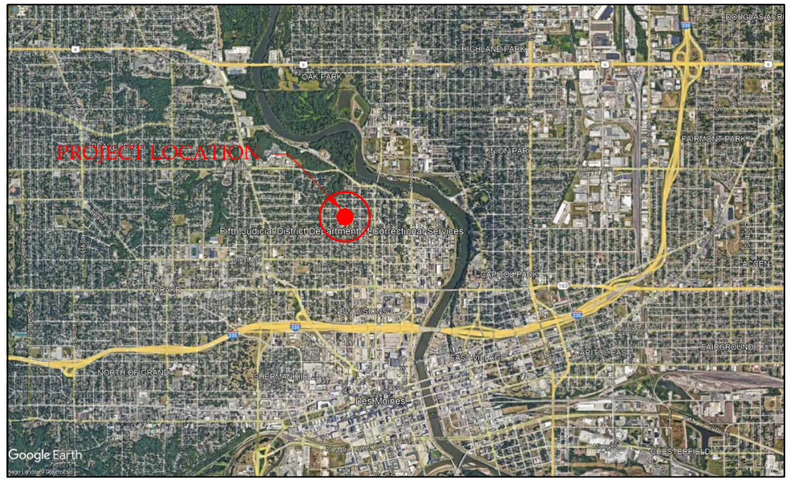
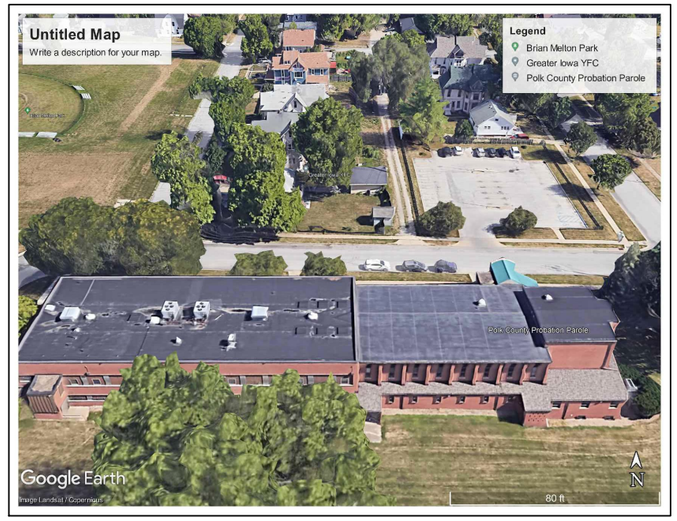
5th JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
1000 WASHINGTON AVENUE
DES MOINES, IOWA 50314
ROOF REPLACEMENT
DAS PROJECT#9346.00
RFB#934600-01



LOCATION PLAN



AERIAL PLAN

DRAWING INDEX

SHEET NO.	DRAWING TITLE
R0	COVER SHEET
R1	ROOF PLAN
R2	DETAILS
R3	DETAILS
R4	DETAILS
R5	LADDER RE-LOCATION DETAIL

IBC CODE INFORMATION - WIND UPLIFT PRESSURE
Based on ASCE 7-16

5th Judicial District Administration Roofs
Risk Category - II
Wind Speed 110 mph
Enclosed Building
Exposure Surface Roughness B
Topo factor =1.0
Ground Elevation factor = 1.0
Wind map Page 20 (RCI Publication No.01.01)
Use 110 - mph chart Page 114 (RCI Publication No.01.01)

LEVEL A - Height -11 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 16.3 psf~~	~~19.6 psf~~
~~Field Ext.- 28.4 psf~~	~~34.1 psf~~
Perimeter - 37.5 psf	45.0 psf
Corner - 51.1 psf	61.3 psf

Entire roof treated as perimeter area with corner area as noted
Perimeter 0.6 h = 7 feet (there are no field interior or exterior areas on this roof due to size)
Corner L shaped 0.6 h x 0.2h - 7 feet x 4 feet wide (corner always minimum 4 feet)

LEVEL B - Height -15 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 16.3 psf~~	~~19.6 psf~~
~~Field Ext.- 28.4 psf~~	~~34.1 psf~~
~~Perimeter - 37.5 psf~~	~~45.0 psf~~
Corner - 51.1 psf	61.3 psf

Entire roof treated as corner area
Perimeter 0.6 h = 9 feet (there are no field interior or exterior areas on this roof due to size)
Corner L shaped 0.6 h x 0.2h - 9 feet x 4 feet wide (corner always minimum 4 feet)

LEVEL C - Height -12 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 16.3 psf~~	~~19.6 psf~~ NOT APPLICABLE
~~Field Ext.- 28.4 psf~~	~~34.1 psf~~ NOT APPLICABLE
Perimeter - 37.5 psf	45.0 psf
Corner - 51.1 psf	61.3 psf

Perimeter 0.6 h = 7 feet (there are no field interior or exterior areas on this roof due to size)
Corner L shaped 0.6 h x 0.2h - 7 feet x 4 feet wide (corner always minimum 4 feet)

LEVEL D & G- Height -22 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 18.1 psf~~	~~21.8 psf~~ NOT APPLICABLE for D
Field Ext.- 31.7 psf	38.0 psf
Perimeter - 41.7 psf	50.0 psf
Corner - 56.9 psf	68.2 psf LEVEL G TREAT ENTIRE AREA AS CORNER

Perimeter 0.6 h = 14 feet
Corner L shaped 0.6 h x 0.2h - 9 feet x 4 feet wide (corner always minimum 4 feet)

LEVEL E - Height - 23 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 18.4 psf~~	~~22.0 psf~~ NOT APPLICABLE
Field Ext.- 32.0 psf	38.4 psf
Perimeter - 42.2 psf	50.6 psf
Corner - 57.5 psf	69.0 psf

Perimeter 0.6 h = 14 feet
Corner L shaped 0.6 h x 0.2h - 14 feet x 4 feet wide (corner always minimum 4 feet)

LEVEL F - Height - 25 feet

Ultimate Pressures	Design pressure (ultimate x 1.2)
~~Field Int - 18.8 psf~~	~~22.6 psf~~ NOT APPLICABLE
~~Field Ext.- 32.8 psf~~	~~39.4 psf~~ NOT APPLICABLE
Perimeter - 43.2 psf	51.8 psf
Corner - 58.9 psf	70.7 psf

Perimeter 0.6 h = 15 feet
Corner L shaped 0.6 h x 0.2h - 15 feet x 5 feet wide

5th JUDICIAL DISTRICT ADMINISTRATIVE OFFICE ROOF CONSTRUCTION NOTES

1. **EXISTING ROOFING SYSTEM ON EACH ROOF LEVEL AS FOLLOWS:** (PER CORES TAKEN)
   a. **LEVEL A- SW LOW ROOF :** CORE NEAR WEST ROOF DRAIN - METAL DECK, 5-INCH- LIGHTWEIGHT CONCRETE, 1.75-INCH-THICK POLYISOCYANURATE (ISO) INSULATION, 1-INCH -THICK FIBERBOARD. CORES NEAR NORTH AND SOUTH SIDE OF ROOF IN LINE WITH WEST ROOF DRAIN - METAL DECK, 2.25-INCH-THICK LIGHTWEIGHT CONCRETE, 3-INCH-THICK POLYISOCYANURATE (ISO) INSULATION, 1-INCH -THICK FIBERBOARD. MECHANICALLY FASTENED INSULATION INTO METAL DECK , ADHERED EPDM. STRUCTURAL SLOPE
   b. **LEVEL B- SW UPPER ROOF:** METAL DECK, , 4.25-INCH- LIGHTWEIGHT CONCRETE, 1.0-INCH-THICK PERLITE, 1.0-INCH-THICK EXTRUDED POLYSTYRENE (XPS), BALLASTED EPDM.
   c. LEVEL C- NE LOW ROOF : METAL DECK, 4.75-INCH ISO, BALLASTED EPDM.
   d. LEVEL D & LEVEL F- CENTER AND EAST MAIN ROOFS: PLYWOOD DECK, 1.5-INCH-THICK ISO, MECHANICALLY FASTENED INSULATION INTO METAL DECK , ADHERED EPDM. STRUCTURAL SLOPE.
   e. LEVEL E- WEST MAIN ROOF : CORE NEAR WEST ROOF DRAIN - METAL DECK, 5 INCHES LIGHTWEIGHT CONCRETE, 1.75-INCH-THICK POLYISOCYANURATE (ISO) INSULATION, 1-INCH -THICK FIBERBOARD. BOTH CORES NEAR NORTH AND SOUTH SIDE OF ROOF IN LINE WITH WEST ROOF DRAIN - METAL DECK, 5 INCHES LIGHTWEIGHT CONCRETE, 1.75-INCH-THICK POLYISOCYANURATE (ISO) INSULATION, 1-INCH -THICK FIBERBOARD
   STRUCTURAL SLOPE
   f. LEVEL G- NORTH ROOF : CORE THICKNESS VARIES FROM 4 INCHES TO 2.75 INCHES ISO
   OVER STRUCTURAL CONCRETE DECK, BALLASTED EPDM.

2. **BASE BID**
   2.1 LEVEL A- SW LOW ROOF
   a. REMOVE EXISTING BALLAST, EPDM AND INSULATION TO LIGHTWEIGHT CONCRETE. INSTALL NEW 1-INCH THICK ISO WITH MECHANICAL FASTENERS AND 0.5-INCH-THICK HIGH-DENSITY ISO COVERBOARD AND 60 MIL ADHERED EPDM
   2.2 LEVEL B-SW UPPER ROOF
   a. REMOVE EXISTING BALLAST, EPDM AND INSULATION TO LIGHTWEIGHT CONCRETE. INSTALL NEW 1-INCH THICK ISO WITH MECHANICAL FASTENERS AND 0.5-INCH-THICK HIGH-DENSITY ISO COVERBOARD AND 60 MIL ADHERED EPDM
   2.2 LEVEL C- NE LOW ROOF
   a. REMOVE EXISTING BALLAST AND EPDM. REMOVE ANY WET INSULATION AND REPLACE WITH NEW ISO INSUALTION TO MATCH THICKNESS. INSTALL NEW 0.5-INCH-THICK HIGH-DENSITY ISO COVERBOARD WITH MECHANICAL FASTENERS AND 60 MIL ADHERED EPDM
   2.3 LEVEL D & LEVEL F- CENTER AND EAST MAIN ROOFS
   a. REMOVE EXISTING EPDM. REMOVE ANY WET INSULATION AND REPLACE WITH NEW TO MATCH THICKNESS. INSTALL NEW 3.5-INCH-THICK ISO (2 LAYERS) WITH MECHANICAL FASTENERS AND 0.5-INCH-THICK HIGH-DENSITY ISO COVERBOARD IN INSULATION ADHESIVE AND 60 MIL ADHERED EPDM.
   2.4 LEVEL E- WEST MAIN ROOF
   a. REMOVE EXISTING BALLAST, EPDM AND INSULATION TO LIGHTWEIGHT CONCRETE.
   INSTALL NEW 2-WAY TO NORTH AND SOUTH TAPERED ISO (1/8 INCH PER FOOT SLOPE) WITH 4-INCH-THICK ISO (2 LAYERS) BASE LAYER AT DRAIN SUMP EDGE WITH MECHANICAL FASTENERS AND 0.5-INCH-THICK HIGH-DENSITY ISO IN INSULATION ADHESIVECOVERBOARD AND 60 MIL ADHERED EPDM.
   2.5 LEVEL G- NORTH ROOF
   a. REMOVE EXISTING BALLAST, EPDM AND INSULATION TO STRUCTURAL CONCRETE.
   INSTALL TAPERED ISO (1/8 INCH PER FOOT SLOPE) WITH 4-INCH-THICK ISO (2 LAYERS) BASE LAYER AT SCUPPER AT SW CORNER AND 0.5-INCH-THICK HIGH-DENSITY ISO COVERBOARD IN INSULATION ADHESIVE AND 60 MIL ADHERED EPDM.
4. REVISE LADDER ACCESS PER DETAIL UNDER BASE BID. REMOVE EXISTING ROOF HATCH AND INSTALL NEW ROOF HATCH.
5. INSULATION REPLACEMENT QUANTITY FOR BASE BID TO BE 700 SQUARE FEET BASED ON 1.5 INCH THICK. CONTRACTOR TO TAKE PHOTOS, LOCATE ON ROOF PLAN AND MEASURE ALL WET INSULATION AND DOCUMENT IN PROCORE. ALERT CONSTRUCTION MANAGER AND CONSULTANT AT TIME OF DISCOVERY. FAILURE TO DO SO WILL FORFEIT PAYMENT FOR REMOVAL/REPLACEMENT.
6. ALL EXISTING COVERED CURBS TO REMAIN IN BASE BID. RECOVER WITH EPDM. COVERED CURB WITHIN STRUCTURAL FRAMING **NOT** INCLUDED IN ALTERNATE BID.
7. INSTALL NEW DOWNSPOUTS AND HORIZONTAL LEADERS TO MATCH CURRENT LOCATIONS. ROOF HEIGHT FOR EACH ROOF IS PER IBC CODE INFORMATION.
8. **ALTERNATE BID**
   EXISTING COVERED CURBS ON LEVEL E HAVE STEEL STRUCTURAL FRAME SUPPORT. CUT FRAME DOWN AND PLACE NEW DECKING, NEW INSULATION AND ADHERED EPDM OVER. SEE DETAIL 18.
9. ACCESS TO ALL ROOFS FOR CONSTRUCTION SHALL BE AS DESIGNATED BY OWNER. STORAGE AREA FOR MATERIALS SHALL BE AS DESIGNATED BY FACILITY STAFF. CONTRACTOR TO PROVIDE BARRICADES, DETOUR SIGNS AND ORANGE FLEXIBLE FENCING AS REQUIRED AND PROTECTION FOR MATERIALS AND TRAFFIC. MAINTAIN PEDESTRIAN AND OCCUPANT ACCESS AND EGRESS TO AND FROM BUILDINGS AT ALL TIMES. COORDINATE LOCATION OF DUMPSTER CHUTE(S) WITH FACILITY STAFF.
10. RAISE EXISTING CURBS TO PROVIDE A MINIMUM 8-INCH HIGH FLASHING HEIGHT. COORDINATE ELECTRICAL AND OTHER CONNECTIONS TO UNITS WITH FACILITY STAFF TO BE DONE BY MECHANICAL CONTRACTOR UNDER MASTER SERIVES AGREEMENT WITH DAS.
11. ASBESTOS CONTAINING MATERIAL : THE SEALANT ON THE TOP AND BOTTOM OF THE VERTCIAL PANELS AND ATT HE NORTH AND SOUTH VERTICL EDGE WHERE INTERSECTS WTH THE BRICK CONTAINS ASBETOS. INCLUDE ABATEMENT AND DISPOSAL OF MATERIAL IN SCOPE.
    DRAWINGS ARE PRODUCED AT 17 INCH x 11 INCH SIZE. ANY SCALE SHOWN IS
    APPLICABLE WHEN PRINTED AT THIS SIZE. NOTE THAT ROOF PLANS AND OTHER PROJECT
    DRAWINGS PRODUCED OR PRINTED AT OTHER PAPER SIZES WILL NOT BE CORRECTLY SCALED WHERE APPLICABLE. RECOMMEND PRINT IN COLOR DUE TO PHOTOS INCLUDED.
12. CONTRACTOR RESPONSIBLE FOR OBTAINING AND COORDINATING PERMT INSPECTIONS WITH REGULATORY AGENCIES.
13. CONTRACTOR RESPONSIBLE FOR PROTECTING EXISTING ADJACENT LAWN AREAS,
    ABOVE GROUND AND UNDERGROUND UTILITIES, PAVING AND EXTERIOR
    BUILDING WALLS FROM DAMAGE. ANY DAMAGE DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS AT CONTRACTOR'S EXPENSE.
14. CONTRACTOR SHALL PROVIDE ADDITIONAL OVERHEAD PROTECTION AT THE SW ENTRY AND THE TWO NORTH ENTRIES TO PROVIDE PROTECTION OF STAFF/VISITORS INTO BUILDING AT THESE ENTRANCES.
15. CONTRACTOR RESPONSIBLE TO VERIFY ALL ROOF MEASUREMENTS NO ADDITIONAL PAYMENT FOR INCORRECT MEASUREMENTS SHOWN ON PLANS WILL BE PROVIDED.

Terracon
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

R0
F1236072

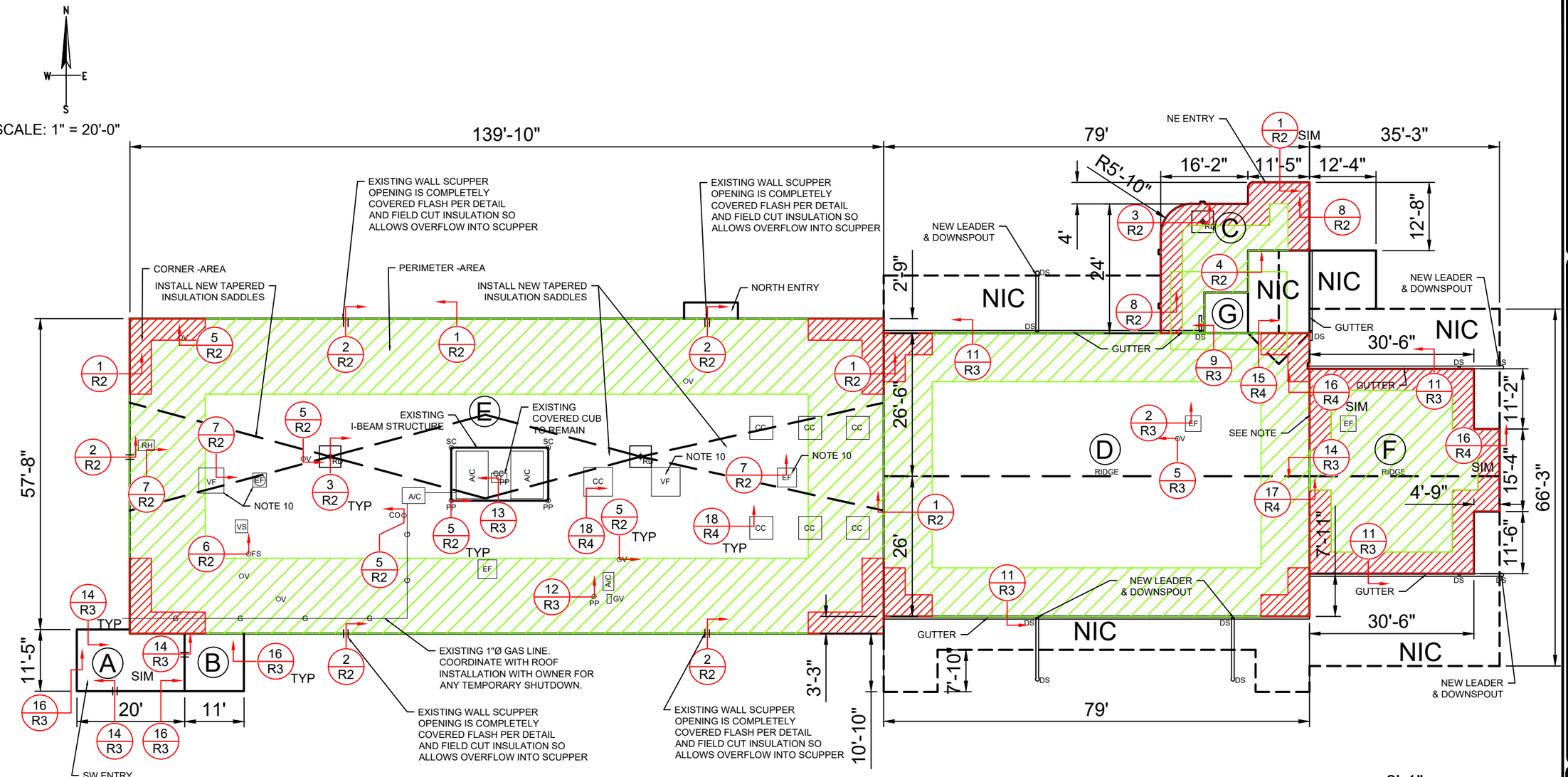
LICENSED PROFESSIONAL ENGINEER
DARRELL L. SMITH
11460
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

Darrell Smith August 2 20 23

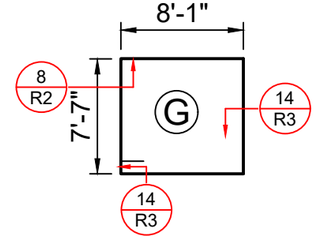
DARRELL. SMITH, P.E.

License number is 11460
My license renewal date is December 31, 2024
Pages or sheets covered by this seal:
Sheets R0-R5



1 5TH JUDICIAL DISTRICT ADMIN ROOF PLAN

Scale: 1" = 20'-0"



ROOF G ENLARGEMENT

SCALE: 1'-0" =10'

LEGEND

EV	= EXHAUST VENT
H	= HVAC UNIT
CC	= COVERED CURB
PP	= PENETRATION PAN
EF	= EXHAUST FAN
HV	= HOT VENT
PV	= PLUMBING VENT
SK	= SKYLIGHT
G	= GAS LINE PENETRATION
S	= SATELLITE DISH FRAME
P	= PIPE PENETRATION
A/C	= AIR CONDITIONER
D	= DUCT PENETRATION
D	= DUCT PENETRATION
NIC	= NOT IN CONTRACT
G	= GUIDE WIRE
+	= TAPERED INSULATION SLOPE

PROJECT NO: F12360.72
DATE: 06/27/2023

REV.	DATE	DESCRIPTION	CHECKED: PWN
			BY
DRAWN: DNA			DNA
1	8/02/23	100% CD	

5TH JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
RFB 934600–01
DES MOINES, IOWA

ROOF PLAN

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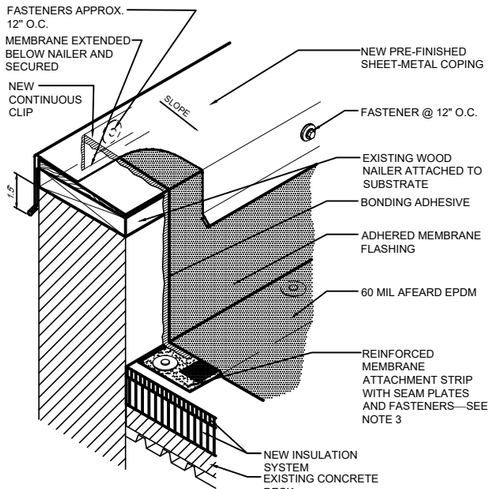
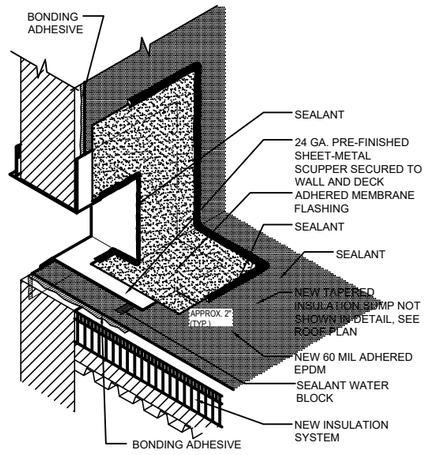
R1



1 PARAPET WALL WITH METAL COPING
Scale: NTS



2 THROUGH-WALL SCUPPER
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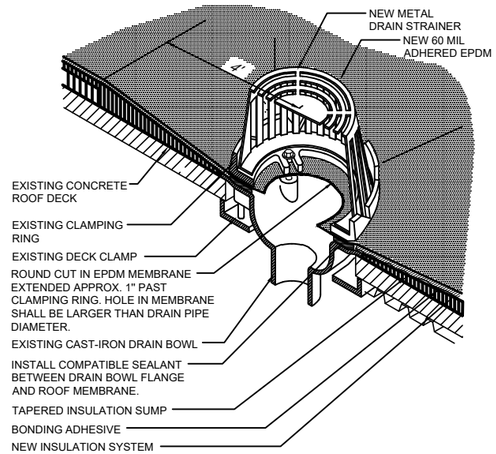

3 ROOF DRAIN
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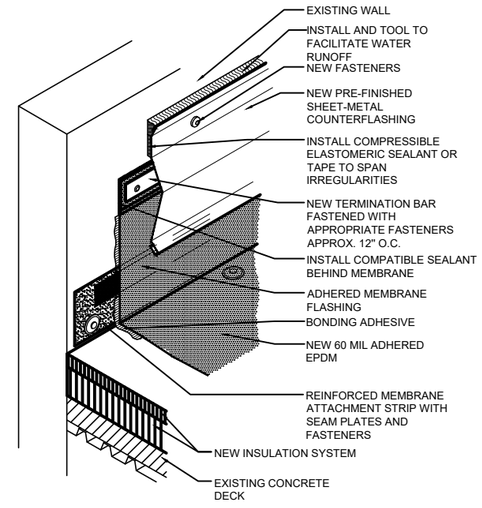

4 BASE FLASHING WITH SURFACE-MOUNTED COUNTERFLASHING AT WALL
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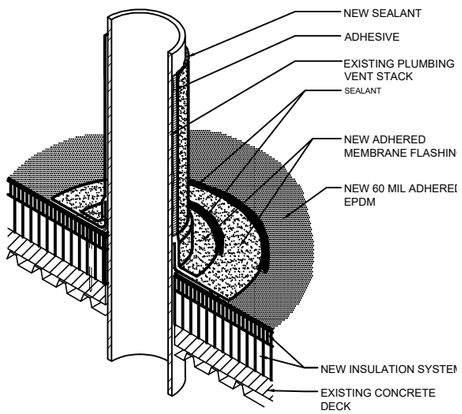
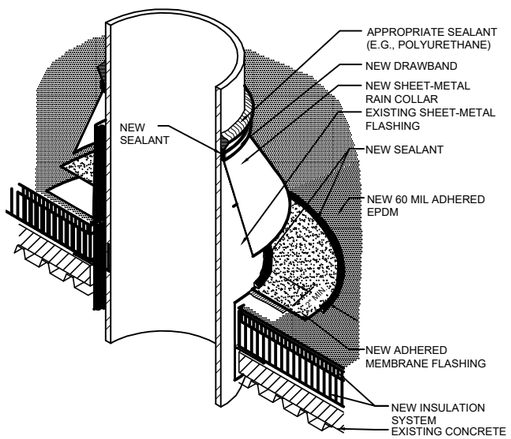


5 CIRCULAR PENETRATION (FIELD WRAP)
Scale: NTS



6 STACK VENT
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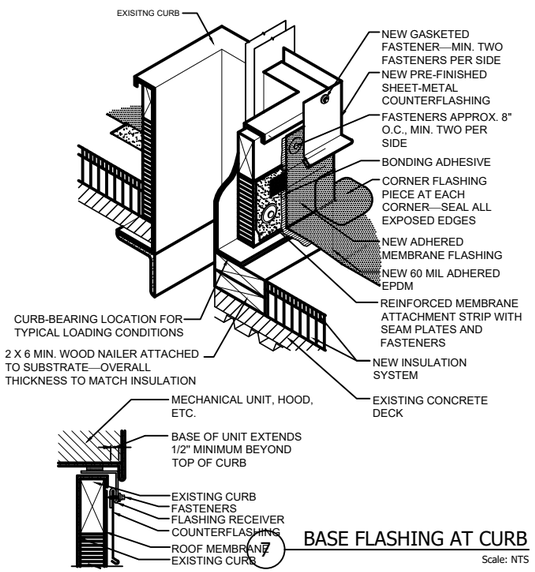

7 BASE FLASHING AT CURB
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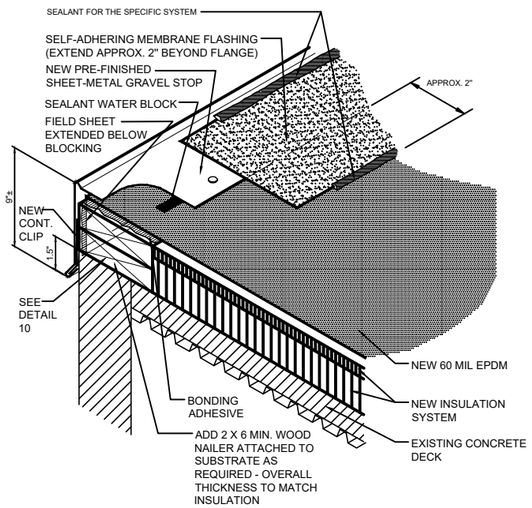

8 EMBEDDED EDGE-METAL FLASHING
Scale: NTS

PROJECT NO: F1236072 DATE: 06/27/2023

REV.	DATE	DESCRIPTION	CHECKED: PWN
			BY
1	8/02/23	100% CD	DMA

DRAWN: DMA

5TH JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
RFB 934600–01

DES MOINES, IOWA

ROOF DETAILS

terracon
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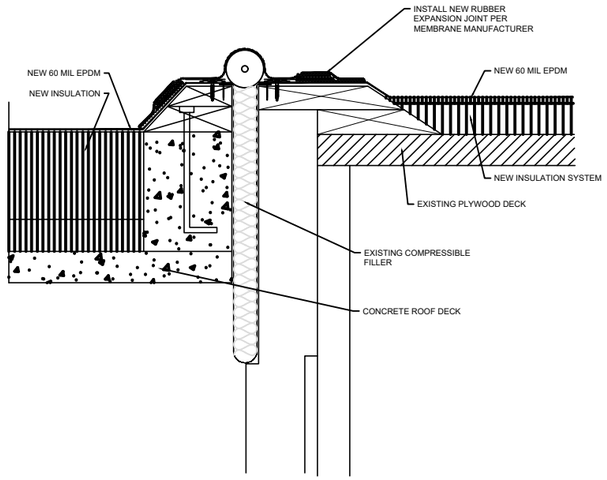
R2



9 EXPANSION JOINT DETAIL
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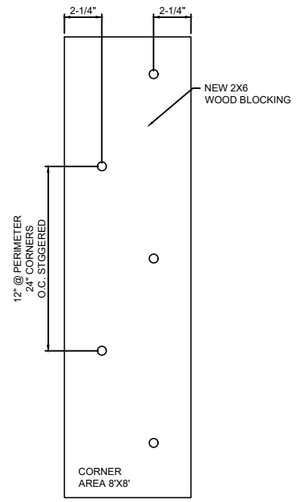

10 BLOCKING ATTACHMENT DETAIL
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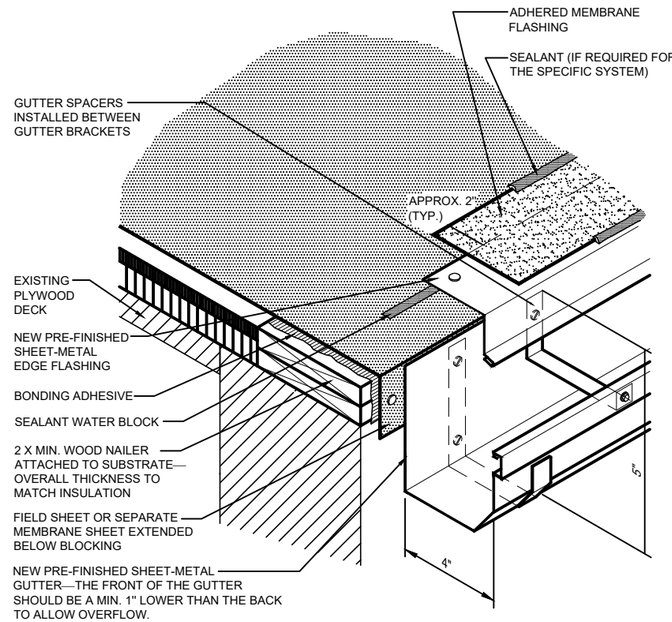
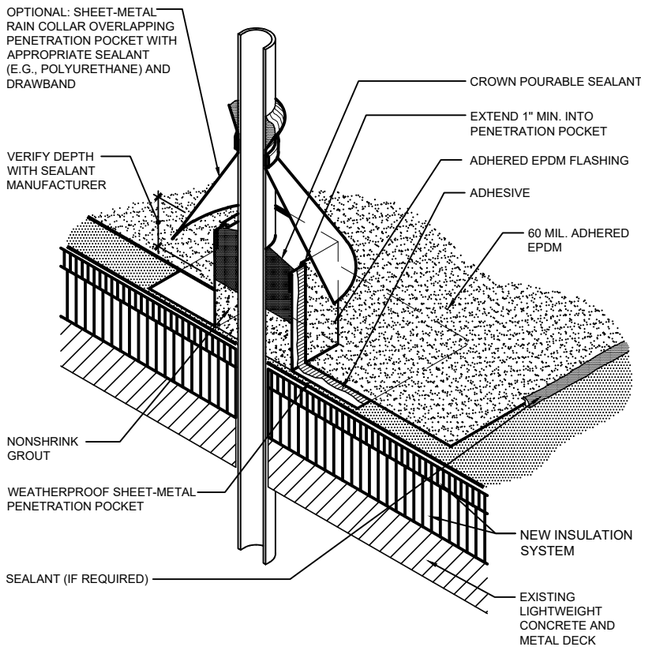


11 GUTTER WITH PERIMETER EDGE
Scale: NTS



12 PENETRATION PAN - SINGLE PIPE
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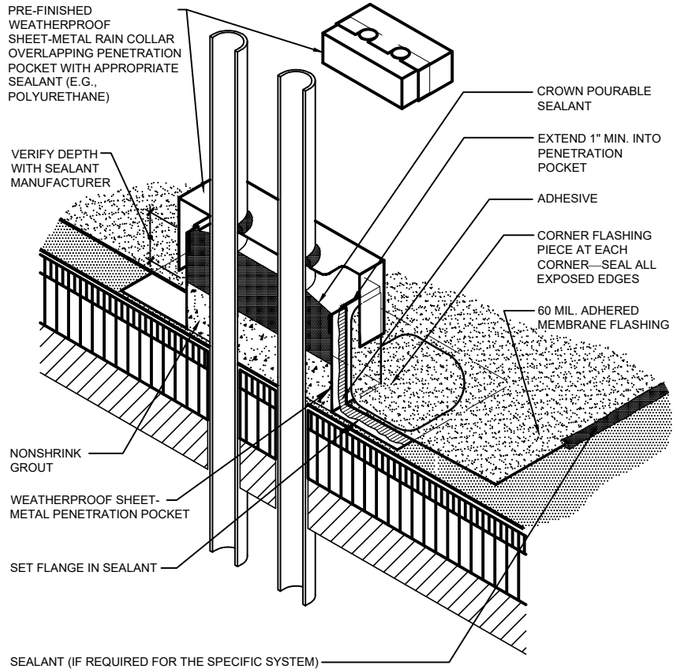
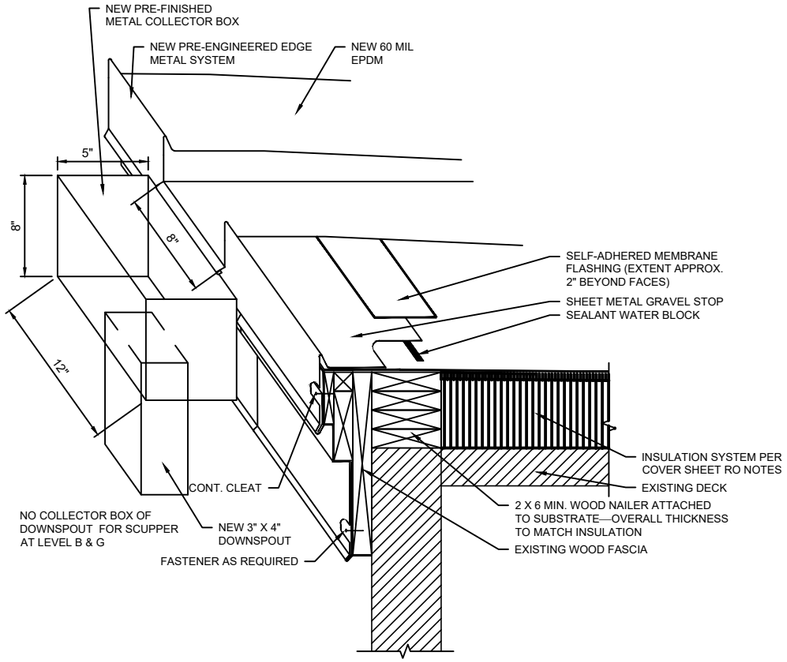


13 PENETRATION PAN - MULTIPLE PIPES
Scale: NTS



14 THROUGH-ROOF SCUPPER (LEVEL B - NO COLLECTOR BOX)
Scale: NTS

PROJECT NO: F12360072 DATE: 06/27/2023

REV.	DATE	DESCRIPTION	CHECKED: PWN
DRAWN: DMA			BY
1	8/02/23	100% CD	DMA

5TH JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
RFB 934600-01
DES MOINES, IOWA

ROOF DETAILS

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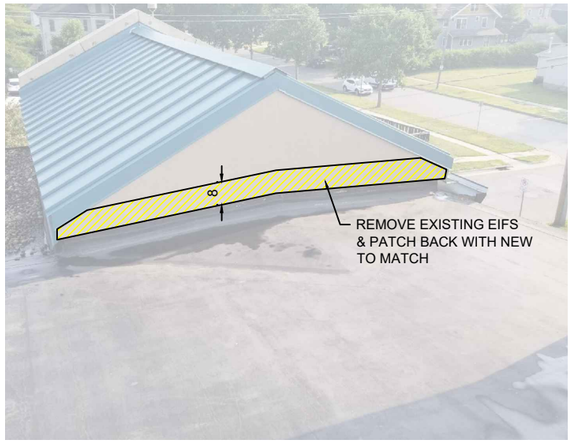
R3



15 EIFS DETAIL
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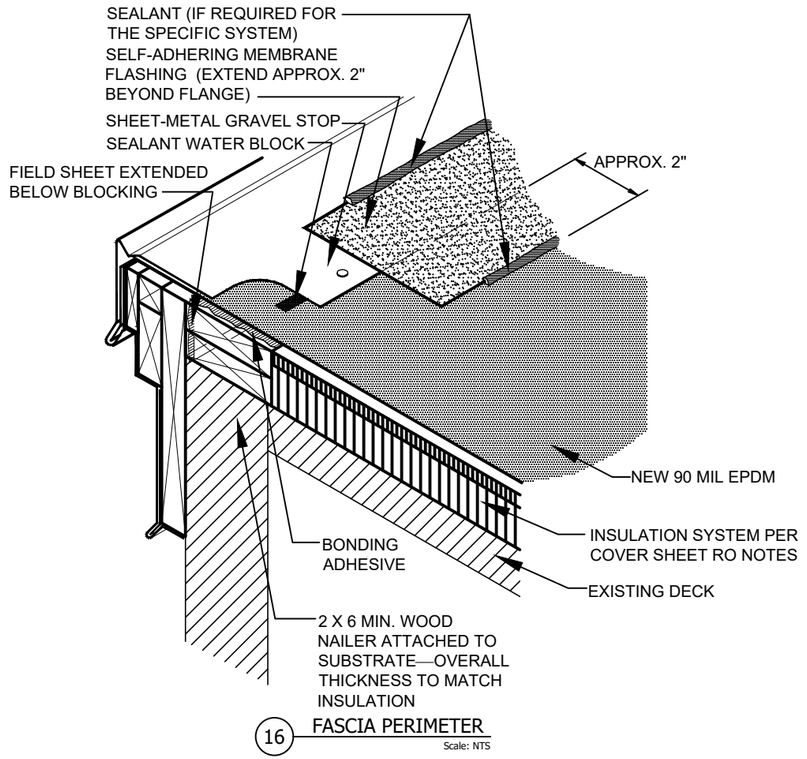
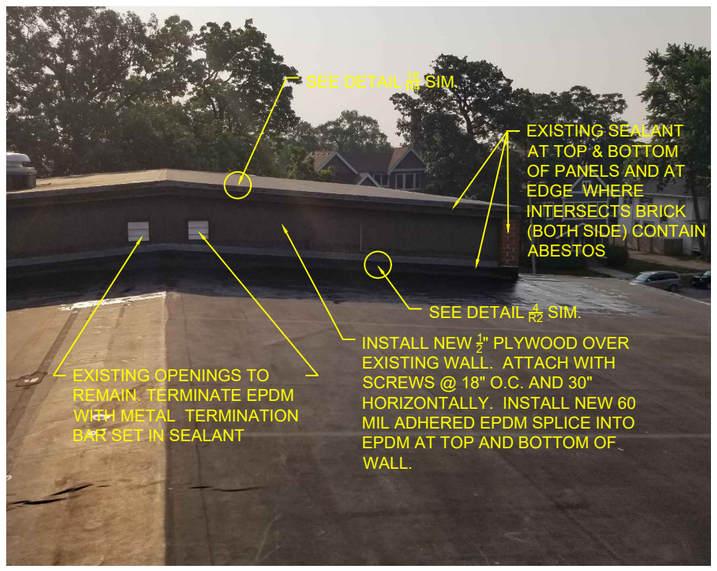
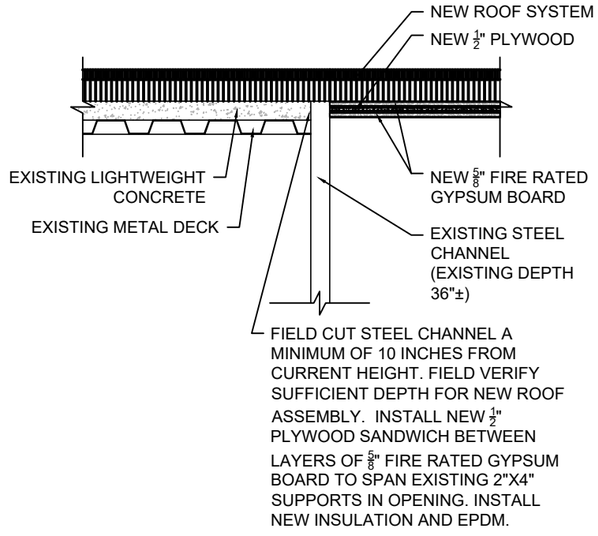


16 FASCIA PERIMETER
Scale: NTS



17 LEVEL F WEST WALL FLASHING
Scale: NTS



18 STRUCTURAL SUPPORT REMOVAL AT COVERED CURB (ALTERNATE DETAIL)
Scale: NTS

PROJECT NO: F1236072 DATE: 06/27/2023

REV.	DATE	DESCRIPTION	CHECKED: PWN
DRAWN: DNA			BY
1	8/02/23	100% CD	DNA

5TH JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
RFB 934600–01

DES MOINES, IOWA

ROOF DETAILS

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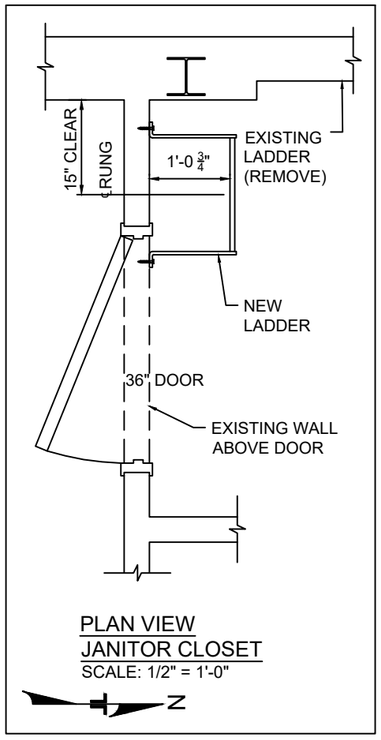
R4



PLAN VIEW
JANITOR CLOSET
SCALE: 1/2" = 1'-0"

10 CMU WALL SECTION LOOING WEST
Scale: 1/2" = 1'-0"

NOTES:
NEW THERMALLY BROKEN HATCH TYPE S ROOF HATCH S-20 (36" X30") BIL-GUARD 2.0 ROOF HATCH SAFETY RAILING RL2-S

REMOVE EXISTING HATCH

REMOVE INTERMEDIATE 2 LEAF TRAP DOOR AND FRAME AT FINISHED CEILING

REMOVE BOTH EXISTING WALL MOUNT LADDER REPLACE WITH ON WALL MOUNT LADDER FROM FLOOR THROUGH HATCH FRAME

REMOVE EXISTING PLASTER CEILING AND COMPONENTS IN JANITORIAL CLOSET

BILCO LADDER-UP TELESCOPING LU-1 HAND HOLD POST YELLOW POWDER COAT PAINT

NEW INTEGRAL RAILING ON ROOF HATCH CURB

INSTALLATION

1. ATTACH FOUR MOUNTING BRACKETS TO CURB USING HARDWARE PROVIDED. BILCO ROOF HATCH CURBS ARE PRE-PUNCHED TO RECEIVE THE MOUNTING BRACKETS.
2. ATTACH POST MOUNTING BRACKETS TO EACH OF THE FOUR CORNERS USING HARDWARE PROVIDED.
3. POSITION SIDE RAILS AND TEMPORARILY CLAMP THEM INTO POSITION.
4. DRILL TWO POST MOUNTING HOLES IN EACH CORNER AND SECURE WITH FASTENERS PROVIDED.
5. MARK AND DRILL HOLES IN SIDE RAILS TO RECEIVE HINGES AND GATE LATCH AND SECURE WITH FASTENERS PROVIDED.

PROJECT NO: F1236072 DATE: 07/12/2023

REV.	DATE	DESCRIPTION	CHECKED: PWN
DRAWN: DMA			BY
1	8/02/23	100% CD	DMA

5TH JUDICIAL DISTRICT ADMINISTRATIVE OFFICE
RFB 934600-01

DES MOINES, IOWA

LADDER RELOCATION DETAIL

terracon
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

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