OSE Project #: H29-9555 GMC Project #: ACOL180012 ADDENDUM #1 – OCTOBER 20, 2020

Goodwyn Mills Cawood 1219 Wayne Street Columbia, SC 29201

ADDENDUM NO.1 - OCTOBER 20, 2020

The following items shall take precedence over the drawings and specifications for the above-named project and shall become a part of the contract documents. Where any item called for in the specifications, or indicated on the drawings, is not supplemented hereby, the original requirements shall remain in effect. Where any original item is amended, voided or superseded hereby, the provisions of such item not specifically amended, voided or superseded shall remain in effect.

GENERAL

- 1. Bidders are hereby advised that information from bid documents which are not received from the sources listed in the Invitation for Bids is not legitimate and the bidder accepts full responsibility for any differences. Goodwyn Mills & Cawood has not authorized the scanning of the documents. Bidders should be aware that the plans are copyrighted and any unlawful use is subject to legal action. Bidders are further advised that the purchase and/or use of partial bid documents is not recommended and bidder will be responsible for any discrepancies which might have been avoided had a full set of documents been reviewed.
- 2. Listing of multiple products or manufacturers within specifications or approval of products or manufacturers via substitution request does not waive or preclude any and all performance, warranty or specific requirements listed within the specification unless specifically noted in the Addendum. Only manufacturers and products meeting the specification requirements and listed in the specifications or included in the Addendum shall be approved for the project.
- 3. Bid Closing: Bids shall be submitted to the University of South Carolina as indicated in the SE-310 by **10:30 am** on **October 29, 2020** to:

Kristen Moss Project Number H29-9555 1600 Hampton Street, Suite 606 Columbia, SC 29208

- 4. Pre-bid Attendees: The pre-bid conference was held on October 15, 2020 at 1:00 pm via teleconference with site walk-throughs to follow. The list of attendees is hereby attached.
- 5. This addendum forms a part of the Construction Documents and modifies the original Bidding Documents dated 09/18/2020 as noted below. Acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

ATTACHMENTS:

- 1. Pre-bid Sign-in Sheet.
- 2. Lighting Fixture pre-approval submission
- 3. Sheet D0.01 Demolition Floor Plan Revision 1 10/20/2020
- 4. Sheet S2.02 Framing Sections and Details Revision 1 10/20/2020
- 5. Sheet M2.01 Renovation Roof Plan Revision 1 10/20/2020
- 6. Sheet M3.01, Details, Notes, Schedules and Legend Revision 1 10/20/2020

OCTOBER 20, 2020 ADDENDUM #1 - 1 of 3

SPECIFICATIONS:

01 21 00 - Cash Allowances: Add paragraph 3 to section 2.01 A for Cash allowances as follows:

"3. Room Identification Panel Signage Allowance – Carry \$3,500.00 for interior panel signage as specified in section 10 14 23.16. Allowance shall cover the cost of generating a signage schedule in the design as directed by the Owner and the Architect and the fabrication and installation of signage."

23 00 10 - General Provisions - HVAC: A substitution request has been submitted to the A/E for preapproval.

The following manufacturers are to be listed as prior approved:

- 1. Variable Air Volume Boxes: MetalAire
- 2. Bi-Polar Ionization Units: Phenomenal Air, Global Plasma Solutions, Plasma Air

26 51 00 – Interior Lighting: A substitution request has been submitted to the A/E for lighting fixtures and is approved with the following comments (see attached): The submitted fixtures are pre-approved equals as follows:

- 1. All submitted fixtures are approved including:
 - a. Type A2/A2E Option 1
 - b. Type A4/A4E Option 1

Note that the submitted fixtures are only reviewed for compliance with design intent. Final approval of the acceptable substitutions is subject to final shop drawing review during construction.

26 56 00 - Exterior Lighting: A substitution request has been submitted to the A/E for lighting fixtures including exterior site lighting for P-1. See sheet E1.00 for notes regarding Site lighting. Site lighting poles P1 and P2 are not in contract. Rough-in and conduit for each site lighting location shall be provided in the Contract. The scope of work shall include the relocation of 2 light poles at the southwest corner of the exterior plaza as noted on Sheet A1.00.

DRAWINGS:

D0.01	Sheet D0.01 –	Replace sheet in its entirety and replace with attached sheet D0.01 Drawing revisions include modification to the slab cutting and scope of work to demolish pit coverings and infill of lift pits in the shop area.
S2.02	Sheet S2.02 -	Replace sheet in its entirety and replace with attached sheet S2.02 Drawing revision includes a Slab Joint Detail to Existing Concrete including preparation of the existing slab edge and application of bonding agent.
M2.01	Sheet M2.01 -	Replace sheet in its entirety and replace with attached sheet M2.01 The support rails for EF-5, SHP-1 and SHP-2 have been rotated to be perpendicular to structural members.

OCTOBER 20, 2020 ADDENDUM #1 - 2 of 3

M3.01 Sheet M3.01 Replace sheet in its entirety and replace with attached sheet M3.01

Reference Series Fan Powered Variable Volume Box Schedule and Variable Volume Box Schedule. VAV terminal tags for RTU-2 have been modified.

E0.02 Sheet E0.002 – A substitution request has been submitted to the A/E for lighting fixtures and is approved with the following comments (see attached): The submitted fixtures are pre-approved equals as follows:

- 1. All submitted fixtures are approved including:
 - a. Type A2/A2E Option 1
 - b. Type A4/A4E Option 1

COMMENTS / QUESTIONS:

The following are comments & questions received for addendum #01:

1. The roof plan A3.01 calls for a 90 mil TPO membrane. The thickest TPO membrane available is 80 mil. The spec says the basis of design is Johns Manville 80 – JM TPO – 80 mil. Can you verify that 80 mil TPO is the product to be used?

Response: 80mil TPO is acceptable per the specifications.

- Is the Branding logo shown on Elevation 10/A1.15 to be OFOI or CPCI?
 Response: The branding logo signage shall be Owner Furnished, Owner Installed (OFOI).
- 3. New 11" Dimensional Lettering shown on 2/A4.01. Specs call for 18" h. Which is correct? Response: Provide 11" dimensional lettering as indicated in the drawing.
- 4. There appears to be an in-slab lift pit in the shop area. Does this remain?

Response: These pits are to be infilled as directed on the revised sheet D0.01 attached to this addendum.

5. A question has been brought to the Architect's attention regarding the constructability of the Lab Casework and Fume Hood as described in the construction documents. The question centers on the requirement of a dedicated base for the fume hood that is separate from the lab casework.

Response:

In discussions with the basis-of-design hood manufacturer, the design as presented in the documents is constructible. The intent is for the hood to sit on the lab casework with an epoxy top that is provided by the hood manufacturer and shall include the necessary components such as contoured edges that conform to the interior liner of the hood and integral cup sink. The surrounding epoxy tops of the casework in the science lab and prep room shall align with the hood top at the perimeter edges of the hood and be either epoxied together or sealed. Modifications to the base cabinets may be necessary to plumb the cup sink and install any additional accessories to the hood. The lab casework shall be designed to accept the weight of the fume hood in accordance with the hood manufacturer.

END OF ADDENDUM NUMBER 01

OCTOBER 20, 2020 ADDENDUM #1 - 3 of 3

OSE Project #: H29-9555 GMC Project #: ACOL180012 ADDENDUM #1 – OCTOBER 20, 2020

Pre-bid Attendees: The preibid conference was held on October 15, 2020 at 1:00 pm via teleconference with site walk-throughs to follow. The list of attendees is as follows:

Owner Representatives - University of South Carolina:

Kristen Moss – Procurement Manager Brian Enter – UofSC Aiken Facilities Executive Jerry Knox – Project Manager

A/E Representatives - GMC:

Marc Warren – Project Principal Wes Spires – Project Manager

ATTENDEES:

Gregory Williams
 CMI
 (706) 667-9033
 gregoryW@contractmgmtinc.com

- Barrett Bowden
 Contract Management Inc.
 (706) 667-9033
 barrettb@contractmgmtinc.com
- Ford Tupper Sumwalt Associates (803) 409-9170 ftupper@sumwalt.com
- Wade Boseman
 Gillam and Associates
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 wade@gillamandassociates.com
- Tylor Rhoads
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 (803) 796-5551 ext 112
 tylor@lovelesscontracting.com
- Beth Frost
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 beth@kohnconstruction.com
- Maggie Stackley
 Kohn Construction
 (803) 600-7089
 Maggie.stackley@kohncorporation.com

OCTOBER 20, 2020 ADDENDUM #1 - 1 of 2

UNIVERSITY OF SOUTH CAROLINA AIKEN Repurposing Existing Maint. Building/ Aiken Scholars Academy 471 University Parkway, Aiken, SC 29801

OSE Project #: H29-9555 GMC Project #: ACOL180012 ADDENDUM #1 – OCTOBER 20, 2020

- John Bartlett
 O'Cain Construction
 (803) 536-2764
 john@ocainconstruction.com
- 9. Russ Spratlin Spratlin & Son Construction (706) 401-1981 russ@spratlinandson.com
- Lorenzo Mason
 Contract Management Inc.
 (706) 667-9033

 lorenzom@contractmgmtinc.com
- Donald Coleman
 RD Brown Contractors
 (803) 279-3176
 dcoleman@browntrusted.com
- 12. Player Mimms
 Mimms Contracting
 (803) 728-3448
 pmimms@mimmscontracting.com
- Joe Myers
 Sunbelt Rentals
 (843) 670-2643
 Joseph.myers@sunbeltrentals.com
- 14. Kris Muir Bobbitt (803) 306-7132 kmuir@bobbit.com
- 15. Jeff Simms
 DH Griffin Wrecking
 (803) 739-9404
 jasimms@dhgriffin.com

OCTOBER 20, 2020 ADDENDUM #1 - 2 of 2



Date: Oct 16, 2020

The Schneider Company 39A Pelham Davis Circle Greenville SC 29615 Phone: Fax:

Job Name USC AIKEN SCHOLARS ACADEMY MAINTENANCE BLDG TSC20-45470 471 UNIVERSITY PKWY, AIKEN SC

Lighting Fixture pre-approval substitution

Bid Date Oct 29, 2020

Submittal Date Oct 16, 2020

Architect:
GOODWYN MILLS CAWOOD-GREENVILLE
101 E WASHINGTON ST #200
Greenville SC 29601

Engineer:
BELKA ENGINEERING ASSOCIATES - COLUMBIA
7 CLUSTERS COURT
COLUMBIA SC 29210



Transmittal

The Schneider Company 39A Pelham Davis Circle Greenville SC 29615

Phone:

From: ANITA SMITH

Project USC AIKEN SCHOLARS ACADEMY

Quote# MAINTENANCE BLDG
TSC20-45470

Location 471 UNIVERSITY PKWY, AIKEN SC

To GOODWYN MILLS CAWOOD 101 E WASHINGTON ST #200

Greenville SC 29601 Contact: Wes Spires

	awings nts		J 1 COPY OF THE FOLLOWING ITEM: Specifications Other: Information Submittals
⊠ Pri □ Ap □ Ap	E ARE TRANS or Approval proval proval as Sub proval as Not	omitted	Resubmittal for Approval Record Corrections Bids due on Your Use Other: Review and Comment
	Type INV A2/A2E - OPT 1		Part EMIU AT3-22-L40/835-D-(4)EQ CLIPS-DIM1-UNV
	A2/A2E OPT 2	H.E. WILLIAMS	
	A4/A4E - OPT 1	H.E. WILLIAMS	AT3-24-L70/835-D-(4)EQ CLIPS-(L60)- DIM1-UNV
	^ 	H.E. WILLIAMS	LT 24 L64/835 AF (4)EQ CLIPS DIM1
	CL4/CL4E	INSIGHT LIGHTING	
	D/DE	H.E. WILLIAMS	6DR-TL-L15/835-DIM1-UNV-OW-OF- CS-TD-N-F1-DE WITH EM/10W
	FE	WAC	WS-180414-35-CH
	J4/J4E	FINELITE	HP-4-R-D-4'-V-835-F-96LG-277-SC-FC- 1%-CEILING-FE-SW-J4E WITH FAC CHO
	J4P/J4PE	GE LIGHTING	LDSI4B050W0835VQCSWHTE-J4PE WITH E2
	J6/J6E	FINELITE	HP-4-R-D-4'-V-835-F-96LG-277-SC-FC- 1%-CEILING-FE-SW-J6E WITH FAC CHO
	J6P/J8P/J8PE	FINELITE	HP-4-P-D-LENGTH-V-835-F-96LG-277- SC-FC-1%-FA50-CEILING-FE-SW
	P1 - OPT 1	KENALL	SA26-PT-DB-5S-W-P-108L-40K8-DCC- DV-FS-N7P
	P1 - OPT 2	STERNBERG LIGHTING	
	P1-POLE	LSI INDUSTRIES INC	c. 4RP T S10G14 N BRZ/GA/SRBC

P1 Fixtures and poles are not included in the contract at this time.

FF00009 Page 1/2

Page 2/2

THE
SCHNEIDER
COMPANY

Transmittal

The Schneider Company 39A Pelham Davis Circle Greenville SC 29615

Phone:

From: ANITA SMITH

Type MFG Part

UE EMERGI-LITE LUXSD

WE - OPT 1 BROWNLEE LIGHTING 7037-C24-40K-BBI

X1/X2/X3 EMERGI-LITE ELXN400RN

FF00009 Page 2/2



Wes Spires GOODWYN MILLS CAWOOD-GREENVILLE 101 E WASHINGTON ST #200 Greenville SC 29601

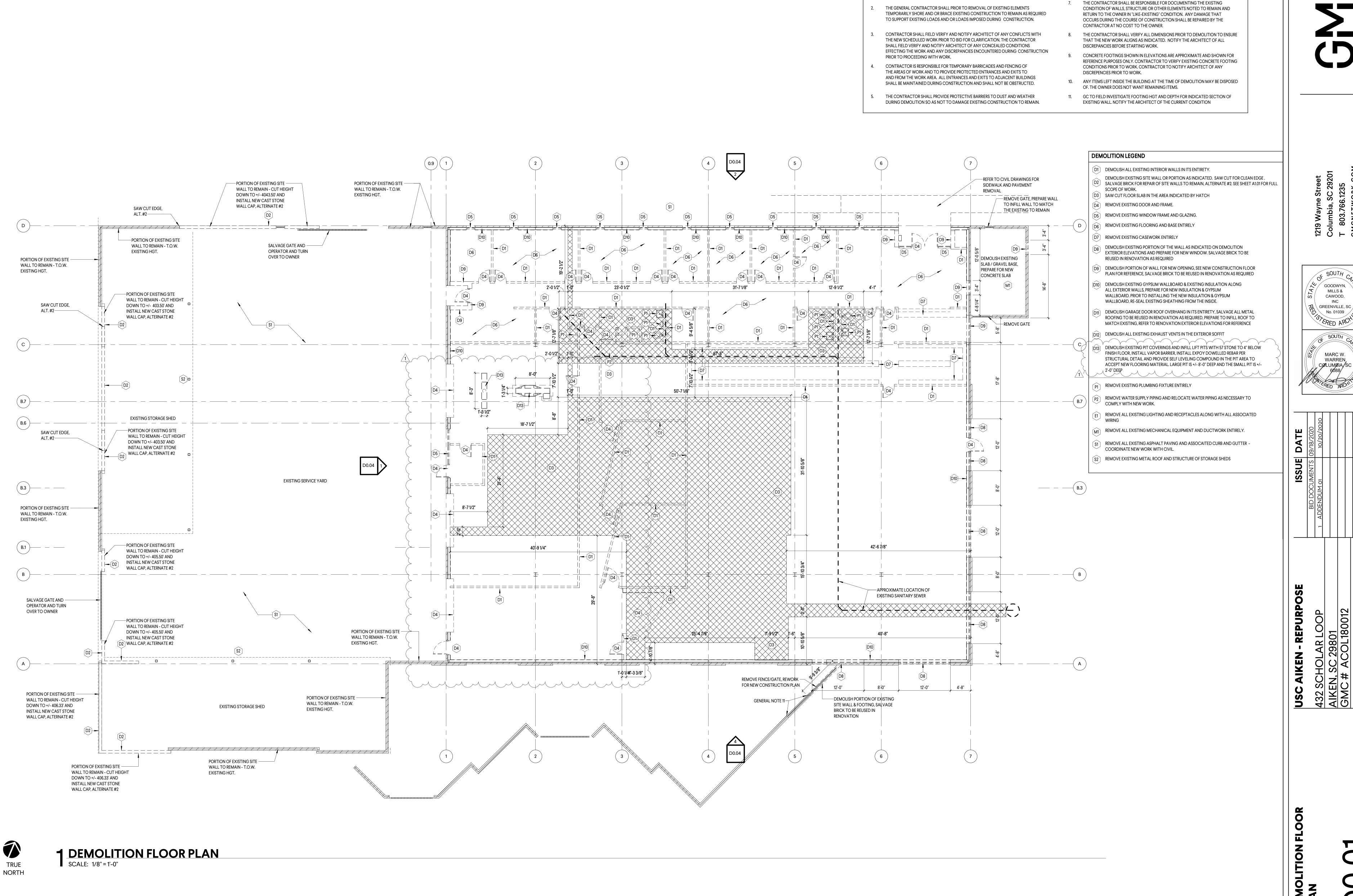
RE: USC AIKEN SCHOLARS ACADEMY MAINTENANCE BLDG 471 UNIVERSITY PKWY, AIKEN SC

Dear Wes

Type INV	MFG EMERGI-LITE	Part EMIU	
A2/A2E - OPT	H.E. WILLIAMS	AT3-22-L40/835-D-(4)EQ CL UNV	IPS-DIM1-
A2/A2E - OPT 2	H.E. WILLIAMS	LT-22-L39/835-AF-(4)EQ CL	IPS-DIM1-
A4/A4E - OPT /	H.E. WILLIAMS	UNV-A2E WITH EM/10W AT3-24-L70/835-D-(4)EQ CL DIM1-UNV	JPS-(L60)-
74/74L 0112	- I I.L. WILLIAWO	1 18 18 /	II 3-DIWI1-
CL4/CL4E	INSIGHT LIGHTING	PEX-HO-40K-1560-SM-48-U MG/LC-10-B/JC-10-B	INV-DIM-
D/DE	H.E. WILLIAMS	6DR-TL-L15/835-DIM1-UNV- CS-TD-N-F1-DE WITH EM/1	
FE	WAC	WS-180414-35-CH	
J4/J4E	FINELITE	HP-4-R-D-4'-V-835-F-96LG-2 1%-CEILING-FE-SW-J4E WI CHO	
J4P/J4PE	GE LIGHTING	LDSI4B050W0835VQCSWH WITH E2	TE-J4PE
J6/J6E	FINELITE	HP-4-R-D-4'-V-835-F-96LG-2 1%-CEILING-FE-SW-J6E WI CHO	
J6P/J8P/J8PE	FINELITE	HP-4-P-D-LENGTH-V-835-F SC-FC-1%-FA50-CEILING-F	
P1 - OPT 1	KENALL	SA26-PT-DB-5S-W-P-108L-4 DV-FS-N7P	40K8-DCC-
P1 - OPT 2	STERNBERG LIGHTING	PT-SL660-24L40T5-MDL018 FHD-UB	3-FG-PEC-
P1-POLE	LSI INDUSTRIES INC.	4RP T S10G14 N BRZ/GA/S	RBC
UE	EMERGI-LITE	LUXSD	
WE - OPT 1	BROWNLEE LIGHTING	7037-C24-40K-BBI	D4 Fixtures and pales are not
X1/X2/X3	EMERGI-LITE	ELXN400RN	P1 Fixtures and poles are not included in the contract at this t

FF00010 Page 1/1

included in the contract at this time.



CONTRACTOR TO PATCH, REPAIR, AND REPLACE ANY EXISTING STRUCTURE, WALLS,

FINISHES, AND EQUIPMENT DAMAGED BY THE REMOVAL OF ITEMS SCHEDULED TO

DEMOLITION. ALL ADJACENT WALLS, CEILINGS, FLOORS, FINISHES, ETC. SHALL BE

PREPARED AS REQUIRED TO RECEIVE NEW WORK.

MILLS &

CAWOOD,

No. 01039

SOUTH

GENERAL DEMOLITION NOTES

DEMOLITION DRAWINGS ILLUSTRATE THE GENERAL SCOPE OF DEMOLITION WORK TO BE

GENERAL CONTRACTOR SHALL INCLUDE THE DEMOLITION WORK INCLUDED IN DEMOLITION PLANS ALONG WITH DEMOLITION REQUIRED FOR SUCCESSFUL

COMPLETION OF THE NEW CONSTRUCTION WORK TO BE PERFORMED.

PERFORMED, AND ARE NOT INTENDED TO BE COMPREHENSIVE OR ALL-INCLUSIVE. THE



—<u>MECHANICAL UNIT CURB</u> SEE MECHANICAL UNIT -SUPPLIER DRAWINGS FOR CURB ATTACHMENT I/4" CONT. STEEL PLATE

TO BRIDGE FLUTES - ATTACH

TO ROOF DECK W #10 DECK

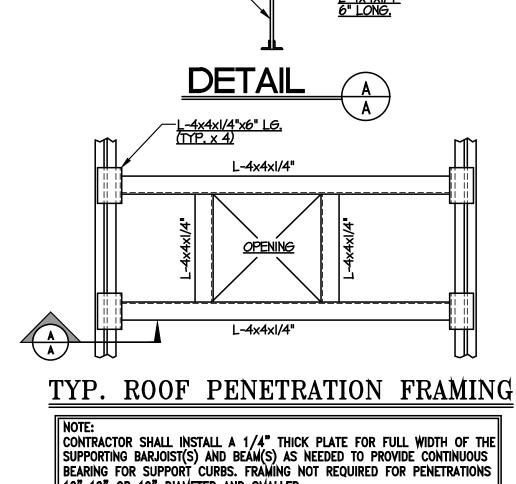
SCREWS @ 8" O.C. AT EACH FLUTE. ROOF DECK <u>L4"x4"x1/4" SPANNING</u> -<u>BETWEEN EXISTING</u> <u>JOIST / BEAMS.</u> |----

> <u>EXISTING BARJOIST</u>— <u>BEYOND</u> -<u>MECHANICAL UNIT CURB</u> SEE MECHANICAL UNIT — SUPPLIER DRAWINGS FOR CURB ATTACHMENT. TO BRIDGE FLUTES - ATTACH TO ROOF DECK W/ #10 DECK GROUT BED AS
>
> NEEDED TO PREVENT
> EXISTING DECK FROM
> CRUSHING, (AT BARJOIST) SCREWS @ 8" O.C. AT EACH FLUTE. —<u>ROOF DECK</u>

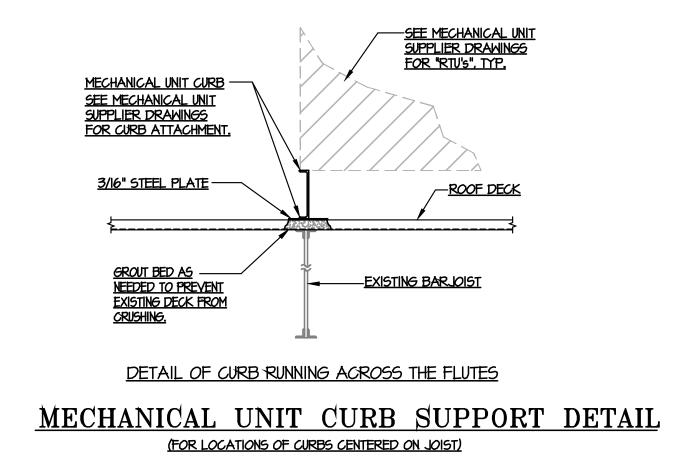
OPTION: CONTRACTOR MAY INSTALL
1/4" THICK SPACER TUBE BELOW
DECK FLUTES TO SUPPORT STRUCTURE
AS AN OPTION TO THE DECK GROUT. L 2-1/2"x2-1/2"x1/4" ANGLES
(BOTH SIDES), POSITION
ANGLES TO TRANSFER LOADS
TO LOWER PANEL POINTS, NOTE: FOR
GROUT AND/ OR STL, TUBE METHOD) EXISTING BARJOIST —

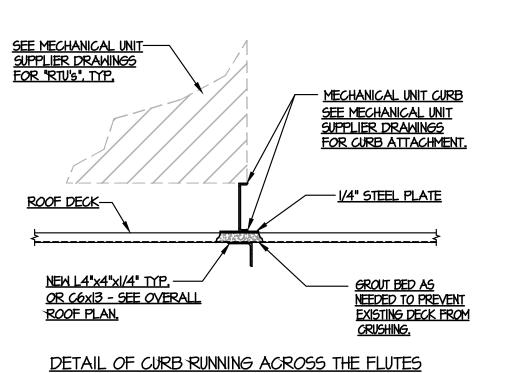
- FIELD WELD L-I 1/2"xl 1/2"xl/4" FROM TOP OR BOTTOM CHORD PANEL POINT TO LOAD LOCATION. APPLIED LOAD APPLIED LOAD

NOTE: TYPICAL FOR ALL JOIST SUPPORTING ANY LOAD FROM TOP OR BOTTOM CHORD BETWEEN PANEL POINTS, VERIFY LOCATION AND LOADS W MECHANICAL, ARCHITECTURAL AND ELECTRICAL DRAWINGS. TYPICAL JOIST MODIFICATION AT CONCENTRATED LOAD DETAIL

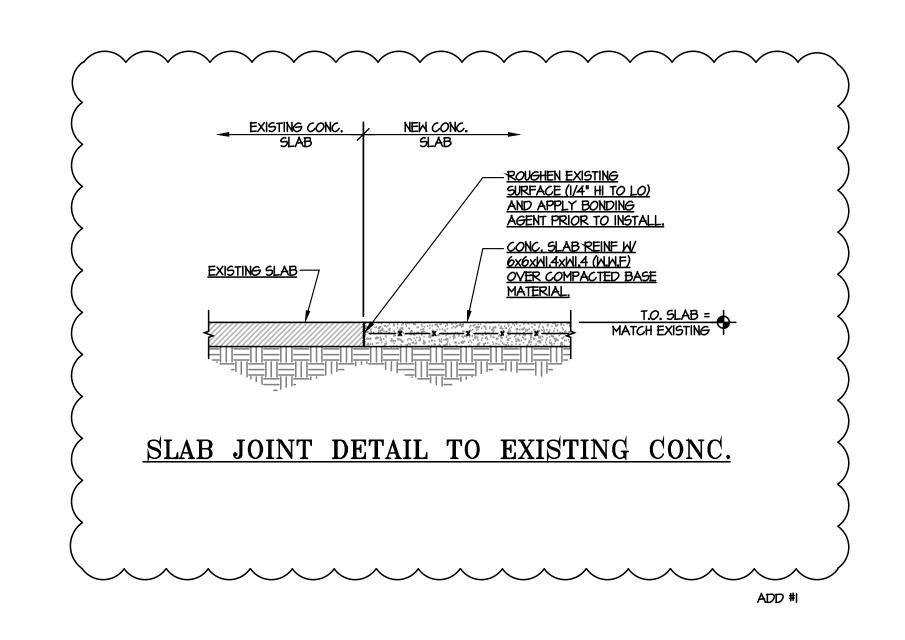


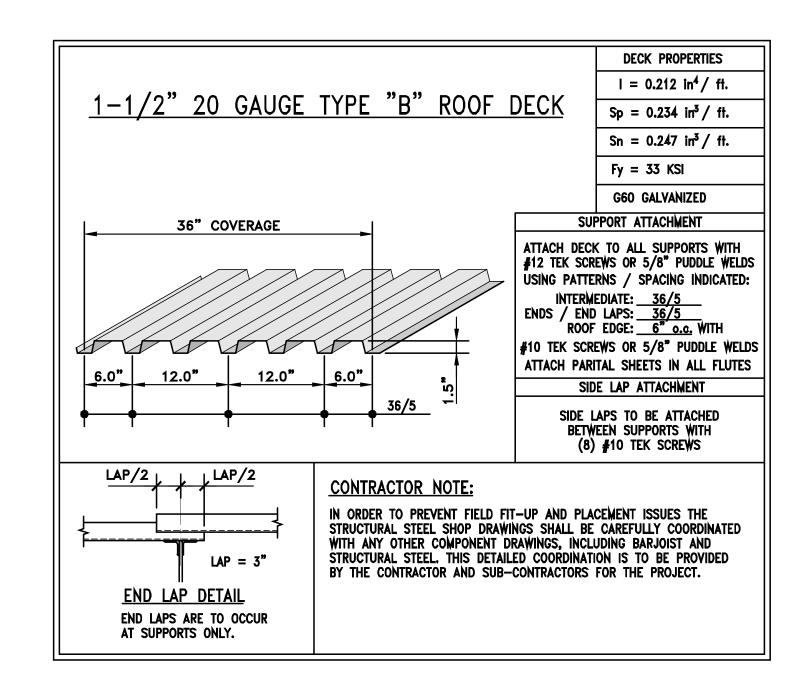
/_L-4x4xI/4"





NOTE:
CONTRACTOR SHALL INSTALL A 1/4" THICK PLATE FOR FULL WIDTH OF THE SUPPORTING BARJOIST(S) AND BEAM(S) AS NEEDED TO PROVIDE CONTINUOUS BEARING FOR SUPPORT CURBS. FRAMING NOT REQUIRED FOR PENETRATIONS 12"x12" OR 12" DIAMETER AND SMALLER.





IMMERMAN tructural Engineering Group 580 Chris Dr. West Columbia S.C. 29169 Ph. (803)791-4511 Fax (803)791-4522 This drawing and the design shown is the property of **Timmerman Structural Engineering Group, LLC.** The reproduction, copying or other use of this drawing without our written consent is prohibited and any infringement will be subject to legal action. © 2020

GREENHECK GRS
ROOF VENT TUBING PENETRATION PER DETAIL EQUIPMENT RAILS — PER DETAIL B.2 - EQUIPMENT RAILS } 1 Lunung EF-B.1 RTU-1 RTU-2 RENOVATION ROOF PLAN

1/8" = 1'-0"

DBA Swygert & Assoc., Ltd. Telephone: (803) 791-9300
Post Office Box 11686 Facsimile: (803) 791-0830
Columbia, S.C. 29211 mail@swygert-associates.com

Swygert & Associates CONSULTING ENGINEERS SPLITTER DETAIL

SPIN-IN FITTING WITH 45° EXTRACTOR

ROUND SHEET METAL

RUNOUT (INSULATED)

INSULATE BACKPAN OF ALL DIFFUSERS

DIFFUSER (SEE SCHEDULE FOR MODEL AND SIZE)

> SINGLE SLEEVE FOR MUTLIPLE ENTRY WILL NOT BE ACCEPTED

PROVIDE MULTIPLE SLEEVES.

HOUSING SHALL BE -

WATER TIGHT

ROOFTOP UNIT

ROOFTOP UNIT DETAIL

0.063" THICK ALUMINUM

CAULK AROUND PIPING

1" INSULATION

OPENING IN ROOF AND DECK

ROOF PIPE PENETRATION DETAIL

INSTALL GASKET MATERIAL

THREADED CLEANOUT PLUG

OR GUTTER

CONTRACTOR

PIPE SUPPORT

CONDENSATE DRAIN TO

FLASHING BY ROOFING

NEAREST ROOF DRAIN

AROUND PERIMETER OF

CANT AND INSULATION IN CURB

BY ROOFING CONTRACTOR

INSULATION BATTS INSIDE CURB

FOR SOUND CONTROL

SUPPLY DUCT

AND STRUCTURAL SUPPORT

BY GENERAL CONTRACTOR

AND GRILLES

CEILING DIFFUSER DETAIL

NO SCALE

PIPE ON ROOF

CLOSED CELL, MEDIUM

POLYETHYLENE FOAM

DENSITY, UV RESISTANT,

AND MANUAL BALANCING DAMPER WITH

STANDOFF LOCKING QUADRANT (INSULATED)

TOP OF DUCT

⊏>

FLEXIBLE DUCT RUNOUT (SAME SIZE

AS DIFFUSER NECK) 8'-0" LONG MAX.

MULTIPLE OUTLET TAKEOFF

- RIGID ROUND SHEET METAL

ELBOW (INSULATED)

→ TAKEOFF (TO)

MULTIPLE

OUTLETS)

MANUAL OPPOSED ─►

BLADE BALANCING DAMPER (TYP.)

MANUAL OPPOSED

BLADE BALANCING

DAMPER (TYPICAL)

AIRTURNING

VANES

ן ---- TAKEOFF (TO

BRANCH SPLITTER

— L.P. SUPPLY

LOCATE PIPE SUPPORT BLOCKS MAXIMUM 8'-0"

ROOFTOP PIPE SUPPORT DETAIL

ANCHOR ROOF TO ROOF CURB PER -

SEISMIC REQUIREMENTS

ROOF CURB SHALL BE SLOPED PER ROOF

SLOPE SO UNIT IS LEVEL

ON CENTERS AND AT EACH FITTING.

STRUT CLAMP

INTEGRAL STRUT

CHANNEL

ROOF -

TRUNK DUCT

(INSULATED)

MULTIPLE

OUTLETS)

SINGLE OUTLET TAKEOFF
NO SCALE

TOP OF DUCT

$\overline{}$								_								
		FAI	N SCH	IEDULI	E						ROOF	TOP VA	RIABLE	AIR VO	LUME UNIT S	3CHE
TAG	GREENHECK MODEL NO.	TYPE	CFM	ESP	MOTOR H.P./W.	SONES (MAX.)	REMARKS		TAG	TRANE	AIRFLOW	ESP	FAN	OUTDOOR	BI-POLAR IONIZATION	C.A
EF-1	G-098-VG	ROOFTOP	650	0.50	1/4 HP	10.7	1, 5		IAG	MODEL NO.	CFM	IN. WG	H.P.	AIR-CFM	UNITS (QTY)	EA DB
EF-2	SP-B150	CEILING	100	0.375	128 W	2.2	2, 3		DTU 4	T7D450	4500	4.0	0	100	4	<u> </u>
EF-3	SP-B150	CEILING	100	0.275	100 \\	2.2	2.2	1	RTU-1	TZD150	4500	1.8	3	400	1	77.5/6
EF-3	SP-B130	CEILING	100	0.375	128 W	2.2	2, 3		RTU-2	TED360	9000	2.0	10	2200	3	79.6/6
EF-4	G-080-VG	ROOFTOP	200	0.50	1/10 HP	7.8	1, 5					•				
EF-5	USF-07-F2	ROOFTOP	600	0.75	1/2 HP	10.3	1, 6		 PROVIDE INTERNAL VIBRATION ISOLATION, ENTHALPY ECONOMIZER, EXHAUST FAN WITH STATIC TRAC, AND VARIA FREQUENCY DRIVE ON SUPPLY FAN. 					RIABLE		
									FR	EQUENCY DRIVE ON SU	IPPLY FAN.					

- CENTRIFUGAL ROOF FAN COMPLETE WITH 12" ROOF CURB, BACKDRAFT DAMPER, BIRDSCREEN, DISCONNECT SWITCH, AND BELT TENSIONER AND FAN MOUNTED SPEED
- PROVIDE WITH CEILING GRILLE, BACKDRAFT DAMPER, DISCONNECT SWITCH, AND FAN
- INTERLOCK WITH LIGHT SWITCH, WIRED BY ELECTRICAL CONTRACTOR.
- . FURNISH COOLING THERMOSTAT, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. INTERLCOCK TO OPERATE WHEN BUILDING IS OCCUPIED THROUGH EMS. . INTERLOCK WITH SWITCH PROVIDED ON THE FUME HOOD, WIRED BY ELECTRICAL CONTRACTOR.

LINED SHEET METAL; INTERIOR SURFACE

SAME SIZE AS GRILLE -

LAY-IN CEILING GRID

MUST BE BLACK

NECK SIZE

AND TILES

ISOLATOR SPRINGS OR

FLASHING CAP

WOOD NAILER

PADS PER SEISMIC

SECURE EQUIPMENT

STRUCTURE (WELD OR

SLOPED TOP; SECURE

WITH SHEET METAL SCREWS

BOLT - 12" ON CENTER

RAIL TO ROOF

SCHEDULE

3	3 .	PROVIDE STAINLESS STEEL CONDENSATE DRAIN PAN.
4		INSTALL DUCT SMOKE DETECTORS IN RETURN WIRED TO SHUT DOWN THE UNIT.
5	j.	PROVIDE BI-POLAR IONIZATION GENERATORS EQUAL TO PHENOMENAL AIRE SERIES C10.
6	.	PROVIDE STARTUP BY A FACTORY TRAINED TECHNICIAN FROM THE UNIT MANUFACTURER.

----- 12" ----

- RETURN GRILLE; SEE AIR

FOR GRILLE SIZE

PLENUM RETURN GRILLE DETAIL

LENGTH AS REQUIRED

STRUCTURAL MEMBERS

1/2" S.S. THREADED ——

SEAL DUCT

INSULATED/PERFORATED TAKE-OFF

SAME SIZE AS GRILLE FACE WITH 1-1/4"

FITTING BY DUCT MANUFACTURER;

FLANGE TURNED INWARD ON ALL

SIDES (TYPICAL)

ALUMINUM EXHAUST FAN HOUSING

BIRD SCREEN

EXHAUST DUCT

BACKDRAFT DAMPER

PRE-FAB ROOF CURB

ROOF (SEE ARCH. DWGS. FOR TYPE)

ROUND DUCT DETAIL
NO SCALE

PROVIDE BEARING PLATE AS RECOMMENDED BY

DUCT MANUFACTURER

ROD; SUPPORT FROM

STRUCTURE ABOVE

DOUBLE WALL SUPPLY DUCT

WITH PAINT GRIP FINISH

TO EXTEND OVER 2

MINIMUM.

SECURE UNIT TO CURB

PER SEISMIC

SCHEDULE

- 18 GA. GALVANIZED

PLATE ROOF

ROOF SUPPORT DETAIL

NO SCALE

ALUMINUM PIPE SLEEVE

HOUSING; SLEEVE SHALL BE

LARGE ENOUGH FOR LINE

SHALL BE WELDED IN

WITH INSULATION

INSTALL GASKET MATERIAL AROUND PERIMETER OF CURB

CANT AND INSULATION IN CURB

DIRECT OR BELT DRIVE

SEE SCHEDULE

ANCHOR FAN TO CURB WITH

CANT AND ROOF MEMBRANE

SECURE CURB TO ROOF

STRUCTURE (WELD OR BOLT - 12" ON CENTER MAX)

OPENING IN ROOF AND DECK AND STRUCTURAL SUPPORT

BY GENERAL CONTRACTOR

BY ROOFING CONTRACTOR

SEISMIC AND WIND RATED

FLASHING BY ROOFING

ANCHORS

CONTRACTOR

BY ROOFING CONTRACTOR

FLASHING BY ROOFING

CONTRACTOR

STEEL SHELL AND BASE

ROOF STRUCTURE

DISTRIBUTION SCHEDULE

PROVIDE MICROPROCESSOR CONTROLS TO OPERATE THE UNIT WHEN INSTRUCTED BY THE EMS.

SHALL INCLUDE BACNET INTERFACE FOR CONTROL FROM BUILDING MANAGEMENT SYSTEM.

	SERIES	S FAN P	OWERE) VARI	ABLE	VOLU	ME BO	OX SCH	EDULE	
TRANE		AIR INLET	AIRFLOW - CFM			HEATING COIL		MAX. UNIT P.D IN.	MAX. NC	
TAG	MODEL	INCHES	VALVE MAX./MIN.	FAN	ESP	KW	STAGES	W.C.	LEVEL	REMARKS
1-4 1	VPEF	12ø	1400/400	490	0.25	4.0	2	0.25	35	1, 2, 3
2-2	VPEF	12ø	1400/400	490	0.25	4.0	2	0.25	35	1, 2, 3
2-3	VPEF	12ø	1400/400	490	0.25	4.0	2	0.25	35	1, 2, 3
2-8 3	VPEF	12ø	1400/400	490	0.25	4.0	2	0.25	35	1, 2, 3
2-9	VPEF	12ø	1600/480	560	0.25	4.0	2	0.25	35	1, 2, 3
2-10 }	VPFF	12ø	1400/400	490	0.25	4.0	2	0.25	35	1, 2, 3

DX COOLING

CAPACITY @ 95°F

EA DB/WB LA BD/WB

54.0/53.1

57.0/56.5

77.5/64.3

79.6/69.1

HEATING

36

18 12.4 1-6

10.6 1-6

REMARKS

PROVIDE ELECTRIC HEATING COIL ON BOX DISCHARGE WITH 4'-0" OF STRAIGHT PLENUM BEFORE FITTINGS OR TAKEOFFS. PROVIDE WITH DOOR INTERLOCKING DISCONNECT SWITCH, MAIN POWER FUSE, 1" THICK MERV 3 FILTER, AND 1" THICK FOIL FACED

0.25

CONTROLS SHALL BE FURNISHED BY THE CONTROLS CONTRACTOR AND FACTORY MOUNTED.

1900/570

ROOFTOP VARIABLE AIR VOLUME UNIT SCHEDULE

PROVIDE STAND ALONE CONTROLS INCLUDING DISCHARGE TEMPERATURE AND DUCT STATIC PRESSURE SENSORS. UNIT

DUCTLESS SPLIT HEAT PUMP SCHEDULE						
TAG	MITSUBISHI MODEL DAHU / SHP	COOLING CAP MBH @ 80/67/95 TOTAL	HTG. CAP MBH @ 47°F	CFM TOTAL	SEER/HSPF	REMARKS
SHP-1/DAHU-1	PKA-A24KA7/PUZ-A24NHA7	24.0	26.0	700	21.4/11.0	1, 2
SHP-2/DAHU-2	PKA-A24KA7/PUZ-A24NHA7	24.0	26.0	700	21.4/11.0	1, 2

PROVIDE WITH HARD WIRED WALL MOUNTED THERMOSTAT CONTROLLER AND INTERNAL CONDENSATE PUMP WITH FLOAT SWITCH WIRED TO SHUT DOWN UNIT IN ORDER TO PREVENT CONDENSATE OVERFLOW. PROVIDE LOW AMBIENT COOLING DOWN TO 0°F.

	AIR DISTRIBUTION SCHEDULE								
TAG	DESCRIPTION	MANUFACTURER	MODEL	FRAME	CFM	NECK SIZE	FACE SIZE	MAX NC	REMARKS
A	UNI-FLOW SUPPLY	PRICE	SPD	LAY-IN	0-125	6"ø	24"x24"	30	1, 2
B	UNI-FLOW SUPPLY	PRICE	SPD	LAY-IN	126-250	8"ø	24"x24"	30	1, 2
0	UNI-FLOW SUPPLY	PRICE	SPD	LAY-IN	251-350	10"ø	24"x24"	30	1, 2
(UNI-FLOW SUPPLY	PRICE	SPD	LAY-IN	351-500	12"ø	24"x24"	30	1, 2
E	PERFORATED RETURN	PRICE	PDDR	LAY-IN	0-1000	22"x22"	24"x24"	30	1, 2
F	SIDEWALL SUPPLY	PRICE	620	SURFACE	475	20"x12"	22"x14"	30	1, 3, 4, 5
<u> </u>	SIDEWALL RETURN	PRICE	630	SURFACE	100	10"x10"	12"x12"	30	1, 4
\oplus	SIDEWALL RETURN	PRICE	630	SURFACE	1900	30"x24"	32"x26"	30	1, 4

- PROVIDE WITH STANDARD WHITE FINISH. PROVIDE STEEL CONSTRUCTION.
- PROVIDE WITH OPPOSED BLADE DAMPER. PROVIDE WITH DOUBLE DEFLECTION BLADES AND FRONT BLADES PARALLEL WITH SHORT DIMENSION. PROVIDE ALUMINUM CONSTRUCTION.

T4.0	TRANE	AIR INLET	coo	LING		HEATING		MAX. UNIT	DEMARKS
TAG	MODEL	INCHES	MAX CFM	MIN CFM	CFM	KW	STAGES	A.P.D IN. W.C.	REMARKS
1-1	VCEF	8ø	600	180	190	2.5	1	0.25	1, 2, 3
1-2	VCEF	6ø	400	120	120	1.0	1	0.25	1, 2, 3
1-3	VCEF	6ø	200	100	100	1.0	1	0.25	1, 2, 3
1-5	VCEF	10ø	1000	300	420	6.0	2	0.25	1, 2, 3
1-6	VCEF	8ø	550	160	210	3.0	1	0.25	1, 2, 3
1 1-7	VCEF	8ø	600	180	180	2.0	1	0.25	1, 2, 3
2-1	VCEF	6ø	200	100	100	1.0	1	0.25	1, 2, 3
2-4	VCEF	6ø	300	100	170	{ 1.5 }	1	0.25	1, 2, 3
2-5	VCEF	6ø	400	120	170	2.0 21	1	0.25	1, 2, 3
2-6	VCEF	6ø	400	120	170	2.0	1	0.25	1, 2, 3
2-7	VCEF	6ø	200	100	170	2.0	1	0.25	1, 2, 3
2-12	VCEF	6ø	500	150	170	2.0	1	0.25	1, 2, 3

PROVIDE ELECTRIC HEATING COIL ON BOX DISCHARGE WITH 4'-0" OF STRAIGHT PLENUM BEFORE FITTINGS OR PROVIDE WITH DOOR INTERLOCKING DISCONNECT SWITCH, LINE FUSE, AND 1" THICK FOIL FACED INSULATION. CONTROLS SHALL BE FURNISHED BY THE CONTROLS CONTRACTOR AND FACTORY MOUNTED.

EL	ELECTRIC WALL HEATER SCHEDULE						
TAG	MARKEL MODEL	KW	STYLE	REMARKS			
EWH-1	3320 SERIES	4.0	WALL	1, 2, 3			
1. PROVIDE BUILT-IN TAMPER PROOF THERMOSTAT AND DISCONNECT SWITCH. 2. PROVIDE WITH 16 GA. HEAVY DUTY STEEL TAMPER PROOF GRILLE. 3. PROVIDE WITH SURFACE MOUNTING FRAME.							

	HVAC EQUIPMENT -	
EXTEND TO FLOOR DRAIN		TOTAL STATION— PRESSURE +

DESIGN CONDITIONS						
SEASON	OUTSIDE	INSIDE				
SUMMER	97° FDB / 78° FWB	75° FDB / 50% - 60% RH				
WINTER	22° FDB	70° FDB				

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE. 2009 INTERNATIONAL ENERGY CONSERVATION CODE, AND 2006 SMACNA HVAC DUCT
- CONSTRUCTION STANDARD. ALL LOCAL CODES OR REQUIREMENTS STILL APPLY. VISIT SITE PRIOR TO BIDDING. THIS CONTRACTOR SHALL DETERMINE DIFFICULTY OF
- INSTALLATION AND REFLECT THIS IN HIS BIDDING.
- DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, AIR DISTRIBUTION, ETC.
- DO NOT SCALE DRAWINGS. THIS CONTRACTOR SHALL VERIFY ALL EXISTING ITEMS AND LOCATIONS IN THE FIELD.
- ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH WORK UNDER OTHER
- DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.
- THIS CONTRACTOR SHALL COORDINATE STEEL OPENINGS AND EQUIPMENT SUPPORT WITH STEEL SHOP DRAWINGS TO CONFIRM DIMENSIONS MATCH WITH EQUIPMENT SUPPLIED.
- ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS.

ALL MECHANICAL ITEMS EXTENDING THROUGH WALLS AND ROOF SHALL BE FLASHED AND

- COUNTERFLASHED. PROVIDE PIPE PORTALS AS REQUIRED FOR CONDUIT OR TUBING PENETRATIONS THROUGH THE ROOF, COORDINATE WITH ROOFING CONTRACTOR.
- ALL PIPING IS SHOWN DIAGRAMMATIC. HOWEVER, THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED FITTINGS, PIPING AND INSULATION FOR ALL OFFSETS AND/OR CHANGES IN ELEVATION.
- 0. EXTEND ALL DRAIN LINES AS INDICATED SO ROUTED AS TO AVOID INTERFERENCE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED PER STATIC PRESSURE REQUIREMENTS.
- . ALL WATER PIPING SHALL PITCH DOWN IN DIRECTION OF FLOW ONE-INCH PER FIFTY FEET WITH MANUAL AIR VENTS AT ALL HIGH POINTS AND 3/4-INCH DRAIN VALVES WITH STANDARD
- 12. MINIMUM PIPE SIZE SHALL BE 3/4-INCH UNLESS INDICATED OTHERWISE.

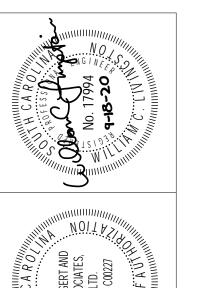
HOSE CONNECTION AT ALL LOW POINTS.

- 13. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE PROVIDED TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
- 14. FIRE DAMPERS SHALL BE INSTALLED WHERE SHOWN ON PLANS, IN ALL FIRE PARTITIONS. BLADES SHALL BE LOCATED OUT OF AIRSTREAM.
- 15. TURNING VANES SHALL BE PROVIDED AT ALL DUCTWORK ELBOWS AND CHANGES OF
- DIRECTION TO PROVIDE EVEN FLOW THROUGH DUCT SYSTEM.
- 16. SPACE ABOVE CEILING TO BE USED AS RETURN AIR PLENUM WHERE DUCT IS NOT INDICATED ABOVE RETURN AIR GRILLES.
- . ALL OPEN END DUCTS SHALL HAVE 1/4-INCH MESH GALVANIZED SCREEN IN REMOVABLE
- 18. WHERE 2'X2' LAY IN GRILLES ARE SPECIFIED IN HARD CEILINGS, A PLASTER FRAME SHALL BE PROVIDED SO THE GRILLE CAN LAY IN THE CEILING.
- 19. PROVIDE FOR ACCESS TO ALL EQUIPMENT REQUIRING CLEANING OR ADJUSTMENT PER MANUFACTURER'S INSTRUCTIONS.
- 20. INSTALL ALL VAV BOXES WITHIN 24" OF CEILING TO ALLOW FOR SERVICE ACCESS THIS CONTRACTOR SHALL PROVIDE ALL ITEMS OF MISCELLANEOUS STEEL AS REQUIRED FOR
- INSTALLATION OF ALL MECHANICAL ITEMS. . THIS CONTRACTOR SHALL DO ALL CONTROL WIRING. DIVISION 26 WILL DO ALL POWER WIRING. ALL WIRING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. CONTROL WIRING SHALL BE CONCEALED WITHIN WALL AND ALL CONTROL WIRING SHALL BE ROUTED IN
- EMT CONDUIT. DUCT DETECTORS PROVIDED BY DIVISION 26 SHALL BE INSTALLED BY DIVISION 23. POWER WIRING AND FIRE ALARM CONNECTIONS SHALL BE BY DIVISION 26. CONTROL WIRING FOR UNIT SHUTDOWN AND SMOKE DAMPER CONTROL SHALL BE BY DIVISION 23. 2. LOCATE ALL SPACE CONTROL INSTRUMENTS 4'-0" ABOVE FINISHED FLOOR. COORDINATE
- LOCATIONS WITH ARCHITECTURAL ELEVATIONS TO AVOID ITEMS INCLUDING BUT NOT LIMITED TO CUSTOM FINISHES, FIXED CASEWORK, FURNITURE, AND DOOR SWINGS. IN THE EVENT OF CONFLICTS IN THE FIELD, THE CONTRACTOR SHALL BRING THIS TO THE ATTENTION OF THE A/E FOR FINAL APPROVAL OF LOCATION.
- 23. ALL ACTUATORS SHALL BE FURNISHED WITH END SWITCHES TO PROVIDE FEEDBACK TO CONTROLS WHEN FULLY OPENED OR CLOSED.
- 24. CORRECT SETTINGS ON ALL BALANCING FITTINGS SHALL BE PERMANENTLY MARKED. PROVIDE ORANGE FLAGGING RIBBON ON EACH DAMPER HANDLE FOR EASY IDENTIFICATION.
- THE HVAC SYSTEMS SHALL NOT BE OPERATED DURING HEAVY CONSTRUCTION OPERATIONS INCLUDING MASONRY, GYPSUM BOARD SANDING, HEAVY CLEANUP ACTIVITIES, OR OTHER ACTIVITIES THAT CREATE AIRBORNE PARTICLES OR DEBRIS. ALL SYSTEMS SHALL BE CLEAN OF CONSTRUCTION DEBRIS, DUST AND DIRT AT FINAL COMPLETION. DUCT CLEANING AND UNIT/COIL CLEANING SHALL BE PERFORMED IF REQUIRED. IF EQUIPMENT OPERATES DURING CONSTRUCTION PROVIDE FILTER MEDIA OVER ALL RETURN GRILLES AND RETURN DUCT OPENINGS TO PROTECT DUCTS AND EQUIPMENT.

LEGEND	
SYMBOL	DESCRIPTION
¿ R}	REFRIGERANT LINES
├ □ ──→	DRAIN LINE
حـــــخ , ح ــــخ	PIPE TURNS TO, AWAY
A 100	TYPE "A" DIFFUSER, 100 CFM
T	THERMOSTAT
MBD	MANUAL OPPOSED BLADE BALANCING DAMPER
\boxtimes	RECTANGULAR SUPPLY DUCTWORK
\otimes	OVAL SUPPLY DUCTWORK
	RETURN AND FRESH AIR DUCTWORK
	EXHAUST DUCTWORK
48x24	48"x24" RECTANGULAR DUCT
48/24	48"x24" OVAL DUCT
AFF	ABOVE FINISHED FLOOR

CONDENSATE DRAIN DETAIL

Swygert & Associates CONSULTING ENGINEERS



SECURE CURB TO ROOF STRUCTURE (WELD OR BOLT

- 12" ON CENTER MAX)

RETURN DUCT -

OPENING IN ROOF AROUND DUCT ONLY —

AND DECK AND STRUCTURAL SUPPORT

BY GENERAL CONTRACTOR

ROOF EXHAUST FAN DETAIL

Columbia, S.C. 29211

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