SHEET NO

TITLE

COMMON

COVER SHEET

G001

SUMMARY OF PAY ITEMS

TFD HEADQUARTERS

CS-1 BUILDING COVER SHEET A101-1 ROOF DEMOLITION PLAN

A102-1 ROOF PLAN

A102A-1 ALTERNATE CANOPY ROOF PLAN

A103-1 ROOF TAPERED PLAN A201-1 ELEVATION DEMOLITION

A202-1 ELEVATIONS A401-1 SECTIONS

A402-1 SECTIONS A403-1 SECTIONS A501-1 ROOF DETAILS

A502-1 ROOF DETAILS A503-1 DETAILS

EMS BUILDING

CS-2 BUILDING COVER SHEET

A101-2 DEMOLITION PLAN A102-2 ROOF PLAN

A102.1-2 TAPERED INSULATION PLANS

A501-2 ROOF DETAILS

FIRE STATION #5

CS-3 BUILDING COVER SHEET

A101-3 ROOF PLANS A501-3 ROOF DETAILS A502-3 ROOF DETAILS

STRUCTURAL

S001-3 GENERAL NOTES

S002-3 SPECIAL INSPECTIONS S101-3 ROOF FRAMING PLAN & DETAILS

A TO LLA NUO A L

M100 HVAC NOTES M101 HVAC PLANS

UTILITY COORDINATION BOX NUMBER NOTIFIED 918-596-9566 WATER DESIGN WASTEWATER DESIGN 918-596-9564 918-596-9636 TRANSPORTATION DESIGN 918-596-9749 TRAFFIC ENGINEERING DESIGN 918-596-9498 OKLAHOMA NATURAL GAS CO 918-831-8293 COX COMMUNICATIONS 918-286-4666 918-599-2233 PUBLIC SERVICE CO. / AEF 918-576-2142

CONSTRUCTION PLANS FOR TULSA FIRE DEPARTMENT ROOF REPLACEMENTS

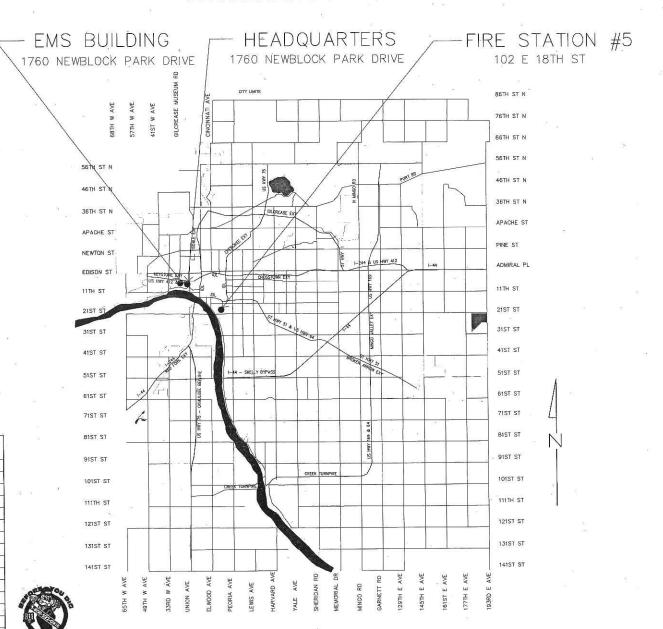
TFD HEADQUARTERS - EMS BUILDING - STATION #5

TFD HQ - 1760 NEWBLOCK PARK DRIVE EMS BUILDING - 1760 NEWBLOCK PARK DRIVE STATION #5 - 102 EAST 18TH STREET

PROJECT NUMBER: SP 17-12

ACCOUNT NO: 145400.BUILDINGS.5452101-4035122-541104

CITY OF TULSA ENGINEERING SERVICES DEPARTMENT



GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ORDINANCES, ENGINEERING SERVICES STANDARDS SPECIFICATIONS AND STANDARD DETAILS. (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES)
- 2. 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 WILL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF AND REMOVAL OF ALL UTILITIES.
- 4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.

PLANS PREPARED BY:

SGA Design Group, P.C. §

Christopher B. Soble, Architect 1437 South Boulder, Suite 550 Tulsa, Oklahoma 74119,3609 p: 918,587,8600 f: 918,587,8601 www.sgadasigngroup.com



DATE/STAMP/SIGNATURE



APPROVED BY



6/24/19 DATE

GENERAL SCOPE OF WORK		UNIT KEY
TFD HEADQUARTERS	ALLOW	ALLOWANCE
 REMOVE EXISTING ROOF MATERIALS, INSULATION, FLASHING, AND PARAPET WATERPROOFING. REMOVE ANY EXISTING CURBS AND REPLACE WITH NEW STEEL CURB. 	EA	EACH
 REMOVE EXISTING FASCIA AND SOFFIT PANELS AND WOOD FRAMING. REMOVE FASCIA AND METAL ROOF PANELS FROM EXISTING PARKING CANOPY. 	LF	LINEAR FEET
 INSTALL 1/4" PER FOOT TAPERED POLY ISO INSULATION FULLY ADHERED. INSTALL HIGH DENSITY COVER BOARD PROVIDE AND INSTALL D FULLY ADHERED, INSTALL 80 MILL TPO DENSITY COVER BOARD PROVIDE AND INSTALL DESCRIPTION OF THE PROPERTY OF	SF	SQUARE FEET
MEMBRANE ROOF FULLY ADHERED. INSTALL ALL ASSOCIATED FLASHING, WATERPROOFING PARAPET MEMBRANE, CAP FLASHING, AND SCUPPERS AND DOWNSPOUTS. REPLACE FASCIA, SOFFIT AND SUPPORT FRAMING	so	SQUARE (100 SQUARE FEET)
- CLEAN, REPAINT AND RECAULK BUILDING EXTERIOR.		
- REPLACE EXISTING INTERIOR ROOF LADDER		
 PROVIDE AND INSTALL ROOF TO ROOF ACCESS LADDERS. 	1	
- MISCELLANEOUS REPAIRS		

TFD EMS BUILDING

- REMOVE EXISTING ROOF MATERIALS, INSULATION, FLASHING, AND PARAPET WATERPROOFING.
 INSTALL 1/4" PER FOOT TAPERED POLY ISO INSULATION FULLY ADHERED. INSTALL HIGH DENSITY COVER BOARD FULLY ADHERED, INSTALL 80 MIL TPO MEMBRANE ROOF FULLY ADHERED. INSTALL ALL ASSOCIATED FLASHING, WATERPROOFING PARAPET MEMBRANE, CAP FLASHING, AND SCUPPERS AND DOWNSPOUTS.
 MISCELLANEOUS REPAIRS

FIRE STATION #5

ALTERNATE # 1 - Metal Canopy Extention

047 107300

- REMOVE EXISTING ROOF MATERIALS, INSULATION, FLASHING, AND PARAPET WATERPROOFING.

 REMOVE ANY EXISTING CURBS AND REPLACE WITH NEW STEEL CURB.

 INSTALL 1/4" PER FOOT TAPERED POLY ISO INSULATION FULLY ADHERED. INSTALL HIGH DENSITY COVER BOARD FULLY ADHERED, INSTALL 80 MIL TPO MEMBRANE ROOF FULLY ADHERED, INSTALL ALL ASSOCIATED FLASHING, WATERPROOFING PARAPET MEMBRANE, CAP

	IILDING: 1760 Newblock Park Drive, Tulsa, OK	É			Totale
	: 102 E. 18th Street, Tulsa OK OF PAY ITEMS	SP17-12			oraised Total
EM NO.	SPEC NO.	DESCRIPTION		UNIT	тот
001	Contract Documents and Division One	General Requirements	А	EA	1
002	012100	Allowances	В	ALLOW	
003	024119	Demolition Fascia Panels (HQ)	E	SF	46
004	024119	Power wash clean building exterior (HQ)	FF	SF	93
005	030140	Rehabilitation Of Structural Concrete (EMS)	W	SF	5
006	051200	Structural Steel RTU Support Framing (FS #5)	BB	EA	
007	053100	Steel Decking Replace (HQ)	С	SF	5
008	053100	Steel Decking Repair (HQ)	D	SF	5
009	053100	Steel Decking Overlay (FS #5)	S	SF	5
010	055000	Fixed Ladder (HQ)	G	EA EA	+
011	055000	Remove and Replace Fixed Ladder (HQ)	X	EA	-
012	055000	Remove and Replace Fixed Ladder (FS #5)	CC	EA	1
013	055000	Modify Balcony Guardrall (FS #5)	T	SF	2
014	061053	Wood Soffit (FS #5) Metal Wall Panel/Soffit (HQ)	н	SF SF	46
015 016	074213 070150	Preparation for Re-Roofing (HQ)	F	SQ	1
017	070150	Preparation for Re-Roofing (EMS)	F	SQ	-
018	070150	Preparation for Re-Roofing (FS#5)	F	SQ	1 2
019	061053, 075423, 076200, 077100, 077114	Membrane Roofing System (HQ)	Ľ	SQ	1
020	061053, 075423, 076200, 077100,	Membrane Roofing System (EMS)	Ü.	sq	
021	077114 061053, 075423, 076200, 077100,	Membrane Roofing System (FS #5)	<u>P</u>	SQ	
022	077114	Collector Boxes and Downspouts (HQ)	Z	EA	- 8
023	077100	Collector Boxes and Downspouts (FS #5)	Z	EA	
024	077100	Gutters and Downspouts (EMS)	Y	LF	3
025	077213	Manufactured Curbs (HQ)	К	EA	
026	077213	Manufactured Curbs (FS #5)	К	EA	
027	077213	Manufactured Curb Adapter (HQ)	Ĺ	EA	
028	079200	Joint Sealants (HQ)	М	LF	1
029	079200	Joint Sealants (EMS)	М	LF	
030	079200	Joint Sealants (FS #5)	М	LF	1
031	092400	Cement Plaster Niche Repair (FS #5)	GG	EA	_
032	095113	Replace Water Damaged Ceiling Tiles	DD	EA	-
033	095113, 260500	Install suspended acoustical ceiling and lighting (FS #5)	EE	EA	
034	099000	Painting and Coating (HQ)	N	SF	3
035	099000	Painting and Coating (EMS)	N	SF	+,
036	099000	Painting and Coating (FS #5)	N	SF SF	4
037	099000	Concrete Deck Coating and Repair (FS #5)	U	SF EA	- 2
038	107300	Prefabricated Metal Canopy (HQ)	0		
039	221000	Roof Top Hydrant (HQ)	1	EA	+
040	221000	Roof Top Hydrant (FS #5)	J P	EA	+
041	221426	Roof Drains and Downspouts (HQ)	-	EA EA	+
042	230500	HVAC Removal, Repair and Replacement (HQ)	нн		+
043	230500	HVAC Replacement (FS #5)	V	EA FA	-
044	260500	Electrical (HQ)	R	EA	+
045	260500 260500	Electrical (EMS) Electrical (FS #5)	R	EA	

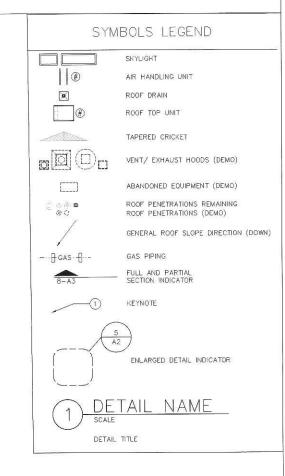
Prefabricated Metal Canopy Extention

AA EA 1

A A	General Regulrements: General Conditions and miscellaneous direct and indirect Project costs required by the Contract Documents but not listed as a specific Unit Price Pay Item in the Proposal. Includes, but is not limited to: General Conditions covering miscellaneous nonstaffing costs directly related to the Project, such as job trailer, mobilization, permit fees (other hab guiding Permit provided by City of Tuisa), temporary utilities, permanent utility connection fees, barriers, scaffolding, equipment rental, cleaning and dumpsters, etc. Each Unit Price will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
В	Allowance to be included in the contract amount for additional scope of work to be performed by the Contractor not explicitly defined in the contract documents. Funds to be utilized only at the discretion of the Owner and must be agreed upon in written documentation between the Owner and Contractor. Any work performed by the Contractor not agreed upon in writing will be at Contractor risk. Any remaining balance will be credited back to the Owner by the Contractor upon final completion of Project.
С	Unit price to remove existing damaged metal deck and replace with overlay of 22 gage metal deck or 22 gage flat metal as instructed by Architect. Replacement area to be determined upon removal of existing roof system.
D	Unit price to remove loose or flaking areas of rusted deck and treat areas with rust penetrating sealer.
E	Demolish existing fascia and soffit. Demolish existing framing back to masonry. Remove all existing fastners and misc blocking. Recycle materials where possible. Properly dispose of materials that cannot be recycled in approved landfill.
F	Demolish existing roofing system down to structural deck. Remove roofing from parapets and other substrates. Remove existing fascia and trim. Remove all wood cants, blocking, and nailers. Remove all existing fasteners. Recycle materials where possible. Properly dispose of materials that cannot be recycled in approved landfill. Contractor shall examine existing substrate(s) and adjacent materials for rust, damage, or other areas of concern which could prevent successful application of new roofing system. Notify Architect if areas of concern existing substrate surfaces of all deleterious material.
G	Furnish and install access ladders from high roof to lower roofs on either side. Furnish and install all materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
н	Furnish and install metal wall panel fascia and soffit. Repair damaged substrate surfaces as required. Contractor shall examine existing substrate(s) and adjacent materials for rust, damage, or other a reas of concern which could prevent successful application of wall system. Notify Architect if areas of concern exist. Install all steel studs, framing, fasteners, sheating, and vapor barrier for complete system. Furnish and install all materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
ī	Furnish and install new membrane roofing system. Including, but not limited to, single ply membrane, fully-adhered to cover board, and insulation as specified in referenced specification sections. Includes roofing system and components; all miscellaneous rough carpentry including all wood framing, blocking, nailers and fasteners; all sheet metal flashings and trim; all roofing specialties, all copings and manufactured roof edge fascia system. Includes all labor, equipment, and materials required for a complete installation of a fully waterprocand warranted membrane roofing system.
J	Furnish and install all materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
к	Demolish existing roof curbs and install steel roof curbs for roof top equipment. Match new curbs up to existing units. Repair supply and return air plenumn as requried. Furnish and install all materials, equipment, labor for complete installation ready for intended use in
Ļ	accordance with Drawings and Specifications. Demolish existing and Install steel roof curbs adapters where required for roof top equipment. If existing ductwork cannot be matched to uniprovide retorfit adapter. Furnish and install all materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
м	Nemove all existing joint sealants. Clean and prepare surfaces and substrates for joint sealant application. Seal all masonry where cracks or settlement has occurred. Provide all labor, equipment and materials as required for complete preparation and installation of Joint Sealants.
	settlement has occurred. Provide all labor, equipment and materials as required for complete preparation and missanatori of solic sealing. Clean and prepare surfaces and substrates for paint systems application. Paint areas as indicated on Drawings. Perform the Work in strict
N	accordance with the Drawings and Specifications and as required for a complete installation. Demolish existing fascia and soffit panels on premanufactured canopy. Clean and repair existing structure. Paint existing structure. Replace
0	all existing fascia, soffit, and canopy lighting. Furnish and install all materials, equipment, labor for complete installation ready for intende use in accordance with Drawings and Specifications.
P	Furnish and Install roof drains and downspouts as indicated on the Drawings and as specified. Includes all labor, equipment and materials as required for a complete installation.
R	Demolish all existing roof top electrical conduit, piping, blocking and associated appurtances. Provide and install weather tight conduit, disconnects, weather tight junction boxes, wire, conduit, piping, and conduit supports for complete installation. Replace all disconnects, photocells, and other misc electrical roof top equipment. Replace fixtures indicated. Provide all labor, equipment, and materials required to disconnect and reconnect all electrical devices and equipment affected or indicated. Restore equipment and devices to operation as quickly as possible.
S	Unit price to install overlay of 22 gage metal deck or 22 gage flat metal as instructed by Architect. Replacement area to be determined upon removal of existing roof system.
Т	Demolish and replace water damaged wooden soffit. Furnish and install wood soffit. Install all wood, framing, fasteners for complete syster Furnish and install all painted and finished materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
U	Clean and prepare existing concrete deck surfaces for epoxy systems application. Rout and seal all crack in existing slab. Coat areas as indicated on Drawings. Perform the Work in accordance with the Drawings and Specifications and as required for a complete installation.
٧	Demolish existing RTU, Ductwork, curbs, and associated utilites. Install replacement HVAC Unit. Reconnect ductwork, electrical, condensate and fuel to RTU to provide a complete and fully functional HVAC system. Replace or repair existing ductwork to remain as required. Install all plenum curb at ductwork. Adjust ductwork below as required to form a tight seal against the bottom of the RTU in order to prevent air leakage once RTU is place back in service. Reconnect electrical and fuel to RTU to provide a complete and fully functional HVAC system.
w	Unit price to repair existing damaged concrete deck as instructed by Architect. Repair area to be determined upon removal of existing roof system.
x	Remove and replace access ladder to roof. Furnish and install all materials, equipment, labor for complete installation ready for intended
Y	use in accordance with Drawings and Specifications. Furnish and Install gutters and downspouts as indicated on the Drawings and as specified. Includes all labor, equipment and materials as required for a complete installation.
Z	Furnish and Install conductor heads and downspouts as indicated on the Drawings and as specified. Includes all labor, equipment and materials as required for a complete installation.
AA	Furnish and install pre-engineered and premanufactured canopy with fascia and soffit panels to match exiting canopy. Paint structure. Furnish and install all materials, equipment, labor for complete installation ready for intended use in accordance with Drawings and Specifications.
ВВ	Furnish and install structural steel framing support for roof top HVAC unit and curb. Furnish and install all associated mounting and bearing plates, grouts and accessories.
CC	Remove and reinstall balcony guardrail. Modify height and mounting as indicated. Prep and refinish with powdercoat painted finish as
DD	Indicated. Furnish and Install water damaged acoustical ceiling panels as indicated on the Drawings and as specified. Includes all labor, equipment
EE	and materials as required for a complete installation. Furnish and Install suspended stairway ceiling, and relocate all existing lighting and electrical devices to suspension grid as indicated on to Drawings and as specified. Includes all labor, equipment and materials as required for a complete installation.
FF	Drawings and as specified. Includes all labor, equipment and materials as required for a complete installation. Power wash entire building. Remove all wasp nests and other insect infestations.
1000000	Demolish existing stucco plaster and furnish and Install stucco plaster as indicated on the Drawings and as specified. Includes all labor,
GG	equipment and materials as required for a complete installation. Remove and replace existing RTU's, curb adapters and ductwork. Demolish curbs, and associated utilities. Reinstall HVAC Units. Reconnec ductwork, electrical, condensate, and fuel to RTU to provide a complete and fully functional HVAC system. Replace or repair existing ductwor to remain as required. Install all plenum curb at ductwork. Adjust ductwork below as required to form a tight seal against the bottom of the

GENERAL NOTES

- COORDINATE ANY DISRUPTION OF SERVICES OR OPERATIONS WITH CITY CONSTRUCTION MANAGER.
- 2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO THE SUBMISSION OF HIS BID AND TO THE COMMENCEMENT OF ANY WORK. NO ADDITIONAL COMPENSATION WILL BE PAID DUE TO THE CONTRACTOR'S FAILURE TO ACQUAINT HIMSELF WITH EXISTING SITE CONDITIONS WHICH INCLUDE, BUT ARE NOT LIMITED TO THE QUANTITY AND EXTENT OF SURFACES AND MATERIALS OR UTILITIES.





07/23/2019

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §.

Christopher B, Goble, Architect 1437 South Boulder, Suite 550 Tulsa, Oklanomo 74119,3509 p: 918,587,8600 j: 918,567,8601

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		IAE						
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				DESIGNED	nwe	04/2019		
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			HORIZONTAL:	FIELD MGR.				
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			SHEET NAME				SHEET N	o. G001
	REVISION	REVISION BY	REVISION BY DATE	REVISION BY DATE PLAN SCALE: 1" = PROFILE SCALE: 1" = HORIZONTAL: 1" = VERTICAL: 1" = FILE: ATLAS PAGE	REVISION BY DATE PLAN SCALE: 1" = SURVEY PROFILE. SCALE: 1" = LEAD ENGR. HORIZONTAL: 1" = VERTICAL: 1" = DESIGN MAN FILE: DRAWIN ATLAS PAGE NO: SHEET NAME: SUMM	REVISION BY DATE PLAN SCALE: 1" = SURVEY N/A PROFILE SCALE: 1" = LEAD ENGR. HORIZONTAL: 1" = VERTICAL: 1" = DESIGN MANAGER FILE: DRAWN NWE DESIGNED INWE LEAD ENGR. 1" = RECOMMENDED: T" = DESIGN MANAGER ATLAS PAGE NO: SHEET NAME: SUMMAR	DATE	REVISION BY DATE PLAN SCALE: DESIGNED nwe 04/2019

SHEET NO TITLE

FIRE DEPARTMENT HEADQUARTERS

CS-1	-	BUILDING COVER SHEET
A101-1		ROOF DEMOLITION PLAN

A102-1 ROOF PLAN

ALTERNATE CANOPY ROOF PLAN A102A-1

A103 - 1ROOF TAPERED PLAN

DETAILS

ELEVATION DEMOLITION A201-1

A202-1 ELEVATIONS SECTIONS A401-1 SECTIONS A402 - 1A403-1 SECTIONS ROOF DETAILS A501 - 1ROOF DETAILS A502 - 1

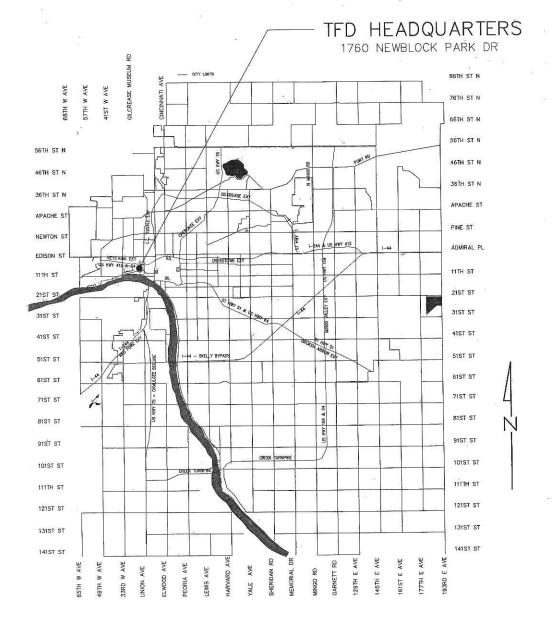
A503-1

UTILITY COORDINATION BOX NUMBER NOTIFIED ENGINEERING SERVICES 918-596-9566 WATER DESIGN WASTEWATER DESIGN 918-596-9564 TRANSPORTATION DESIGN 918-596-9636 918-596-9749 TRAFFIC ENGINEERING DESIGN 918-596-9498 OKLAHOMA NATURAL GAS CO. 918-831-8293 COX COMMUNICATIONS 918-286-4666 PUBLIC SERVICE CO. / AEP 918-599-2233 918-576-2142 AT&T



CONSTRUCTION PLANS FOR TULSA FIRE DEPARTMENT **ROOF REPLACEMENTS**

TFD HEADQUARTERS TFD HQ - 1760 NEWBLOCK PARK DRIVE



GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ORDINANCES, ENGINEERING SERVICES STANDARDS SPECIFICATIONS AND STANDARD DETAILS. (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES)
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- CONTRACTORS WILL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF AND REMOVAL OF ALL UTILITIES.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS TFD HEADQUARTERS

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

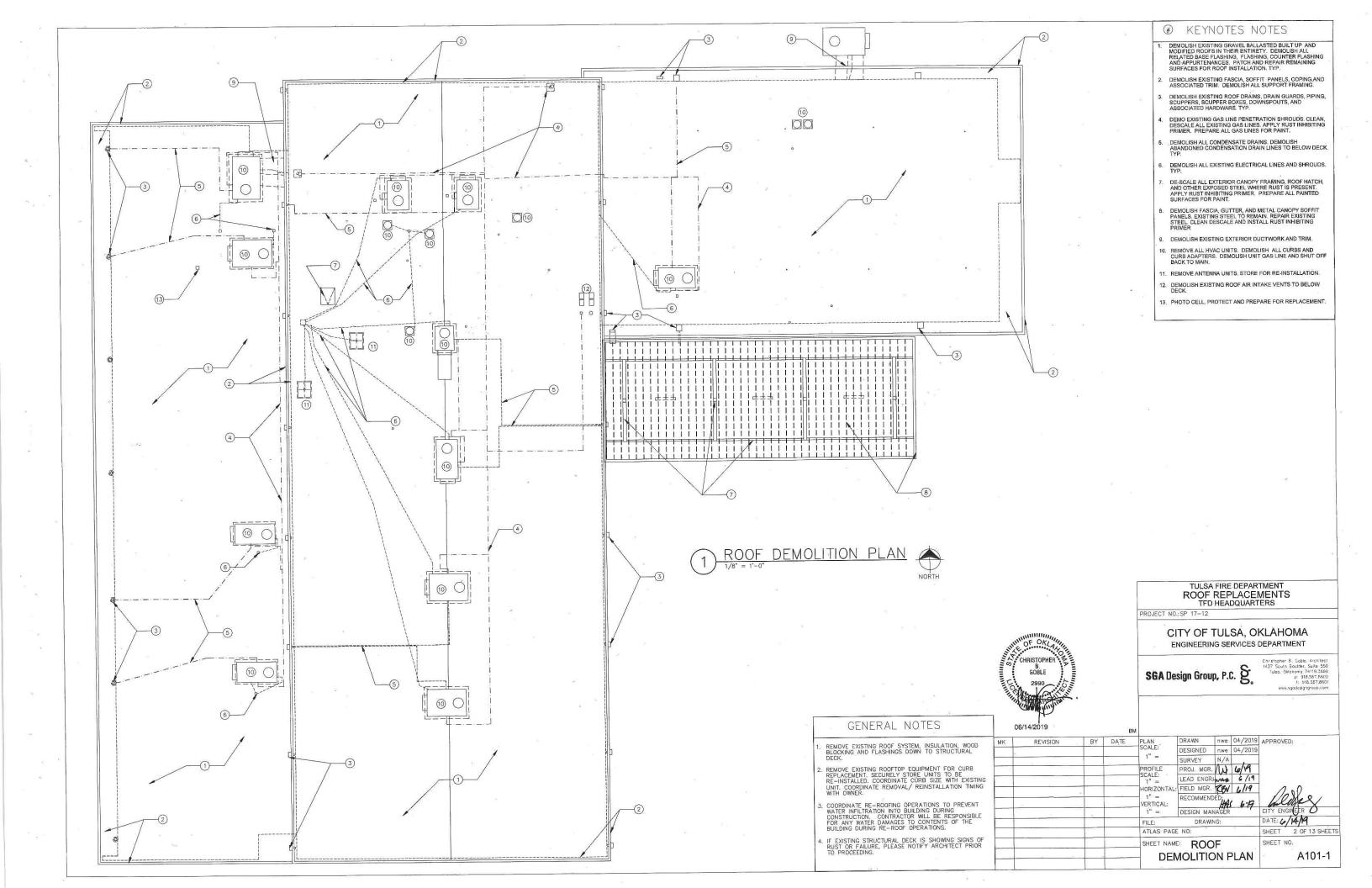
Christopher B. Goble, Architect 1437 South Boulder, Suite 550 Tuke, Okiahoma 74119-3609 p: 918.587.8600 f: 918.787.8601 www.sgadesigngroup.com

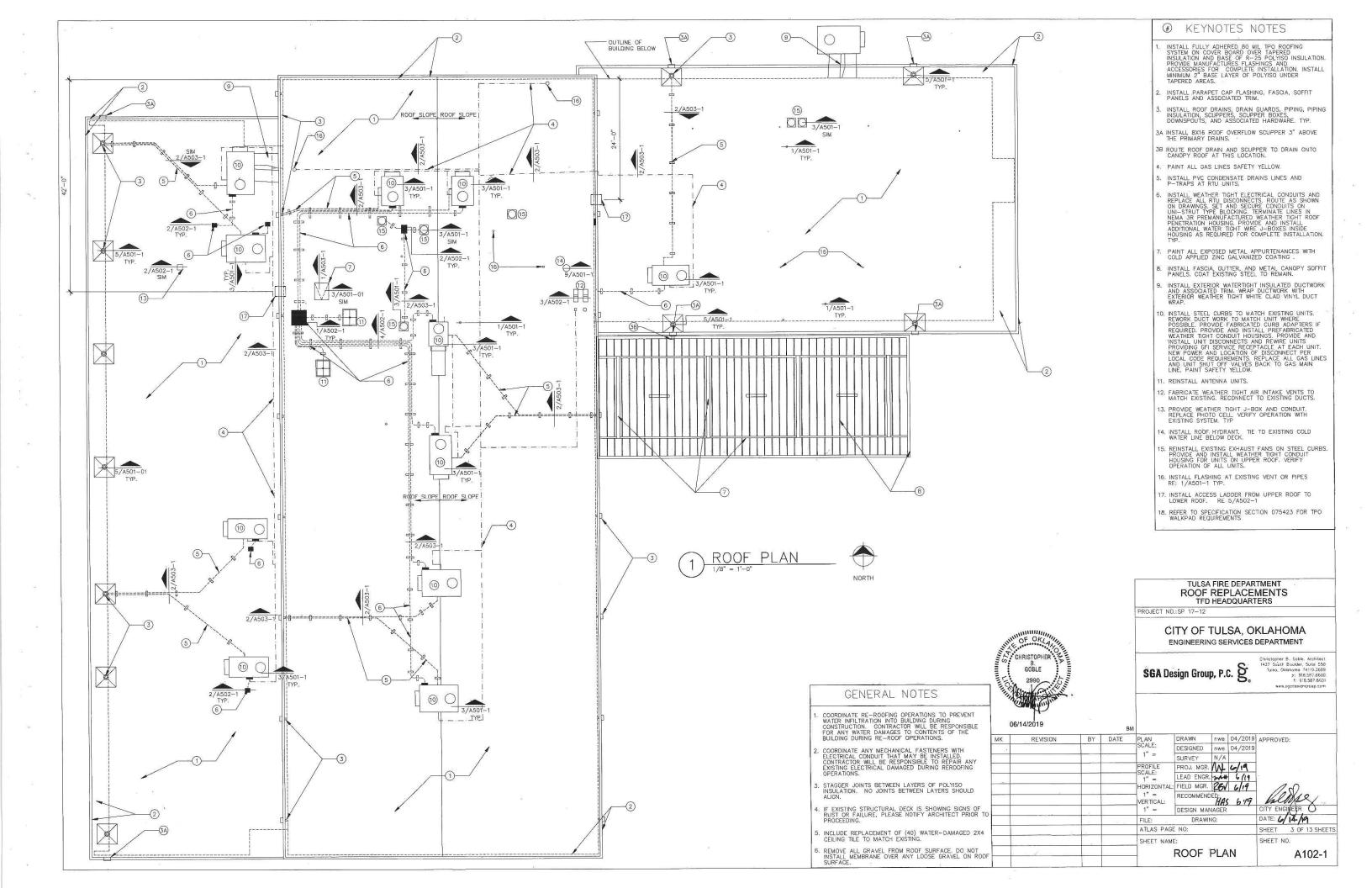
- Toron 04/17/2019 DRAWN nwe 04/2019 APPROVED: BY DATE REVISION DESIGNED nwe 04/2019 SURVEY , N/A PROJ. MGR. 14/19 SCALE: LEAD ENGREMENT 5/19
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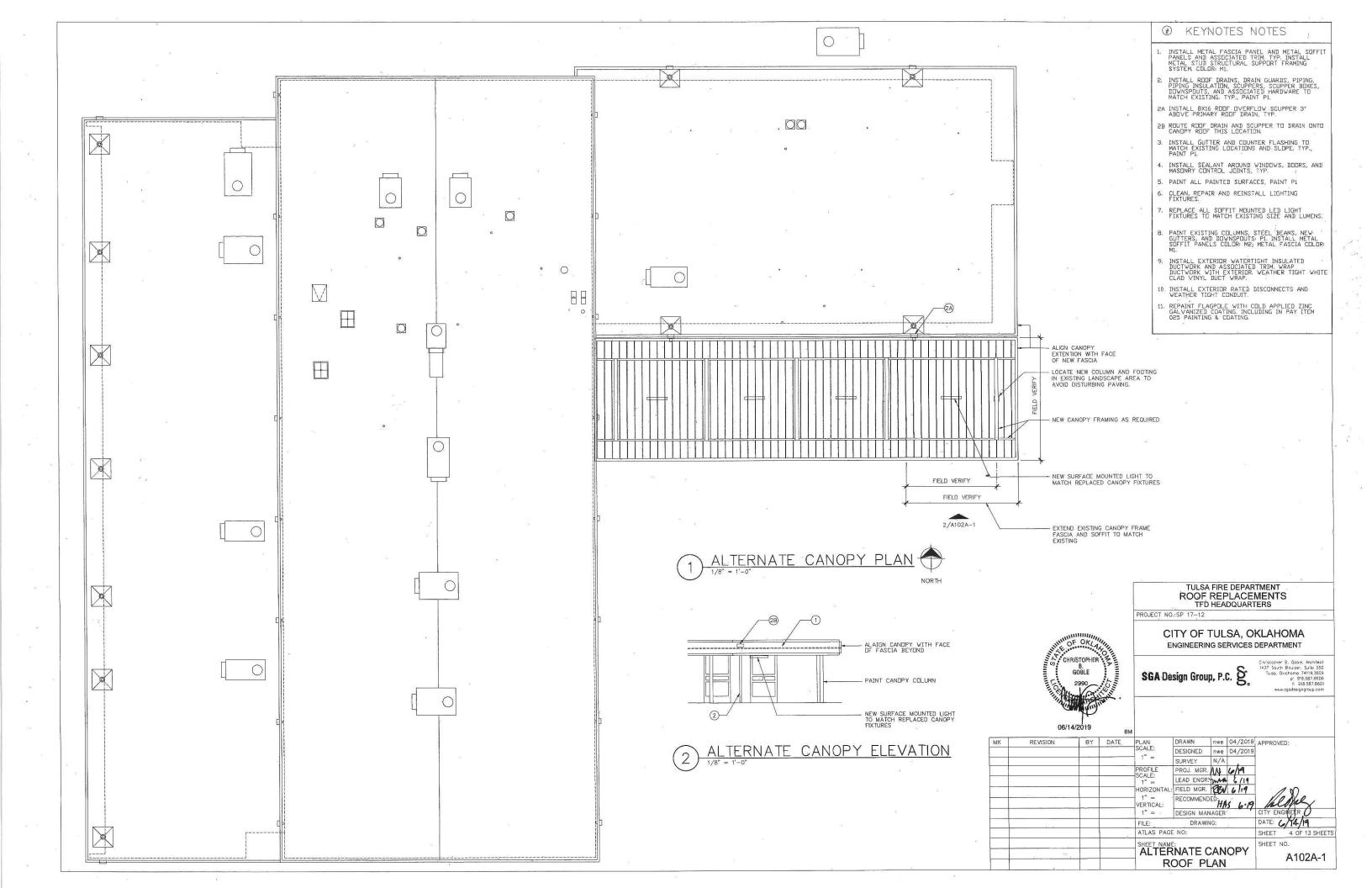
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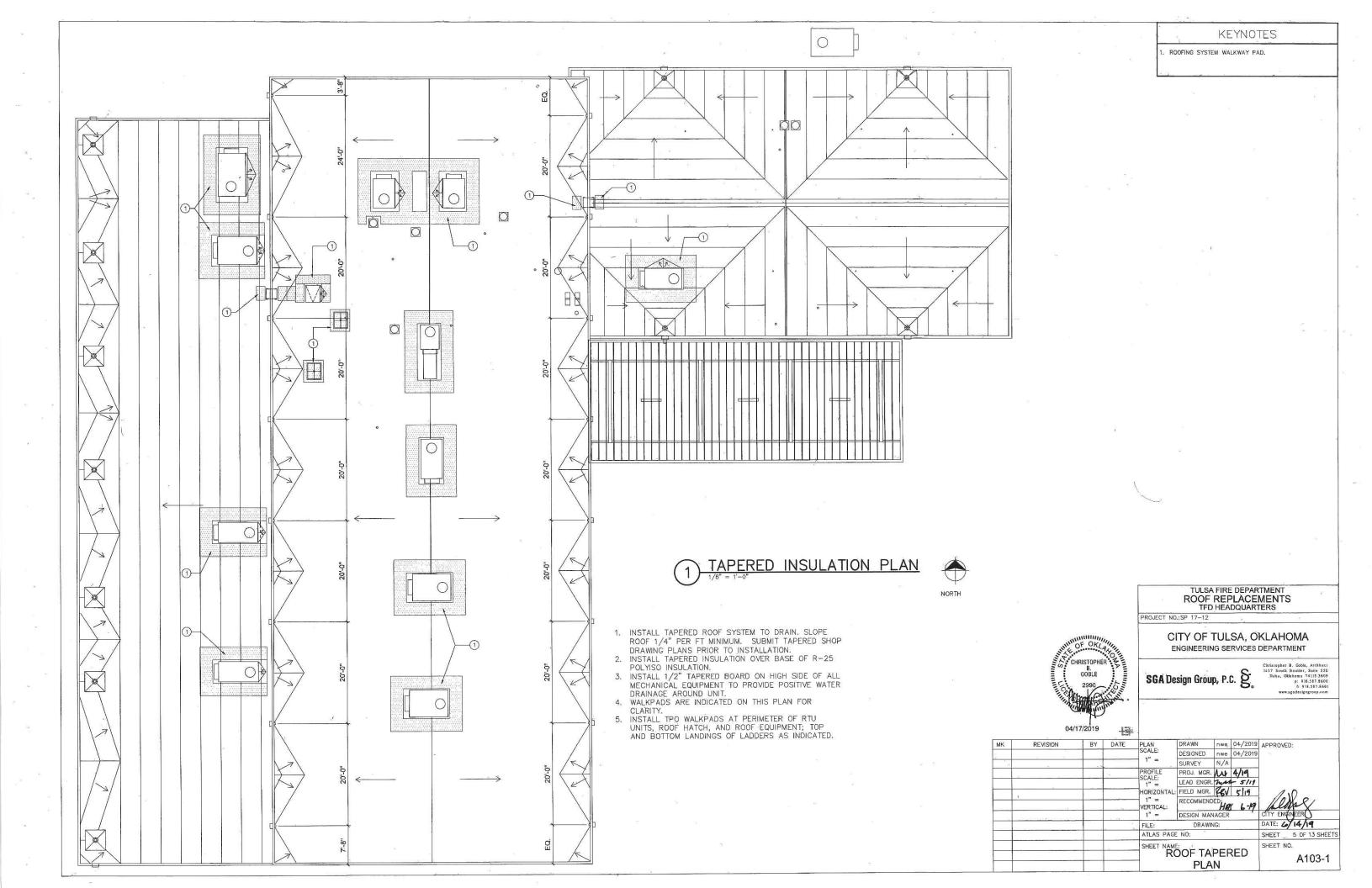
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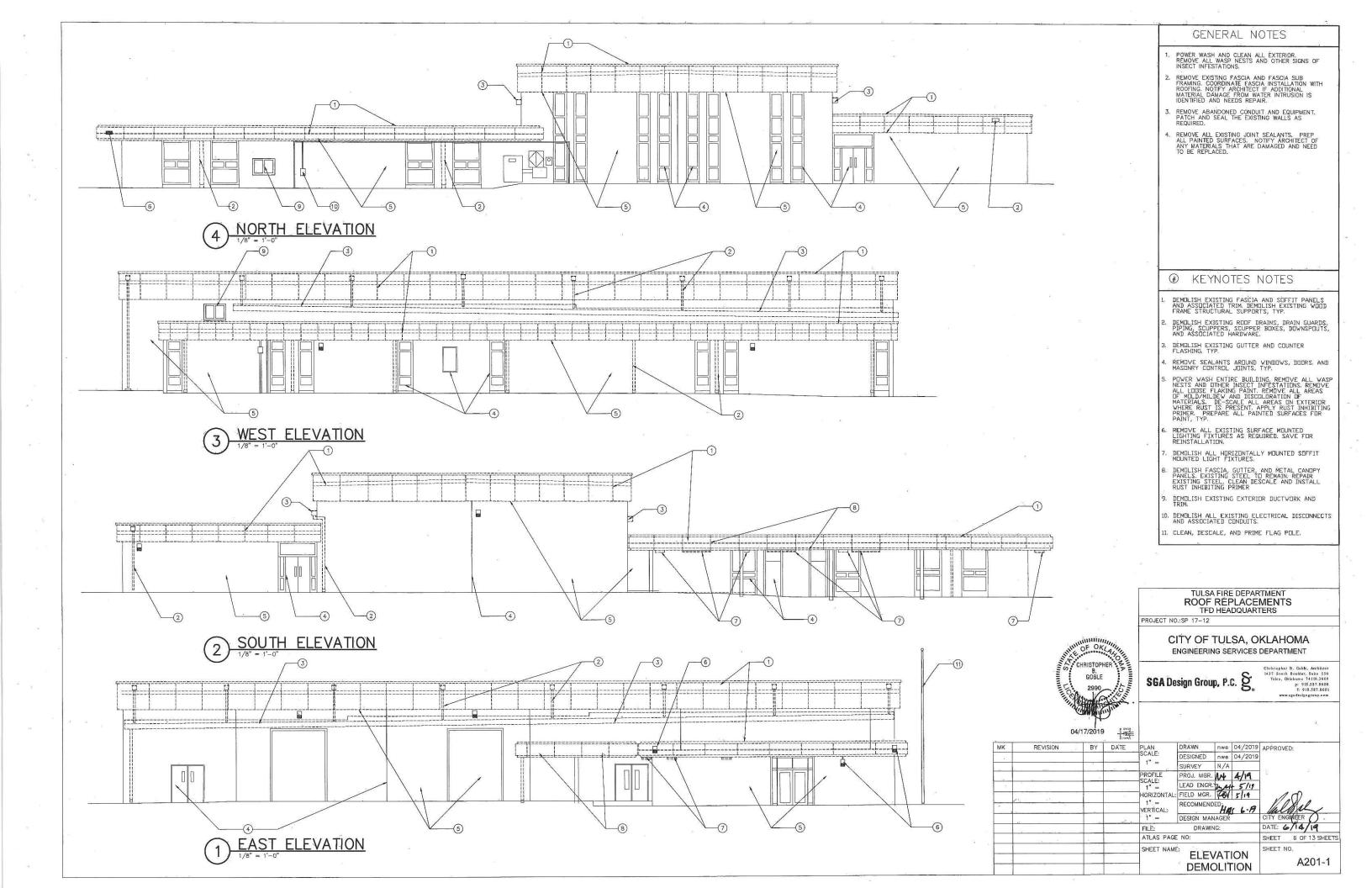
CS-1

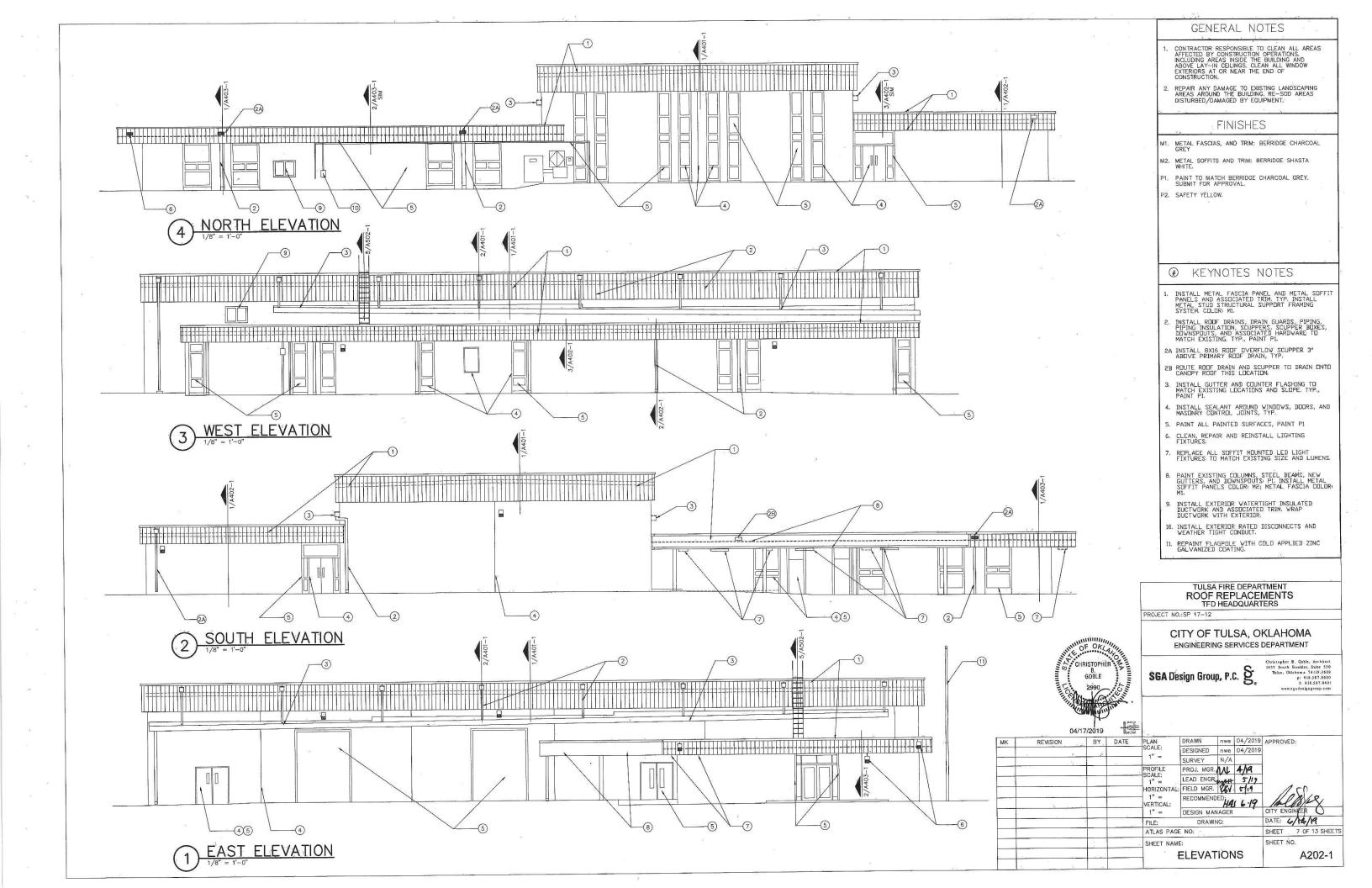


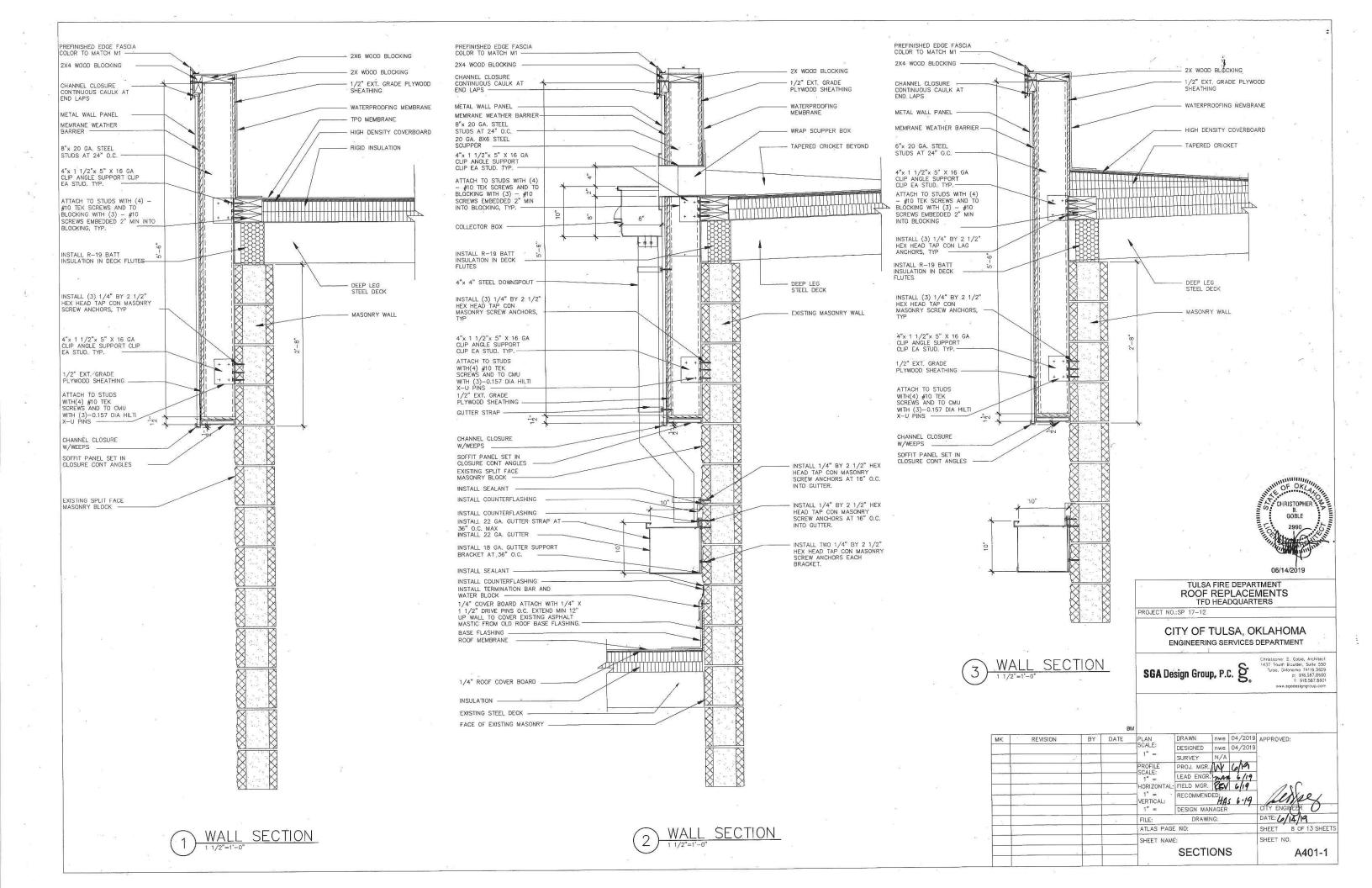


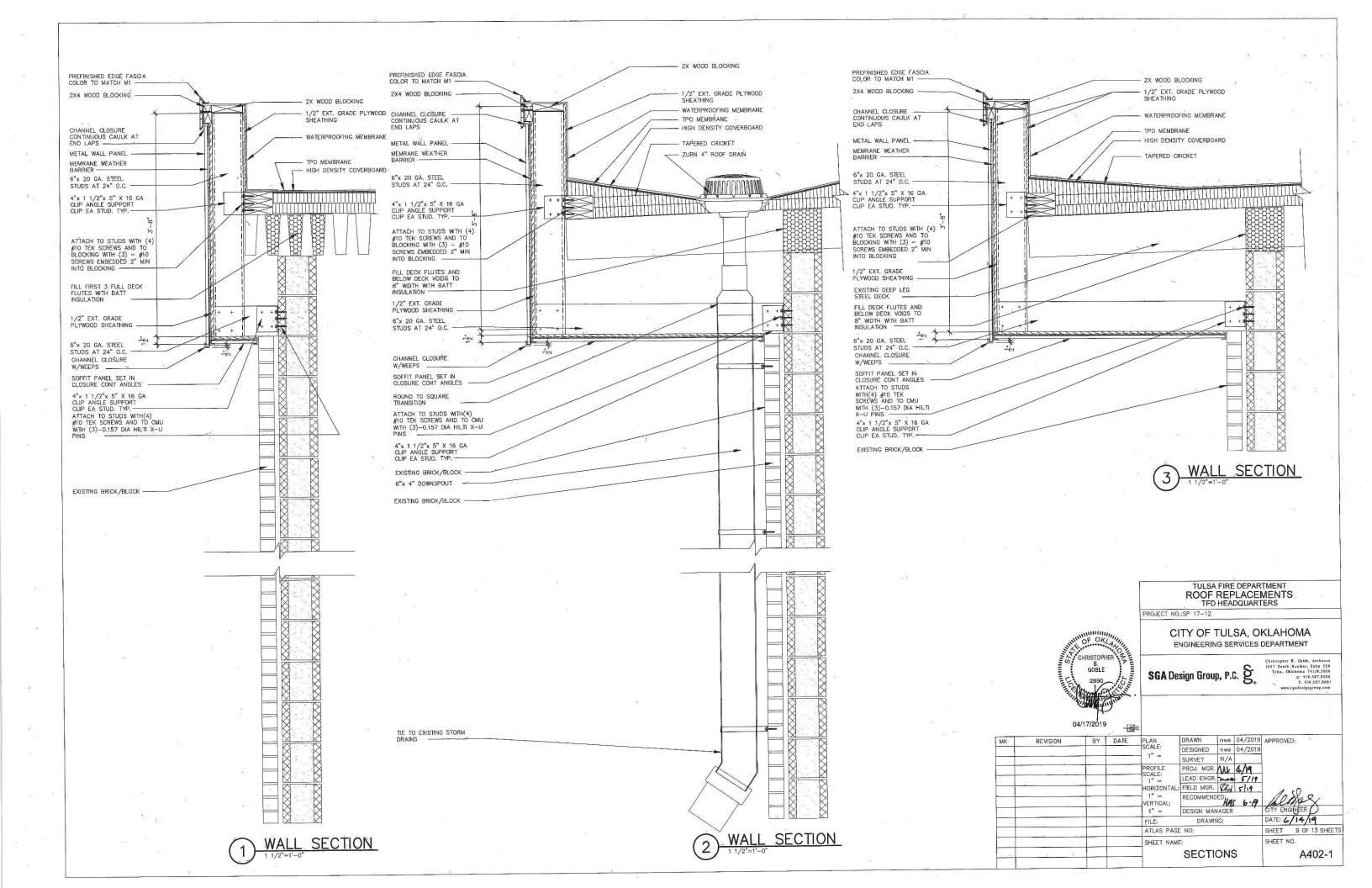


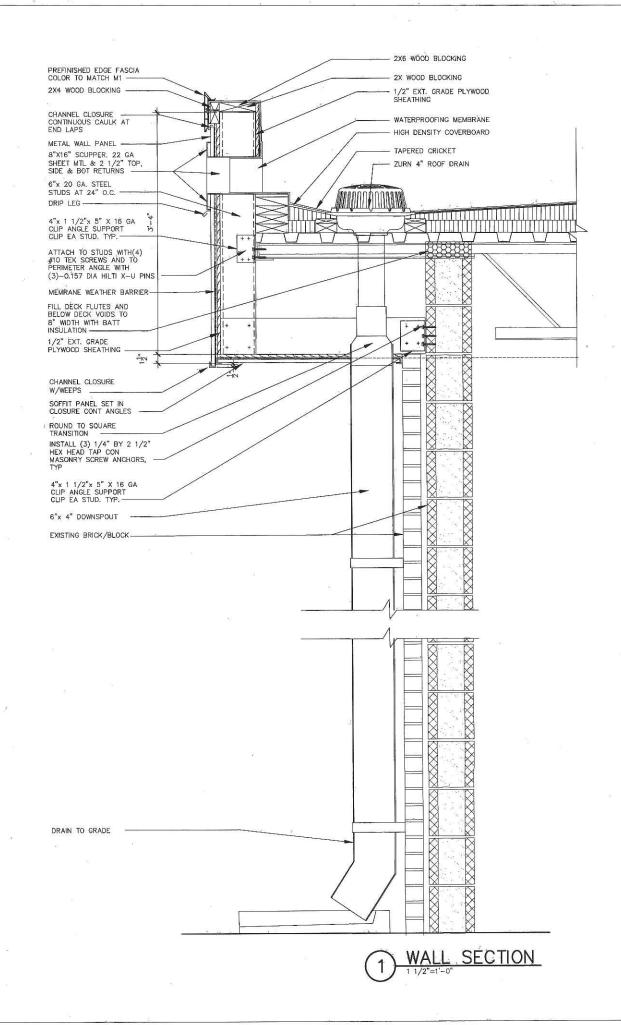


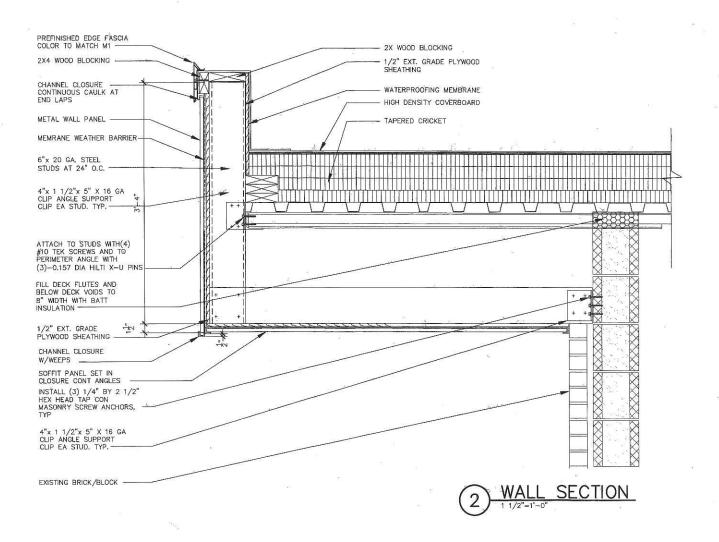


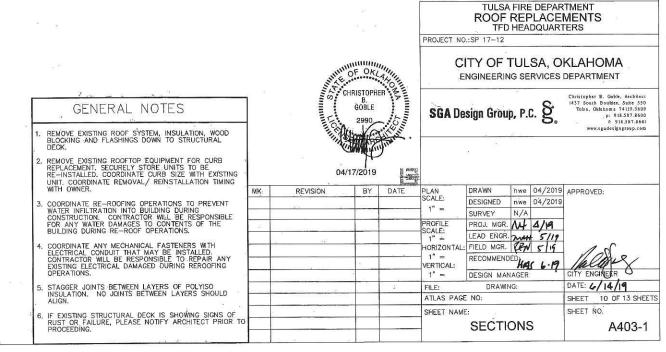


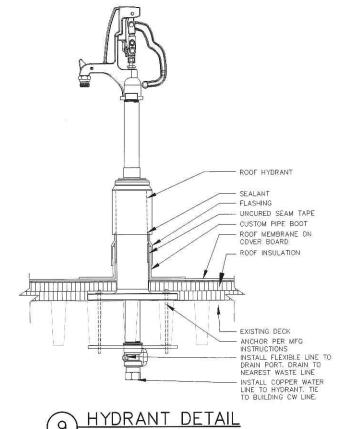




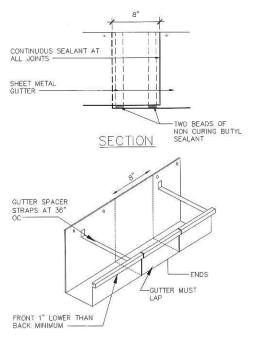








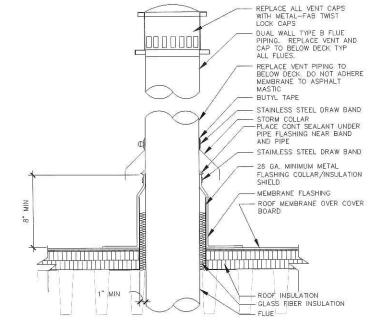




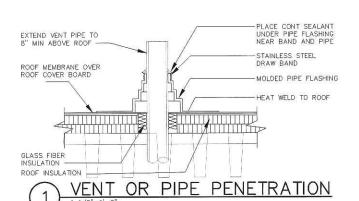
GUTTER EXPANSION JOINT

NOT USED

GOBLE



FLUE PENETRATION

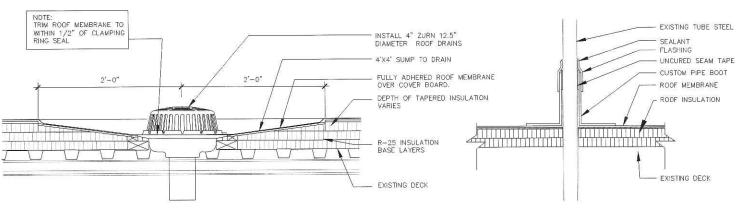


- PREMANUF MTL - PREMANUE MTL PREMA CURB CURB 2x4 TREATED WOOD NAILER - 2x4 TREATED WOOD NAILER INSULATION — INSULATION — SET CURB ON DECK - SET CURB ON DECK - EXISTING LONG SPAN STRUCTURAL DECK - EXISTING LONG SPAN STRUCTURAL DECK

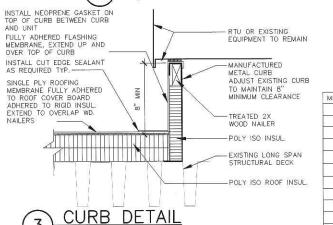
ROOF DRAIN DETAIL

STRUCTURAL CURB (RTU) RTU'S AND LARGE MECHANICAL EQUIPMENT MEMBRANE AND INSUL. NOT SHOWN FOR CLARITY NON STRUCTURAL CURB EXHAUST FANS AND UNITS UNDER 150 LBS MEMBRANE AND INSUL. NOT SHOWN FOR CLARITY

TYPICAL CURB DETAILS



TUBE STEEL FLASHING



NOTE: DEPTH OF INSULATION VARIES AT ALL DETAIL CONDITIONS REPRESENTED, REFER TO ROOF PLAN AND TAPERED INSULATION PLAN FOR REQUIRED SLOPES THAT DICTATE DEPTH.

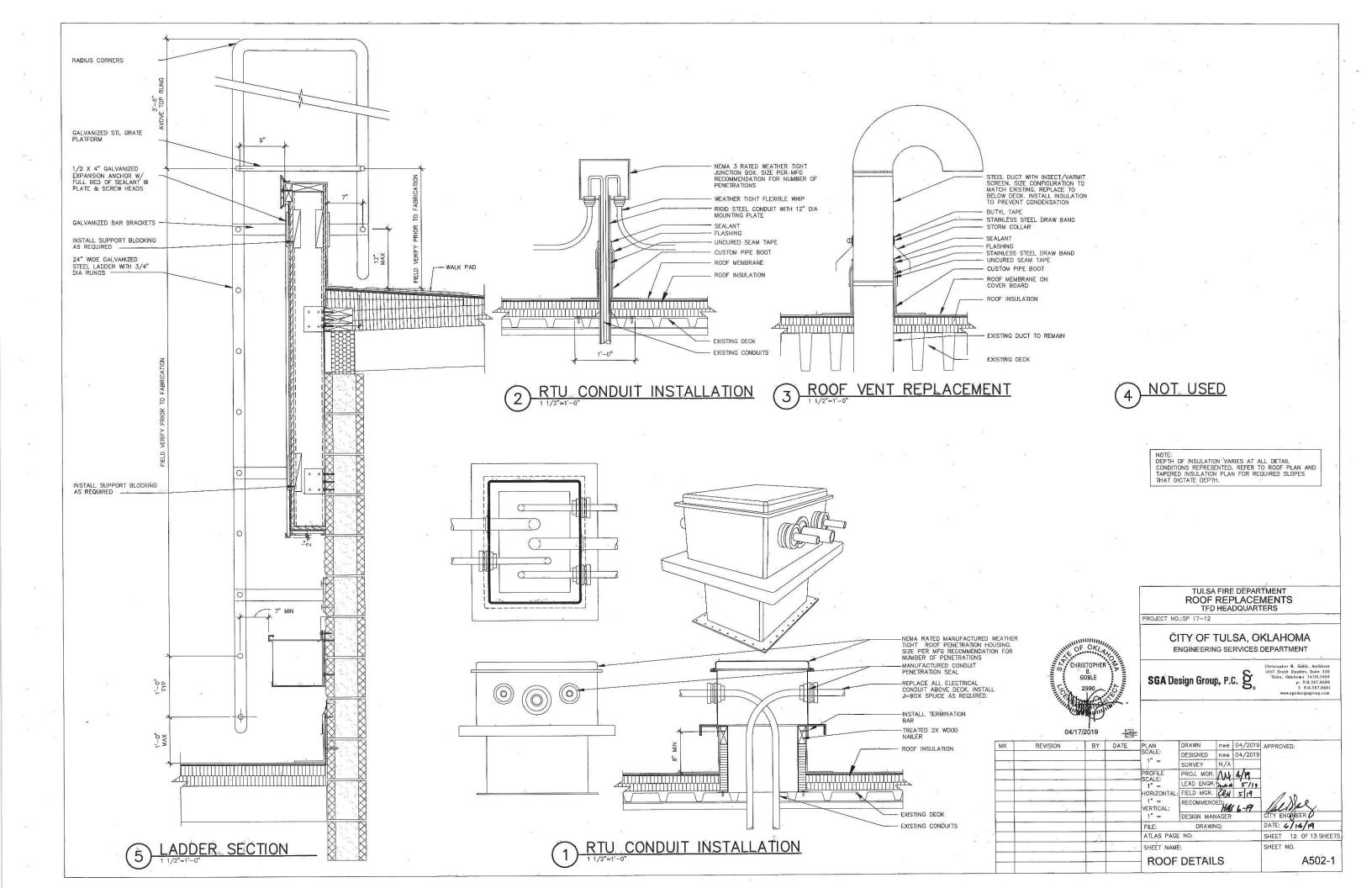
TULSA FIRE DEPARTMENT ROOF REPLACEMENTS TFD HEADQUARTERS

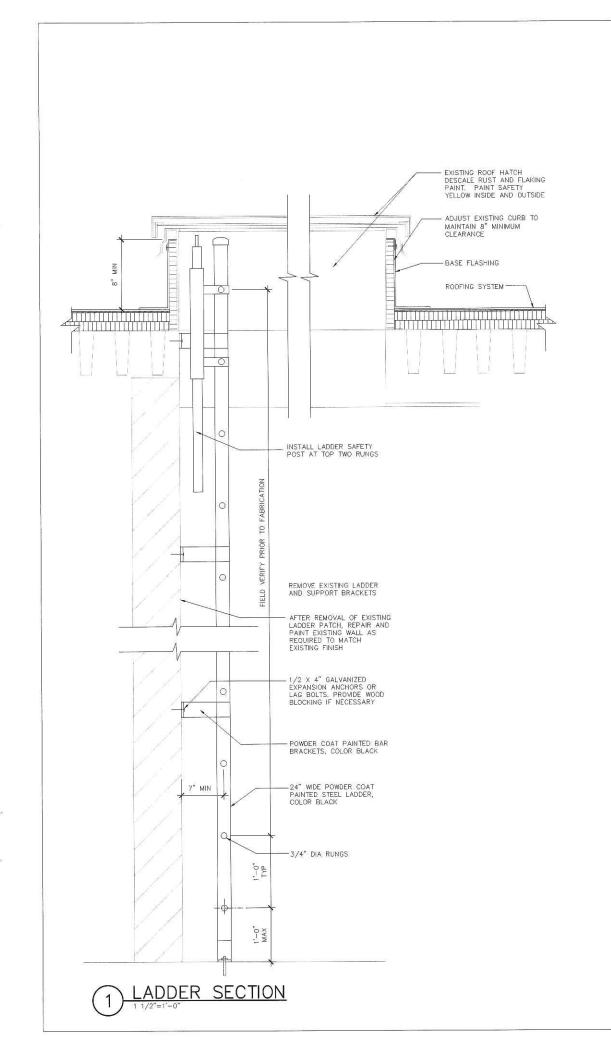
PROJECT NO.:SP 17-12

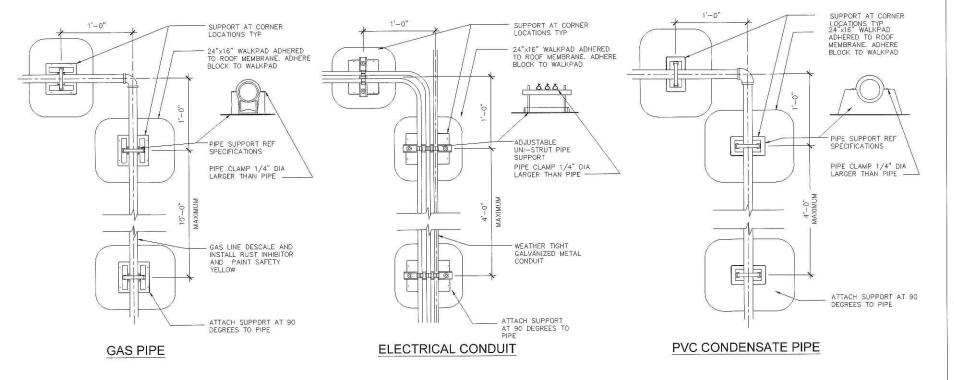
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

	07/23/2019		NE						
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				1" =	SURVEY	N/A			
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				SCALE:	LEAD ENGR.				
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				ATLAS PAGE	NO:			SHEET	11 OF 13 SHEETS
				SHEET NAME	3			SHEET N	10.
-				ROOF	DETAIL	.S			A501-1

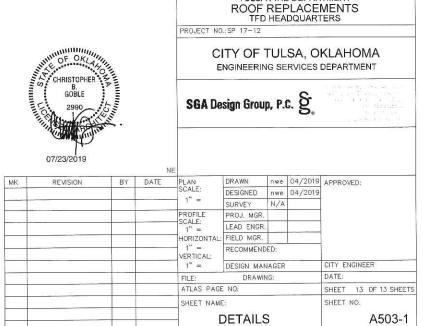






PIPING SUPPORT PLAN

20 au



TULSA FIRE DEPARTMENT

TITLE SHEET NO

EMS BUILDING

BUILDING COVER SHEET CS-2 DEMOLITION PLAN A101-2

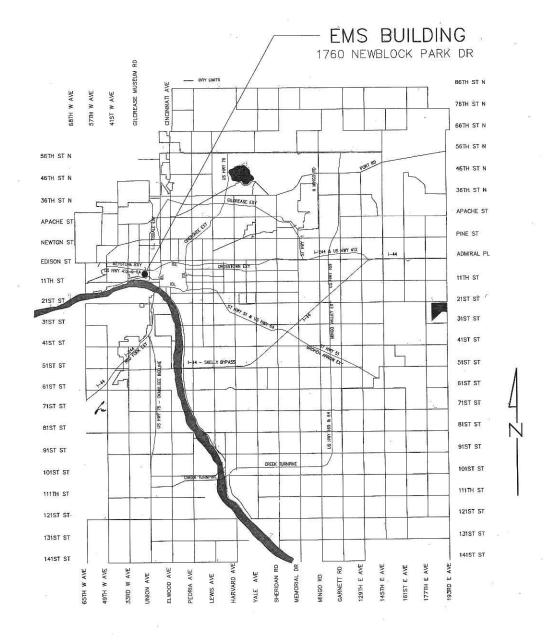
ROOF PLAN A102 - 2

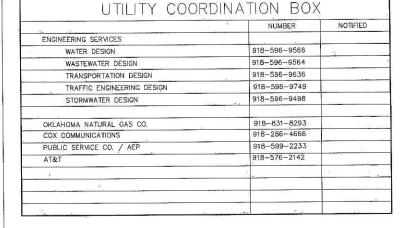
TAPERED INSULATION PLANS A102.1-2

A501 - 2ROOF DETAILS

CONSTRUCTION PLANS FOR TULSA FIRE DEPARTMENT **ROOF REPLACEMENTS**

TFD EMS BUILDING EMS BUILDING - 1760 NEWBLOCK PARK DRIVE







GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ORDINANCES, ENGINEERING SERVICES STANDARDS SPECIFICATIONS AND STANDARD DETAILS: (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES)
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAYING 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,
- 4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS

PROJECT NO.:SP 17-12

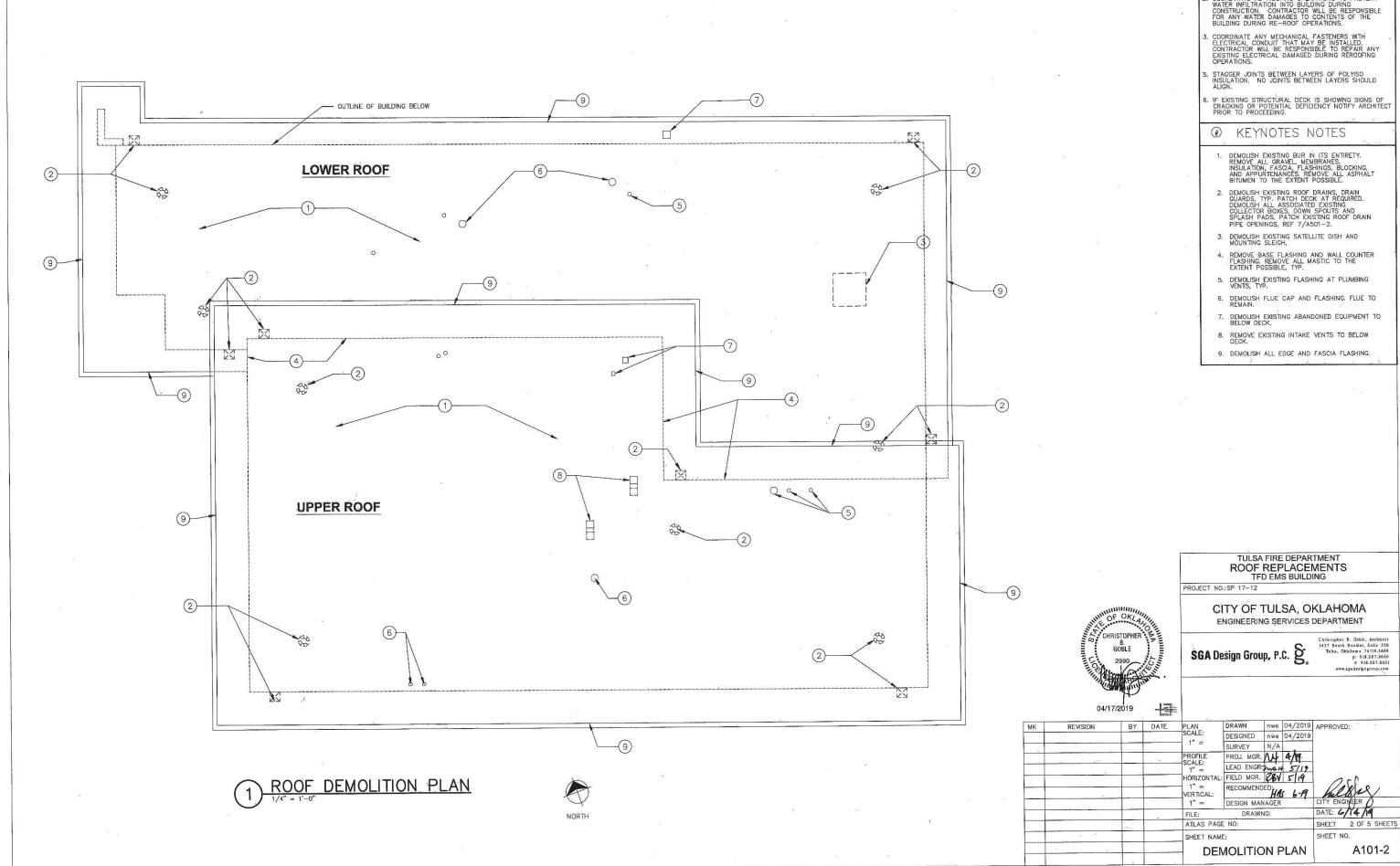
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. &

1437 South Boulder, Suite 550 Tulsa, Oklahoma 74119.3609 p: 918.587.8600 f: 918.587.8601

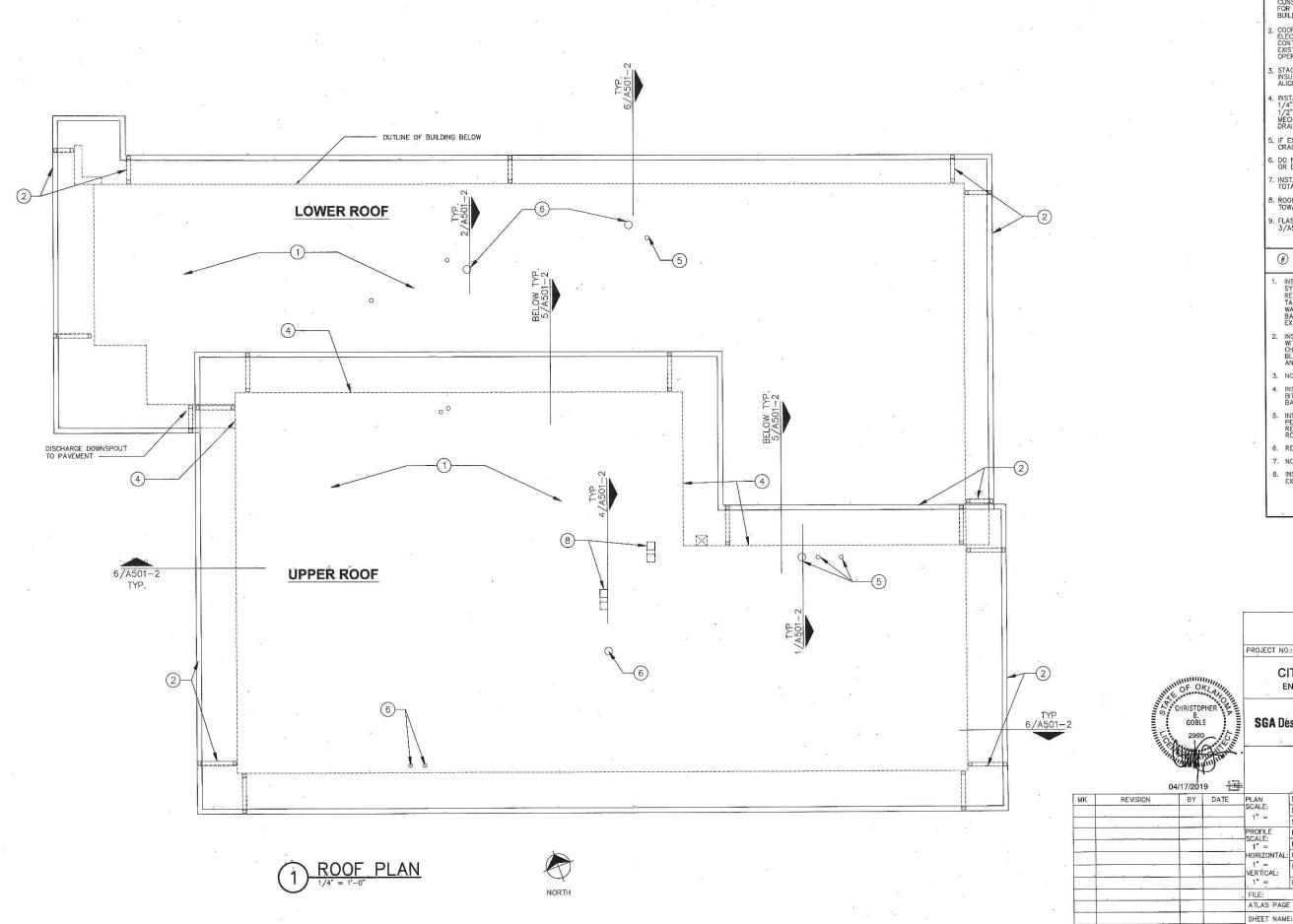
04/17/2019 BY DATE PLAN SCALE: nwe 04/2019 APPROVED: DRAWN REVISION DESIGNED nwe 04/2019 SURVEY N/A PROFILE PROJ. MGR. AL 4/19
SCALE:

1" = LEAD ENGR. MGH. 5/19
HORIZONTÁL: FIELD MGR. CFW 5/19 RECOMMENDED HAS 6-19 VERTICAL: FILE: SHEET 1 OF 5 SHEETS ATLAS PAGE NO: SHEET NO. SHEET NAME: BUILDING CS-2 **COVER SHEET**



REMOVE EXISTING ROOF SYSTEM, INSULATION, WOOD BLOCKING AND FLASHINGS DOWN TO STRUCTURAL DECK.

COORDINATE RE-ROOFING OPERATIONS TO PREVENT WATER INFILTRATION INTO BUILDING DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY WATER DAMAGES TO CONTENTS OF THE BUILDING DURING RE-ROOF OPERATIONS.



- COORDINATE RE-ROOFING OPERATIONS TO PREVENT WATER INFILTRATION INTO BUILDING DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY WATER DAMAGES TO CONTENTS OF THE BUILDING DURING RE-ROOF OPERATIONS.
- COORDINATE ANY MECHANICAL FASTENERS WITH ELECTRICAL CONDUIT THAT MAY BE INSTALLED, CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY EXISTING ELECTRICAL DAMAGED DURING REROOFING OPERATIONS
 - STAGGER JOINTS BETWEEN LAYERS OF POLYISO INSULATION, NO JOINTS BETWEEN LAYERS SHOULD ALIGN.
- I. INSTALL ALL TAPERED ROOF INSULATION TO PROVIDE 1/4" PER FOOT COUNTER SLOPE MINIMUM. INSTALL 1/2" TAPERED BOARD ON HIGH SIDE OF ANY MECHANICAL EQUIPMENT TO PROVIDE POSITIVE WATER DRAINAGE AROUND UNIT.
- . IF EXISTING STRUCTURAL DECK IS SHOWNG SIGNS OF CRACKING, NOTIFY ARCHITECT PRIOR TO PROCEEDING.
- DO NOT INSTALL MEMBRANE OVER ANY LOOSE GRAVEL OR DEBRIS ON ROOF SURFACE.
- . INSTALL BASE LAYERS OF POLY ISO TO PROVIDE A TOTAL R-VALUE OF R-25 UNDER TAPERED INSULATION.
- . ROOF SLOPE TO BE NO LESS THAN 1/4" PER FOOT TOWARD DRAINS.
- 9. FLASH ALL ELECTRICAL PENETRATIONS THRU ROOF PER 3/A501-2.

KEYNOTES NOTES

- INSTALL FUILY ADHERED 80 MIL TPO ROOFING SYSTEM OVER 1/4" DENSDECK OR HIGH IMPACT RECOVERY BOARD. INSTALL 1/4" PER FOOT TAPERED POLY ISO INSULATION SYSTEM TO DIRECT WATER TO EXISTING ROOF DRAINS. INSTALL 1 1/2" BASE LAYER OF POLY ISO INSULATION OVER EXISTING DECK.
- INSTALL 4"X4" GUTTERS AND 4"X4" DOWNSPOUTS WITH PRE-FINISHED METAL. COLOR BERRIDGE CHARCOAL GREY, PROVIDE NEW CONCRETE SPLASH BLOCKS AT ALL TERMINATIONS AT LOWER ROOF AND AT GRADE, UNLESS NOTED OTHERWISE.
- 3. NOT USED.
- 4. INSTALL 1/4" COVER BOARD OVER EXISTING BITUMEN MASTIC AT BASE FLASHINGS. INSTALL BASE FLASHING AND COUNTERFLASHINGS.
- . INSTALL FLASHING BOOTS AT ALL PLUMBING PENETRATIONS. RAISE PLUMBING VENTS AS REQUIRED TO MEET MINIMUM HEIGHT ABOVE ROOFING REQUIRED FOR WARRANTY.
- 6. REPLACE ALL FLUE CAPS WITH NEW.
- 7. NOT USED.
- 8. INSTALL ALL NEW AIR DUCTWORK TO MATCH EXISTING. PROVIDE BIRD/INSECT SCREENS.

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS TFD EMS BUILDING

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

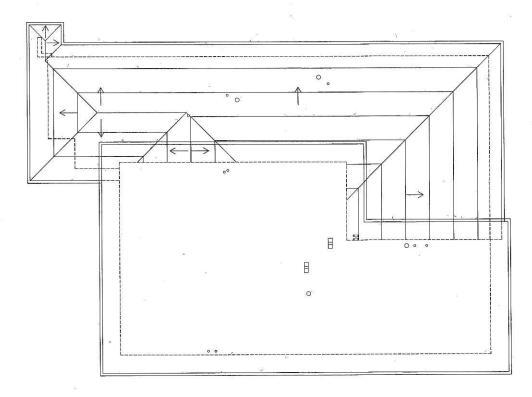
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ROOF PLAN

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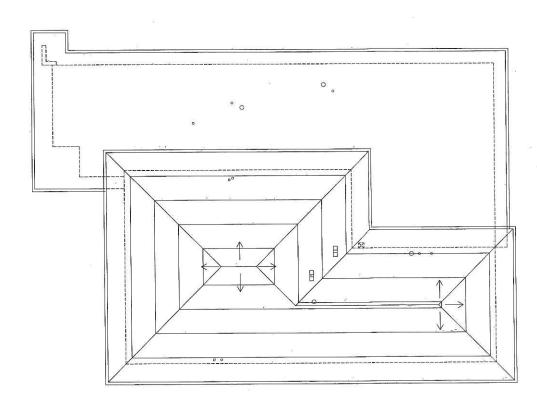
A102-2

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1" = LEAD ENGR. 24 5/19
HORIZONTAL: FIELD MGR. 26 5/19 RECOMMENDED HAS 6-19
DESIGN MANAGER DRAWING: ATLAS PAGE NO SHEET 3 OF 5 SHEETS SHEET NO.



LOWER ROOF TAPERED INSULATION PLAN





UPPER ROOF TAPERED INSULATION PLAN



GENERAL NOTES

- FIELD VERIFY ALL DIMENSIONS FOR TAPERED LAYOUT. CONTRACTOR TO HAVE MFG PROVIDE SHOP DRAWINGS FOR TAPERED LAYOUT. CONTRACTOR TO PROVIDE POSITIVE SLOPE AT MINIMUM 1/4" PER FOOT TO DRAIN.
- CONTRACTOR TO INSTALL R-25 BASE LAYER OF POLY ISO UNDER TAPERED INSULATION.
 - COORDINATE RE—ROOFING OPERATIONS TO PREVENT WATER INFILTRATION INTO BUILDING DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY WATER DAMAGES TO CONTENTS OF THE BUILDING DURING RE—ROOF OPERATIONS.
 - COORDINATE ANY MECHANICAL FASTENERS WITH ELECTRICAL CONDUIT THAT MAY BE INSTALLED. CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY EXISTING ELECTRICAL DAMAGED DURING REROOFING OPERATIONS.
 - STAGGER JOINTS BETWEEN LAYERS OF POLYISO INSULATION, NO JOINTS BETWEEN LAYERS SHOULD ALIGN.
 - . INSTALL ALL TAPERED ROOF INSULATION TO PROVIDE 1/4" PER FOOT COUNTER SLOPE MINIMUM. INSTALL 1/2" TAPERED BOARD ON HIGH SIDE OF ANY MECHANICAL ECUIPMENT TO PROVIDE POSITIVE WATER DRAINAGE AROUND UNIT.
 - IF EXISTING STRUCTURAL DECK IS SHOWING SIGNS OF CRACKING, NOTIFY ARCHITECT PRIOR TO PROCEEDING.
- SUBMIT TAPERED INSULATION SHOP DRAWING PLANS PRIOR TO INSTALLATION.

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS TFD EMS BUILDING

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

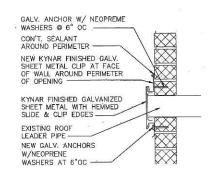
SGA Design Group, P.C. §.

Christopher B. Goble, Architect 1437 South Boulder, Suite 550 Tolsa, Oklahoma 74119-3609 p: 918.587.8600 f: 918.587.8601 www.sgadesigngroup.com

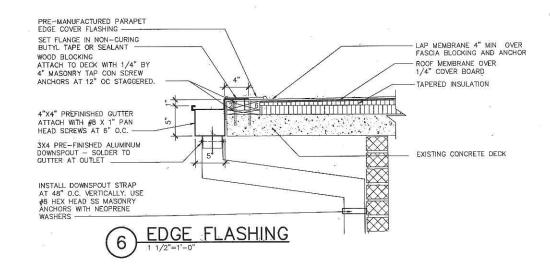
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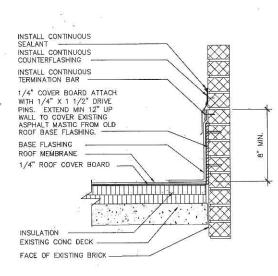
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1" = LEAD ENGR. 5/17
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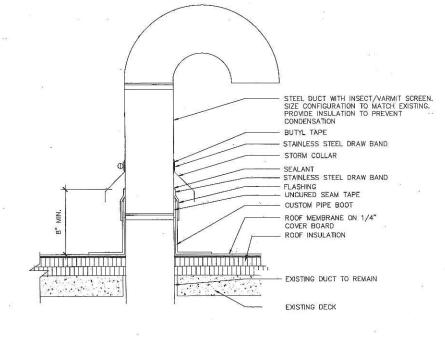
INSULATION PLANS



CONDUCTOR HEAD & DRAIN LEADER COVER

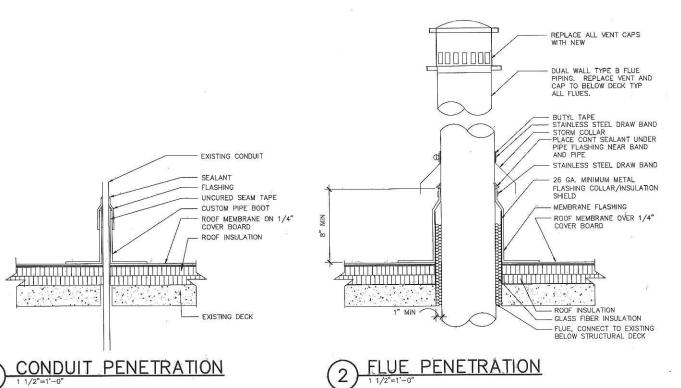


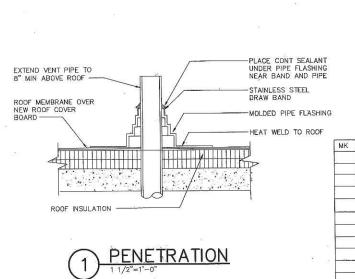




FLASHING MEMBRANE

ROOF VENT REPLACEMENT





CHRISTOPHE GOBLE 04/17/2019

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS TFD EMS BUILDING

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

Christopher B. Goble, Architect 1437 South Boulder, Suite 550 Tuls'a, Oklahoma 74119.3609 p: 918.387.8600 f: 918.587.8601

DATE DRAWN nwe 04/2019 APPROVED: DESIGNED nwe 04/2019
SURVEY N/A

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SHEET NO TITLE

FIRE STATION #5

CS-3 BUILDING COVER SHEET
A101-3 ROOF PLANS

A101-3 ROOF PLANS A501-3 ROOF DETAILS

A502-3 ROOF DETAILS

STRUCTURAL

S001-3 GENERAL NOTES

S002-3 SPECIAL INSPECTIONS

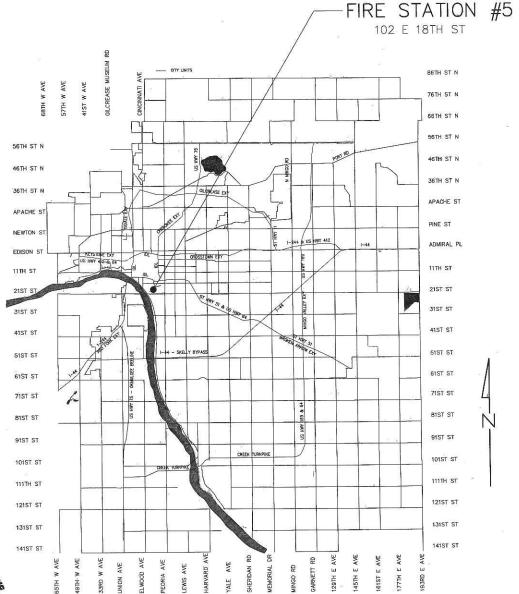
S101-3 ROOF FRAMING PLAN & DETAILS

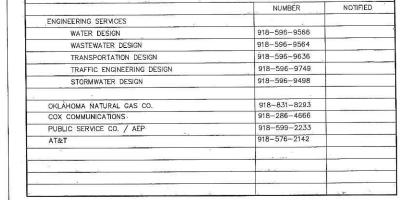
MECHANICAL

M100-3 HVAC NOTES M101-3 HVAC PLANS

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS

STATION #5 102 EAST 18TH STREET





UTILITY COORDINATION BOX



GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ORDINANCES, ENGINEERING SERVICES STANDARDS SPECIFICATIONS AND STANDARD DETAILS. (CITY OF TULSA ORDINANCE AND CODES AMENDMENTS SUPERCEDE NATIONAL CODES)
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL STRUCTURES, LANDSCAPING, PAWING 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 WILL COORDINATE WITH IDENTIFIED MAINTENANCE OPERATIONS PERSONNEL FOR APPLICATION, SHUT OFF AND REMOVAL OF ALL UTILITIES.
- 4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES.

TULSA FIRE DEPARTMENT ROOF REPLACEMENTS

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

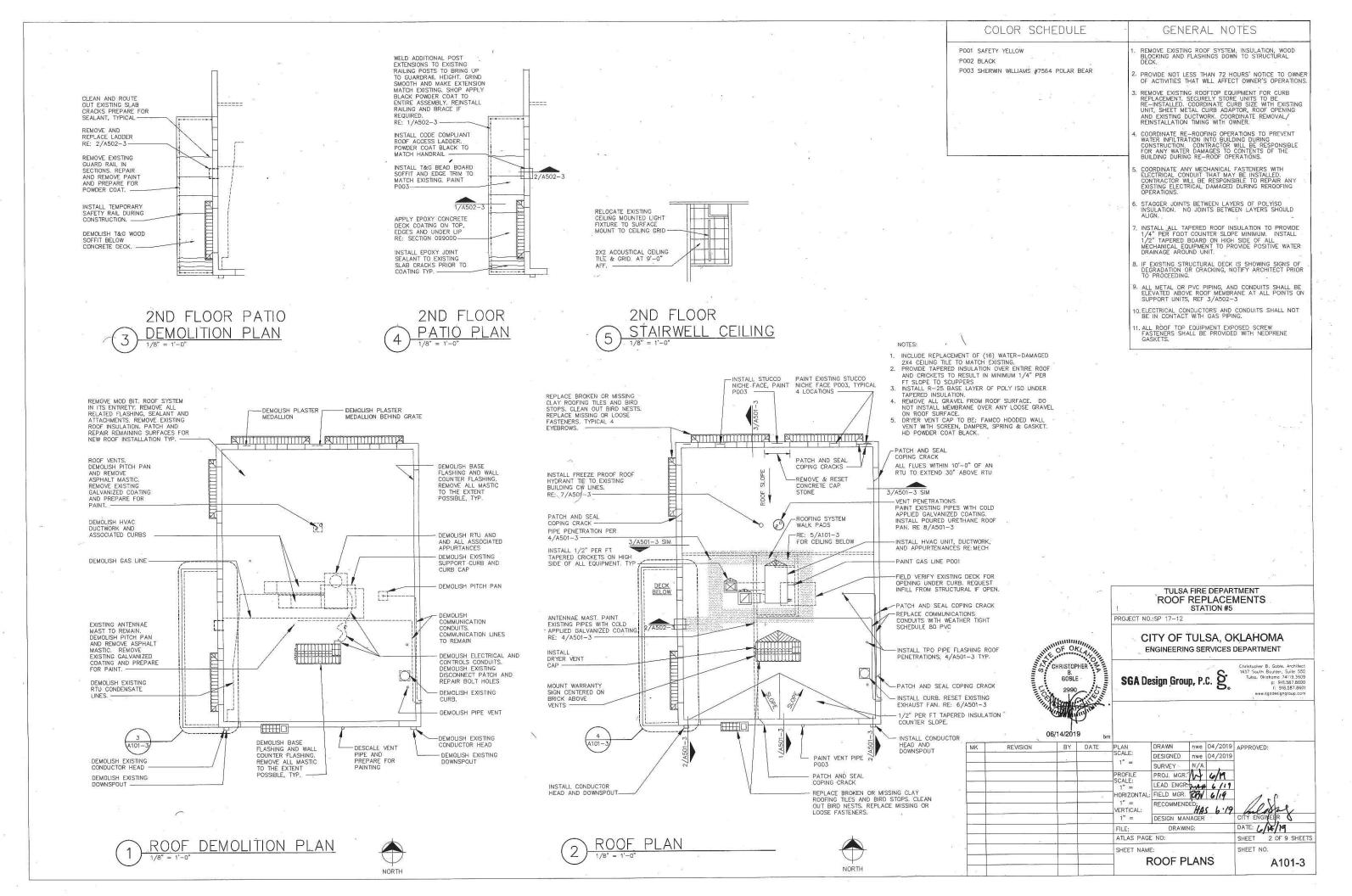
SGA Design Group, P.C. &

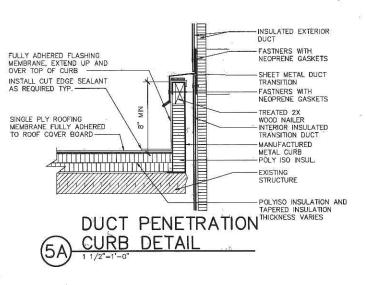
SGA Design Group, P.C. S. Tuka, Ochhons 74119-349. 6:1918-397-86; p. 918-397-86; p. 918-397-86;

COVER SHEET

CS-3

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	11			ATLAS PAGE	E NO:	7,2		SHEET 1 OF 9 SHEET	rs
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EXISTING CONCRETE CAP

RAKE OUT 1" OF EXISTING

MORTAR/SEALANT JOINT. INSTALL BACKER ROD AND SEALANT, TYPICAL

CONTINUOUS TERMINATION

SCREW ANCHORS AT 12" O.C.

COVER BOARD FULLY ADHERE

-POLYISO INSULATION AND

TAPERED INSULATION THICKNESS VARIES

-STRUCTURAL DECK

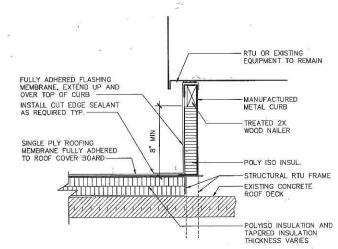
AND ATTACH WITH DRIVE PINS

- 20 GA GALV COUNTER FLASHING & REGLET

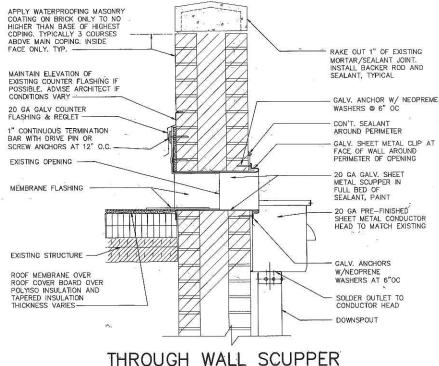
BAR WITH DRIVE PIN OR

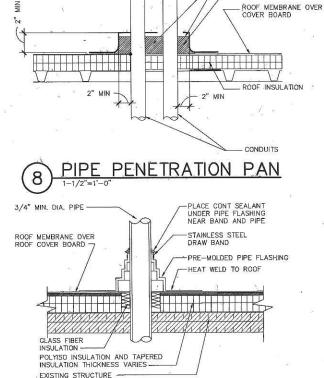
FULLY ADHERED BASE FLASHING

-ROOF MEMBRANE -ROOF COVER BOARD



EQUIPMENT CURB DETAIL

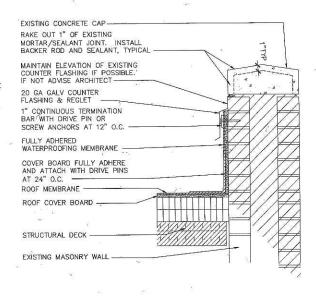




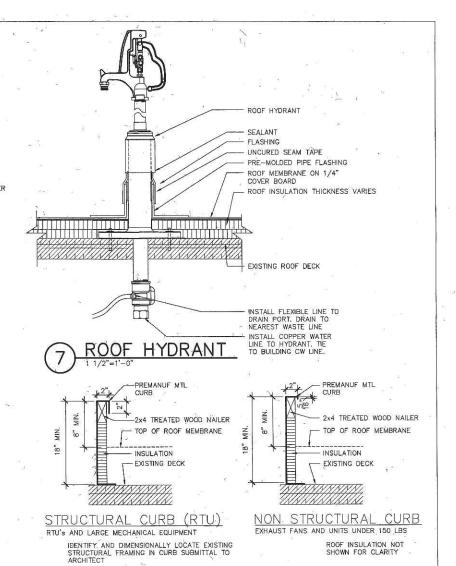
POURABLE SEALER

PITCH POCKET

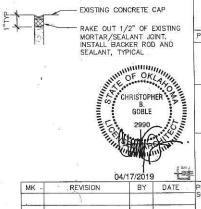




FLASHING MEMBRANE



TYPICAL CURB DETAILS



TULSA FIRE DEPARTMENT ROOF REPLACEMENTS STATION #5

PROJECT NO.:SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

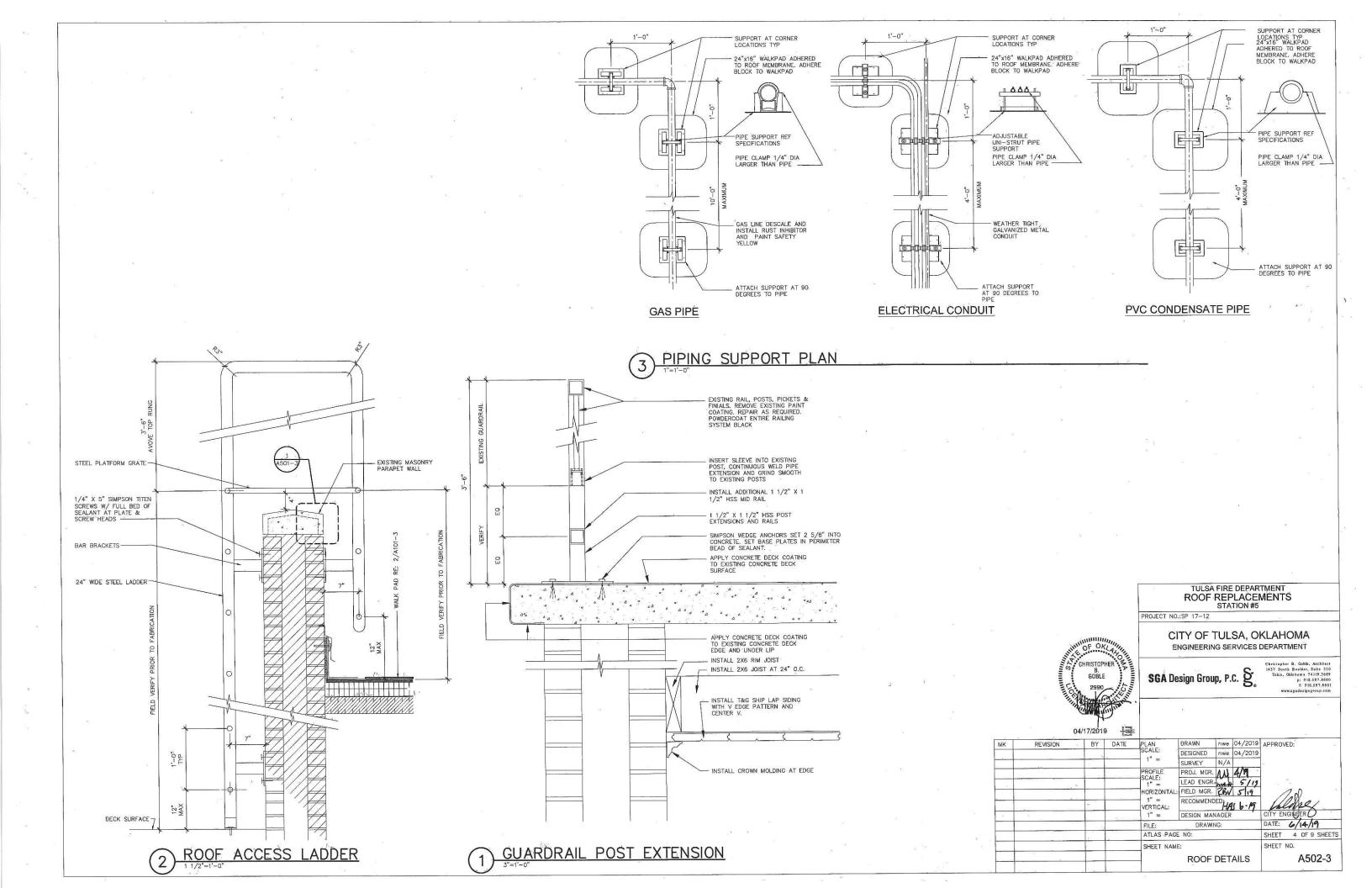
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DATE PLAN SCALE: DRAWN nwe 04/2019 APPROVED: DESIGNED nive 04/2019 SURVEY PROJ. MGR. A 4/A SCALE: LEAD ENGR. MAH 5/19
HORIZONTAL: FIELD MGR. 26/ 5/19 RECOMMENDED HAS 6-19 CITY ENGINEER VERTICAL: DESIGN MANAGER DATE: 6/14/19 FILE: ATLAS PAGE NO: SHEET 3 OF 9 SHEETS SHEET NO. SHEET NAME: ROOF DETAILS A501-3

FLASHING MEMBRANE

AND DOWNSPOUT DETAIL



DESIGN PARAMETERS

1.	BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE	
2.	DEAD LOADS: A. ROOF	20 PSF
3.	LIVE LOADS: A. ROOF	20 PSF (UNIFORM)
4.	SNOW LOADS: A. GROUND SNOW LOAD, Pg	10 PSF
5.	WIND LOADS: A BASIC WIND SPEED (3 SECOND GUST) B. RISK CATEGORY C. EXPOSURE CLASSIFICATION	· 115 MPH · II · C

GENERAL

- STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO THE SHOP DRAWINGS AND FIELD WORK. WHERE CONFLICT EXISTS AMONG VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, AND

- 2. WHERE CONFLICT EXISTS AMONG VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, AND SPECIFICATIONS, THE STRUCTER FOR MICHAEL SOVERN.
 3. WHERE MEMBER LOCATIONS ARE NOT SPECIFICALLY DIMENSIONED, THE FOLLOWING RULES SHALL APPLY:

 A. COLUMNS ARE CENTERED BINE HEATH COLUMNS.

 C. CONTINUOUS FOOTINGS ARE CENTERED BENEATH CALUMNS.

 D. FRAMING MEMBERS ARE ETHER LOCATED BENEATH WALLS.

 D. FRAMING MEMBERS ARE ETHER LOCATED ON GRID LINES OR ARE EQUALLY SPACED BETWEEN LOCATED MEMBERS.

 4. ALL STRUCTURAL ELIBENTS OF THE PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE REQUIRED GODE VERTIGAL AND LATERAL FORCES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURAL ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL BROWINGED BRACING DURING CONSTRUCTION TO MAINTAIN THE STRUCTUR AND SALL STRUCTURAL ELEMENTS DURING THE CONTRACTOR TO PROVIDE ALL BROWINGED BRACING DURING CONSTRUCTION TO MAINTAIN THE STRUCTURY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION. REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE LATERAL LOAD RESISTING OR STABILITY-PROVIDING SYSTEM IS COMPLETELY INSTALLED AND THE STRUCTURE IS COMPLETELY
- THE STRUCTURE HAS BEEN DESIGNED FOR THE LOADS IDENTIFIED WITHIN THESE STRUCTURAL DRAWINGS THAT ARE ANTICIPATED TO BE APPLIED TO 5. THE STRUCTURE HAS BEEN DESIGNED FOR THE LOADS IDENTIFIED WITHIN THESE STRUCTURAL DRAWINGS THAT ARE AN ICIPIATED TO BE APPLIED TO THE FINAL STRUCTURE ONE CONSTRUCTION. THE CONTRACTOR SHALL BUT OVERLOAD THE STRUCTURE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE TO SUPPORT ANY APPLIED CONSTRUCTION LOADS, INCLUDING THOSE DUE TO CONSTRUCTION VEHICLES OR EQUIPMENT, MATERIAL HANDLING OR STORAGE, SHORING AND RESHORING, OR ANY OTHER PROPOSED CONSTRUCTION LOADS THAT ARE IN EXCESS OF THE STRICTURE FOR ANY CONSTRUCTION ACTIVITY.

 DESIGN OR CHECK THE STRUCTURE FOR LOADS APPLIED TO THE STRUCTURE FOR ANY CONSTRUCTION ACTIVITY.

 WEIGHTS OF MECHANICAL EQUIPMENT SHOWN ON THE STRUCTURAL PLANS ARE FOR UNITS SPECIFIED BY THE MECHANICAL ENGINEER CONTRACTOR SHALL VERIFY THE WEIGHTS. ANY SUBSTITUTIONS THAT RESULT IN INCREASED WEIGHT SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF
- THE SIZE AND LOCATION OF FOLIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL ELECTRICAL, AND PLUMBING WORK
- FIRE SIZE AND LOCK OF EXCHANGE AND AND AND FEWER TATIONS HOW THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR, OPENINGS AND PEWER TATIONS NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

 PRICE TO FARRICATION AND/OR FRECTION OF ANY MATERIALS, THE CONTRACTOR SHALL FIELD VERIFY ALL PERTINENT EXISTING DIMENSIONS, ELEVATIONS, AND CONDITIONS AND SHALL REPORT ANY DISCREPANCIES TO THE STRUCTURAL ENGINEER OF RECORD OR THE ARCHITECT
- IMMEDIATELY UPON DISCOVERY.

 9. BACKFILL BOTH SIDES OF ALL FOUNDATION AND RETAINING WALLS EQUALLY UNTIL LOW SIDE IS UP TO FINISH GRADE. DO NOT BACKFILL ANY WALLS
- BACKFILL BOTH SIDES OF ALL FOUNDATION AND RETAINING WALLS EQUALLY UNTIL LOW SIDE IS UP TO FINISH GRADE. DO NOT BACKFILL ANY WALLS
 UNTIL CONCRETE HAS REACHED ITS SPECIFIED 28-DAY COMPRESSIVE STRENGTH.
 CONNECTIONS OF SYSTEMS DESIGNED BY THE CONTRACTOR'S ENGINEER SUCH AS, BUT NOT LIMITED TO, CLADDING, STAIRS, ELEVATORS AND MEP
 LOADS ARE ASSUMED TO IMPOSE VERTICAL ANDIOR HORIZONTAL LOADS ON THE BASE BUILDING STRUCTURAL MEMBERS WITHOUT GENERATING
 TORSION IN THE SUPPORTING STRUCTURAL MEMBERS. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL SUPPLEMENTARY
 BRACING MEMBERS AS REQUIRED TO PREVENT TORSION ON THE BASE BUILDING STRUCTURE.
 ANY MATERIALS OR PRODUCTS SUBMITTED FOR APPROVED THAT ARE DIFFERENT FROM THE MATERIAL OR PRODUCTS SPECIFIED IN THE STRUCTURAL
 CONTRACT DOCUMENTS WILL BE APPROVED ONLY IF THE FOLLOWING CRITERIA ARE SATISFIED.

 A. A COST SAVINGS TO THE OWNER IS DOCUMENTED AND SUBMITTED WITH THE REQUEST.
 B. THE MATERIAL OR PRODUCT HAS BEEN APPROVED BY THE INTERNATIONAL CODE COUNCIL (ICC) AND THE ICC REPORT IS SUBMITTED WITH
- 12. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES,
- THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDINGES, FOR SHORE YEAR PRECALTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR MISSISON OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 PERIODIC SITE OBSERVATION BY PIELD REPRESENTATIVES OF 380 ENGINEERING GROUP, PLLC. IS SOLELY FOR THE PURPOSE OF BECOMING GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE WORK COMPLETED AND DETERMINING, IN SENERAL IF THE WORK OBSERVED IS BEIND PERFORMED IN A MANNER INDICATING THAT THE WORK, WHEN FULLY COMPLETED, WILL BE IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE DISSERVATION SHOULD NOT BE CONSTRUCTED AND AN EXHAUSTIVE OR CONTINUOUS CHECK OF THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

DIVISION 5 - STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTHS (Fy)

A992 A36 A500, GRADE B A500, GRADE A A53, TYPE E, GRADE B F1554 ROUND HSS -- 42 KSI STRUCTURAL STEEL PIPE --ANCHOR RODS - 50 KSI ALL-THREAD RODS ---- 65 KSI (TENSILE) A108 (GRADE DESIGNATIONS 1010-1020 INCLUSIVE)

- BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4" DIAMETER ASTM A325 HIGH-STRENGTH BOLTS INSTALLED SNUG TIGHT, UNO.
 WHERE FIELD AND SHOP WELDS ARE INDICATED ON THE DRAWINGS, THEY SHALL BE THE SIZE AND TYPE NOTED. ALL WELDING OF STRUCTURAL STEEL SHALL BE DONE IN
 ACCORDANCE WITH LATEST EDITION OF AWS D1.1 CORRESPONDING TO THE AISC SPECIFICATION USED, AND ALL WELDS INCLUDING FIELD WELDS SHALL BE MADE BY
- CERTIFIED WELDERS USING E70XX ELECTRODES.
 WHERE FILLED WELD SIZES ARE NOT INDICATED ON WELD SYMBOLS, FILLET SIZE SHALL BE 1/16TH INCH SMALLER THAN THICKNESS OF THINNER MATERIALS BEING JOINED.

- 4. WHERE FILLED WELD SIZES ARE NOT INDICATED ON WELD SYMBOLS, FILLET SIZE SHALL BE 1/16TH NOH SMALLER THAN THICKNESS OF THINNER MATERIALS BEING JUNIED.

 COMPLETE PÉNETRATION WELDS ARE INDICATED BY NOTATION TOP ON WELD SYMBOLS, PARTIAL FERENTION BY "PP.

 6. PROVIDE DOUBLE MUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION.

 7. COMPOSITE CONSTRUCTION STEEL BEAMS AND GIRDERS DO NOT REQUIRE SHORING.

 8. STUD CONNECTORS FOR COMPOSITE BEAMS AND GIRDERS SHALL BE 3/4" DIA. X 3 3/4" AND SHALL BE WELDED THROUGH METAL DECK DIRECTLY TO THE STEEL MEMBER.

 9. STUD SPACING ON COMPOSITE BEAMS AND GIRDERS SHALL NOT BE LESS THAN 4 1/2" ALONG THE LENGTH OF ANY MEMBER AND SHALL NOT EXCEED 3/2". MINIMUM STUD SPACING ACROSS THE MADE SHALL NOT BE LESS THAN 3".

 10. DO NOT PAINT SURFACES WHICH RECEIVE WELDED STUDS.

 11. EXPOSED STEEL LABELED AS ARCHITECTURALLY EXPOSED STEEL REQUIRES HIGHER TOLERANCES FOR CONSTRUCTION. REFER TO SPECIFICATIONS SECTION 05/1200 FOR REQUIREMENTS. FLARE BEVEL WELDS FOR ARCHITECTURALLY EXPOSED TUBE SHAPED SECTIONS SHALL BE SHOP ROLLED BY THE STEEL FABRICATOR. SHOP DRAWINGS SHALL NDICATED OUR PAIN AND ANTA AND FULL PENTERATION SUCCESS.
- INDICATED CURVATURE DATA AND FULL PENETRATION SPLICE LOCATIONS.

- ALL STEEL MEMBERS NOTED OR INDICATED ON PLANS, ELEVATIONS, SECTIONS OR DETAILS SHALL BE SHOP ROLLED BY THE STEEL FABRICATOR, SHOP DRAWINGS SHALL
 INDICATED CURVATURE DATA AND FULL PENETRATION SPICE LOCATIONS.
 REFERENCE SPECIFICATIONS FOR MISC. STEEL REQUIREMENTS NOT SHOWN ON STRUCTURAL PLANS.
 TOUCH UP ALL FIELD WELDS ON GALVANIZED SURFACES WITH GALVANIZIOR GREPAIR PAINT.
 THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL IN THEIR BID. REGARDLESS OF WHETHER THOSE ITEMS
 ARE INDICATED ON THE STRUCTURAL DRAWINGS. THESE COSTS SHALL INCLUDE, BUT NOT LIMITED TO, MISCELLANEOUS STEEL ITEMS SHOWN ON ARCHITECTURAL, CIVIL,
 MICHARIOLA, PLUMBING, AND ELECTRICAL DRAWINGS.
 UNLESS DETAILED OTHERWISE OR REACTIONS ARE INDICATED, BEAM CONNECTIONS SHALL BE SELECTED TO SUPPORT ÓNE-HALF THE TOTAL UNIFORM LOAD CAPACITY
 SHOWN IN THE "ALLOWABLE UNIFORM LOAD TABLES" IN PART 2 OF THE AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION, FOR THE GIVEN BEAM SIZE, SPAN AND STEEL
 SPECIFICATION OR FOR THE BEAM REACTION SHOWN ON THE DRAWINGS, WHICHEVER IS GREATER. THE MINIMUM BEAM CONNECTION SHALL NOT BE SMALLER THAN THOSE
 LISTED IN TABLES 101-A AND 10-20 OF THE AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION, FOR THE GIVEN BEAM BEAP CONNECTION SHALL NOT BE SMALLER THAN THOSE
 LISTED IN TABLES 101-A AND 10-20 OF THE AISC STEEL CONSTRUCTION ANAMUAL, 13TH EDITION, FOR THE GIVEN BEAM DEPT AND WELD SPECIFICATION.
 THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ADEQUACY OF ALL CONNECTIONS THAT ARE NOT DESIGNED OR PLULY DETAILED ON THE CONTRACT
 DOCUMENTS. SHOP DRAWINGS, DEPICTING THE CONFIGURATIONS AND FABRICATION DETAILS, ALONG WITH CALCULATIONS, SEALED BY A REGISTERED PROFESSIONAL
 ENGINEER, LICENSED TO PRACTICE IN THE STATE IN WHICH THE PROJECT IS LOCATED, SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW.
 WILLESS OTHERWISE. INDICATE OR THE DESTAL IN WHICH THE PROJECT IS LOCATED, SHALL BE SUBMITTED TO TH

- RESISTANCE TO WIND AND SEISMIC FORCES DURING AND AFTER CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING RECUIRED TO MAINTAIN STABILITY UNTIL THE LATERAL FORCE RESISTING SYSTEM FOR THE BUILDINGS AS REQUIRED. POSTHANGERS ARE TO CONCENTRICALLY LOAD BEAMS.

 21. STARK SUPPLIER TO PROVIDE POSTHANGER SUPPORTS AT INTERMEDIATE LANDINGS AS REQUIRED. POSTHANGERS ARE TO CONCENTRICALLY LOAD BEAMS.

 22. AT ROOF ACCESS LADDERS, PROVIDE (2) GOX10.2 VERTICALS IN STUD WILL SEE ARCH FOR LOCATIONS.

 FIELD CUTTING, DRILLING OR OTHER MODIFICATION OF STRUCTURAL STEEL COMPONENTS IS NOT PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD. WHERE BEAM PENETRATIONS CANNOT BE AVOIDED OR WHERE CUTTING IS REQUIRED, THE CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER OF RECORD ALL PERTINENT IN PROFRAMION INCLUDING PENETRATION SHAPE, SIZE, LOCATION AND METHOD OF CUTTING OPENINGS.

 24. ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL BE GALVANIZED OR PAINTED WITH TINEMEC EPOXY SYSTEM OR SHOP COAT OF TRIMEC RED OR GRAY OXIDE PRIMER OR SHALL STEEL IN THE PROJECT SPECIFICATIONS. ALL PRIMERS SHALL BE COMPATIBLE WITH TOP COATSINGS SPECIFIED.



FIRE STATION #5 TULSA FIRE DEPARTMENT

PROJECT NO.: SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

Tulso, Oklohoma 74119.3605 p; 918.587.8600 f; 918.587.8600

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			SC ALE:	DESIGNED	erj	04/2019	
			1" =	SURVEY	N/A		
			PROFILE	PROJ. MGR.	NN	4/9	
			SC ALE:	LEAD ENGR	- Tues	5/19	
	-		HORIZONTAL:			5/19	100
			1" = VERTIC AL:	RECOMMEN	DED	\$ 6.19	blower
			1" =	DESIGN MA	NAGER		CITY ENGINEER
			FILE:	DRAW	NG:		DATE: 6/14/19
			ATLAS PAGE	NO:			SHEET 5 OF 9 SHEET
			SHEET NAME GEN	ERAL N	TO	ES	SHEET NO. S001-3

SPECIAL INSPECTIONS

- 1. SPECIAL INSPECTION SHALL BE PROVIDED BY THE OWNER ACCORDING TO SECTION 1705 OF IBC 2015. THE APPROVED SPECIAL INSPECTOR SHALL DEMONSTRATE COMPETENCE FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE SPECIAL INSPECTOR SHALL SEND REPORTS TO THE OWNER, THE BUILDING OFFICIAL, THE ARCHITECT, THE STRUCTURAL ENGINEER OF RECORD, AND TO THE CONTRACTOR. THE SPECIAL INSPECTOR SHALL BRING NON-CONFORMING THEMS TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR AND NOTE ALL SUCH ITEMS IN THE REPORTS. ANY UNRESOLVED ITEM ABOUT THE COVERED WORK SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR AND STRUCTURAL REGISIERS OF RESOLVED. INSPECTOR MANGE WELL AS THE ARCHITECT AND STRUCTURAL REGISIERS OF RESOLVED. THE SPECIAL INSPECTOR SHOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIAL CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFIEND THE SPECIAL INSPECTION AGENCY REGARDING INDIVIDUAL INSPECTIONS FOR ITEMS LISTED ON THE SCHEDULE AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.

 2. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING CONSTRUCTION DOCUMENTS FOR ADDITIONAL NON-STRUCTURAL SPECIAL INSPECTION TEMS.

 3. IN ACCORDANCE WITH IBC CHAPTER 17, THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTIONS AND TESTING:

PERFORM	OBSERVE
Х	
Х	
	X
	X
	X
1957	Х
-77	х
	X X

SPECIAL INSPECTION AND VERIFICATION OF STEEL CONSTRUCTION DURING WELDING REFERENCE AISC 380-10, TABLE N5.4-2							
VERIFICATION AND INSPECTION TASK	PERFORM	OBSERVE					
USE OF QUALIFIED WELDERS		Х					
CONTRÔL AND HANDLING OF WELDING CONSUMABLES A. PACKAGING B. EXPOSURE CONTROL	-	х					
NO WELDING OVER CRACKED TACK WELDS	175	Х					
ENVIRONMENTAL CONDITIONS A. WIND SPEED WITHIN LIMITS B. PRECIPITATION AND TEMPERATURE	-	·X					
WPS FOLLOWED A. SETTINGS ON WELDING EQUIPMENT B. TRAVEL SPEED C. SELECTED WELDING MATERIALS D. SHELDING GAS TYPE/FLOW RATE E. PREHEAT APPLIED F. INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) G. PROPER POSITION	0 	х					
FIT-UP OF FILLET WELDS A. INTERPASS AND FINAL CLEANING B. EACH PASS WITHIN PROFILE LIMITATIONS C. EACH PASS MEETS CUALITY REQUIREMENTS		X					

SPÉCIAL INSPECTION AND VÉRIFICATION OF STEEL CONSTRUCTION ÁFTER WELDING REFERENCE AISC 380-10, TÁBLE N5.4-3						
VERIFICATION AND INSPECTION TASK	PERFORM	O'BSERVE				
WELDS CLEANED		Х				
SIZE, LENGTH AND LOCATION OF WELDS	Х	-0				
WELDS MEET, VISUAL ACCEPTANCE CRITERIA A. CRACK PROHIBITION B. WELDIARS-METAL FUSION C. CRATER CROSS SECTION D. WELD PROFILES E. WELD SIZE E. WELD SIZE F. UNDERGUT G. POROSITY	x	220				
ARC STRIKES	Х	-				
K-AREA ¹	Х	-				
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	-				
REPAIR ACTIVITIES	Х	220				
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	- 2				

WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3" OF THE WELD.

SPECIAL INSPECTIONS CONTINUED

SPECIAL INSPECTION AND VERIFICATION OF STEE PRIOR TO BOLTING REFERENCE AISC 380-10, TABLE N5.6-1	L CONSTRUCT	ION
VERIFICATION AND INSPECTION TASK	PERFORM	OBSERVÉ
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	Х	124
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	22	X
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	-mi	X
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL		X
CONNECTING ÉLEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	-	х
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED		х
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	(Fig. 1)	Х

SPECIAL INSPECTION AND VERIFICATION OF STEE DURING BOLTING REFERENCE AISC 380-10, TABLE NS.6-2	LCONSTRUCT	ION
VERIFICATION AND INSPECTION TASK	PERFORM	OBSERVE
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	-	Х
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	-	х
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	-	X
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID TOWARD THE FREE EDGES	-	X

SPECIAL INSPECTION AND VÉRIFICATION OF STI AFTER BOLTING REFERENCE AISC 360-10, TABLE N5.6-		
VERIFICATION AND INSPECTION TASK	PERFORM	OBSERVE
DURING ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	- 4.



ROOF REPLACEMENT FIRE STATION #5 TULSA FIRE DEPARTMENT

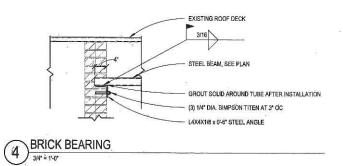
PROJECT NO.: SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

APPROVED	04/2019	Isw	DR'AWN	PLAN ·	DATE	BY	REVISION			
	04/2019	erj	DESIGNED	SC ALE:	SC ALE:	SC ALE:				
		N/A	SURVEY	1" = 1						
	4/9,	M	PROJ. MGR.	PROFILE	-					
	5/19	244	LEAD ENGR.	SC ALE:						
1	5/19	REV	FIELD MGR.	HORIZONTAL:		1 1				
The	16 6.19	HA	RECOMMEN	1" = . VERTIC AL:			K.,			
CITY ENG			DESIGN MAN	1" =						
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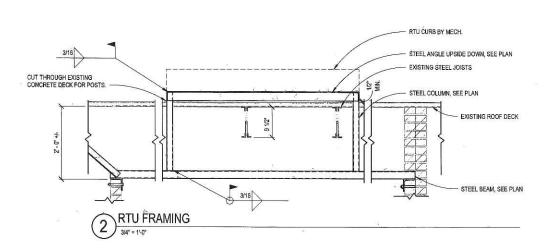
SPECIAL INSPECTIONS S002-3

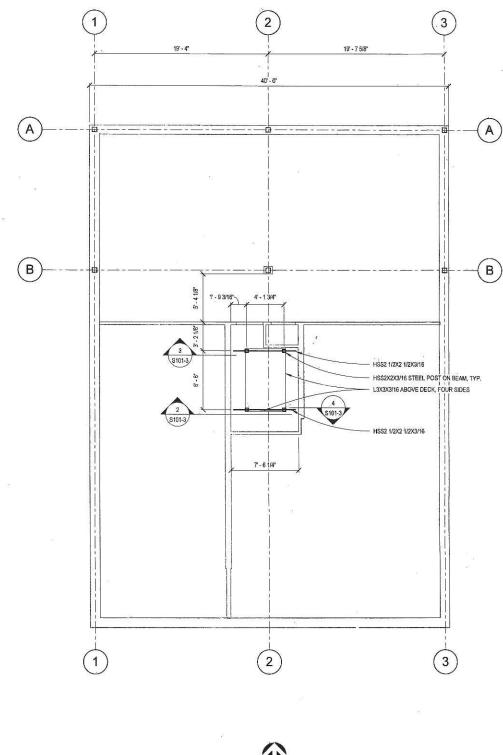


FÄSTEN TO EXISTING DECK WITH (3)
3/16 DIA. SIMPSON CONCRETE SCREWS
L2 1/2/2 1/2/3/16 x 0-6*
L2 1/2/2 1/2/3/16 x 0-6*
STEEL BEAM, SEE PLAN

(4) 3/8" DIA. THROUGH BOLTS AT 12" OC L4X4X1/4 x 3"-3" STEEL ANGLE EXISTING MASONRY BLOCK

3 BLOCK BEARING





FIELD VERIFICATION NOTE

VERIFY ALL DIMENSIONS AND EXISTING STRUCTURAL MEMBER SIZES IN THE FIELD PRIOR TO FABRICATION OF STRUCTURAL ITEMS. EXISTING PORTION OF THE PLANS ARE FROM A PRELIMINARY FIELD SURVEY, WHICH MAY OR MAY NOT REFLECT ACTUAL AS-BUILT CONDITIONS AND DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS ANOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE DRAWINGS, IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND WHAT EXISTS IN THE FIELD, CONTACT THE ARCHITECT TO DETERMINE WHAT SHOULD BE DONE TO MATCH EXISTING CONDITIONS AS REQUIRED. BEGINNING OF FABRICATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.



ROOF REPLACEMENT
FIRE STATION #5
TULSA FIRE DEPARTMENT

PROJECT NO.: SP 17-12

CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

Christopher B. Goble, Architect 1437 South Boulder, Suite 550 Tulsa, Oklahoma 74119,3609 - p: 918.587.8600 f: 918.587.8601 www.sgadesigngroup.com

360 MWWW 1201 Tulsa 916.1

Certificate of Authoritats OK #5996 | EXP 6.80.20

DRAWN Isw 04/2019
DESIGNED erj 04/2019
SURVEY N/A
PROJ. MGR. 14/4 REVISION BY DATE PLAN SCALE: SC ALE: SCALE: LEAD ENGR. MAH 5/19
HORIZONTAL: FIELD MGR. CON 5/19 RECOMMENDED HAS 6-1 VERTIC AL: DRAWING: FILE: ATLAS PAGE NO: SHEET 7 OF 9 SHEETS SHEET NAME: SHEET NO. **ROOF PLANS** S101-3

ROOF FRAMING PLAN

 \bigcirc

${\color{red} imes}$	SUPPLY AIR DUCT, SECTION	$-\bowtie$	GAŤE VALVE
=	RETURN AIR DUCT, SECTION	><	GLOBE VALVE
=	EXHAUST AIR DUCT, SECTION	4	ANGLE GATE VALVE
54	OUTDOOR AIR INTAKE, SECTION		SOLENOID VALVE
0x12	DUCT, WIDTH X DEPTH, PLAN	7	NON SLAM CHECK VALVE
RI	INCLINE DUCT RISE		BUTTERFLY VALVE
	INCLINE DUCT DROP	——₩—	PLUG VALVE
-	FLEXIBLE CONNECTION		BALL VALVE
5	LONG RADIUS ELBOW	——————————————————————————————————————	TWO WAY CONTROL VALVE
	VOLUME DAMPER		PRESSURE REGULATOR
12	SQUARE ELBOW W/	Ρ.	
111	BRANCH TAKEOFF WITH	——————————————————————————————————————	THREE WAY CONTROL VALVE
	ADJUSTABLE EXTRACTOR	k	PRESSURE REDUCING VALVE
'	SPLITTER DAMPER		BUTTERFLY VALVE
T	THERMOSTAT	8	AUTOMATIC AIR VENT
S	SPACE TEMPERATURE SENSOR		STRAINER, Y TYPE W/GATE
	EXHAUST AIR INLET	-4	VALVE OR HOSE BIBB
Ä.	CEILING RETURN INLET		FLEXIBLE CONNECTION
X	CEILING SUPPLY DIFFUSER		JOINT
	DUCT WITH INTERNAL LINING		EXPANSION JOINT
F	ELECTRIC DUCT HEATER	F	FLOW METER
rti i	SQUARE OR RECTANGULAR	-	FLOW DIRECTION
	BRANCH TAKEOFF WITH MANUAL BALANCING DAMPER		ELBOW BASE
മ	ROUND BRANCH TAKEOFF WITH	<u> </u>	ÉLBOW REDUCING
#	SCOOP EXTRACTOR AND MANUAL BALANCING DAMPER		UNION
e E	CONICAL TEE WITH ROUND DUCTWORK	(P)	PRESSURE GAUGE WITH TRI-COCK
(SP)		. O	PRESSURE INDICATOR
<u> </u>	STATIC PRESSURE SENSOR		TEST PLUG
	TOTAL CONTRACTOR	(II)	TEMPERATURE INDICATOR
\sqcup	UNIT HEATER	FS	FLOW SWITCH
(SD)	SMOKE DETECTOR	Ø	METERED BALANCING VALVE WITH PRESSURE TAP
<u> </u>	SUPPLY AIR FLOW	T U	PRESSURE TEMPERATURE TEST
<u> </u>	RETURN AIR OR EXHAUST AIR FLOW		3
\overline{a}	DOOR UNDER CUT	\Diamond	THERMOMETER
		T	THERMOMETER, DIAL
	FIXED LOUVER W/BIRD SCREEN	U.	THERMOWELL
4/47	OPPOSED BLADE DAMPER		AUTO FLOW BALANCING VALVE
*****	PARALLEL BLADE DAMPER	<u> </u>	FLOOR DRAIN W/P-TRAP
11111	BACKDRAFT DAMPER		FLOOR CLEANOUT
*	FIRE DAMPER	11	WALL CLEANOUT
11111	MOTORIZED DAMPER	-NN-	BACKFLOW PREVENTER
	POINT OF CONNECTION		LUBRICATED PLUG COCK
PT-	PRESSURE TRANSMITTER	<i>7</i> -e	HOSE BIBB W/VACUUM BREAKER
+		E	CAPPED END
A	AIR OUTLET	\$	DELUGE VALVE
CO2	CARBON DIOXIDE SENSOR	0 0	PIPE SWAY BRACING
CO .	·	X	PIPE ANCHOR SUPPORT
NOX	NITROGEN OXIDE SENSOR	161	BALANCING VALVE

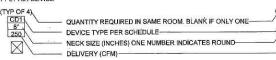
A AIR ABV ABOVE ACCU AIR COOLED CONDENSING UNIT	K K		KII OMMET
ACL ACETYLENE GAS ACU ARC CONDITIONING UNIT AD AF AR FILTER AFF ABOVE FINISHED FLOOR AFH AR FILTER, HIGH EFFICIENCY AND AR PRESSURE DROP AR ACID RESISTANT ASSY AUXILIARY AUXILIARY AV AUTOMATIC AIR VENT	L LA L	AB AT AV B D D D F F F D S WB	KILOWATT LABORATORY LEAVING AIR TEMPERATURE LAVATORY POUND LINEAR DIFFUSER LEAVING DRY BULB LINEAR FLET LAMINAR FLOW DIFFUSER LIQUID PROPANE LITERS PER SECOND LEAVING WET BULB LEAVING WET BULB LEAVING WET BULB
BDD BACKDRAFT DAMPER BHP BRAKE HORSE POWER BACKFLOW PREVENTER BS BIRD SCREEN	M M M	IBH	MAKE-UP AIR UNIT MAXIMUM MIXING BOX/MOP BASIN THOUSAND BTU/HR MOTORIZED DAMPER MECHANICAL MINUTE/MINIMUM
C CONDENSATE C/L CENTER LINE CD CONDENSATE OR CEILING DIFFUSE CFM CHLEER CHLICAL DRAIN CHP CLG CEILING CO CLEANOUT CONC CONCRETE CONN CONNECTION	N N N N N N N N N N N N N N N N N N N	IM IS	MILLIMETERS MOTOR STARTER NOTROSEN NORMALLY CLOSED NATURAL GAS NOT IN CONTRACT NUMBER NITROGEN-OXIDE NOT TO SCALE
CONT CONTINUED/CONTINUATION COTG CLEAN OUT TO GRADE CU CONDENSING UNIT/COPPER CV CONDENSING UNIT/COPPER CV COLD WATER DDC DIRECT DIGITAL CONTROL	000	DAL DBD DC DS	OXYGEN OUTSIDE AIR OUTSIDE AIR LOUVER OPPOSED BLADE DAMPER ON CENTER OVERFLOW SCUPPER OUTSIDE SCREW & YOKE
DG	P P P P P P	PD POC PRESS PRV PSIG PVC	PRESSURE DROP POINT OF CONNECTION PRESSURE PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH POLYVINYL CHLORIDE
DWG DRAWING EAT ENTERING AIR TEMPERATURE ED EQUIPMENT DRAIN EDB ENTERING DRY BULB ENTERING AIR TEMPERATURE ENTER	RRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRRR	RA RAG RAR RC REF RF RL RM	RETURN AIR RETURN AIR GRILLE RETURN AIR REGISTER RAIN CONDUCTOR ROOF DRAIN REFERENCE RETURN FAN RAIN LEADER ROOM RETURN
ENT ENTERING ER EXHAUST REGISTER EWB ENTERING WET BULB EWC LECTRIC WATER COOLER EWT ENTERING WATER TEMPERATURE EXH EXHAUST EWS EYE WASH/SHOWER STATION FGO FLOOR CLEANOUT FD FIRE DAMPER/FLOOR DRAIN		SA SAG SAN SAR SD/FD SF SH SP SQ FT	SUPPLY AIR SUPPLY AIR GRILLE SANITARY SUPPLY AIR REGISTER SMOKE DAMPER COMB. SMOKE DAMPER/FIRE DAI SUPPLY FAN SHEET STATIO PRESSURE SQUARE FEET
FH FUME HOOD FL FLOOR FLEX FLEXIBLE FOR FUEL OIL STUPPLY FOR FUEL OIL SUPPLY FP FIRE PUMP FPI FINS PER INCH FPM FEET PER MINUTE	T T	SST ICU IEMP IG IP IYP	STAINLESS STEEL TERMINAL CONTROL UNIT TEMPERATURE TRANSFER GRILLE TRAP PRIMER TYPICAL
FT FEET FACE VELOCITY	U	NNO NC	UNDERCUT UNLESS NOTED OTHERWISE
G GAUGE GRAVITY INTAKE VENTILATOR GROUND GROUND GROUND GRAVITY RELIEF VENTILATOR HOSE BIBB	1	V. VAV VD VEL VERT VFD VSD VTR	VENT VARIABLE AIR VOLUME VOLUME DAMPER VELOCITY VERTICAL VARIABLE FREQUENCY DRIVE VARIABLE SPEED DRIVE VENT THRU ROOF
HORIZ HORIZONTAL HP HORSE POWER/HEAT PUMP HEATING HUMIDISTAT HOT WATER SUPPLY HWB HOT WATER BOILER HWP HOT WATER PUMP HWR HOT WATER RETURN	w v	W/ W/O WCO WC WH WHA WP WR	WITH WITHOUT WALL CLEANOUT WATER COLLIMN WALL HYDRANT WATER HAMMER ARRESTORS WATERPROOF WATER RISER

PIPE LINES

POTABLE COLD WATER POTABLE HOT WATER POTABLE HOT WATER RETURN

DUCT TAGS

XX" S/A SUPPLY AIR XX" R/A RETURN AIR XX" EXH. EXHAUST AIR OUTSIDE AIR XX" O/A XX" T/A



THIS IS A STANDARD SYMBOLS & ABBREVIATIONS SHEET. THEREFORE, SOME SYMBOLS & ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE PLANS

GENERAL NOTES

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH THESE DOCUMENTS, THE APPLICABLE BUILDING CODES AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST EDITION OF THE FOLLOWING PUBLICATIONS; INTERNATIONAL BUILDING CODE-MECHANICAL, SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL REFRIGERATION.
- INTERNATIONAL BUILDING CODE-MECHANICAL, SMACNA, ASHRAE, NPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL REFRIGERATION.
 THE TERM "PROVIDE" USED IN THE PROJECT SPECIFICATIONS AND DRAWINGS SHALL MEAN TO FURNISH, INSTALL, CONNECT, AND PLACE IN SERVICE COMPLETELY IN THE SPECIFIED OR APPROVED MANNIER THE ITEM AND/OR MATERIAL DESCRIBED.
 THE MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. ALL EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFIED GUIDLINES. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IN WRITING IF MECHANICAL SYSTEMS WILL NOT FIT IN AREA ALLOTTED.

 SYMBOLS IN THE LEGEND ARE APPLICABLE GENERALLY, FOR EXACT REQUIREMENTS SEE THE APPLICABLE SCHEDULES, LAVOUTS, DETAILS, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS, EQUIPMENT, PIPE SIZES, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS, EQUIPMENT, PIPE SIZES, AND THE SPECIFICATIONS.

- SYMBOLS, IN THE LEGEND ARE APPLICABLE GENERALLY, FOR EXACT REQUIREMENTS SEE THE APPLICABLE SCHEDULES, LAYOUTS, DETAILS, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS, EQUIPMENT, PIPE SIZES, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS, EQUIPMENT, PIPE SIZES, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS, EQUIPMENT, PIPE SIZES, AND THE SPECIFICATIONS. UNLESS OTHERWISE NOTED, ALL DUCTS SIDE OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.

 ENGINEER OF RECORD RECOGNIZES THE GENERAL CONTRACTOR AND ALL OTHER COSTS INCIDENTS. OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTS. OF PERFORMED, GENERAL CONTRACTOR SHALL CONSIDER THE PROJECT AS ONE SET OF DOCUMENTS. GENERAL CONTRACTOR SHALL FOROUGE AN ENTIRE SET OF DOCUMENTS SHOWING ALL TRADES TO EACH SUBCONTRACTOR SHALL FOROUGE AN ENTIRE SET OF DOCUMENTS SHOWING ALL TRADES TO EACH SUBCONTRACTOR SHALL FOR THE CONTRACTOR SHALL FOR THE CONTRACTOR SHALL CONTRACTOR SHALL FOR THE CONTRACTOR SHALL WITH ALL OTHER CONTRACTORS TO THE DOCUMENTS PRIOR TO SUBMITTING FINAL BID AND COMMENCING ANY WORK. CONTRACTOR SHALL MAKE HIMSELF AVAILABLE FOR REVIEWING DOCUMENTS WITH ARCHITECTIENGINEER UPON REQUEST. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH "AS BUILT" REDLINE PROPRIES UPON THE REQUEST. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH "AS BUILT" REDLINE PROPRIES UPON COMPLETION OF THE PROJECT AND AUTOCAD SHOP DRAWING FILES (F APPLICABLE). THE GENERAL CONTRACTOR SHALL PROVIDE IN WITHING AND NO COMPANY LETTER HEAD, ALL TEMS VALUE ENGINEERED OR OMITTED FROM PROJECT BIDS. THIS DOCUMENT SHALL HAVE DETAILED DESCRIPTION AND TRANSPARENCY OF ALL ITEMS VALUE ENGINEERED OR OMITTED FROM PROJECT BIDS. THIS DOCUMENT SHALL HAVE DETAILED DESCRIPTION AND TRANSPARENCY OF ALL ITEMS VALUE ENGINEERED OR OMITTED FROM PROJECT BIDS. THIS DOCUMENT SHALL HAVE DETAILED DESCRIPTION AND TRANSPARENCY OF ALL ITEMS AND EACH DISCIPLINE AND FOR EACH TRADE. INFORMATION SHALL BE PROVIDED TO ARCHITECT AND ENGINEER FOR REVIEWING DOCUM

- MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL TAKE-OFFS, COMPLY WITH IMC, FOR BALANCED AIR FLOW.

 BALANCED AIR FLOW.

 ALL BRANCH TAKE-OFFS TO BE PROVIDED W MANUAL VOLUME DAMPERS, ALL ELBOWS AND TEE'S MUST BE FURNISHED WITURNING VANES, PROVIDE MANUAL VOLUME DAMPERS WITH EXTRACTOR AT ALL TAKE-OFFS.

 LOCATION OF THERMOSTATS SHALL BE ON INTERIOR WALLS APPROXIMATELY 66" AFF AND SHALL BE COORDINATED WITH SWITCHES, ETC. AT LOCATION SHOWN ON DRAWINGS.

 ALL VALVES SHALL BE INSTALLED IN SUCH A MANNER AS TO BE EASILY ACCESSIBLE AND OPERABLE BY THE OWNERS PERSONNEL, VALVES SHALL NOT BE INSTALLED WITH OPERATORS CLOSE TO WALL, CONCRETE DECK, PIPES, DUCTWORK, OR ANY OTHER OBSTRUCTION SUCH THAT THE OPERATORS HAND MAY BE BOUND OR PINCHED.

 PROVIDE TYPE "B" OVNAMIC FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED ASSEMBLIES. PROVIDES MOKE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING SREFER TO ARCHITECTURAL LIFE SAFETY SHEETS FOR RATED ASSEMBLIES.
- ALL CONDENSATE DRAIN PIPING SHALL BE PVC, ANY EXTERIOR PIPING SHALL ALSO BE PROVIDED
- ALL CONDENSATE DRAIN PIPING SHALL BE PVC, ANY EXTERIOR PIPING SHALL ALSO BE PROVIDED WITH UV PROTECTION.
 FOR ELECTRICAL OR CONTROL PANELS PROVIDE A MINIMUM OF 3'0" CLEARANCE IN FRONT OF ALL 180:240 VOLT PANELS AND 4'0" CLEARANCE IN FRONT OF ANY 480 VOLT PANEL PROVIDE ADEQUATE SIDE CLEARANCE PER NEC. DUCTS, PIPES, AND OTHER EQUIPMENT ARE NOT ALLOWED TO RUN OVER PANELS PER NEC.
 THE GENERAL CONTRACTOR SHALL TEST AND BALANCE THE AIR SIDE SYSTEM UPON COMPLETION. THE FINAL TEST AND BALANCE MUST BE PERFORMED BY AN INDEPENDENT FIRM CONTRACTOR AND NOT THE MECHANICAL CONTRACTOR. THE TEST AND BALANCE FIRM SHALL HOLD A CURRENT CERTIFICATION FROM A RECOGNIZED TEST AND BALANCE ORGANIZATION. THE TEST AND BALANCE OFFRATION SHALL INCLUDE ALL AIR SIDE SYSTEMS REGARDLESS OF SIZE OF EQUIPMENT AND ATEST TO CONFIRM BUILDING IS NEUTRAL OR POSITIVELY PRESSURIZED. THE T. & B FIRM SHALL PROVIDE A WRITTEN REPORT TO THE ARCHITECT AND THE REGINEER UPON COMPLETION. ARCHITECT AND THE ENGINEER UPON COMPLETION.
- ALL OPERATIONS / MAINTENANCE MANUALS FOR EQUIPMENT SPECIFIED SHALL BE PROVIDED TO UPON COMPLETION OF PROJECT.



TULSA FIRE DEPARTMENT **ROOF REPLACEMENTS** STATION #5

PROJECT NO.:SP 17-12

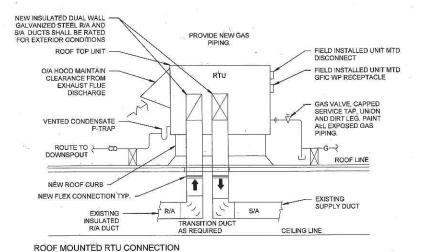
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

HVAC NOTES

M100

					(91	8) 582-4068	4 (918) 582-4887 F	'AX	
MK	REVISION	BY	DATE	PLAN	DRAWN	RAP	04/2019	APPROVED:	
				SC ALE:	DESIGNED	NAM	04/2019		
		19		1" =	SURVEY	NAM	6/25/18		
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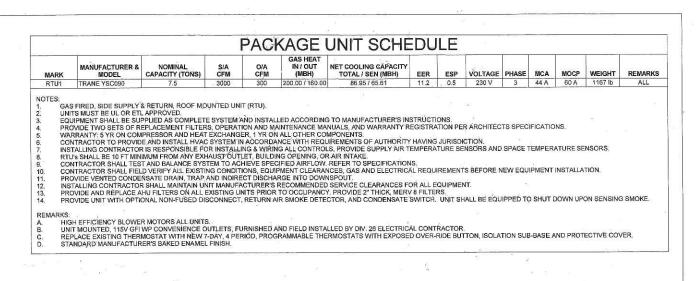


ALL PORTIONS OF EXISTING SUPPLY DUCTING BELOW ROOF SHALL BE REUSED UNO, EXISTING DUCTWORK SHALL BE THOROUGHLY CLEANED AND DISINFECTED PRIOR TO REUSE. REPLACE DUCTS SERVING

2 FIRST FLOOR HVAC PLAN 3/16" = 1'-0"

3 DETAILS NTS

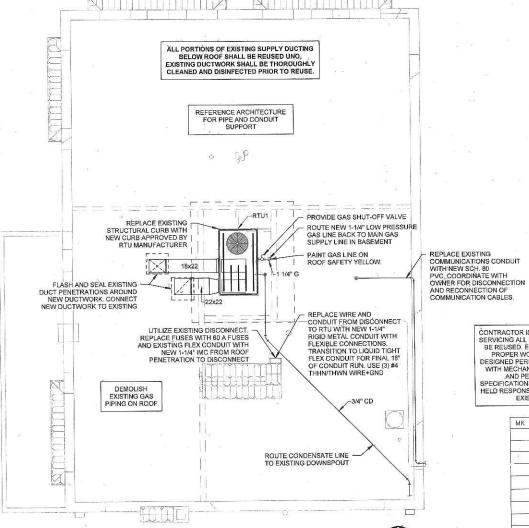


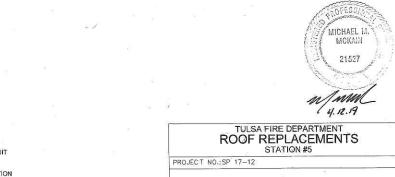


CONTRACTOR IS RESPONSIBLE FOR RECONDITIONING AND

CONTRACTOR IS RESPONSIBLE FOR RECONDITIONING AND SERVICING ALL EXISTING MECHANICAL UNITS THAT ARE TO BE REUSED. ÉQUIPMENT MUST EVALUATED TO ENSURE PROPER WORKING ORDER, AND MANUFACTURER'S DESIGNED PERFORMANCE. HVAC SYSTEM WAS DESIGNED WITH MECHANICAL EQUIPMENT OPERATING PROPERLY AND PERFORMING UP TO MANUFACTURER SPECIFICATIONS: THE ENGINEER OF RECORD WILL NOT BE HELD RESPONSIBLE FOR THE LACK OF PERFORMANCE ON EXISTING MECHANICAL EQUIPMENT.

NORTH





CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT

SGA Design Group, P.C. §

			(916) 582-4088 = (918) 582-4087 FAX					
(REVISION	BY	DATE	PLAN	DRAWN	RAP	04/2019	APPROVED:
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+	- 0.1-60-0.00-0.01-0	-		1" = VERTIC AL:	RECOMMEN	RECOMMENDED HAI 6.19		play
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				H/	HVAC PLANS			M101

1 ROOF HVAC PLÂN 3/16" = 1'-0"