

SANFORD LAB HOMESTAKE VISITOR CENTER

630 EAST SUMMIT STREET
LEAD, SOUTH DAKOTA

ROOF REPLACEMENT PROJECT



DATE: 07/19/2024

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2023-011



DRAWING CONTENTS

ARCHITECTURAL DRAWINGS

| | | |
|-------|--------------------------------------|--|
| A0.00 | COVER SHEET | } INTERIOR REPAIRS WILL BE BY SEPARATE MAINTENANCE CONTRACT AND ARE NOT PART OF ROOF REPLACEMENT PROJECT |
| A2.10 | MAIN FLOOR & REFLECTED CEILING PLANS | |
| A2.30 | ROOF PLAN | |
| A3.30 | ROOF DETAILS | |
| A3.31 | ROOF DETAILS LARGE | |
| A3.32 | ROOF LADDER DETAILS | |

CODE REVIEW

| | |
|-------------------------|--|
| CODE USED: | 2021 INTERNATIONAL BUILDING CODE (IBC) |
| OCCUPANCY GROUP: | A-3 / B / E / M / S-1 |
| TYPE OF CONSTRUCTION: | TYPE VB |
| ALLOWABLE AREA/STORIES: | N/A |
| ACTUAL AREA: | N/A |
| FIRE PROTECTION SYSTEM: | NONE |

LEGEND

| | |
|--|-------------------------------|
| | KEY NOTE |
| | WALL TYPE |
| | ROOM NAME AND NUMBER |
| | OPENING TYPE |
| | DOOR NUMBER |
| | DRAWING NUMBER |
| | SHEET NUMBER |
| | SECTION OR DETAIL TAG |
| | CENTERLINE |
| | PROPERTY LINE |
| | HEIGHT - MAIN FLOOR = 100'-0" |
| | SQUARE |
| | STEEL ANGLE |
| | ROUND |

ABBREVIATIONS

(ALL MAY NOT BE USED IN DRAWING SET)

| | |
|----------|------------------------|
| / | PER |
| @ | AT |
| AFF | ABOVE FINISH FLOOR |
| ALUM | ALUMINUM |
| APC | ACOUSTIC PANEL CEILING |
| BRG | BEARING |
| CC | CENTER TO CENTER |
| CMU | CONCRETE MASONRY UNIT |
| COORD | COORDINATE |
| CPT | CARPET |
| CT | CERAMIC TILE |
| DR | DOOR |
| EA | EACH |
| ELEC'L | ELECTRICAL |
| EQ | EQUAL |
| FR | FRAME |
| FT | FOOT |
| GYPBD | GYPSON BOARD |
| HM | HOLLOW METAL |
| IG | INSULATED GLASS |
| MAX | MAXIMUM |
| MECH'L | MECHANICAL |
| MIN | MINIMUM |
| OC | ON CENTER |
| PT | PAINT |
| REV | REVERSE |
| SIM | SIMILAR |
| STRUCT'L | STRUCTURAL |
| TBD | TO BE DETERMINED |
| TEXT | TEXTURE |
| TSG | TEMPERED SAFETY GLASS |
| TYP | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| VB | VINYL BASE |
| VCT | VINYL COMPOSITION TILE |
| W/ | WITH |
| WD | WOOD |
| WG | WIRE GLASS |

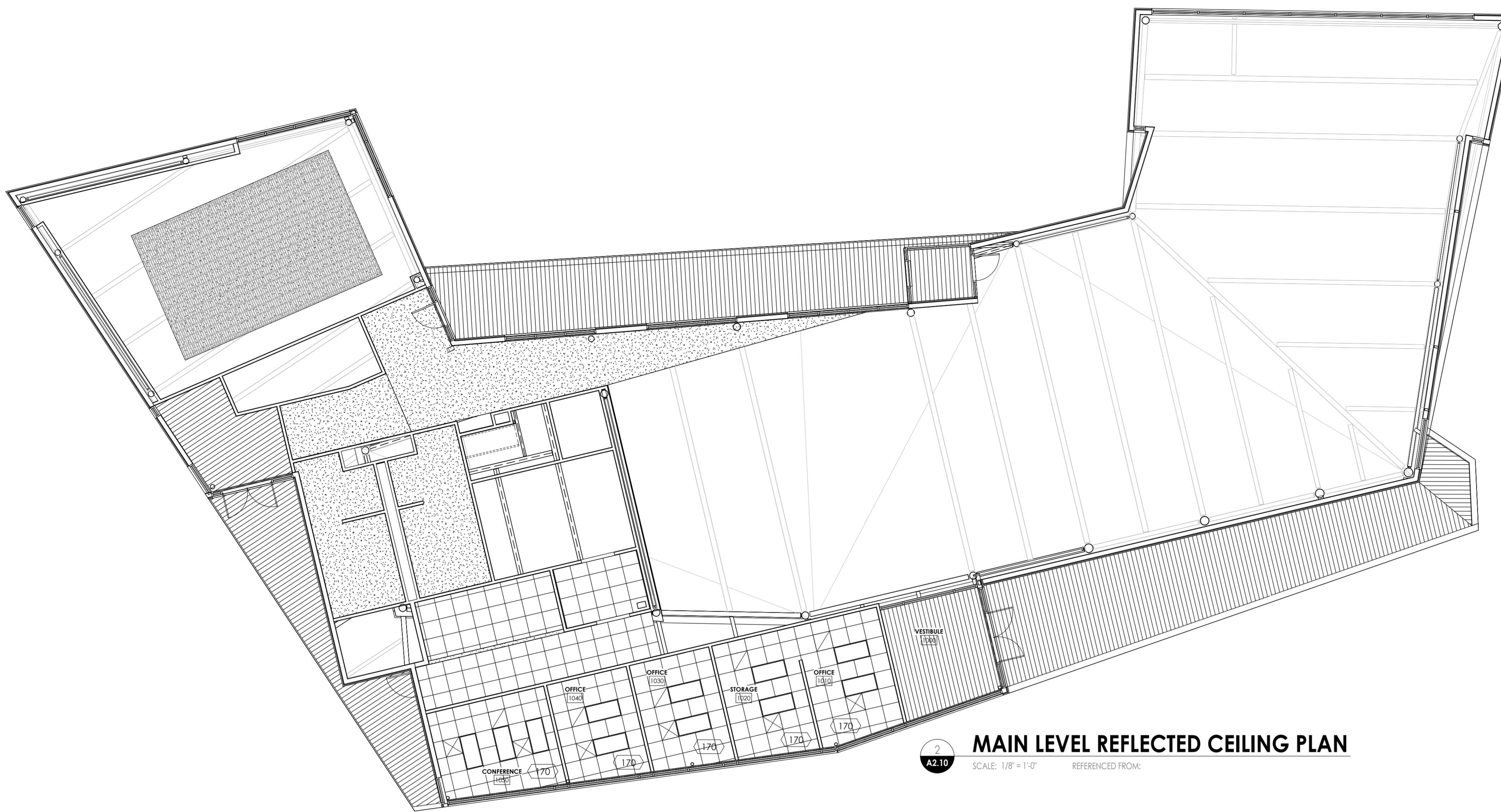


SLHVC ROOF REPLACEMENT

630 EAST SUMMIT ST
LEAD, SOUTH DAKOTA

COVER SHEET

A0.00

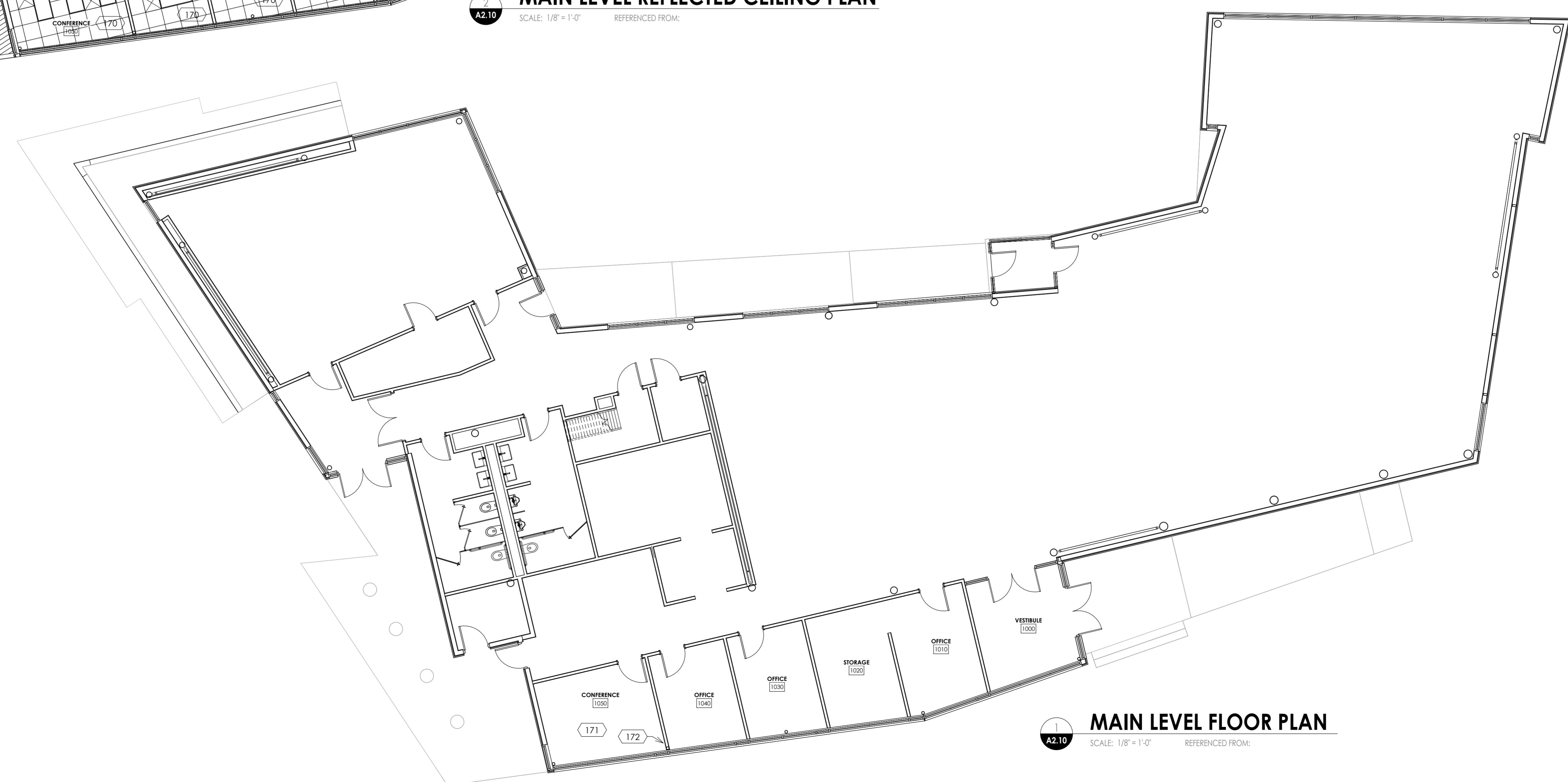


INTERIOR REPAIRS: OUT OF SCOPE

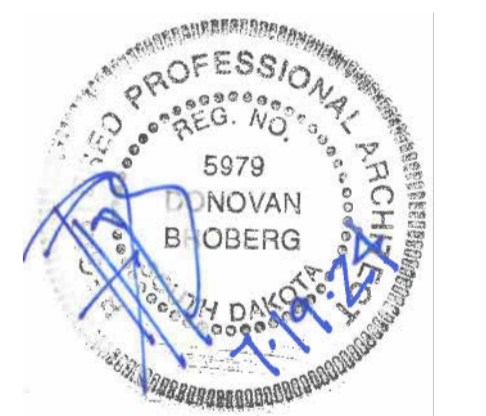
INTERIOR REPAIRS WILL BE BY SEPARATE MAINTENANCE CONTRACT AND ARE NOT PART OF ROOF REPLACEMENT PROJECT

| ROOM # | ROOM NAME | MAKE THE FOLLOWING REPAIRS |
|-------------|------------|----------------------------|
| 1000 | VESTIBULE | VERIFY NO DAMAGE |
| 1010 | OFFICE | 170 |
| 1020 | STORAGE | 170 |
| 1030 | OFFICE | 170 |
| 1040 | OFFICE | 170 |
| 1050 | CONFERENCE | 170 171 172 |
| OTHER AREAS | | VERIFY NO OTHER REPAIRS |

- 170 REPLACE DAMAGED "CEILING TILE" / MATCH EXISTING
- 171 REPLACE DAMAGED "CARPET TILE" / MATCH EXISTING
- 172 REPAIR MOISTURE DAMAGED "PAINTED" WALL FINISH / MATCH EXISTING



DATE: 07/19/2024
PROJECT MANAGER: DONOVAN BROBERG
PROJECT NUMBER: 2023-011

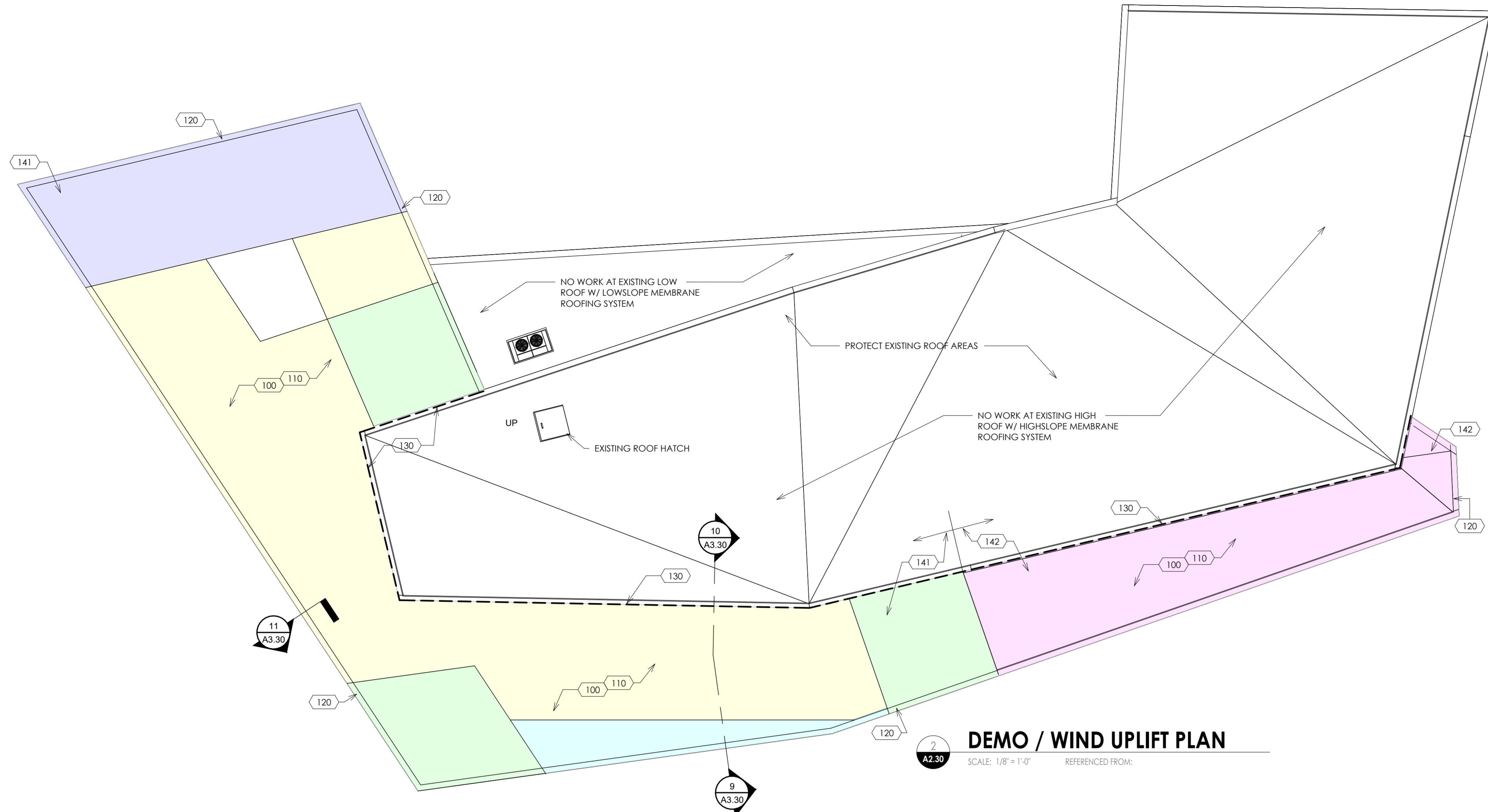


SLHVC ROOF REPLACEMENT

630 EAST SUMMIT ST
LEAD, SOUTH DAKOTA

MAIN FLOOR & REFLECTED CEILING PLANS

A2.10



| WIND UPLIFT SCHEDULE (CANOPY) | | | | |
|-----------------------------------|------------|--------|----------|------|
| PRESSURE (PSF) | | | | |
| EFFECTIVE WIND AREA (SQUARE FEET) | | | | |
| HATCH | WIDTH (ft) | 0 - 45 | 45 - 175 | >175 |
| REMAINDER | | 215 | 109 | 71 |

ADDITIONAL REMARKS:

- WIND PRESSURES SHOWN ARE ULTIMATE WIND PRESSURES FROM ASCE-7-16. TO OBTAIN WIND PRESSURES, MULTIPLY BY 0.6.
- FOR ROOF JOIST DESIGN, SUBTRACT 7 PSF FROM THE SERVICE WIND UPLIFT VALUE

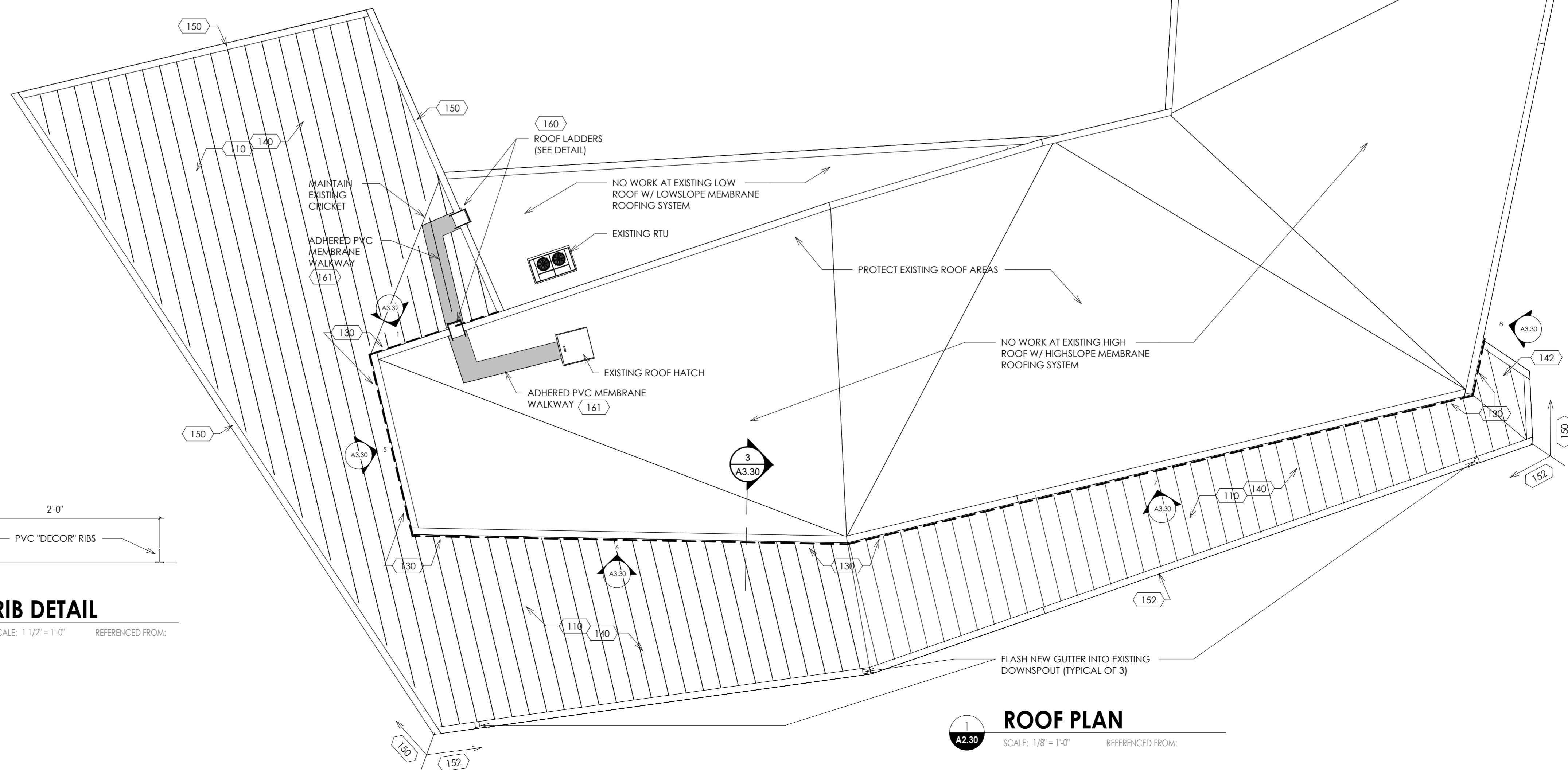
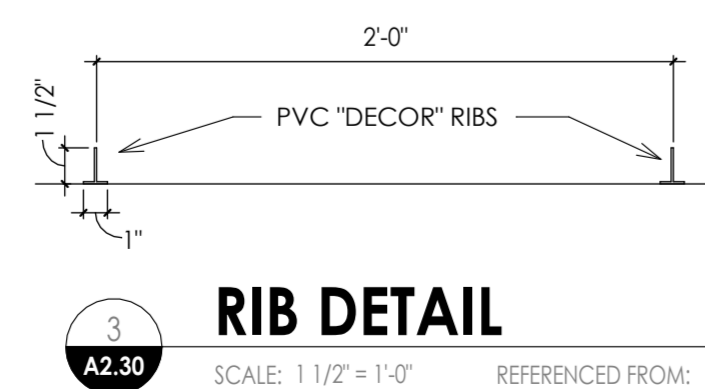
| WIND UPLIFT SCHEDULE (MAIN ROOF) | | | | | |
|-----------------------------------|------------|--------|---------|----------|------|
| PRESSURE (PSF) | | | | | |
| EFFECTIVE WIND AREA (SQUARE FEET) | | | | | |
| HATCH | WIDTH (ft) | 0 - 20 | 20 - 50 | 50 - 100 | >100 |
| REMAINDER | | 71 | 71 | 71 | 71 |
| | 7'-0" | 82 | 81 | 79 | 77 |
| | 7'-0" | 99 | 97 | 95 | 83 |
| | 7'-0" | 110 | 100 | 87 | 77 |
| | 7'-0" | 154 | 136 | 116 | 99 |

ADDITIONAL REMARKS:

- WIND PRESSURES SHOWN ARE ULTIMATE WIND PRESSURES FROM ASCE-7-16. TO OBTAIN WIND PRESSURES, MULTIPLY BY 0.6.
- FOR ROOF JOIST DESIGN, SUBTRACT 7 PSF FROM THE SERVICE WIND UPLIFT VALUE

| KEY NOTES | |
|-----------|--|
| 100 | REMOVE APPROXIMATELY 3750 SF OF EXISTING STANDING SEAM METAL ROOF (SSMR); PREPARE FOR NEW ROOFING SYSTEM |
| 110 | INSPECT EXISTING ROOF INSULATION SYSTEM; REPLACE DAMAGED AREAS PER UNIT COST |
| 120 | REMOVE APPROXIMATELY 310 LF OF EXISTING METAL ROOF EDGE/GUTTER; PREPARE FOR NEW ROOF EDGE/GUTTER DETAIL |
| 130 | SEE 1/A3.31 REMOVE / MODIFY / RE-INSTALL APPROXIMATELY 166 LF OF EXISTING ROOF/WALL METAL FLASHING/WALL PANEL TO BE REMOVED; INSTALL NEW ROOF/WALL FLASHING DETAIL; MODIFY HEIGHT OF WALL PANELS AND REINSTALL AS NECESSARY TO MEET ROOF MEMBRANE MANUFACTURERS' WARRANTY REQUIREMENTS |
| 140 | INSTALL NEW ROOFING SYSTEM: <ul style="list-style-type: none"> 80 MIL PVC ADHESIVELY APPLIED MEMBRANE COLORED MEMBRANE (LIGHT GRAY) WITH "DECOR" RIBS 1/2" COVER BOARD - ADHERED 1" POLYISOCYANURATE INSULATION MECHANICALLY FASTENED ENSURE EXISTING NEW FASTENING SYSTEM MEETS UPLIFT REQUIREMENTS. |
| 141 | a. 141 UPLIFT AT LOW ROOF AREAS |
| 142 | b. 142 UPLIFT AT CANOPY AREAS |
| | • EXISTING SUBSTRATE PER KEY NOTE 110 |
| 150 | APPROXIMATELY 180 LF OF NEW ROOF EDGE/WALL COPING - SEE DETAIL 3/A3.31 |
| 152 | APPROXIMATELY 130 LF OF NEW INTEGRAL GUTTER/METAL TRIM - SEE DETAIL 2/A3.31 <ul style="list-style-type: none"> 1/8" BENT STEEL PLATE X MAXIMUM 12'-0" SECTIONS / POWDER COATED 1/4" SPACE BETWEEN GUTTER SECTIONS ATTACH W/ #8 FASTENERS @ 12" O.C. INTO EXISTING WALL STRUCTURE LINE GUTTER W/ ADHESIVELY ATTACHED MEMBRANE METAL TRIM @ SIDE EXPOSED TO VIEW |
| 160 | NEW WALL MOUNTED LADDER FOR ROOF EQUIPMENT ACCESS - SEE SHEET A3.32 |
| 161 | NEW ADHERED MEMBRANE WALKWAY |

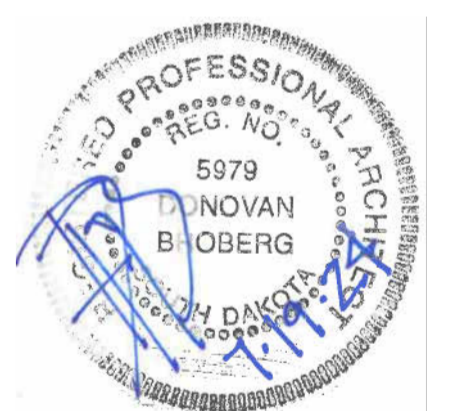
BID OPTION: KEY NOTES 160 and 161



DATE: 07/19/2024

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2023-011

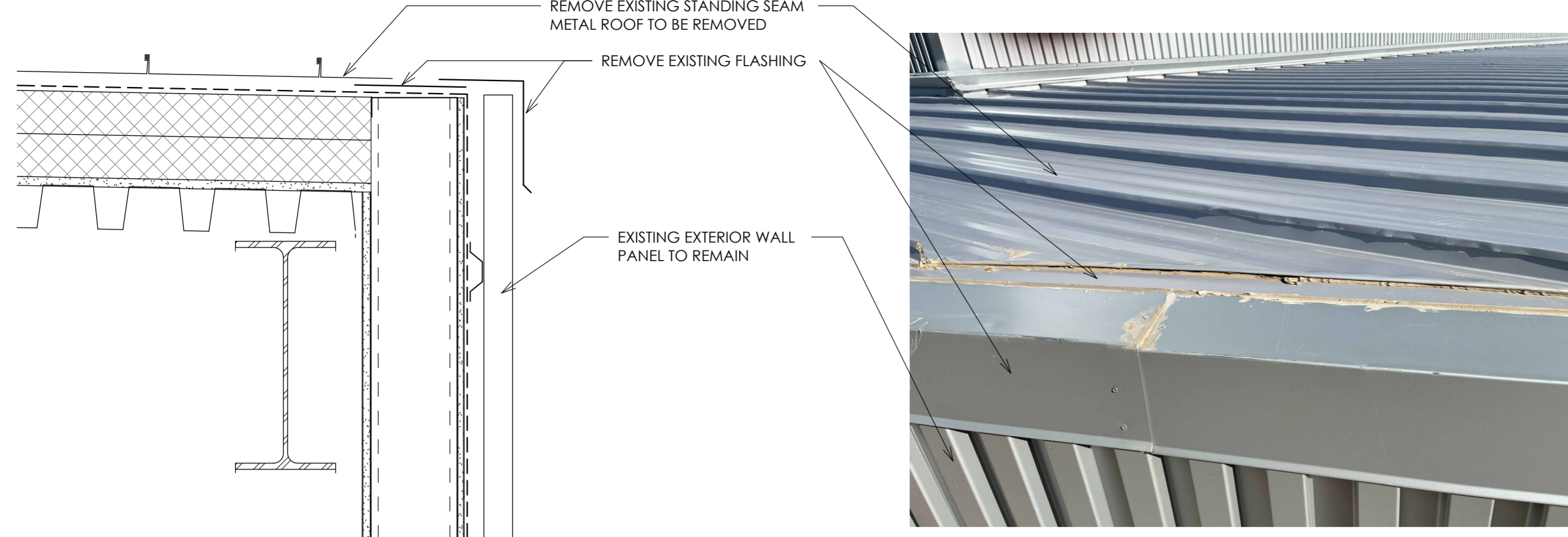


SLHVC ROOF REPLACEMENT

630 EAST SUMMIT ST
LEAD, SOUTH DAKOTA

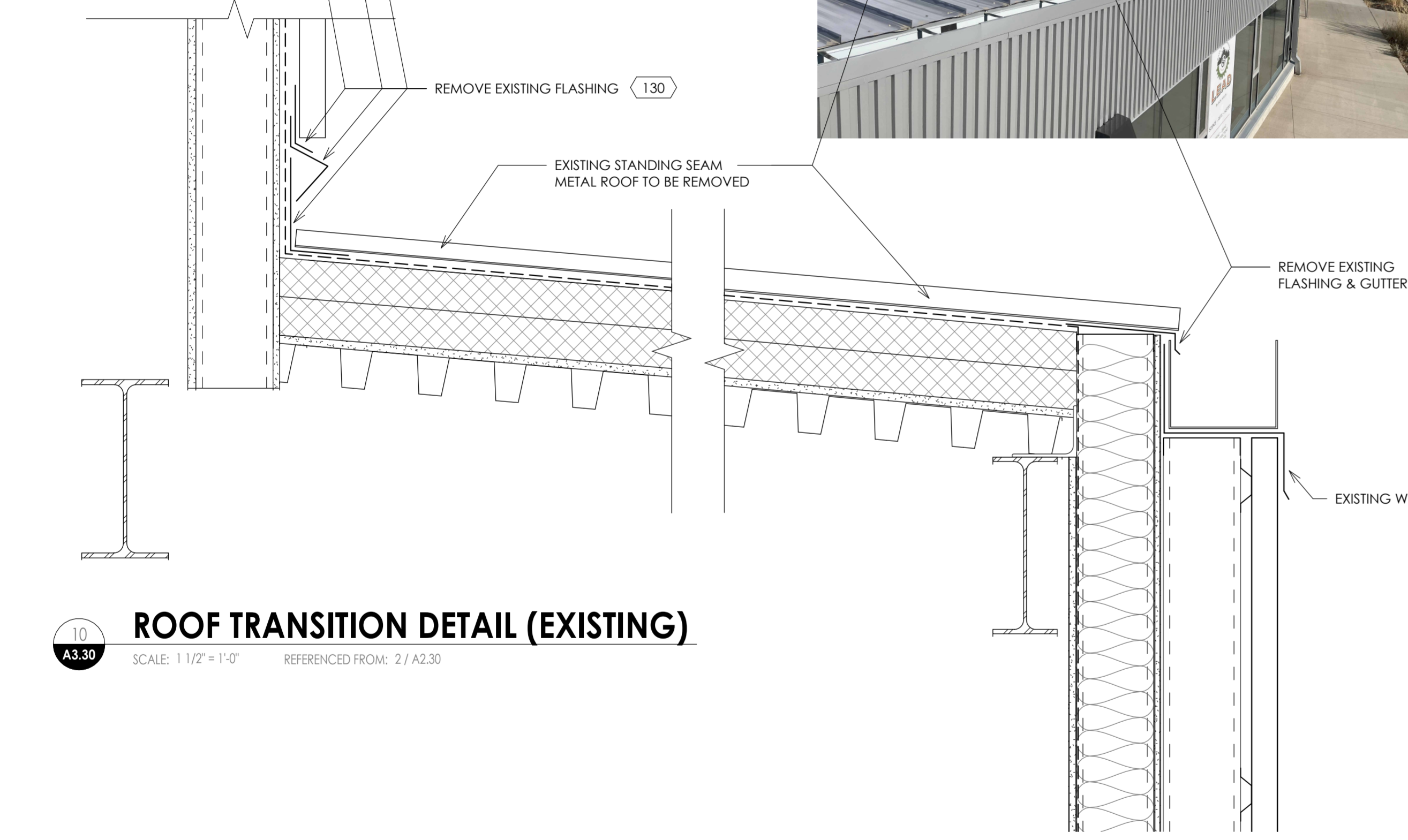
ROOF PLAN

A2.30



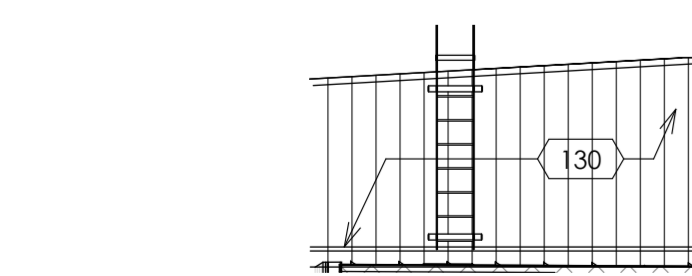
11 EAVE DETAIL (EXISTING)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM: 2 / A2.30



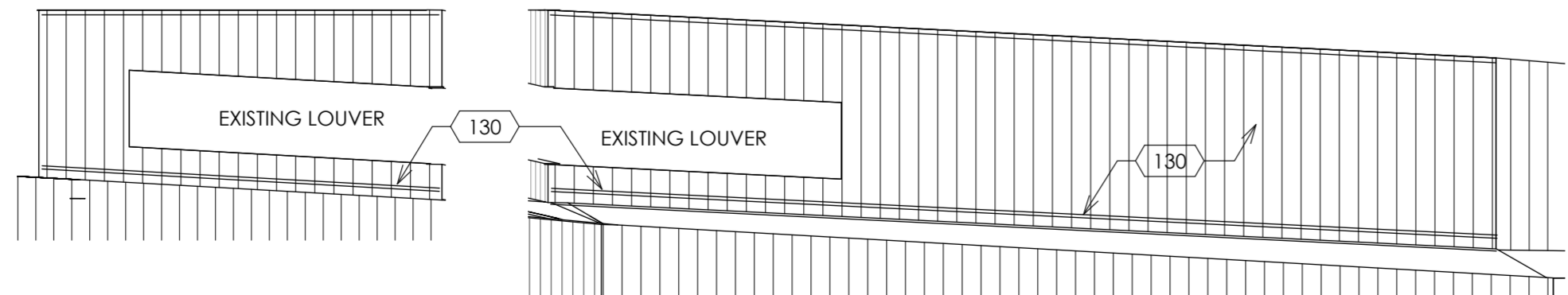
10 ROOF TRANSITION DETAIL (EXISTING)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM: 2 / A2.30



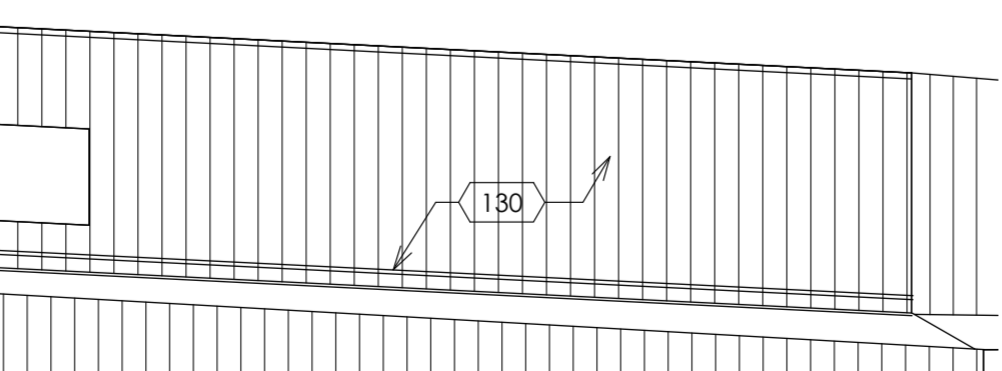
4 Elevation 1

SCALE: 1/8" = 1'-0" REFERENCED FROM: 1 / A2.30



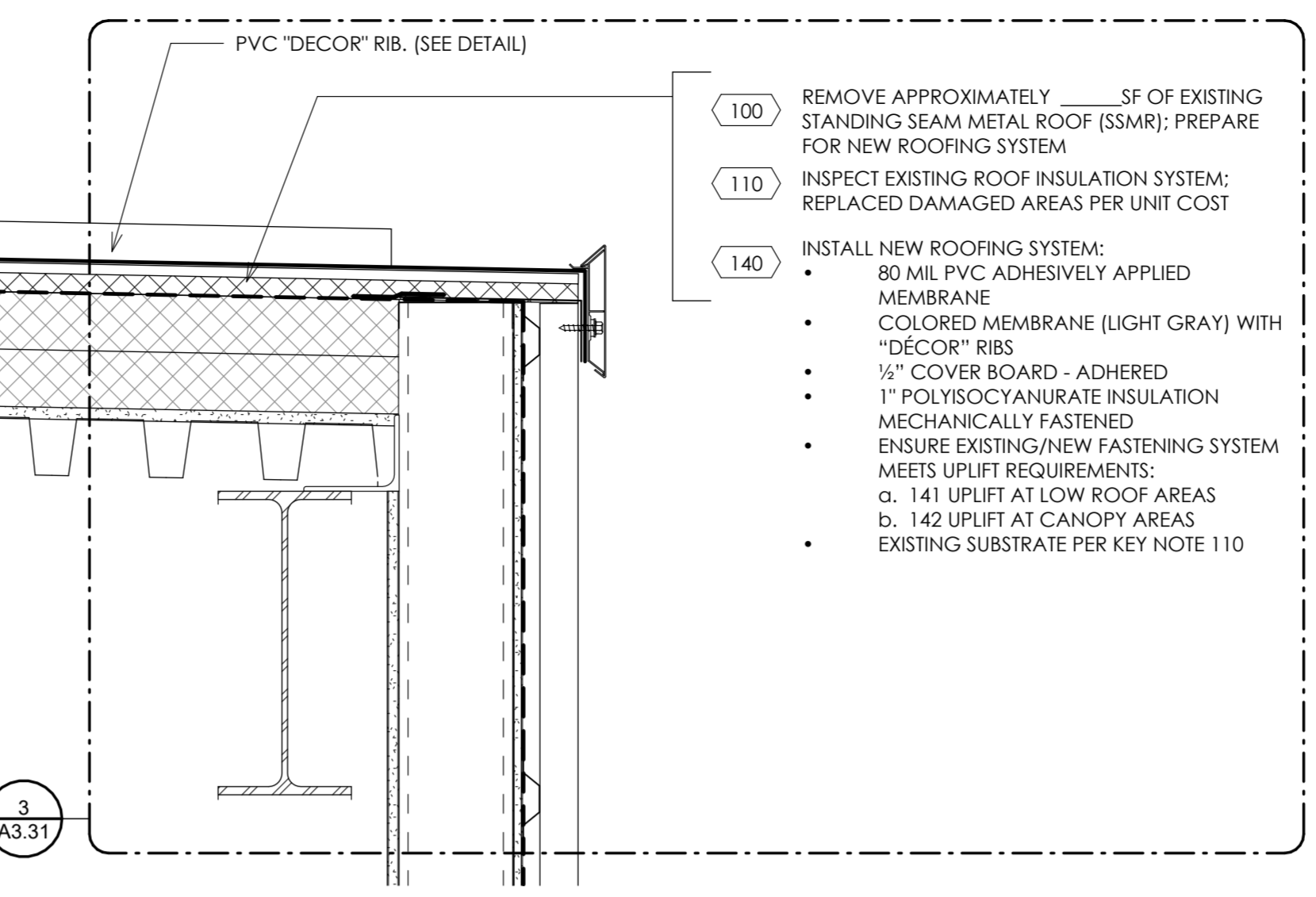
5 Elevation 2

SCALE: 1/8" = 1'-0" REFERENCED FROM: 1 / A2.30



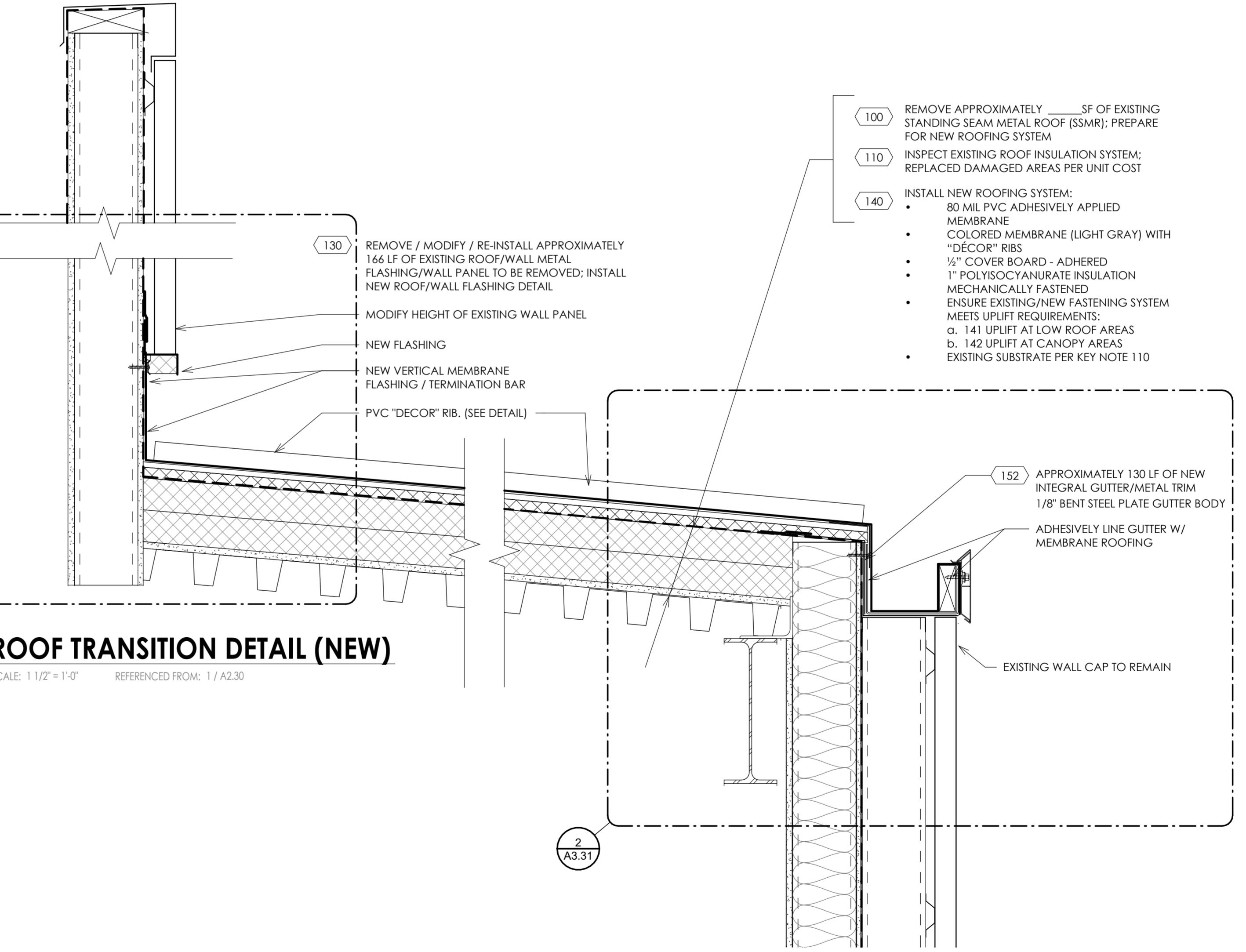
6 Elevation 3

SCALE: 1/8" = 1'-0" REFERENCED FROM: 1 / A2.30



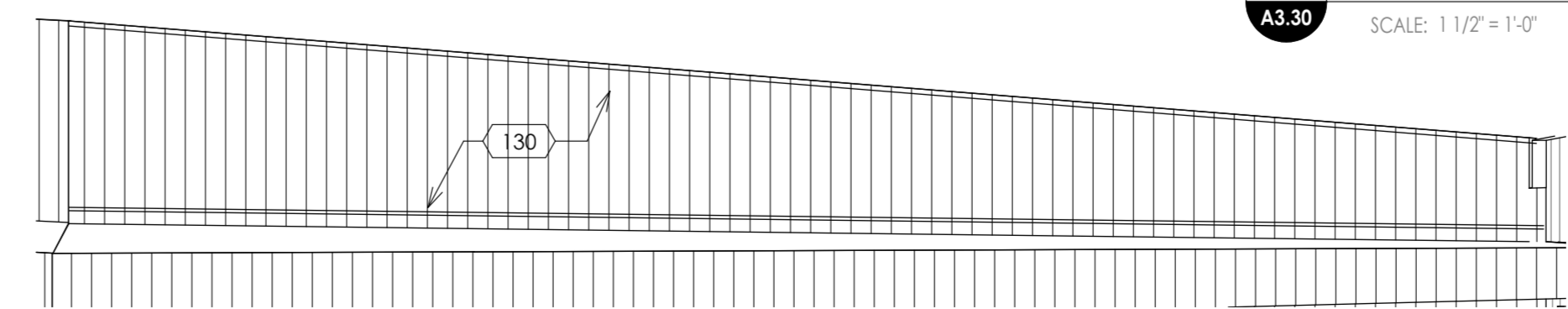
2 EAVE DETAIL (NEW)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM:



3 ROOF TRANSITION DETAIL (NEW)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM: 1 / A2.30



7 Elevation 4

SCALE: 1/8" = 1'-0" REFERENCED FROM: 1 / A2.30

| KEY NOTES | |
|-----------|---|
| 100 | REMOVE APPROXIMATELY 3750 SF OF EXISTING STANDING SEAM METAL ROOF (SSMR); PREPARE FOR NEW ROOFING SYSTEM |
| 110 | INSPECT EXISTING ROOF INSULATION SYSTEM; REPLACED DAMAGED AREAS PER UNIT COST |
| 120 | REMOVE APPROXIMATELY 310 LF OF EXISTING METAL ROOF EDGE/GUTTER; PREPARE FOR NEW ROOF EDGE/GUTTER DETAIL |
| 130 | SEE 1/A3.31 REMOVE / MODIFY / RE-INSTALL APPROXIMATELY 166 LF OF EXISTING ROOF/WALL METAL FLASHING/WALL PANEL TO BE REMOVED; INSTALL NEW ROOF/WALL FLASHING DETAIL; MODIFY HEIGHT OF WALL PANELS AND REINSTALL AS NECESSARY TO MEET ROOF MEMBRANE MANUFACTURERS / WARRANTY REQUIREMENTS |
| 140 | INSTALL NEW ROOFING SYSTEM: <ul style="list-style-type: none"> 80 MIL PVC ADHESIVELY APPLIED MEMBRANE COLOR MEMBRANE (LIGHT GRAY) WITH "DECOR" RIBS 1/2" COVER BOARD - ADHERED 1" POLYISOCYANURATE INSULATION MECHANICALLY FASTENED ENSURE EXISTING/NEW FASTENING SYSTEM MEETS UPLIFT REQUIREMENTS: <ul style="list-style-type: none"> 141 UPLIFT AT LOW ROOF AREAS 142 UPLIFT AT CANOPY AREAS EXISTING SUBSTRATE PER KEY NOTE 110 |
| 141 | |
| 142 | |
| 150 | APPROXIMATELY 180 LF OF NEW ROOF EDGE/WALL COPING - SEE DETAIL 3/A3.31 |
| 152 | APPROXIMATELY 130 LF OF NEW INTEGRAL GUTTER/METAL TRIM - SEE DETAIL 2/A3.31 <ul style="list-style-type: none"> 1/8" BENT STEEL PLATE X MAXIMUM 12'-0" SECTIONS / POWDER COATED 1/4" SPACE BETWEEN GUTTER SECTIONS ATTACH W/ #8 FASTENERS @ 12" O.C. INTO EXISTING WALL STRUCTURE. LINE GUTTER W/ ADHESIVELY ATTACHED MEMBRANE METAL TRIM @ SIDE EXPOSED TO VIEW |
| 160 | NEW WALL MOUNTED LADDER FOR ROOF EQUIPMENT ACCESS - SEE SHEET A3.32 |
| 161 | NEW ADHERED MEMBRANE WALKWAY |

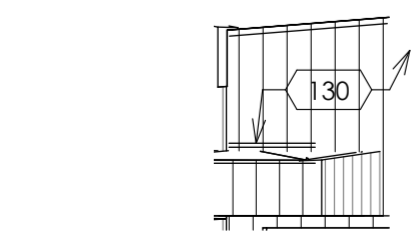
| | |
|-----|---|
| 100 | REMOVE APPROXIMATELY _____ SF OF EXISTING STANDING SEAM METAL ROOF (SSMR); PREPARE FOR NEW ROOFING SYSTEM |
| 110 | INSPECT EXISTING ROOF INSULATION SYSTEM; REPLACED DAMAGED AREAS PER UNIT COST |
| 140 | INSTALL NEW ROOFING SYSTEM: <ul style="list-style-type: none"> 80 MIL PVC ADHESIVELY APPLIED MEMBRANE COLOR MEMBRANE (LIGHT GRAY) WITH "DECOR" RIBS 1/2" COVER BOARD - ADHERED 1" POLYISOCYANURATE INSULATION MECHANICALLY FASTENED ENSURE EXISTING/NEW FASTENING SYSTEM MEETS UPLIFT REQUIREMENTS: <ul style="list-style-type: none"> 141 UPLIFT AT LOW ROOF AREAS 142 UPLIFT AT CANOPY AREAS EXISTING SUBSTRATE PER KEY NOTE 110 |
| 152 | APPROXIMATELY 130 LF OF NEW INTEGRAL GUTTER/METAL TRIM <ul style="list-style-type: none"> 1/8" BENT STEEL PLATE GUTTER BODY ADHESIVELY LINE GUTTER W/ MEMBRANE ROOFING |

9 GUTTER DETAIL (EXISTING)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM: 2 / A2.30

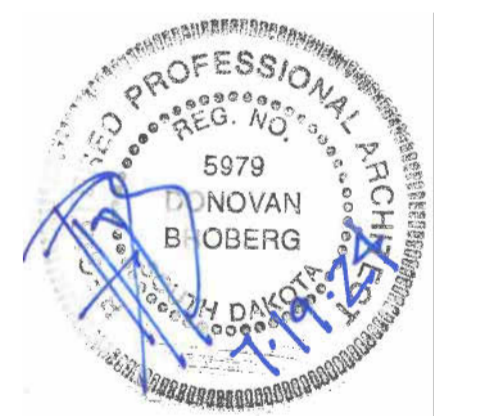
1 GUTTER DETAIL (NEW)

SCALE: 1 1/2" = 1'-0" REFERENCED FROM:



8 Elevation 5

SCALE: 1/8" = 1'-0" REFERENCED FROM: 1 / A2.30

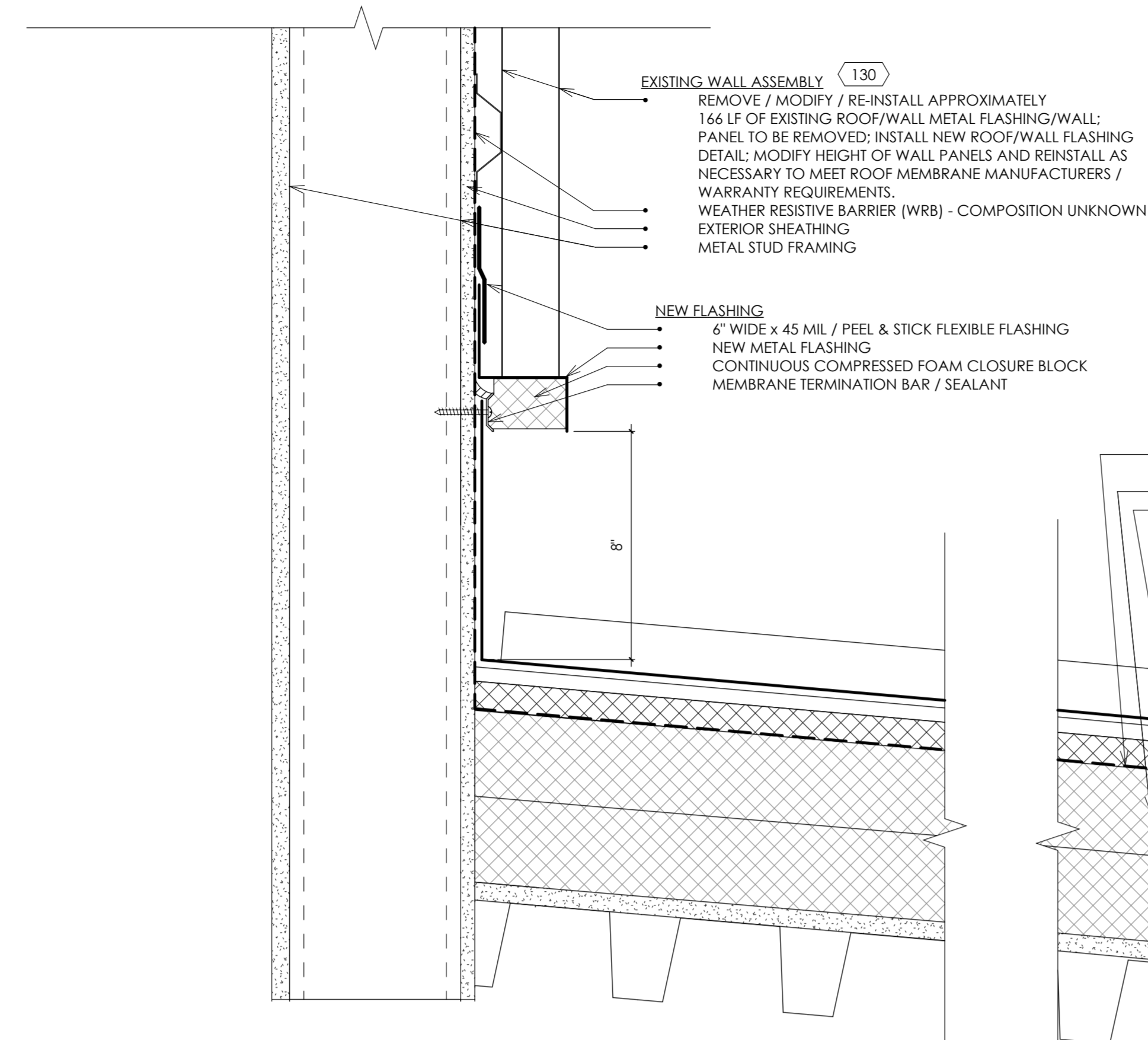


SLHVC ROOF REPLACEMENT

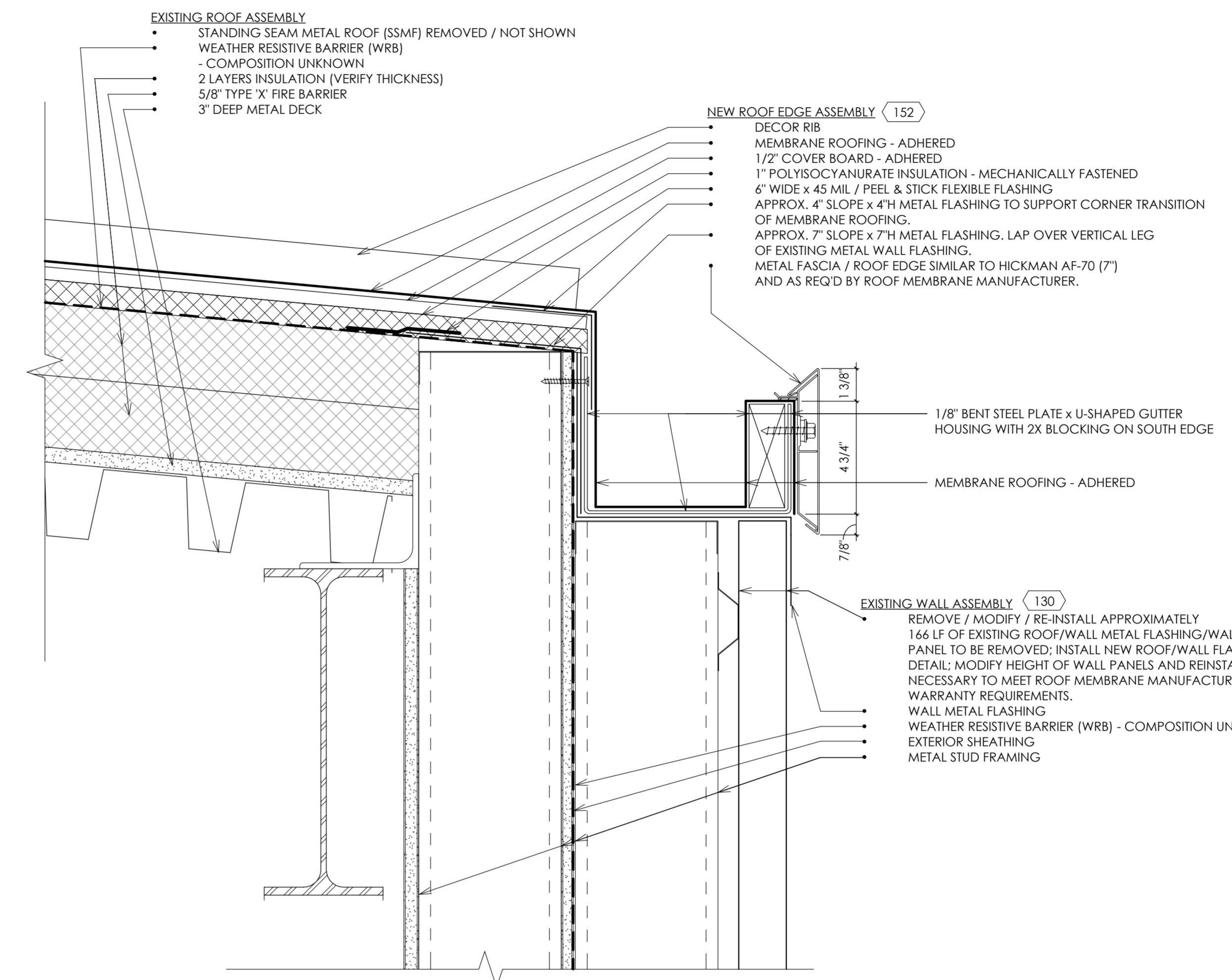
630 EAST SUMMIT ST
LEAD, SOUTH DAKOTA

ROOF DETAILS

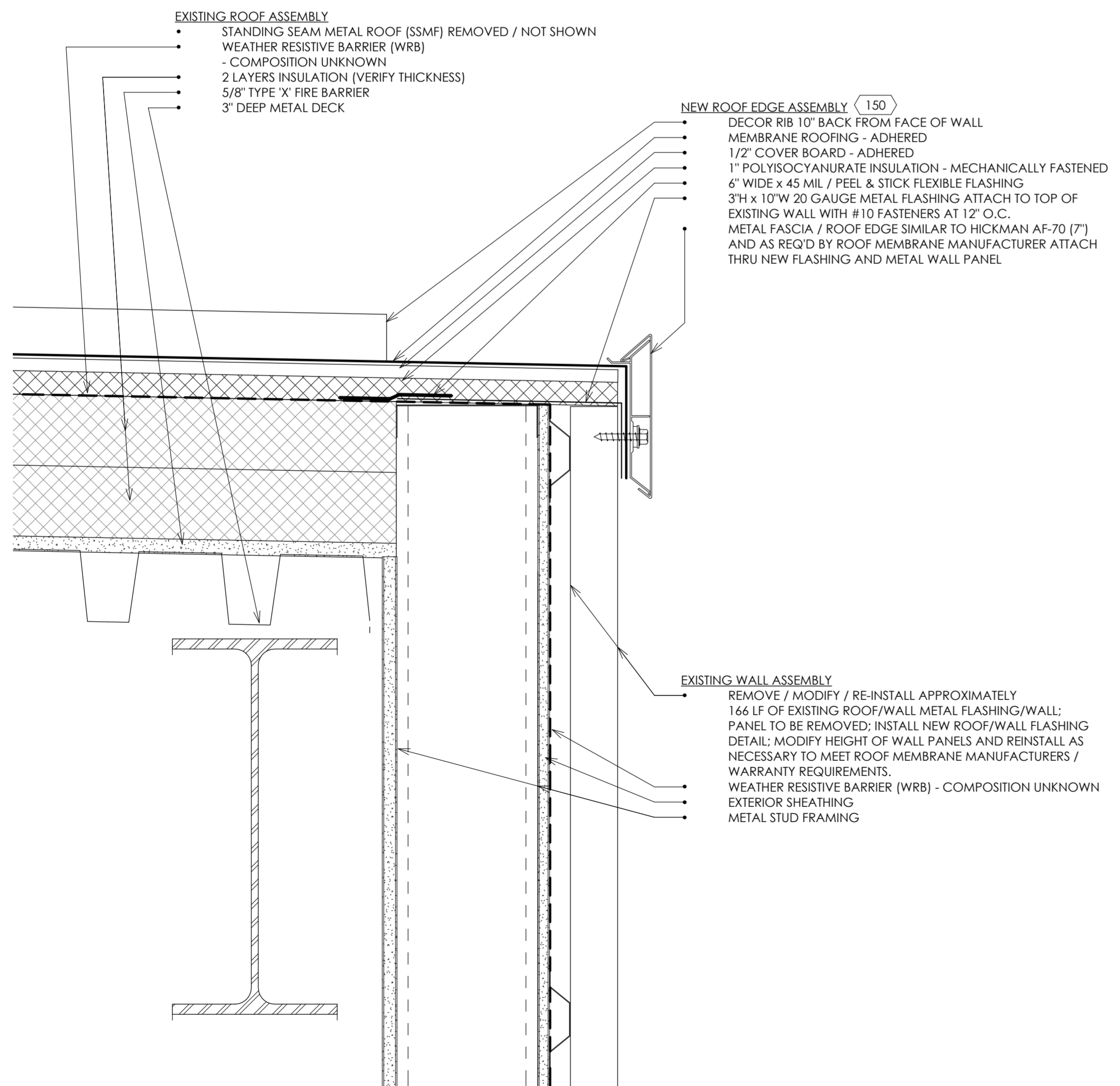
A3.30



1
ROOF TRANSITION DETAIL (NEW LARGE)
SCALE: 3" = 1'-0" REFERENCED FROM: 3 / A3.30



2
GUTTER DETAIL (NEW LARGE)
SCALE: 3" = 1'-0" REFERENCED FROM: 1 / A3.30

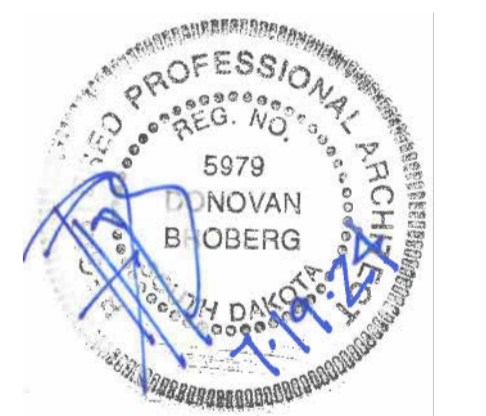


3
EAVE DETAIL (NEW LARGE)
SCALE: 3" = 1'-0" REFERENCED FROM: 2 / A3.30

DATE: 07/19/2024

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2023-011



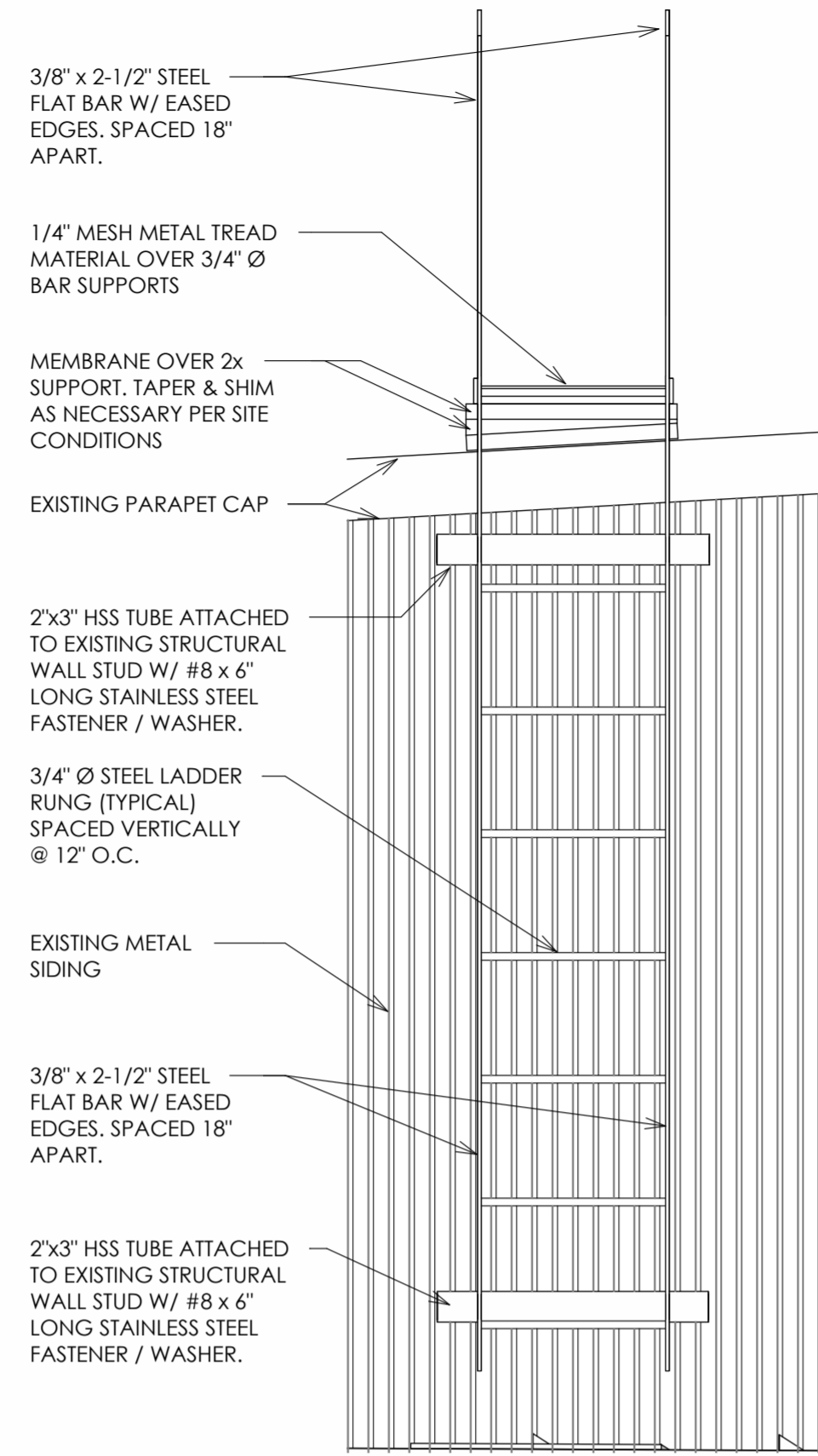
SLHVC ROOF REPLACEMENT

630 EAST SUMMIT ST
LEAD, SOUTH DAKOTA

ROOF DETAILS LARGE

A3.31

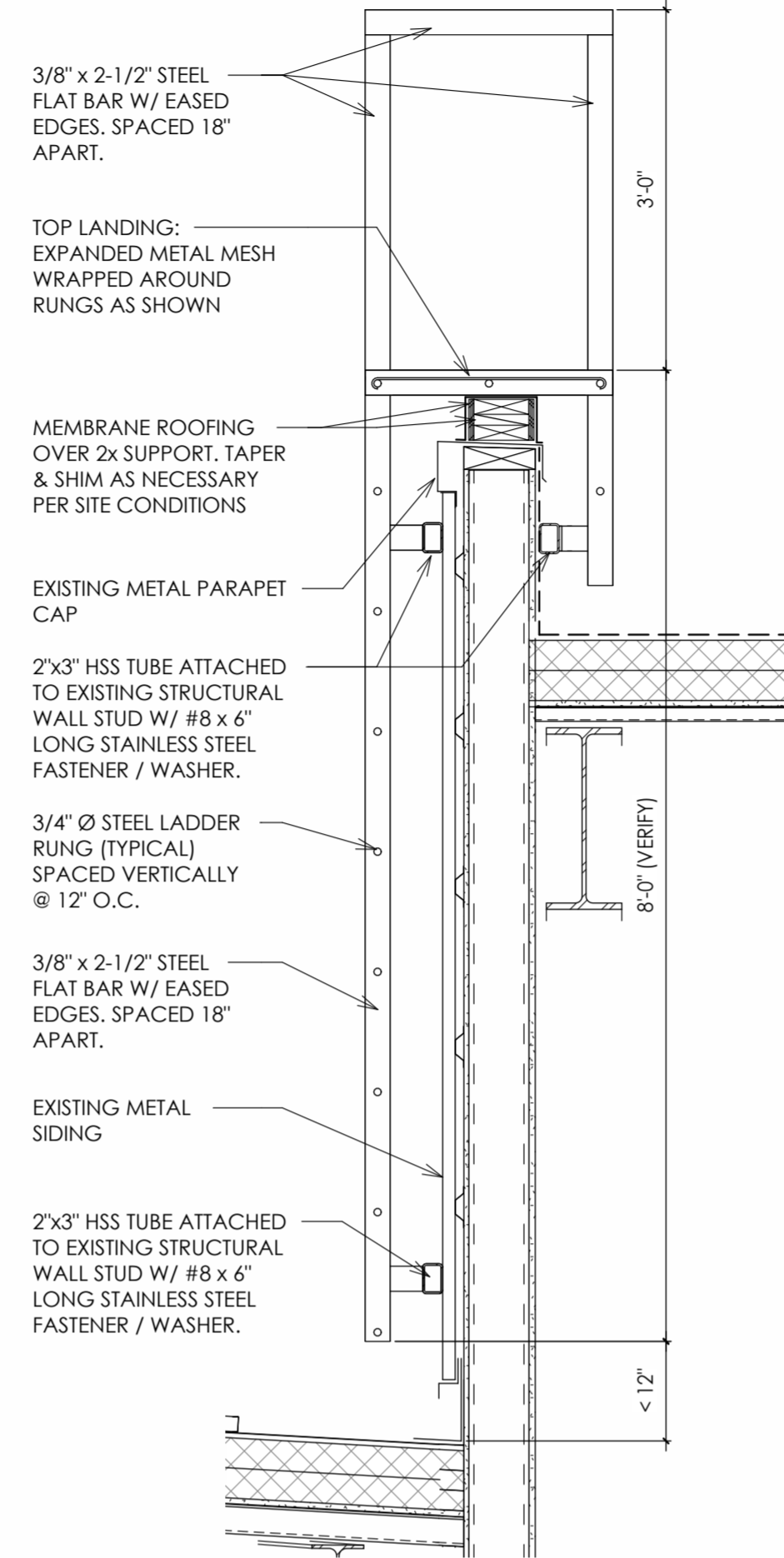
BID OPTION



HIGH ROOF LADDER ELEVATION (LOW LADDER SIMILAR)

1 A3.32 SCALE: 3/4" = 1'-0" REFERENCED FROM: 1 / A2.30

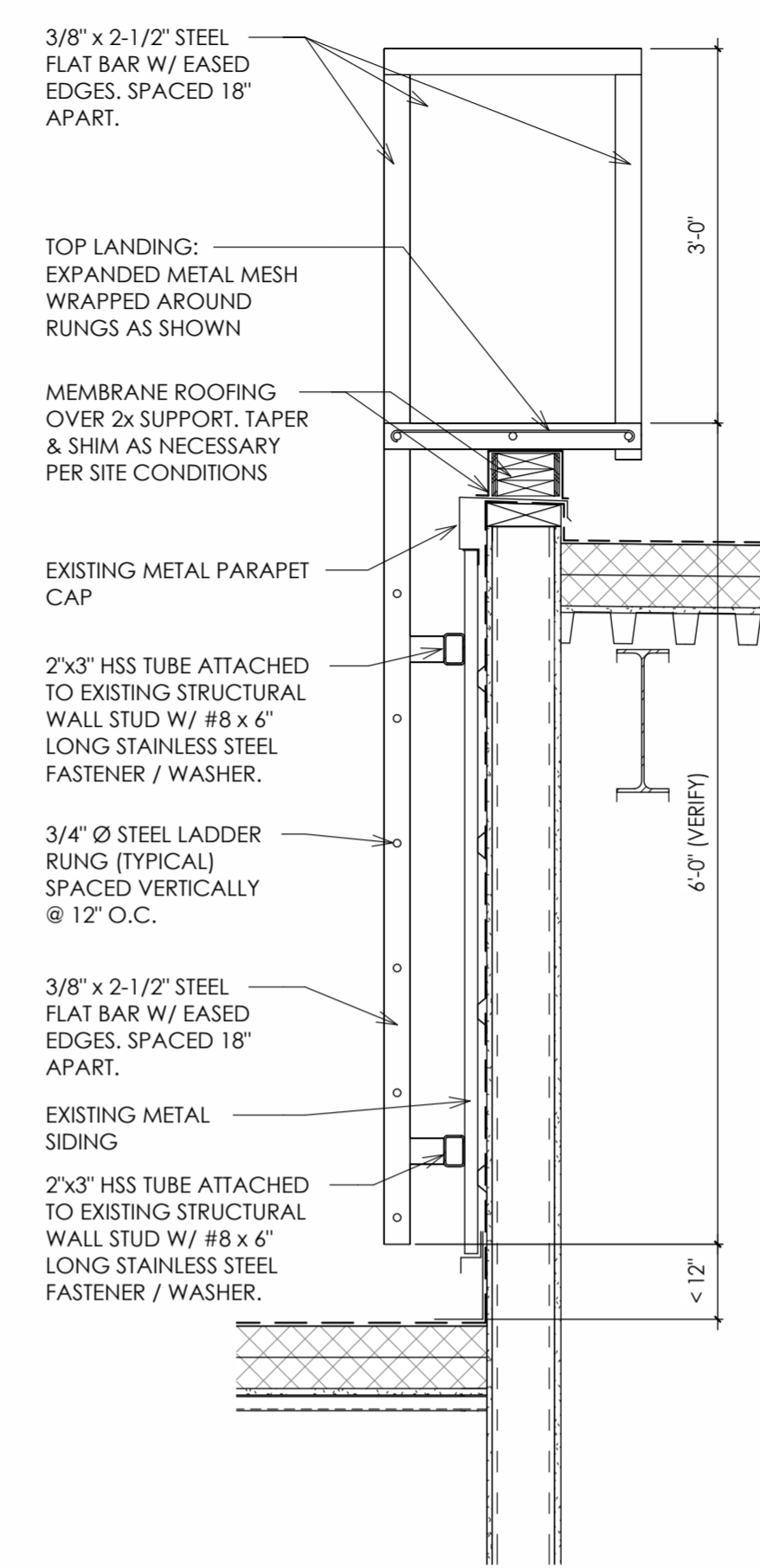
160 ROOF LADDER



HIGH ROOF LADDER DETAIL

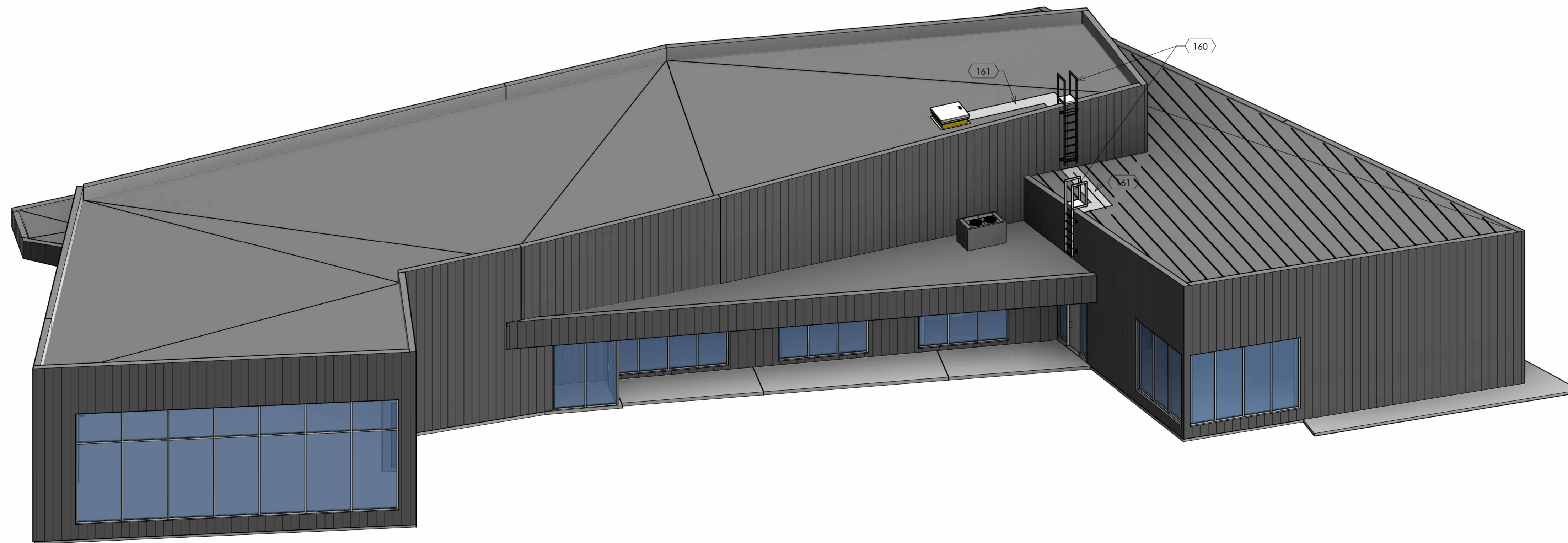
2 A3.32 SCALE: 3/4" = 1'-0" REFERENCED FROM:

160 ROOF LADDER

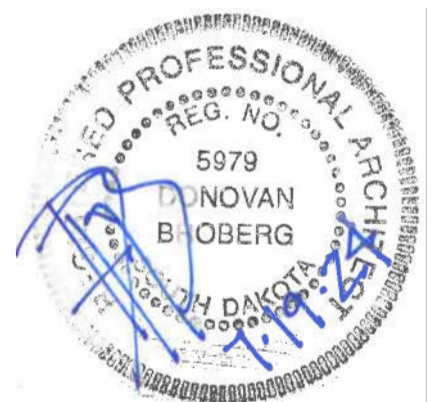


LOW ROOF LADDER DETAIL

3 A3.32 SCALE: 3/4" = 1'-0" REFERENCED FROM:



DATE: 07/19/2024
 PROJECT MANAGER: DONOVAN BROBERG
 PROJECT NUMBER: 2023-011



SLHVC ROOF REPLACEMENT

630 EAST SUMMIT ST
 LEAD, SOUTH DAKOTA

ROOF LADDER DETAILS

A3.32