

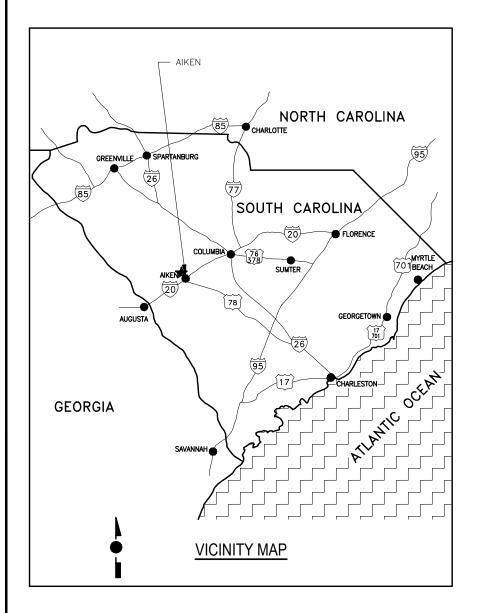
## UNIVERSITY OF SOUTH CAROLINA AIKEN

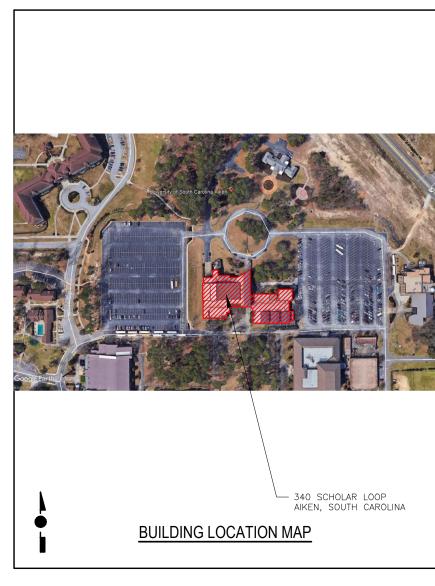
# USC AIKEN ETHERREDGE **ROOF REPAIRS**

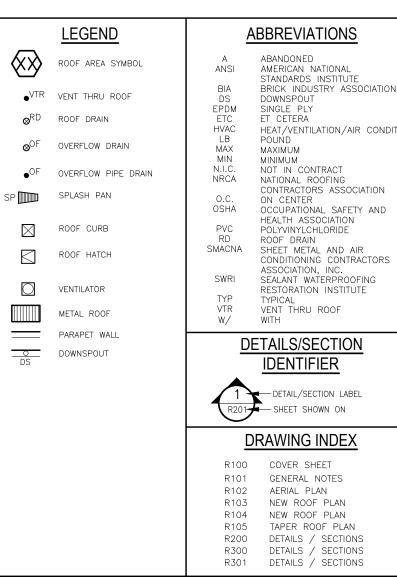
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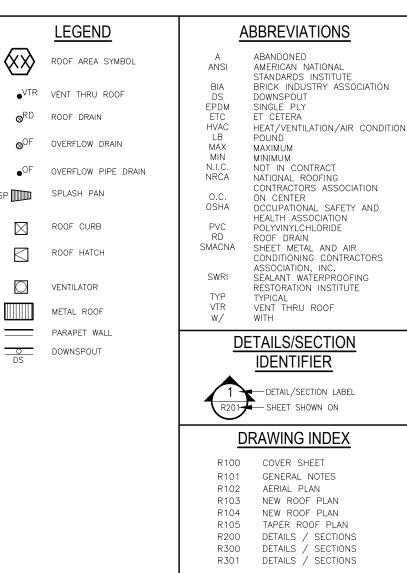
ADC PROJECT NUMBER: 19065

340 SCHOLAR LOOP AIKEN, SOUTH CAROLINA









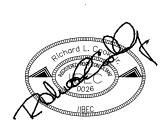
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REVISION:	_

**COVER** SHEET

#### SCOPE OF WORK

- A. THE BUILDING WILL REMAIN COMPLETELY FUNCTIONAL DURING THE CONSTRUCTION WORK AND FULLY PROTECTED AT ALL TIMES.
- B. PROTECT ROOF SYSTEM FROM CONSTRUCTION, TRAFFIC AND WORK AT ALL TIMES.
- C. BASE BID WORK INCLUDES TOTAL REMOVAL OF EXISTING ROOFING SYSTEM ON ROOF AREA H DOWN TO THE STRUCTURAL DECK FOR APPROXIMATELY 22 SQUARES OF ROOF. ROOF REPLACEMENT INCLUDES MINOR DECK REPAIRS, ROUGH CARPENTRY, ROOF INSULATION, INCLUDING TAPER, AND A TWO-PLY MODIFIED BITUMEN ROOF SYSTEM. ALL ASSOCIATED SHEET METAL COMPONENTS AND ACCESSORIES ARE INCLUDED.
- D. IF APPLICABLE, ALTERNATES MAY BE ACCEPTED IN ANY COMBINATION BY THE OWNER.
  - 1. ALTERNATE NUMBER 1 WORK INCLUDES SELECTIVE ROOF REPAIRS TO THE EXISTING BALLASTED EPDM ROOF MEMBRANE AT LOCATIONS NOTED ON THE DRAWINGS.
  - 2. ALTERNATE NUMBER 2 WORK INCLUDES SELECTIVE ROOF REPAIRS TO THE EXISTING BALLASTED EPDM ROOF MEMBRANE AT LOCATIONS NOTED ON THE DRAWINGS.
  - 3. ALTERNATE NUMBER 3 WORK INCLUDES DRAIN REPAIRS AT ALL LOCATIONS AS NOTED ON
- E. ADHERE TO ALL SAFETY AND SECURITY REQUIREMENTS AND PROCEDURES OF THE OWNER

## **UNIT PRICE QUANTITIES**

- I. IN ACCORDANCE WITH SECTION 01 20 00, ABBREVIATED SCOPE OF WORK, THE CONTRACT DOCUMENTS INCLUDE WITHIN THE BASE BID SPECIFIC QUANTITIES.
- 2. THE SPECIFIC QUANTITIES ARE LISTED WITHIN THE INDIVIDUAL SPECIFICATION SECTIONS OF THIS PROJECT AND ARE INCLUDED ON THE BID FORM AS NOTED.

A SINGLE UNIT PRICE WILL BE PROVIDED FOR EACH ITEM, TO BE USED AS AN 'ADD' OR 'DEDUCT', BASED ON ACTUAL FIELD CONDITIONS. ANY QUANTITY ABOVE OR BELOW THESE SPECIFIED AMOUNTS WILL RESULT IN AN 'ADD' OR 'DEDUCT' TO THE CONTRACT SUM BASED ON THE REQUIRED UNIT PRICES.

- 3. IN ACCORDANCE WITH SECTION 01 20 00, UNIT PRICES QUANTITIES, THE FOLLOWING DOCUMENTATION IS REQUIRED.
  - A. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL REPAIR UNIT PRICED QUANTITIES USED BASED ON CONTRACT REQUIREMENTS.
  - B. CONTRACTOR SHALL NOTIFY OWNER IN WRITING WHEN 80% OF QUANTITY IS USED FOR EACH UNIT PRICE ITEM.
  - C. OWNER IS NOT RESPONSIBLE FOR QUANTITIES WHICH EXCEED 80% UNLESS OWNER IS NOTIFIED IN WRITING PRIOR TO EXCEEDING THESE QUANTITIES, AND CONTRACTOR RECEIVES APPROVAL TO PROCEED.
  - D. PROVIDE PHOTOGRAPH OR VIDEOTAPE DOCUMENTATION OF REPAIRS AND ACTUAL QUANTITIES USED.
  - E. LOCATE QUANTITIES AND SHOW THEIR LOCATIONS ON DRAWINGS.
  - F. PROVIDE ACTUAL USED QUANTITIES ON EACH APPLICATION FOR PAYMENT REQUEST.

#### **GENERAL NOTES**

- PRIOR TO PERFORMING WORK, CONTRACTOR SHALL INSPECT SURFACES AND SUBSTRATE CONDITIONS. PROVIDE FOR THE SAFETY AND PROTECTION OF WORKERS AND OCCUPANTS THROUGHOUT THE COURSE OF WORK.
- 2. ALL BUILDING DIMENSIONS, EXISTING CONDITIONS, ITEM LOCATIONS, AND SIZE AND QUANTITY OF PENETRATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BID.
- 3. LAYDOWN / STORAGE AREA IS LIMITED AND SHALL BE AS APPROVED BY THE OWNER.
- 4. SITE SHALL BE CLEANED ON A DAILY BASIS AND SECURED AT THE END OF EACH WORK DAY.
- 5. BUILDING ACCESS SHALL BE COORDINATED WITH THE OWNER AND SHALL BE ONLY AS REQUIRED TO ACCOMPLISH CONTRACT WORK.
- 6. ALL ACCESS EQUIPMENT SHALL ADHERE TO ALL SAFETY STANDARDS AND ANY MODIFICATIONS TO THE FACILITY FOR THOSE ITEMS, SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
- 7. ALL ACCESS/EQUIPMENT SHALL BE SECURED AT THE END OF EACH WORK DAY.

#### **DEMOLITION NOTES**

- 1. SEE SECTION 02 05 00, THE DEMOLITION AND REMOVAL OF THE SPECIFICATIONS.
- 2. REMOVE ALL EXISTING WORK / MATERIAL IN THEIR ENTIRETY DOWN TO THE ORIGINAL SUBSTRATES WITHIN THE SCOPE OF THIS WORK TO PERMIT COMPLETION OF ALL REPAIRS AND REPLACEMENTS.
- 3. REMOVE ALL MATERIALS, FLASHINGS AND ACCESSORIES AS NOTED, SPECIFIED OR REQUIRED TO COMPLETE THE WORK. ALL NEW SHEET METAL REQUIRED UNLESS OTHERWISE INDICATED.
- 4. THE UNDERSIDE (INTERIOR SIDE) OF THE SUBSTRATE MAY HAVE HVAC, ELECTRICAL FIXTURES, ETC. ATTACHED. THE CONTRACTOR SHALL HAVE QUALIFIED CRAFTSMEN REMOVE AND REINSTALL ALL AFFECTED ITEMS OF THE DEMOLITION. THE LOCATION AND METHOD OF ATTACHMENT SHALL BE THE SAME AS THE ORIGINAL, UNLESS DIRECTED OR APPROVED OTHERWISE BY THE CONSULTANT / ENGINEER AND THE OWNER.
- 5. DISCONNECT AND REMOVE ALL MECHANICAL AND ELECTRICAL EQUIPMENT AS NECESSARY TO EFFECT WORK IN THE AREAS AND REINSTALL UPON COMPLETION OF WORK IN THE AREA TO MINIMIZE DOWN TIME. PROVIDE FOR EXTENSION AND MODIFICATION OF SERVICE, UTILITIES, INTERIOR COMPONENTS, AND ALL CONNECTIONS AS NECESSARY TO ACCOMMODATE NEW THICKNESS HEIGHTS AND LOCATIONS.
- ANY CABLES, WIRES, SATELLITE OR MICROWAVE DISHES, ANTENNAS, AND MECHANICAL, ELECTRICAL COMPONENTS SHALL BE TEMPORARILY DISCONNECTED AND RECONNECTED BY QUALIFIED CRAFTSMEN. THIS INCLUDES ROOF AREAS, WALLS, FLASHINGS AND ADJACENT WALL AREAS.
- 7. ALL DEMOLITION SHALL ADHERE TO ANSI AND OSHA GUIDELINES, AND SECTION 01 20 00.
- 8. ANY LOCATIONS / CONDITIONS WHERE THE ABOVE REQUIREMENTS CANNOT BE MET, SHALL BE BROUGHT TO THE ATTENTION OF THE CONSULTANT / ENGINEER AND OWNER IMMEDIATELY.

#### PROTECTION NOTES

- FACILITIES MAY BE OCCUPIED DURING CONSTRUCTION. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE FACILITY, CONTENTS, AND OCCUPANTS.
- 2. THE BUILDING SHALL BE WATERTIGHT AT THE END OF EACH DAY'S WORK AND WHEN INCLEMENT WEATHER THREATENS.
- 3. CONTRACTOR SHALL PROTECT THE BUILDING EXTERIOR AND GROUNDS INCLUDING SURFACES, GRASS, PLANTS, TREES, SHRUBS, AND OTHER LANDSCAPING. THE CONTRACTOR SHALL RETURN THE SITE AND ANY DAMAGED ITEMS TO ORIGINAL OR BETTER CONDITION
- 4. ANY SURFACES STAINED, MARRED, OR DAMAGED BY THE WORK OF THE CONTRACTOR, THE CONTRACTOR SHALL RETURN THE SITE AND ANY DAMAGED ITEMS OF THE SITE OR FACILITY TO ORIGINAL OR BETTER CONDITION AND MATCH ADJACENT SURFACES.
- 5. APPLICATIONS / INSTALLATIONS WHICH MAY AFFECT ADJACENT FACILITIES, CARS OR PEDESTRIANS MUST BE PLANNED AND COORDINATED TO ENSURE NO DAMAGE OCCURS

#### CONSTRUCTION NOTES

- 1. SUBSTRATE SHALL BE INSPECTED AND REPAIRED AS SPECIFIED PRIOR TO SYSTEM INSTALLATION
- 2. ALL REPAIR WORK SHALL BE IN STRICT CONFORMANCE WITH THE CONTRACT REQUIREMENTS, ANY CLARIFICATIONS SHALL BE IN ACCORDANCE WITH THE LATEST ADDITION OF THE BELOW STANDARDS:
  - A. SHEET METAL:
    - a. SMACNA ARCHITECTURAL SHEET METAL MANUAL, 7TH EDITION, 2012
    - b. ARCHITECTURAL SHEET METAL INSPECTION GUIDE, 1ST EDITION, 2004
    - c. ARCHITECTURAL SHEET METAL QUALITY ASSURANCE GUIDE, 1ST EDITION, 2015
  - B. NRCA:
    - a. THE NRCA ROOFING AND WATERPROOFING MANUAL, FIFTH EDITION, 2001
    - b. ARCHITECTURAL SHEET METAL AND METAL ROOFING, FIFTH EDITION, 2001
  - C SEALANTS:

SEALANTS, THE PROFESSIONALS GUIDE

SWRI, 2013

- ALL FLASHING TERMINATIONS SHALL HAVE CONFORMING WATERTIGHT SHEET METAL CLOSURES, AND WATERPROOF UNDERLAYMENT ALL SHEETMETAL BELOW W/ SEALED LAPS.
- 4. SPECIFIC AND TYPICAL DETAILS ARE PROVIDED W/ GENERIC TYPE DECK SHOWN. TYPICAL DETAILS APPLY TO ALL INSTANCES WHERE SIMILAR CONDITION OCCURS.
- 5. ALL WORK SHALL BE CONDUCTED IN A SUBSTANTIAL WORKMANLIKE MANNER IN ACCORDANCE WITH SPECIFIED REQUIREMENTS.

## IBC/CODE ANALYSIS

- 1. IBC 2015, CHAPTER 15, ROOF ASSEMBLIES AND ROOF TOP SRUCTURES
- 2. IEBC 2015

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UNIVERSITY

USC AIKEN ETHERF ROOF REPAIRS OWNER PROJECT NUMBER: 1909 ADC PROJECT NUMBER: 1909

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GENERAL NOTES

R101
SHEET 2 OF 9

BASE BID ROOF REPLACEMENT)

ALTERNATE 2 (ROOF REPAIRS)

ALTERNATE 3 ROOF DRAIN REPAIRS
 SEE NEW PLAN (R104 & R105) FOR SPECIFIC LOCATIONS OF REPAIRS REQUIRED PER ALTERNATES

PLAN NORTH

AERIAL PLAN

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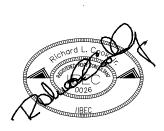
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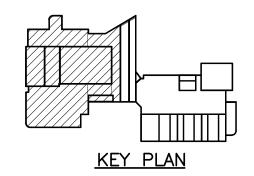
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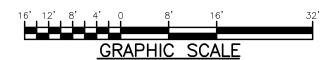
AERIAL PLAN

R102 SHEET 3 OF 9

## REPAIR NOTES

- ALL DEBRIS/VEGETATION/EXCESS MATERIAL, ETC. TO BE REMOVED FROM ALL ROOF AREAS ALONG WITH REMOVAL OF DEBRIS FROM ROOF DRAINS, GUTTER SYSTEMS, ETC. AT ROOF CURBS, AT STACKS, AND CORNER LOCATIONS.
- 2. ALL LOOSE SHEET METAL/FLASHING TO BE CORRECTED AT RAKE/HIP CLOSURES AT METAL
- 3. ALL BASE FLASHING FLASHING TO BE REPAIRED/REFLASHED WITHIN REPAIR AREAS.
- 4. REPLACE ALL VTR/OVERFLOW FLASHINGS.
- 5. ANY WET/DAMAGED INSULATION IS TO BE REPLACED IF DISCOVERED DURING REPAIRS
- 6. SPLASH PANS TO BE INSTALLED AT ALL LOCATIONS WHERE DOWNSPOUTS DISCHARGE ONTO ADJACENT ROOF AREAS.
- 7. REMOVE AND REINSTALL EXISTING COPING IN LOCATIONS OF BASE FLASHING MEMBRANE REPAIRS.
- 8. ALL SEALANT JOINTS TO BE REPLACE AS NOTED ON MASONRY WALL. SEE DETAIL 7/R301.
- "HUB" CONNECTORS TO BE REPLACED AT ROOF DRAIN BOWL LOCATIONS NOTED/CUT ON





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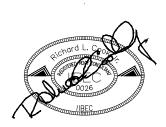
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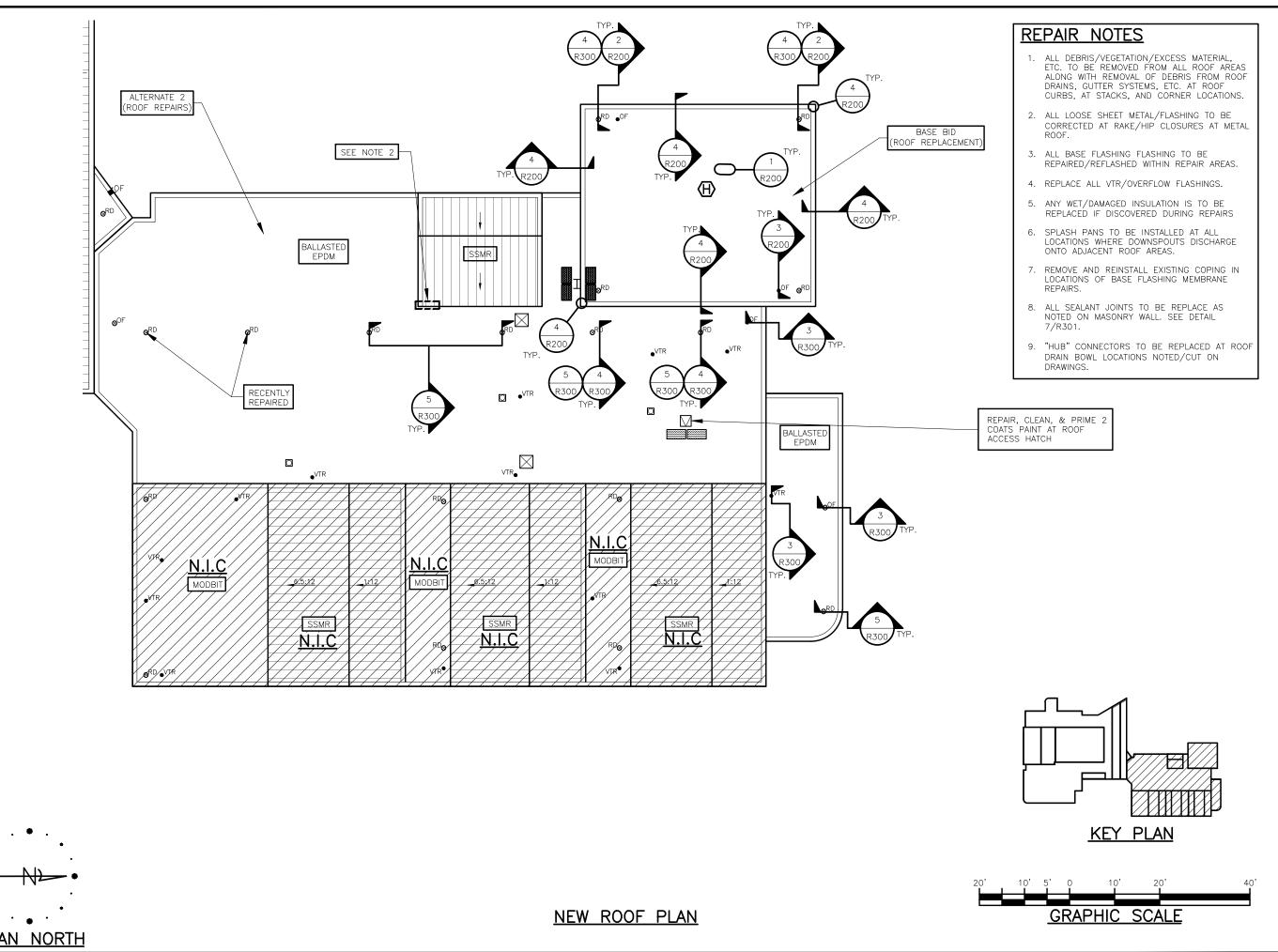


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NEW **ROOF PLAN** 

R103 SHEET 4 OF 9

ABBREVIATED SCOPE OF WORK



BUILDING ENVELOPE ENCLOSURE Group

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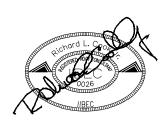
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NEW **ROOF PLAN** 

R104

SHEET 5 OF 9

## TAPERED INSULATION NOTES

- THE PRIMARY SLOPE IS IN THE EXISTING DECK, EXCEPT AS NOTED OTHER WISE WHERE 2x PRIMARY SLOPE SHALL BE PROVIDED.
- 2. SECONDARY SLOPE (CRICKETS, SADDLES, SUMPS) SHALL PROVIDE A MINIMUM AS SPECIFIED.
  - A. SECONDARY SLOPE SHALL BE 1/4" INCH PER FOOT, AND PROVIDE POSITIVE DRAINAGE.
- 3. BACK SLOPES SHALL BE 2X THE PRIMARY SLOPE.
- 4. INSULATION THICKNESSES SHALL BE COORDINATED WITH AND MATCH NAILER THICKNESSES AND ADJACENT INSULATION THICKNESSES WITHIN A 1/4" TOLERANCE IN ALL DIRECTIONS.
- 5. ALL PENETRATIONS AND TERMINATIONS SHALL BE RAISED TO PROVIDE A MINIMUM 8" BASE FLASHING HEIGHT ABOVE THE FINISHED ROOF CONSIDERING TOTAL INSULATION HEIGHT INCLUDING TAPER. EXCEPT AT OVERFLOW PIPE LOCATIONS WHERE HEIGHT IS TO REMAIN UNCHANGED.
- A. PROVIDE A TAPERED CRICKET ON THE HIGH SIDE OF ALL NON-ROUND PENETRATIONS WIDER THAN
- 7. AT DRAINAGE LOCATIONS ENSURE INSULATION TAPERS UP FROM DRAIN A MINIMUM 1/4":1' AND A MAXIMUM 1":1'. PROVIDE TAPERED FILLER TO MATCH FIELD INSULATION THICKNESSES.
  - A. TAPERED SUMPS SHALL BE 4' X 4', UNLESS AN OVERSIZED TAPERED SUMP IS NOTED ON THE TAPERED ROOF PLANS.
- B. DRAINS SHALL BE RAISED/SET BASED ON INSULATION THICKNESSES

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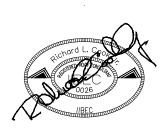


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**TAPER ROOF PLAN** 

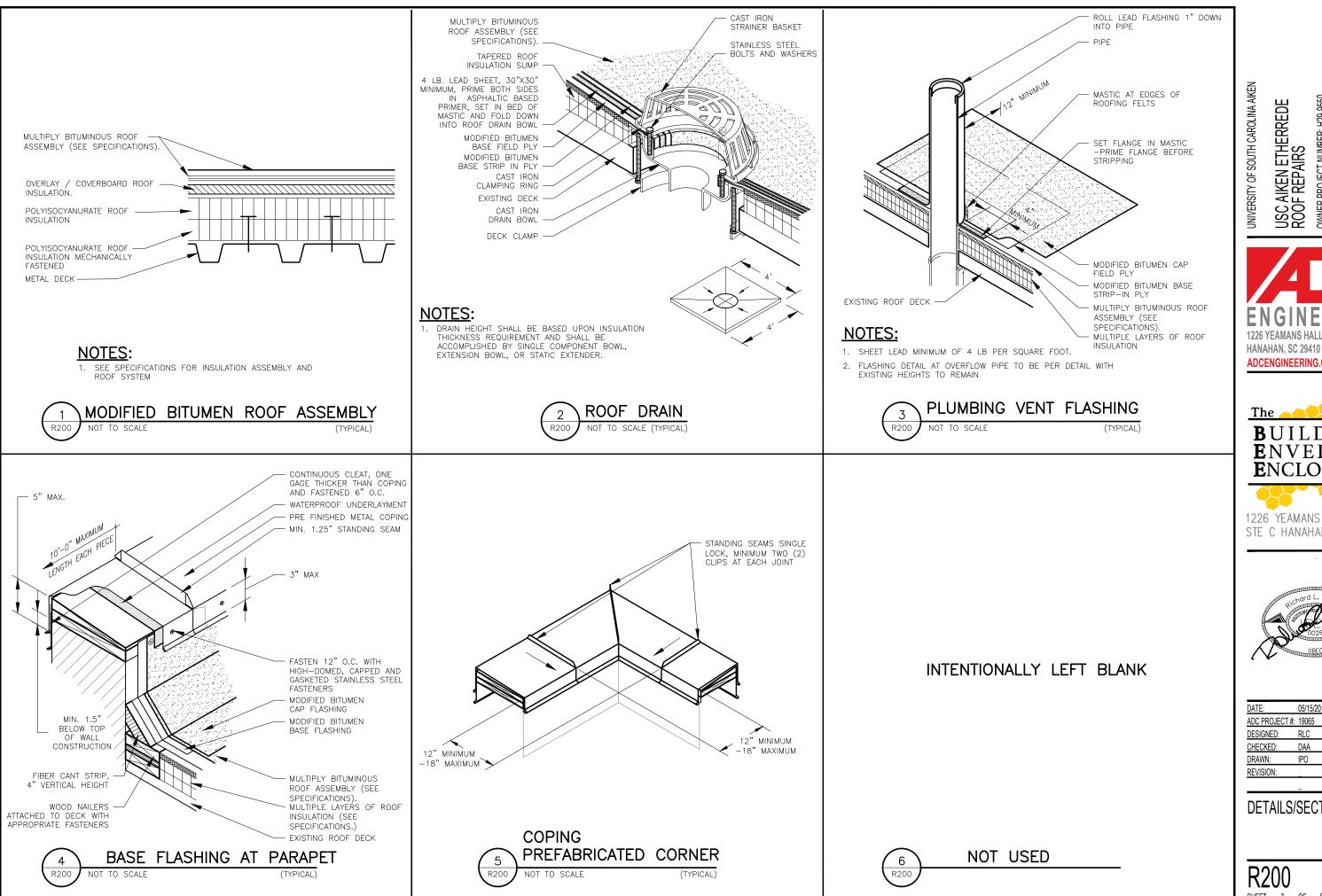
R105 SHEET 6 OF 9

KEY PLAN

NOT TO SCALE

TAPER ROOF PLAN

ABBREVIATED SCOPE OF WORK



340 SCHOLAR LOOP AIKEN, SOUTH CAROLINA

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OWNER PROJECT NUMBER: H29-9550 ADC PROJECT NUMBER:19090

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BUILDING **E**NVELOPE **E**NCLOSURE

Group

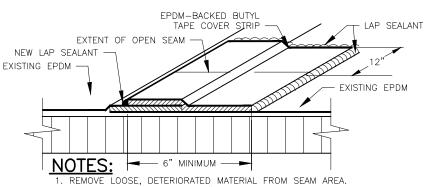
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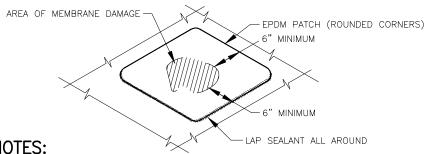
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DETAILS/SECTIONS

SHEET 7 OF 9



- CLEAN AND PRIME MINIMUM 6" EACH SIDE OF OPEN SEAM.
- 3. CENTER COVER STRIP OVER SEAM.
- 4. APPLY LAP SEALANT TO EDGES OF INSTALLED COVER STRIP.
  5. EXTEND SEAM REPAIR MINIMUM 12" BEYOND DAMAGE AREA.
- 6. ROUND CUT CORNERS OF COVER STRIP.

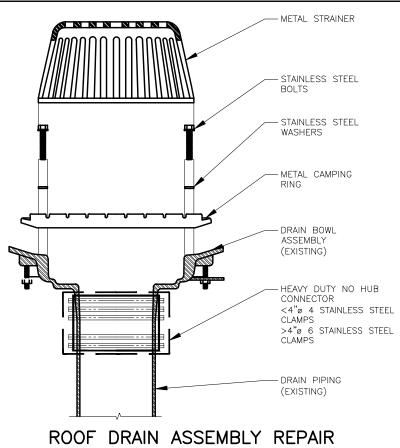


1. REMOVE LOOSE, DETERIORATED MATERIALS IN AREA OF PATCH.

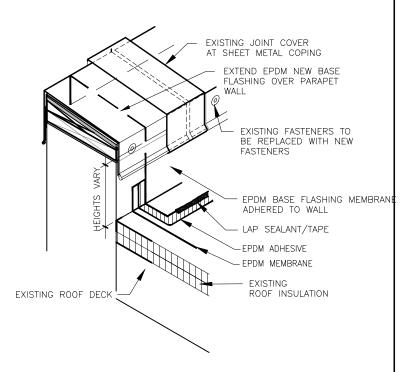
(ALTERNATE 3)

2. EXISTING MEMBRANE TO BE CLEANED AND PRIMED FOR MINIMUM 12" AROUND AREA OF DAMAGE. 3. ROUND CORNERS OF PATCH MATERIALS. APPLY LAP SEALANT TO COMPLETED PATCH INSTALLATION.

## STANDARD SEAM REPAIR (EPDM) NOT TO SCALE



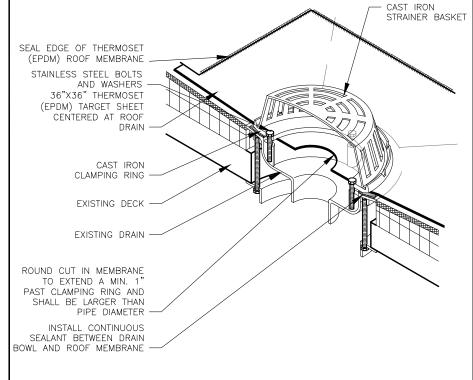
(TYPICAL)

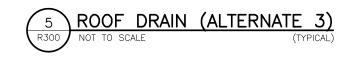


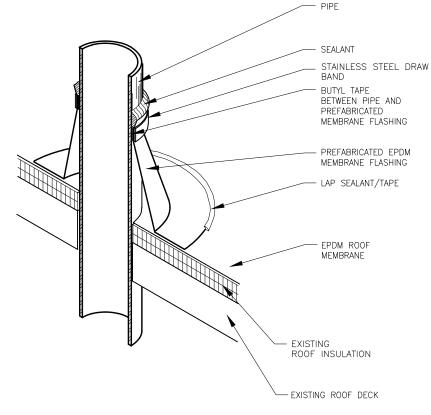
## **NOTES:**

- EXISTING COPING TO BE REMOVED AND REINSTALLED ON AREAS BASE FLASHING IS REPLACED.
- 2. ANY WET/DAMAGED INSULATION IS TO BE REPLACED IF DISCOVERED

#### BASE FLASHING REPAIR NOT TO SCALE (TYPICAL)







OVERFLOW PIPE/VTR FLASHING REPAIR NOT TO SCALE

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NOT USED

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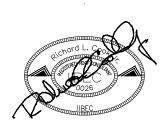
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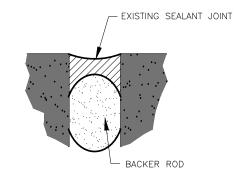
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REPAIR DETAILS/ SECTIONS

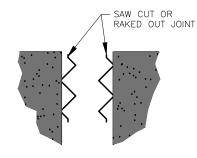
R300

SHEET 8 OF 9

(TYPICAL)



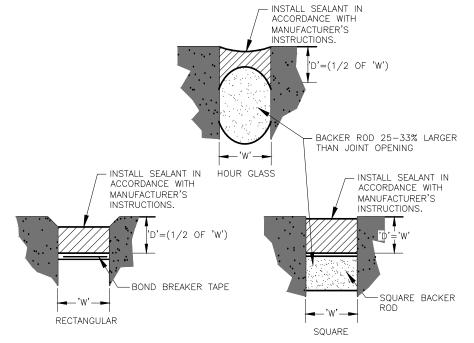
EXISTING STANDARD JOINT STEP ONE



# NOTES:

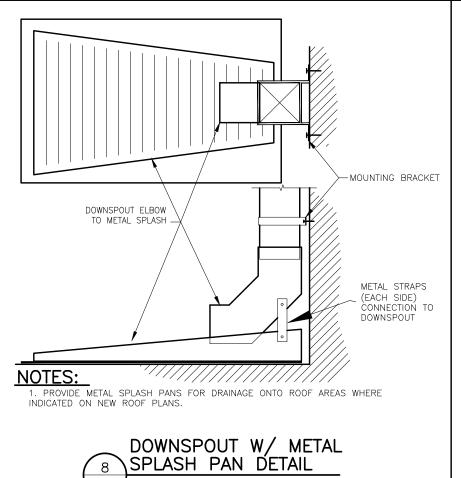
- A SEALANT IS NO BETTER THAN THE SURFACE TO WHICH IT IS ATTACHED. PROPER PREPARATION IS CRITICAL.
- 2. THE MANUFACTURERS INSTRUCTIONS MUST BE CAREFULLY FOLLOWED TO OBTAIN PROPER SEALANT ADHESION.
- 3. ADHERE TO THE JOINT DESIGN AND APPLICATION REQUIREMENTS.

PREPARE STANDARD JOINT
STEP TWO



REPAIR, STANDARD JOINT OPTIONS
STEP THREE

7 STANDARD JOINT DETAIL
R301 NOT TO SCALE (TYPICAL)



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NOT USED

ENGINEERING

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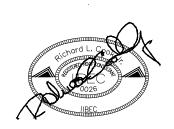
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REPAIR DETAILS/ SECTIONS

R301