PSF	2.5
	TRUSSES AND BRIDGING	3	PSF	3
	MISC	1	PSF	—
	TOTAL DEAD LOAD	22	PSF	11
	SNOW LOADS AND COEFFICIENTS			
	SNOW EXPOSURE FACTOR	1.0		
	GROUND SNOW	10	PSF	
	ROOF SNOW	10	PSF	
	IMPORTANCE FACTOR	1.0		
	THERMAL FACTOR	1.2		
3.	LATERAL LOADS			
	WIND LOADS AND COEFFICIENTS			
	ULTIMATE DESIGN WIND VELOCITY	115	MPH	
	NOMINAL DESIGN WIND VELOCITY	90	MPH	
	EXPOSURE	C		
	WIDTH OF EDGE ZONE	5'-6"		
	BUILDING CATEGORY	II		
	INTERNAL PRESSURE COEFFICIENT	±/- 0.18		
	DESIGN WIND PRESSURES			
	MWFRS			
	WALLS	27.22	PSF	
	ROOF	RE:1-S0		
	COMPONENTS & CLADDING			
	WALLS			
	TRIBUTARY AREA ≤ 10 FT²			
	INTERIOR ZONE	31.94	PSF	
	EXTERIOR ZONE	39.42	PSF	
	TRIBUTARY AREA ≥ 500 FT²			
	INTERIOR ZONE	24.45	PSF	
	EXTERIOR ZONE	24.45	PSF	
	ROOF UPLIFT	RE:2-S0		
	COMPONENTS AND CLADDING			
	SEISMIC DESIGN			
	I _s	1.0		
	S ₁	0.131		
	S ₂	0.069		
	SITE CLASS	D		
	S _{DS}	0.14		
	S _{D1}	0.11		
	SEISMIC DESIGN CATEGORY	B		
	BASIC SEISMIC FORCE RESISTING SYSTEM:			
	ORDINARY REINFORCED MASONRY SHEAR WALLS			
	ANALYSIS PROCEDURE:			
	EQUIVALENT LATERAL FORCE PROCEDURE			
	DESIGN BASE SHEAR	35 K		
	C _s	0.07		
	R	2		

COLD FORMED STEEL FRAMING

1.

COLD FORMED STRUCTURAL STEEL FRAMING SHALL CONFORM TO THE AMERICAN IRON AND STEEL INSTITUTE (A.I.S.I.) "DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", MOST CURRENT ADOPTED EDITION.
2.

ALL FRAMING MEMBERS SHALL BE FINISHED WITH A CORROSION RESISTANT COATING, CORRESPONDING TO THE REQUIREMENTS OF ASTM A653 AND THE FOLLOWING MATERIAL PROPERTIES.
- | | | |
|------------------------------|-------------|---------------|
| FRAMING MEMBER | GAUGE | MINIMUM YIELD |
| STUDS, JOISTS | 18,20 | 33 KSI |
| STUDS, JOISTS | 10,12,14,16 | 50 KSI |
| TRACKS | 18,20 | 33 KSI |
| SOLID BLOCKING SAME AS STUDS | | |
3.

ALL COLD FORMED STEEL FRAMING SHALL BE FASTENED WITH EITHER SELF-DRILLING SCREWS OR WELDING AS SHOWN ON THE CONSTRUCTION DOCUMENTS. WIRE TYING OF THE COMPONENTS IS NOT PERMITTED. ALL WELDS ARE TO BE PAINTED WITH ZINC RICH PAINT.
4.

ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS USING E70XX ELECTRODES IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) STANDARD D1.3.
5.

ATTACH NON BEARING STUDS TO STEEL FRAMING WITH VERTICAL DEFLECTION CLIPS.
6.

ALL COLD FORMED STEEL FRAMING MEMBERS SHALL HAVE A FLANGE WIDTH OF 1 5/8" AND A LIP WIDTH OF 1/2", U.N.O. ON PLANS AND DETAILS.
7.

COLD FORMED SECTIONS ARE PER SSMA STANDARDS. THE EXAMPLE DESIGNATION IS AS FOLLOWS:
A B C D
362 S 162 33
A=MEMBER DEPTH EXAMPLES: (362x.01=3.62=3½") (600x.01=6.00=6")
B=STYLE DESIGNATION:
S=STUD OR JOIST, T=TRACK, U=CHANNEL, F=FURRING CHANNEL
C=FLANGE WIDTH EXAMPLE: (162x.01=1.62=1½")
D=MATERIAL THICKNESS IN MILS (33x.001=.033 IN):
22GA=.0269=27,
20GA DRYWALL=.0296=30,
20GA STRUCTURAL=.0329=33,
18GA=.0428=43,
16GA=.0538=54,
14GA=.0677=68,
12GA=.0966=97
8.

BRIDGING OF AXIAL AND TRANSVERSE LOADED STUD FRAMING SHALL BE ACCOMPLISHED BY EITHER COLD FORMED CHANNELS RUN HORIZONTALLY THROUGH THE STUD PUNCHOUTS AND ATTACHED AT EACH STUD OR BY 2" MINIMUM WIDE STEEL STRAPS RUN HORIZONTALLY, ON BOTH SIDES OF STUDS, AND ATTACHED TO EACH STUD. THE VERTICAL SPACING OF THE BRIDGING SHALL BE AT A MINIMUM OF 4'-0" O.C.

GENERAL

1.

CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE TEMPORARY SUPPORT AND STABILITY OF EXISTING STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
2.

COORDINATE ALL DIMENSIONS WITH FLOOR PLAN; NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
3.

COORDINATE THE EXACT SIZE AND LOCATION OF ALL SLEEVES AND OPENINGS THROUGH CONCRETE, MASONRY, OR STUD WALLS AND CONCRETE FLOORS WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
4.

SHOP DRAWINGS MUST INDICATE CHANGES TO CONSTRUCTION DOCUMENTS. THE CHANGES MUST BE CLEARLY IDENTIFIED. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR CHANGES SHOWN ON SHOP DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL CHANGES TO THE DESIGN PROVIDED ON SHOP DRAWINGS. THE ARCHITECT/ENGINEER SHALL NOT BEAR THE COSTS OF SUCH REVIEWS OR REDESIGN.
5.

PROJECT SPECIFICATIONS, IF PROVIDED, ARE PART OF THE CONSTRUCTION DOCUMENTS AND ARE TO BE USED IN CONJUNCTION WITH THE DRAWINGS.
6.

VERIFY ALL CONDITIONS, EXISTING AND NEW, SHOWN ON THE CONSTRUCTION DOCUMENTS PRIOR TO PROCEEDING WITH WORK. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER IN WRITTEN FORM. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR WORK DONE IN THESE AREAS WITHOUT CLARIFICATION IN WRITING FROM THE ARCHITECT/ENGINEER.
7.

ALL PHASES OF CONSTRUCTION SHALL CONFORM TO THE MINIMUM STANDARDS OF THE BUILDING CODE(S) NOTED IN "DESIGN CRITERIA".
8.

DIMENSIONS SHOWN ON CONSTRUCTION DOCUMENTS TAKE PRIORITY OVER SCALED DIMENSIONS. IN SOME CASES PLANS AND DETAILS MAY NOT BE DRAWN TO SCALE FOR CLARITY.
9.

DETAILS LABELED "TYPICAL" ON THESE DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY ENGINEER OF ANY CONDITIONS NOT APPLICABLE TO THESE "TYPICAL" DETAILS.
10.

DO NOT LOAD THE CONCRETE SLAB ON GRADE WITH ERECTION EQUIPMENT. THE SLABS HAVE NOT BEEN DESIGNED FOR ERECTION EQUIPMENT LOADS. SHOULD THE CONTRACTOR REQUIRE ERECTION EQUIPMENT TO BE PLACED ON SLAB ON GRADE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE SLAB IN THE AFFECTED AREAS.
11.

DO NOT STACK CONSTRUCTION MATERIALS ON FLOORS OR ROOFS DURING CONSTRUCTION IN EXCESS OF 80 PERCENT OF THE DESIGN LIVE LOAD NOTED ON THESE PLANS.
12.

THESE STRUCTURAL CONSTRUCTION DOCUMENTS ARE TO BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION, LANDSCAPE, AND CIVIL CONSTRUCTION DOCUMENTS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE INFORMATION SHOWN ON ALL REFERENCED PLANS. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED IN WRITING SHOULD DISCREPANCIES IN THE CONSTRUCTION DOCUMENTS BE FOUND PRIOR TO COMMENCING WITH WORK IN THE AREA WHERE THE DISCREPANCY OCCURS. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR WORK DONE IN THESE AREAS WITHOUT CLARIFICATION IN WRITING FROM THE ARCHITECT/ENGINEER.
13.

SUBSTITUTION REQUESTS: APPROVAL FROM THE ARCHITECT/ENGINEER IS REQUIRED PRIOR TO SUBSTITUTING COMPARABLE MATERIALS OR MANUFACTURED OR PRE-ENGINEERED PRODUCTS THAT ARE INDICATED IN THE CONSTRUCTION DOCUMENTS. ALL REQUESTS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE. ALL NECESSARY INFORMATION REQUIRED TO DETERMINE THE EQUIVALENCY OF THE SUBSTITUTED PRODUCT SUCH AS ICC EVALUATION REPORTS AND TESTING REPORTS SHALL BE PROVIDED. COMPARABLE PRODUCTS SUBMITTED MUST INCLUDE A DETAILED LINE-BY-LINE COMPARISON OF HOW THE SUBMITTED PRODUCT MEETS OR EXCEEDS THE GENERAL DESIGN, PERFORMANCE, AND QUALITY INDICATED IN THE CONSTRUCTION DOCUMENTS. THE MANUFACTURER OR CATALOG NUMBERS SHOWN IN THE CONSTRUCTION DOCUMENTS ESTABLISH A STANDARD FOR THE GENERAL DESIGN, PERFORMANCE, AND QUALITY OF THE PRODUCT REQUIRED, WHERE "OR APPROVED EQUAL" IS INDICATED, OTHER PRODUCTS SIMILAR TO DESIGN AND OF EQUAL QUALITY AND PERFORMANCE, AND COMPLYING WITH THE PLANS AND SPECIFICATIONS MAY BE APPROVED IF FOUND ACCEPTABLE BY THE ARCHITECT/ENGINEER. ALL SUBSTITUTION REQUESTS, INCLUDING "ENGINEER APPROVED EQUALS", FOR EQUIPMENT AND MATERIALS SHALL BE SUBMITTED FOR REVIEW AFTER AWARD IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. UNLESS NOTED OTHERWISE, SUBSTITUTION REQUESTS SHALL BE SUBMITTED WITHIN 14 DAYS AFTER AWARD. THE ARCHITECT/ENGINEER SHALL NOT BEAR THE COSTS FOR REVIEW AND APPROVAL OF ALL REQUESTED SUBSTITUTIONS.
14.

CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, AS WELL AS SEQUENCE OF CONSTRUCTION THAT DOES NOT IMPACT THE FINAL DESIGN AS SHOWN ON CONSTRUCTION DOCUMENTS.
15.

MECHANICAL UNITS AND OTHER SYSTEMS, SUCH AS ELEVATORS, SHOWN ON THE STRUCTURAL PLANS INDICATE A SPECIFIC WEIGHT AND LOCATION. SHOULD THE CONTRACTOR INSTALL UNITS AND SYSTEMS WITH DIFFERENT WEIGHTS OR LOCATIONS THAN SHOWN, THE CONTRACTOR SHALL PROVIDE THIS INFORMATION TO THE STRUCTURAL ENGINEER FOR APPROVAL, PRIOR TO PURCHASING, CLEARLY INDICATING THE DIFFERENCES IN SIZE, WEIGHT AND LOCATION. THE ARCHITECT/ENGINEER SHALL NOT BEAR THE COSTS OF SUCH REVIEWS OR REDESIGNS.

COLD-FORMED STEEL TRUSSES

1.

ALL PRE-FABRICATED PRE-ENGINEERED COLD-FORMED STEEL TRUSS DESIGN, DETAILING AND INSTALLATION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

A.

NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI-S100).

B.

AISI/COFS GENERAL PROVISIONS (AISI-S200)

C.

AISI/COFS CODE OF STANDARD PRACTICE (AISI-S202)

D.

AISI/COFS TRUSS DESIGN (AISI-S214)

E.

COLD-FORMED STEEL ENGINEERS INSTITUTE. (CFSEI)
2.

TRUSS DESIGNER SHALL DESIGN AND PROVIDE ALL TEMPORARY BRACING PER CFSEI AND COLD -FORMED STEEL BUILDING COMPONENTS SAFETY INFORMATION (CFSBCSI).
3.

TRUSS DESIGNER SHALL DESIGN AND PROVIDE ALL PERMANENT BRACING IN ACCORDANCE WITH THE CFSEI RECOMMENDATIONS.
4.

TRUSS MANUFACTURER SHALL PROVIDE A COMPLETE SET OF SHOP DRAWINGS INDICATING THE TRUSS MANUFACTURER, VERIFICATION OF MEETING STEEL TRUSS AND COMPONENT ASSOCIATION (STCA) "QUALITY STANDARD FOR STEEL TRUSS AND COMPONENT MANUFACTURING" AND STRUCTURAL CALCULATIONS SIGNED AND SEALED BY A LICENSED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED, PRIOR TO FABRICATION.
5.

SUBMIT A COMPLETE SET OF ERECTION DRAWINGS WITH SIZE AND LOCATION OF TEMPORARY AND PERMANENT BRACING, INCLUDING ANY PROVISIONS FOR FIELD ASSEMBLY OF SPECIAL INDIVIDUAL TRUSSES. ERECTION DRAWING SHALL BE PREPARED SPECIFICALLY FOR THIS PROJECT. REFERENCE TO COMMENTARY AND RECOMMENDATIONS NOTED ABOVE IS NOT ACCEPTABLE AS A SUBSTITUTION FOR THIS REQUIREMENT.
6.

ANY FIELD CHANGES TO THE TRUSSES IS NOT ALLOWED UNLESS DOCUMENTATION IS PROVIDED BY THE TRUSS ENGINEER SIGNED AND SEALED, PRIOR TO THESE CHANGES BEING MADE.
7.

TRUSS TO TRUSS CONNECTIONS ARE THE RESPONSIBILITY OF THE TRUSS DESIGNER.
8.

REPAIR OR REPLACE DAMAGED CHORDS, WEBS AND COMPLETED TRUSS AS DIRECTED AND APPROVED IN WRITING BY THE ENGINEER OF RECORD FOR THE BUILDING, THE ENGINEER FOR THE TRUSS DESIGN AND THE TRUSS MANUFACTURER

STRUCTURAL STEEL

1.

STRUCTURAL STEEL SHALL BE DETAILED, DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL BUILDINGS, AISC MANUAL OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN), AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AND THE AWS STRUCTURAL WELDING CODE. ALL CODES AND MANUALS SHALL BE THE LATEST ADOPTED EDITIONS.
2.

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

WIDE FLANGE SHAPES

A992 (F_y=50 KSI)

CHANNELS, ANGLES, PLATES, ETC.

A36 (F_y=36 KSI)

STRUCTURAL TUBE

A500 GRADE B (F_y=46 KSI)

STRUCTURAL PIPE

A53 TYPE B GRADE B (F_y=35 KSI)

BOLTS

A325 OR A490

WELDING ELECTRODES

E70XX

HARDENED STEEL WASHERS

ASTM F436
3.

CONNECTION MATERIALS FOR STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATIONS:

BEAM OR COLUMN STIFFENER PLATES SHALL BE OF THE SAME GRADE OF STEEL AS THE STRUCTURAL ELEMENT.

ALL BOLTED CONNECTIONS ARE TO BE ERECTED WITH HIGH STRENGTH BOLTS, ASTM A325 OR ASTM A490, WITH BEARING TYPE "N" ALLOWABLE LOADS EXCEPT FOR BRACE CONNECTIONS WHICH ARE SLIP CRITICAL CONNECTIONS.

ALL BEAM TO BEAM AND COLUMN TO BEAM CONNECTIONS SHALL BE BOLTED UNLESS NOTED OTHERWISE.

ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) STANDARD D1.1. ALL WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED IN THE TYPE OF WELD REQUIRED USING E70XX ELECTRODES OR IN A CERTIFIED SHOP TO DO SUCH WORK.

MINIMUM SIZE AND STRENGTH OF WELDS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

PROVIDE MINIMUM SIZE OF FILLET WELDS AS SPECIFIED IN TABLE J2.4 OF THE AISC MANUAL.

PROVIDE THE MINIMUM EFFECTIVE THROAT THICKNESS OF PARTIAL PENETRATION GROOVE WELDS AS SPECIFIED IN TABLE J2.3 OF THE AISC MANUAL.

DEVELOP THE FULL TENSILE STRENGTH OF THE MEMBER ELEMENT JOINED, WITH SHOP AND FIELD WELDS, UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DOCUMENTS.

WHERE CONNECTIONS ARE NOTED ON CONSTRUCTION DOCUMENTS AS FULL MOMENT CONNECTIONS, PROVIDE WELDS TO DEVELOP THE FULL FLEXURAL CAPACITY OF THE LEAST CAPACITY MEMBER OF THE CONNECTION.
7.

ALL STRUCTURAL STEEL EXPOSED TO THE WEATHER IS TO BE HOT-DIP GALVANIZED. PROVIDE BOLTS, NUTS AND WASHERS THAT ARE HOT-DIP GALVANIZED ACCORDING TO ASTM A153, CLASS C.
8.

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.
9.

SPLICING OF STRUCTURAL STEEL MEMBERS IS NOT ALLOWED UNLESS SPECIFICALLY DETAILED ON THESE PLANS.
10.

DO NOT FIELD CUT ANY STRUCTURAL STEEL MEMBERS IN CONFLICT WITH THE WORK WITHOUT APPROVAL BY THE ENGINEER OR UNLESS SPECIFICALLY SHOWN ON THE CONSTRUCTION DOCUMENTS.
11.

PROVIDE HARDENED STEEL WASHERS CONFORMING TO ASTM F436 FOR CONNECTIONS WITH STANDARD AND SHORT-SLOTTED HOLES. FOR LONG SLOTTED HOLES, PROVIDE STRUCTURAL-GRADE STEEL ¾" PLATE WASHERS OR CONTINUOUS BARS. IN ALL CASES, WASHER OR PLATE MUST BE OF SUFFICIENT SIZE TO COVER THE HOLE OR SLOT.
12.

ALL HOLES IN STEEL MEMBERS SHALL BE DRILLED OR PUNCHED. TORCH CUT HOLES ARE NOT ALLOWED.
13.

PROVIDE 14x3x1/4 (LLV) FRAME SPANNING FROM JOIST TO JOIST AROUND ALL ROOF PENETRATIONS LARGER THAN 12"x12", UNLESS NOTED OTHERWISE.
14.

ERECT AND MAINTAIN TEMPORARY BRACING TO ENSURE THE ALIGNMENT AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION UNTIL PERMANENT CONDITIONS HAVE BEEN COMPLETED.
15.

PROVIDE 1 1/2 INCHES OF NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES. NON-SHRINK GROUT SHALL BE NONMETALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
16.

SHOP DRAWINGS ARE REQUIRED TO BE REVIEWED PRIOR TO FABRICATION.
17.

THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS THAT ARE NOT FULLY DETAILED ON THESE DRAWINGS. BEAM CONNECTIONS SHALL BE DESIGNED TO RESIST ONE HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY OF GIVEN SHAPE AND SPAN IN ADDITION TO ANY AXIAL FORCE NOTED ON THE PLANS IN ACCORDANCE WITH THE AISC SPECIFICATION. CALCULATIONS AND DETAILS SHALL BE PERFORMED, SIGNED AND SEALED BY AN ENGINEERING LICENSED IN THE STATE OF OKLAHOMA AND SHALL BE PROVIDED TO THE ENGINEER OF RECORD FOR APPROVAL. RE: DETAILS FOR TYPICAL CONNECTION REQUIREMENTS.

TEST AND INSPECTIONS

1.

SPECIAL TESTS AND INSPECTIONS: ENGAGE A QUALIFIED TESTING AGENCY AND SPECIAL INSPECTOR TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION, AS INDICATED ON CONTRACT DOCUMENTS.
2.

SPECIAL TESTS AND INSPECTIONS: CONDUCTED BY A QUALIFIED TESTING AGENCY AND SPECIAL INSPECTOR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND AS FOLLOWS:

2.1.

VERIFYING THAT MANUFACTURER MAINTAINS DETAILED FABRICATION AND QUALITY-CONTROL PROCEDURES AND REVIEWING THE COMPLETENESS AND ADEQUACY OF THOSE PROCEDURES TO PERFORM THE WORK.

2.2.

NOTIFYING ENGINEER AND CONTRACTOR PROMPTLY OF IRREGULARITIES AND DEFICIENCIES OBSERVED IN THE WORK DURING THE PERFORMANCE OF ITS SERVICE.

2.3.

SUBMITTING A CERTIFIED WRITTEN REPORT OF EACH TEST, INSPECTION AND SIMILAR QUALITY-CONTROL SERVICE TO ENGINEER WITH COPY TO CONTRACTOR AND TO AUTHORITIES HAVING JURISDICTION.

2.4.

SUBMITTING A FINAL REPORT OF SPECIAL TESTS AND INSPECTIONS AT SUBSTANTIAL COMPLETION, WHICH INCLUDES A LIST OF UNRESOLVED DEFICIENCIES.

2.5.

INTERPRETING TESTS AND INSPECTIONS AND STATING IN EACH REPORT WHETHER TESTED AND INSPECTED WORK COMPLIES WITH OR DEVIATES FROM THE CONTRACT DOCUMENTS.

2.6.

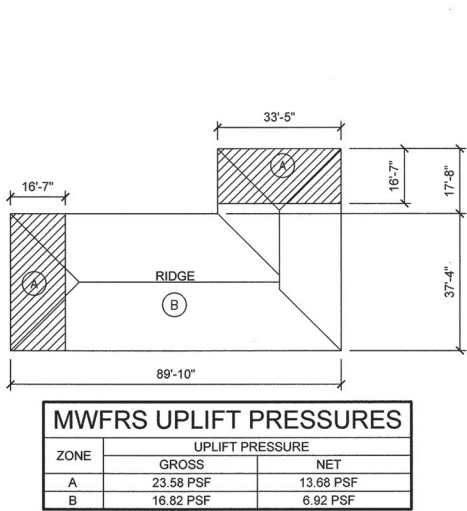
RE-TESTING AND RE-INSPECTING CORRECTED WORK.
3.

ALL MATERIALS FOR CONCRETE (CEMENT, AGGREGATE, REBAR, ETC.) SHALL BE TESTED FROM STOCK. COPIES OR CERTIFICATIONS TO MEET SPECIFICATION REQUIREMENTS SHALL BE SUPPLIED UPON REQUEST BY THE CONTRACTING OFFICER'S REPRESENTATIVE. REFER TO SPECIFICATIONS FOR INSPECTION AND TESTING REQUIREMENTS FOR EACH MATERIAL (MASONRY, CONCRETE, STEEL, ETC.). ALL TESTS SHALL BE PER ASTM STANDARDS.
4.

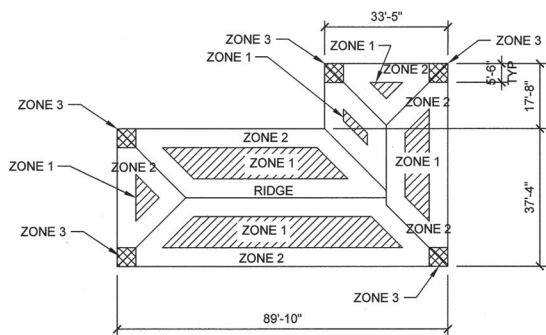
SPECIAL INSPECTIONS ARE REQUIRED FOR BUILDING CODE(S) NOTED IN "DESIGN CRITERIA". REFER TO "SPECIAL INSPECTIONS REQUIRED" TABLE PROVIDED ON THIS SHEET.
6.

COMPACTION FOR FILL BENEATH SLABS SHALL BE TESTED AT EACH LIFT WITH MINIMUM THREE TESTS PER 2,000 SQUARE FEET.
7.

THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN WORK IS READY FOR INSPECTION AND SHALL PROVIDE ACCESS FOR INSPECTIONS AND TESTING



1 MWFRS UPLIFT DIAGRAM NOT TO SCALE



ZONE	UPLIFT PRESSURE			
	A ≤ 10 FT²		A ≥ 100 FT²	
	GROSS	NET	GROSS	NET
1	26.9 PSF	17 PSF	24.8 PSF	14.9 PSF
2	46.9 PSF	37 PSF	36 PSF	26.1 PSF
3	69.4 PSF	59.5 PSF	56.3 PSF	48.4 PSF

COMPONENTS & CLADDING UPLIFT DIAGRAM

2 NOT TO SCALE

SPECIAL INSPECTIONS REQUIRED	
PERIODIC SPECIAL INSPECTIONS:	CONTINUOUS SPECIAL INSPECTIONS:
STEEL	STEEL
1. MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS, NUTS, AND WASHERS	1. INSPECTIONS OF HIGH STRENGTH BOLTING (SLIP-CRITICAL CONNECTIONS)
2. INSPECTIONS OF HIGH STRENGTH BOLTING (BEARING TYPE CONNECTIONS)	2. INSPECTION OF STRUCTURAL STEEL WELDING: A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS B. MULTIPASS FILLET WELDS C. SINGLE PASS FILLET WELDS GREATER THAN 5/16"
3. INSPECTION OF STRUCTURAL STEEL WELDING: A. SINGLE PASS FILLET WELDS ≤ 5/16" B. FLOOR AND DECK WELDING	
4. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS: A. DETAILS SUCH AS BRACING AND STIFFENING B. MEMBER LOCATIONS C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	

STEEL DECKING

1.

ROOF STEEL DECK SHALL CONFORM TO ASTM A1008 OR A853 WITH A MINIMUM YIELD STRENGTH OF 33 KSI.
2.

ROOF DECK SHALL BE GALVANIZED ACCORDING TO THE SPECIFICATIONS.
3.

FURNISH DECK PANELS OF SIZE AND GAUGE AS NOTED ON THE CONSTRUCTION DOCUMENTS.
4.

FURNISH DECK PANELS IN LENGTHS ADEQUATE FOR A THREE SPAN CONDITION WHERE POSSIBLE FOR TYPE OF PROFILE AND GAUGE SHOWN.
5.

ATTACH DECK PANELS SECURELY TO SUPPORTS AND PROVIDE SIDE LAP CONNECTIONS AS SHOWN.
6.

PROVIDE A CONTINUOUS CLOSURE SECTION TO FACILITATE DECK SUPPORT AND ATTACHMENT AS REQUIRED OR WHERE CHANGES OF DECK DIRECTION OCCUR. THE CLOSURE STRIP IS TO BE THE SAME GAUGE AS DECKING, MINIMUM.



LARRY L. VORBA, P.E.
ENGINEER OF RECORD
CYNTERGY ENGINEERING, PLLC
CA # 3537
EXPIRES 6/30/2022

MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				AS NOTED	DESIGNED	SDW	
					SURVEY	DBB	
				PROFILE SCALE:	PROJ. MGR.	WV 2/21	
				HORIZONTAL, 1" =	LEAD ENGR.	WV 2/21	
					FIELD MGR.	WV 2/21	
				VERTICAL, 1" =	RECOMMENDED	WV 2/21	
					DESIGN MANAGER	WV 2/21	
				FILE:	DRAWING:		DATE: 5/3/21
				ATLAS PAGE NO.			SHEET 9 OF 11 SHEETS
				SHEET NAME:			SHEET NO. S0
				GENERAL NOTES			

STEEL INSPECTIONS REQUIRED		
STEEL BOLTING		
1.	MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS.	P
2.	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS.	O
3.	PROPER FASTENERS SELECTED FOR THE JOINT DETAIL.	O
4.	PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL.	O
5.	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.	O
6.	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED.	O
7.	PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS.	O
8.	FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED.	O
9.	JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION.	O
10.	FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING.	O
11.	FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.	O
12.	DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS.	P
STEEL WELDING		
1.	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE.	P
2.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.	P
3.	MATERIAL IDENTIFICATION (TYPE/GRADE).	O
4.	WELDER IDENTIFICATION SYSTEM.	O
5.	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY): A. JOINT PREPARATION B. DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) C. CLEANLINESS (CONDITION OF STEEL SURFACES) D. TACKING (TACK WELD QUALITY AND LOCATION) E. BACKING TYPE AND FIT (IF APPLICABLE)	O
6.	CONFIGURATION AND FINISH OF ACCESS HOLES.	O
7.	FIT-UP OF FILLET WELDS: A. DIMENSIONS (ALIGNMENT, GAPS AT ROOT) B. CLEANLINESS (CONDITION OF STEEL SURFACES) C. TACKING (TACK WELD QUALITY AND LOCATION)	O
8.	CHECK WELDING EQUIPMENT.	O
9.	USE OF QUALIFIED WELDERS.	O
10.	CONTROL AND HANDLING OF WELDING CONSUMABLES.	O
11.	NO WELDING OVER CRACKED TACK WELDS.	O
12.	ENVIRONMENTAL CONDITIONS.	O
13.	WELDING SPECIFICATION PROCEDURE FOLLOWED: A. SETTINGS ON WELDING EQUIPMENT B. TRAVEL SPEED C. SELECTED WELDING MATERIALS. D. SHIELDING GAS TYPE/FLOW RATE. E. PREHEAT APPLIED. F. INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) G. PROPER POSITION (F, V, H, OH).	O
14.	WELDING TECHNIQUES: A. INTERPASS AND FINAL CLEANING. B. EACH PASS WITHIN PROFILE LIMITATIONS. C. EACH PASS MEETS QUALITY REQUIREMENTS.	O
15.	WELDS CLEANED.	O
16.	SIZE, LENGTH AND LOCATION OF WELDS.	P
17.	WELDS MEET VISUAL ACCEPTANCE CRITERIA: A. CRACK PROHIBITION B. WELD/BASE-METAL FUSION C. CRATER CROSS SECTION D. WELD PROFILES E. WELD SIZE F. UNDERCUT G. POROSITY	P
18.	ARC STRIKES	P
19.	WELDING IN K-AREA VISUALLY INSPECTED FOR CRACKS WITHIN 3 INCHES OF WELD.	P
20.	BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED).	P
21.	REPAIR ACTIVITIES	P
22.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER.	P
O - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. P - PERFORM THESE TASKS FOR EACH JOINT, MEMBER OR STEEL ELEMENT.		
NOTE: IN ADDITION TO THE INSPECTION TASKS LISTED ABOVE, ULTRASONIC TESTING (UT) SHALL BE PERFORMED BY INSPECTOR ON 10% OF COMPLETE JOINT PENETRATION GROOVE WELDS IN BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN MATERIALS 5/16 INCHES THICK OR GREATER.		



LARRY L. VORBA, P.E.
ENGINEER OF RECORD
CYNTERGY ENGINEERING, PLLC
CA # 3537
EXPIRES 6/30/2022


ROOF REPLACEMENT AT
SOUTH SIDE SECONDARY PUMP STATION

PROJECT NO. SPI8-032

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
 **CYNTERGY, L.L.C.**

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MARK	REVISION	BY	DATE	PLAN SCALE:	DRAWN	EAE	APPROVED:
				DESIGNED	LLV		<div> CITY ENGINEER DATE: 3/3/21 SHEET 10 OF 11 SHEETS SHEET NO. S1</div>
				AS NOTED	SURVEY		
				PROFILE SCALE:	PROJ. MGR.	My Ym	
				HORIZONTAL: 1" =	LEAD ENGR.	has 3/21	
				VERTICAL: 1" =	FIELD MGR.	has 2/21	
					RECOMMENDED:	HAS 2-21	
					DESIGN MANAGER		
				FILE:	DRAWING:		
				ATLAS PAGE NO:			
				SHEET NAME:			
				STEEL INSPECTIONS			

