

## Addendum #4

Directorate of Facilities Engineering

15 May 2023

This Addendum modifies, amends, and supplements designated parts of the Contract Documents, Specifications and Drawings for:

**Waterville Armory Roof Repair Project, 74 Drummond Road, Waterville, Maine, DFE Project Number 23SR23-406-D, BGS Project Number 3625, Bid Number 23-028.**

It shall be the responsibility of the Contractor to notify all Subcontractors and Suppliers for various portions of the work of any changes or modifications contained in this Addendum.

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### **Clarification Items:**

1. Bid Opening Date remains **18 May 2023 at 2:30 p.m.** Please ensure that your bids are dropped off before 2:30 p.m. Any questions contact **Sara Thompson at 207-430-5223.**

### **Specification Items:**

1. None.

### **Drawing Items:**

1. Replace Drawing Sheet G-001 – Cover Sheet, with revised Drawings Sheet G-001 – Cover Sheet. Added new Drawing Sheet - S502 – Structural Sections, And Details.
2. Replace Drawing Sheet S-101 – Existing Roof Framing Reinforcement Plan, with revised Drawings Sheet S-101 – Existing Roof Framing Reinforcement Plan.
3. Replace Drawing Sheet S-102 – Existing Roof Framing Reinforcement Plan, Structural Notes, with revised Drawings Sheet S-102 – Existing Roof Framing Reinforcement Plan, Structural Notes.
4. Replace Drawing Sheet S-501 – Structural Notes, Sections, And Details, with revised Drawings Sheet S-501 – Structural Notes, Sections, And Details.
5. Add Drawing Sheet S-502 – Structural Notes, Sections, And Details.
6. Replace Drawing Sheet R-101 – Existing Roof Plan, with revised Drawings Sheet R-101 – Existing Roof Plan.
7. Replace Drawing Sheet R-102 – Existing Tapered Insulation Plan, with new revised Drawings Sheet R-102 – Existing Tapered Insulation Plan.
8. Replace Drawing Sheet R-103 – Proposed New Roof Plan, with new revised Drawings Sheet R-103 – Proposed New Roof Plan.

9. Replace Drawing Sheet R-501 – Roofing Sections And Details, with revised Drawings R-501 – Roofing Sections And Details.
10. Replace Drawing Sheet R-502 – Roofing Sections And Details, with revised Drawings R-502 – Roofing Sections And Details.
11. Replace Drawing Sheet R-503 – Roofing Elevations And Sections, with revised Drawings R-503 – Roofing Elevations And Sections.



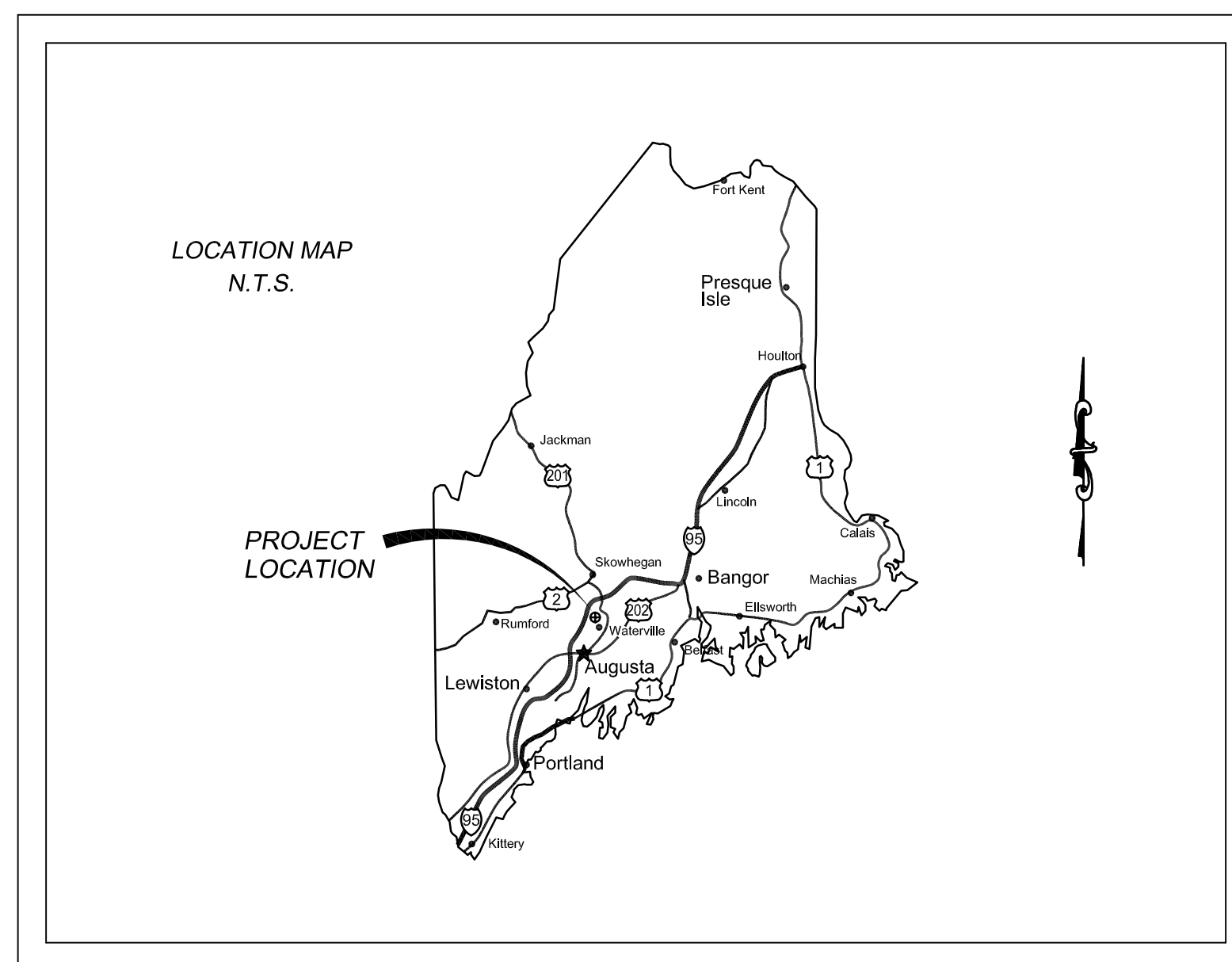
# MAINE ARMY NATIONAL GUARD ROOF REPAIR PROJECT AT WATERVILLE ARMORY WATERVILLE, MAINE

PREPARED BY:

LINCOLN/HANEY ENGINEERING ASSOCIATES, INC.

For Director of Facilities Engineering

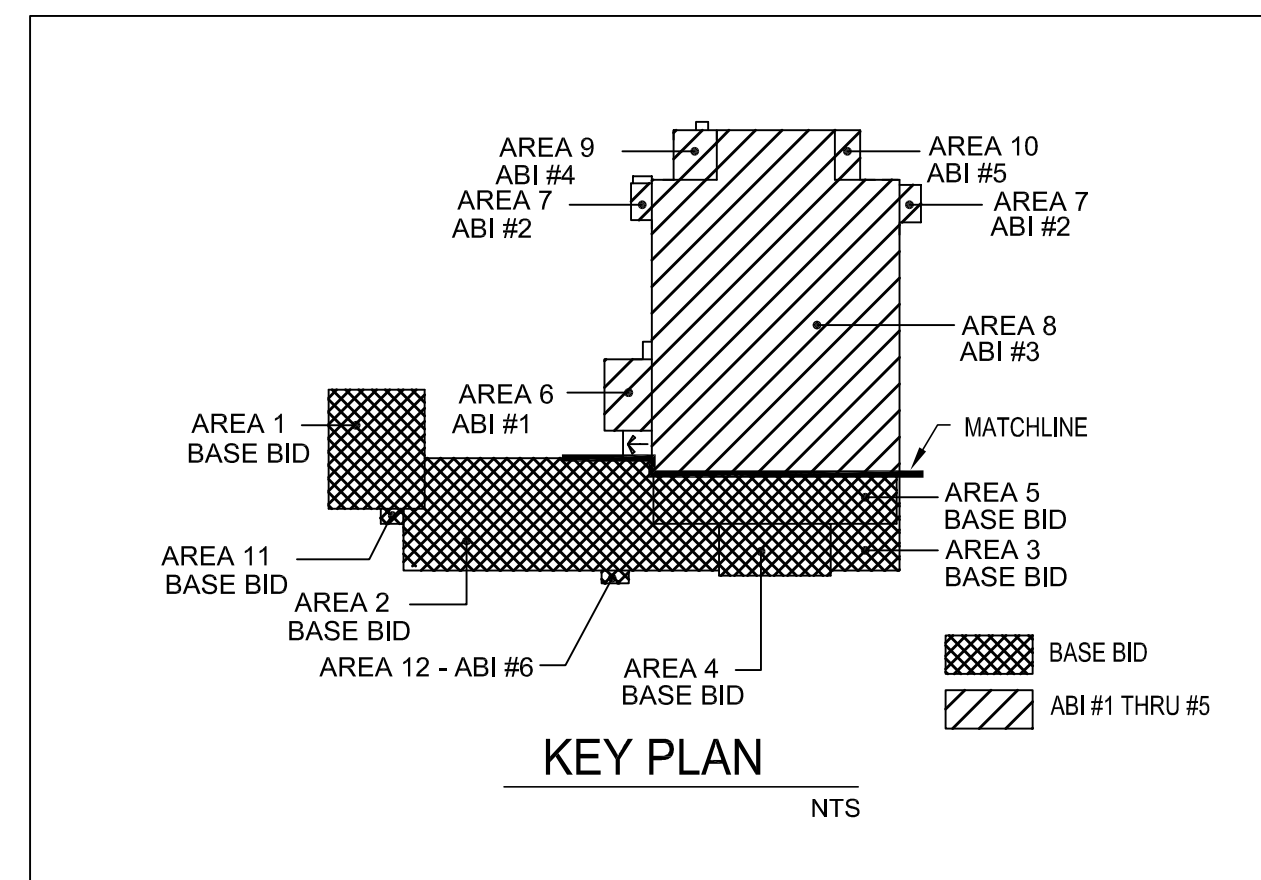
Project No. 23SR23-406D



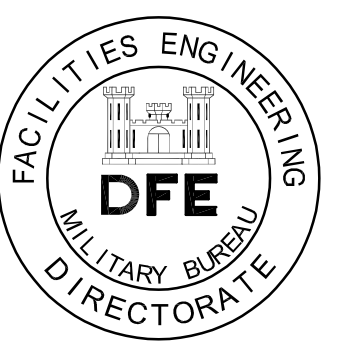
VICINITY MAP  
NOT TO SCALE

## DRAWING SCHEDULE

- G-001 - COVER SHEET
- S101 - EXISTING ROOF FRAMING REINFORCEMENT PLAN
- S102 - EXISTING ROOF FRAMING REINFORCEMENT PLAN (ABI #1 - #5 AT AREAS 6,7,8,9, &10) STRUCTURAL NOTES
- S501 - STRUCTURAL SECTIONS, AND DETAILS
- S502 - STRUCTURAL SECTIONS, AND DETAILS 4
- R101 - EXISTING ROOF PLAN
- R102 - EXISTING TAPERED INSULATION PLAN
- R103 - PROPOSED NEW ROOF PLAN
- R501 - ROOFING SECTIONS AND DETAILS
- R502 - ROOFING SECTIONS AND DETAILS
- R503 - ROOFING ELEVATIONS AND SECTIONS



SITE LOCATION  
NOT TO SCALE



PLAN REVISIONS			
Rev#	Description	Date	Appr.
4	ADDENDUM	5-12-2023	MC
1	ADDENDUM	4-24-23	MC

DESIGNED BY: CUNNINGHAM	DATE: 4/11/2023	SCALE: NTS	DFE PROJECT NO: 23SR23-406D
DRAWN BY: STEPHEN WEYMOUTH	CHECKED BY:		

STATE OF MAINE  
DEPARTMENT OF DEFENSE, VETERANS  
AND EMERGENCY MANAGEMENT

Lincoln / Haney  
Engineering Associates, Inc.  
Maine, Inc. 10001  
Phone: 207-278-1801 Fax: 207-278-2141

MAINE ARMY NATIONAL GUARD ROOF  
WATERVILLE, MAINE  
ROOF STRUCTURAL REINFORCEMENT  
COVER SHEET

PLAN PROGRESS	
<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	-12-23
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input type="checkbox"/>	FOR BIDDING
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:  
**G-001**  
SHEET: 1 OF 10





**STRUCTURAL NOTES DESIGN LOADS**

- GROUND SNOW LOAD 80 PSF
- THERMAL COEFFICIENT 1.0
- IMPORTANCE FACTOR 1.2
- EXPOSURE COEFFICIENT:
  - a. LOW ROOF AREAS 1.0
  - b. HIGH ROOF AREAS 0.9
- ROOF DESIGN SNOW LOAD:
  - c. HIGH ROOF AREAS 60 PSF
  - d. LOW ROOF AREAS WITHOUT DRIFT 67 PSF MAX.
- SNOW DRIFTING PER ASCE 7-10

**GENERAL NOTES**

1. THESE NOTES PERTAIN TO THE CONSTRUCTION REQUIREMENTS AT THE WORK AREA SHOWN FOR NEW JOIST INSTALLATION AND ROOF DECK REPLACEMENT.
2. DIMENSIONS FOR EXISTING CONDITIONS ARE APPROXIMATE. PROVIDED FOR PRICING. FIELD MEASUREMENTS ARE REQUIRED PRIOR TO FABRICATION OF ITEMS TO BE INSTALLED.
3. THE CONTRACTOR SHALL SURVEY THE AREA TO LOCATE ANY OBSTRUCTIONS TO THE SPECIFIED INSTALLATIONS. LOCATIONS OF ANY ITEMS IDENTIFIED ON THE DRAWINGS IS APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL INCIDENTAL CONSTRUCTION REQUIRED TO COMPLETE THE INSTALLATION OF JOISTS, DECK, INSULATION, AND ROOFING.
  - A. THE EXISTING SUSPENDED CEILING IS INTENDED TO REMAIN IN PLACE DURING THE CONSTRUCTION PERIOD.
  - B. LIGHT FIXTURES LOCATED IN THE EXISTING SUSPENDED CEILING AND WIRING SUSPENDED DIRECTLY ABOVE THAT CEILING IS NOT SCHEDULED FOR REMOVAL DURING CONSTRUCTION AND IS NOT SHOWN ON DRAWINGS.
  - C. ANY EXISTING WIRING RUNNING THROUGH EXISTING JOISTS THAT SHALL REMAIN IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING NEW JOISTS WITHOUT DISRUPTION OF ELECTRICAL WIRING. ANY WIRING DAMAGED DURING JOIST INSTALLATION SHALL BE REPLACED AT NO COST TO THE OWNER.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TEMPORARY PROTECTION FOR EXISTING CONSTRUCTION THROUGHOUT THE CONSTRUCTION PERIOD. ITEMS DAMAGED FROM CONSTRUCTION ACTIVITIES, WEATHER, OR FROM HANDLING IN REMOVAL, STORAGE, AND REINSTALLATION SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER. REPLACEMENT ITEMS SHALL BE IDENTICAL OR SIMILAR PRODUCTS OF EQUAL QUALITY. REMOVE ONLY AS MUCH ROOFING AS CAN BE REPLACED AT THE END OF EACH WORKDAY. THE ROOF SHALL BE WATERTIGHT BEFORE LEAVING THE SITE AT THE END OF THE DAY. THE CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING THE WEATHER CONDITIONS DURING EACH WORKDAY TO AVOID DAMAGE FROM INCLEMENT WEATHER. ANY DAMAGE TO THE BUILDING INTERIOR THAT OCCURS DUE TO INADEQUATE PROTECTION SHALL BE REPAIRED AT NO COST TO THE OWNER.
5. REFER TO EXISTING ROOF PLAN ON R101 FOR EXISTING MATERIALS REQUIRING REMOVAL.
6. THE BUILDING WILL BE OCCUPIED FOR THE DURATION OF THE PROJECT. COORDINATE ALL CONSTRUCTION ACTIVITIES W/ THE OWNER TO AVOID INTERFERENCE W/ THE OWNERS OPERATIONS.
7. ALL ROOF AREAS SHALL BE SECURED W/ WEATHER PROTECTION PRIOR TO THE CONTRACTOR LEAVING THE SITE FOR THE DAY.
8. THE CONTRACTOR EACH DAY SHALL NOTIFY THE FIRE ALARM MONITORING COMPANY, AND PLACE FIRE ALARM PANEL IN TEST MODE DURING THE CONSTRUCTION PERIOD FOR THE DAY. THE CONTRACTOR SHALL NOTIFY THE FIRE ALARM MONITORING COMPANY AND TAKE THE FIRE ALARM PANEL OUT OF TEST MODE AT THE END OF THE CONSTRUCTION PERIOD EACH DAY.
9. IN AREA WHERE THE ROOF DECK IS REMOVED, DURING CONSTRUCTION THE CONTRACTOR MUST PLACE PROTECTIVE COVERING OVER FIRE ALARM DEVICES.
10. THE CONTRACTOR MAY NOT LEAVE THE ENTIRE BUILDING WITHOUT FIRE PROTECTION OF THE SPRINKLER SYSTEM.
11. THE CONTRACTOR MAY NOT LEAVE THE ENTIRE BUILDING WITHOUT FIRE ALARM MONITORING SYSTEM PROTECTION.
12. THE OWNER AND THE OWNER'S CONSULTANT WILL DETERMINE WHAT AREAS MAY BE WITHOUT FIRE ALARM MONITORING PROTECTION AND OR SPRINKLER SYSTEM PROTECTION FOR A SHORT DURATION.
13. AT NO TIME WILL BOTH SYSTEMS BE ALLOWED TO BE TURNED OFF IN THE CONSTRUCTION AREAS. THE CONSTRUCTION AREAS CANNOT BE WITHOUT THE FIRE ALARM MONITORING SYSTEM AND OR AT LEAST A WORKING SPRINKLER SYSTEM. BOTH THE FIRE ALARM MONITORING SYSTEM AND THE SPRINKLER SYSTEM WILL BE ACTIVE DURING WEEKENDS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, WEDGING, CUTTING AND PATCHING REQUIRED FOR THE COMPLETION OF ALL PHASES OF THE WORK.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY REMOVAL OF JOIST BRIDGING, ELECTRICAL CONDUIT, DUCTS, PIPING, CEILING, ETC. AS REQUIRED TO INSTALL NEW STEEL JOISTS AND FOR THE RE-INSTALLATION OF ALL SUCH ITEMS AFTER ALL NEW STEEL JOISTS AND ANY NEW METAL DECKING ARE IN PLACE.
16. COMPLETELY PROTECT NEARBY COMBUSTIBLE MATERIALS WITH FIRE PROOF BLANKETS PRIOR TO ANY FIELD WELDING NEW JOISTS TO STEEL SUPPORTING BEAMS. PROVIDE A MINIMUM OF TWO FIRE EXTINGUISHERS ON SITE DURING FIELD WELDING OPERATIONS. COMPLETE ALL FIELD WELDING AT LEAST TWO HOURS PRIOR TO THE END OF THE WORKDAY. PRIOR TO LEAVING THE JOBSITE ON DAYS WHEN WELDING HAS OCCURRED, INSPECT THE SITE TO ENSURE THAT THERE ARE NO SMOLDERING FIRES.
17. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE FABRICATION. FABRICATION OF ANY ITEMS PRIOR TO FINAL REVIEW OF SHOP DRAWINGS WILL BE ENTIRELY AT THE RISK OF THE CONTRACTOR.

**STEEL JOISTS**

1. NEW STEEL JOISTS SHALL RECEIVE A SHOP COAT OF ALKYD PRIMER. PRIMER PAINT FOR JOISTS THAT ARE EXPOSED TO VIEW SHALL CLOSELY MATCH THE COLOR OF THE EXISTING JOISTS IN THE SAME AREA.
2. NEW STEEL JOISTS SHALL HAVE 2-1/2" MINIMUM BEARING ON EXISTING STEEL BEAMS AND 4" MINIMUM BEARING ON EXISTING CMU.
3. WELD NEW JOISTS TO EXISTING BEAMS WITH E70XX ELECTRODES.
4. IT IS ANTICIPATED THAT NEW JOISTS WILL BE INSTALLED FROM ABOVE EXISTING ROOF. EXISTING METAL DECK TO BE REMOVED / REPLACED AS REQUIRED TO INSTALL NEW JOISTS. AT THE CONTRACTOR'S OPTION NEW TWO-PIECE BOLT UP JOISTS CAN BE INSTALLED FROM BELOW THE EXISTING ROOF WITHOUT REMOVAL OF THE EXISTING ROOF SURFACE WITH JOIST / DECK FASTENERS AS INDICATED IN STEEL ROOF DECK NOTE #3.
  - A. ANY CEILING / LIGHT FIXTURE REMOVAL AS WELL AS REMOVAL OF ANY OTHER OBSTRUCTIONS FOR THE ALTERNATIVE INSTALLATION SHALL BE DONE TO THE MINIMUM EXTENT REQUIRED FOR THE JOIST INSTALLATION. ALL REMOVED COMPONENTS SHALL BE REINSTALLED TO EQUAL WHAT EXISTED BEFORE REMOVAL. ANY DAMAGED COMPONENTS SHALL BE REPLACED W/ IDENTICAL PRODUCTS OR W/ EQUAL PRODUCTS APPROVED BY THE OWNER. THE COST OF ANY REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR.
5. NON-SHRINK GROUT SHALL BE NUMBER 5 STAR GROUT OR EQUAL. PROVIDE MIX W/ MINIMUM 28-DAY COMPRESSIVE STRENGTH = 6500 PSI.

**STEEL ROOF DECK**

1. NEW METAL ROOF DECK SHALL BE 1-1/2" DEEP, TYPE B (22 GAGE) GALVANIZED.
2. NEW METAL ROOF DECK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE.
3. METAL DECK SHALL BE SCREWED TO EACH SUPPORTING STEEL MEMBER WITH #12 TEK SCREWS AT 1'-0" ON CENTER (MAX.) FIELD WELDING OF ROOF DECK WILL NOT BE PERMITTED.

**MASONRY NOTES**

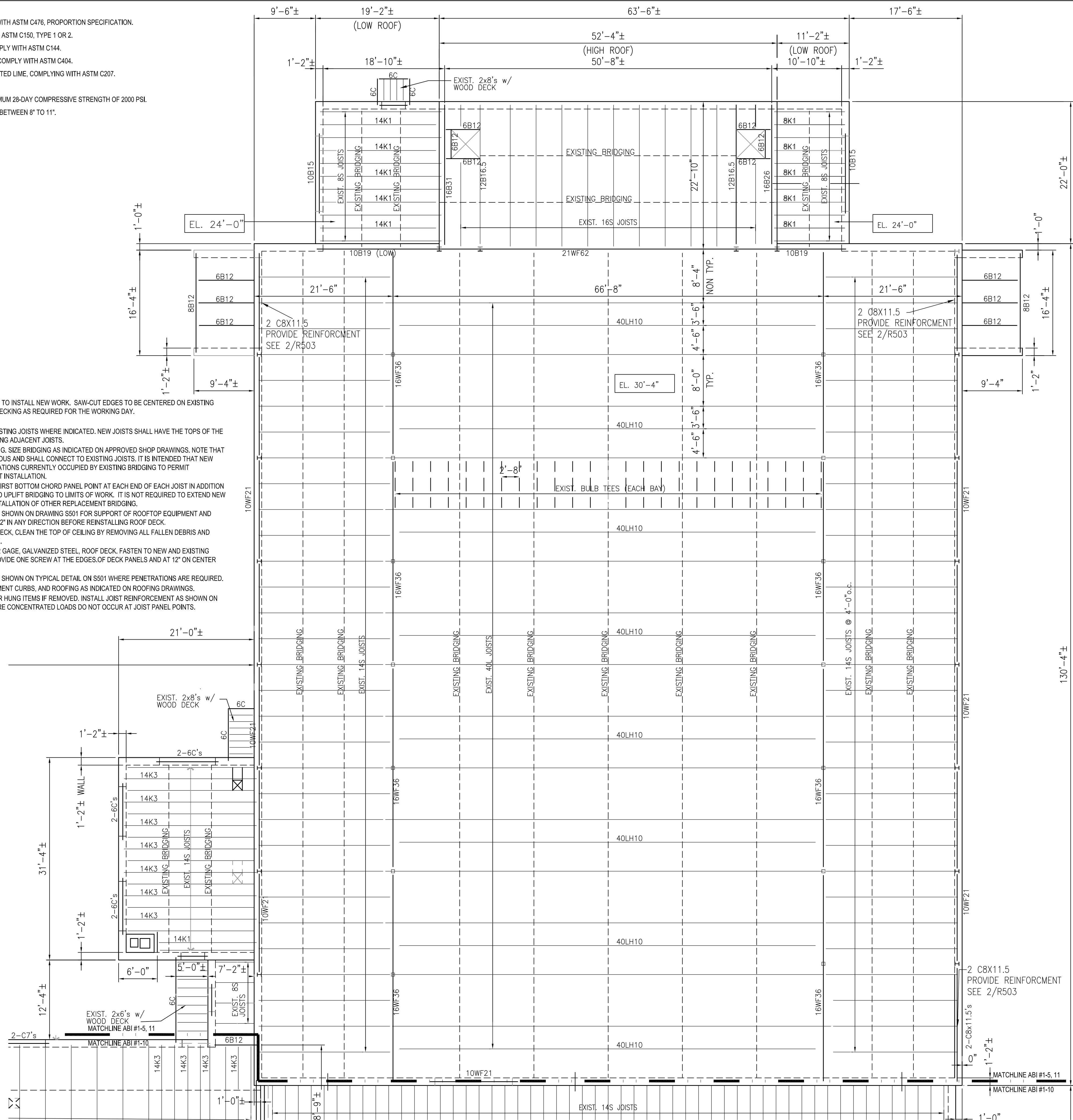
1. AT MASONRY BEARINGS, REMOVE EXISTING MASONRY AS REQUIRED TO INSTALL NEW BEARING PLATES AND JOISTS AS INDICATED. MAINTAIN INTEGRITY OF EXISTING MASONRY BY TEMPORARY MEANS UNTIL JOIST INSTALLATION IS COMPLETE. INSTALL NEW MASONRY UNITS, MORTAR, AND/OR GROUT AS REQUIRED TO RESTORE INTEGRITY OF THE MASONRY AT THE NEW BEARING SEATS.
2. MORTAR USED IN MORTAR JOINTS SHALL COMPLY WITH ASTM C270, PROPORTION SPECIFICATION FOR TYPE S MORTAR. MIX WITH INGREDIENTS AS FOLLOWS:
  - A. PORTLAND CEMENT - TYPE I, COMPLYING WITH ASTM C150.
  - B. LIME - TYPE S HYDRATED LIME COMPLYING WITH ASTM C207.
  - C. SAND - COMPLYING WITH ASTM C144.
  - D. WATER - POTABLE.
  - E. LIMIT CEMENTITIOUS MATERIALS TO PORTLAND CEMENT-LIME. THE USE OF MASONRY CEMENT IS PROHIBITED.

**MASONRY GROUT SHALL COMPLY WITH ASTM C476, PROPORTION SPECIFICATION.**

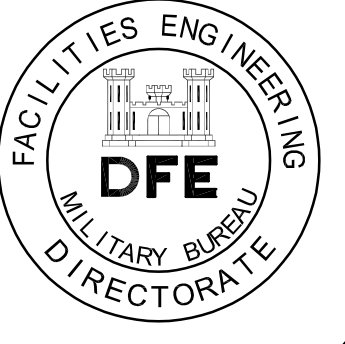
- A. CEMENT SHALL COMPLY WITH ASTM C150, TYPE 1 OR 2.
- B. FINE AGGREGATE SHALL COMPLY WITH ASTM C144.
- C. COARSE AGGREGATE SHALL COMPLY WITH ASTM C404.
- D. LIME SHALL BE TYPE S HYDRATED LIME, COMPLYING WITH ASTM C207.
- E. WATER SHALL BE POTABLE.
- F. PROVIDE GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
- G. PLACE GROUT WITH A SLUMP BETWEEN 8" TO 11".

**INSTALLATION NOTES**

1. REMOVE ROOF DECK AS REQUIRED TO INSTALL NEW WORK. SAW-CUT EDGES TO BE CENTERED ON EXISTING JOISTS. REMOVE ONLY AS MUCH DECKING AS REQUIRED FOR THE WORKING DAY.
2. REMOVE EXISTING BRIDGING.
3. INSTALL NEW JOISTS BETWEEN EXISTING JOISTS WHERE INDICATED. NEW JOISTS SHALL HAVE THE TOPS OF THE TOP CHORDS ALIGNED WITH EXISTING ADJACENT JOISTS.
4. INSTALL NEW HORIZONTAL BRIDGING. SIZE BRIDGING AS INDICATED ON APPROVED SHOP DRAWINGS. NOTE THAT NEW BRIDGING SHALL BE CONTINUOUS AND SHALL CONNECT TO EXISTING JOISTS. IT IS INTENDED THAT NEW BRIDGING WILL BE PLACED AT LOCATIONS CURRENTLY OCCUPIED BY EXISTING BRIDGING TO PERMIT CONTINUITY AT ENDS OF NEW JOIST INSTALLATION.
5. INSTALL UPLIFT BRIDGING AT THE FIRST BOTTOM CHORD PANEL POINT AT EACH END OF EACH JOIST IN ADDITION TO REQUIREMENTS ABOVE. EXTEND UPLIFT BRIDGING TO LIMITS OF WORK. IT IS NOT REQUIRED TO EXTEND NEW UPLIFT BRIDGING BEYOND THE INSTALLATION OF OTHER REPLACEMENT BRIDGING.
6. INSTALL TYPICAL ROOF FRAMES AS SHOWN ON DRAWING S501 FOR SUPPORT OF ROOFTOP EQUIPMENT AND WHERE ROOF OPENINGS EXCEED 12" IN ANY DIRECTION BEFORE REINSTALLING ROOF DECK.
7. PRIOR TO INSTALLING NEW ROOF DECK, CLEAN THE TOP OF CEILING BY REMOVING ALL FALLEN DEBRIS AND VACUUMING THE CEILING SURFACE.
8. COVER ROOF WITH 1-1/2" DEEP X 22 GAGE, GALVANIZED STEEL, ROOF DECK. FASTEN TO NEW AND EXISTING JOISTS WITH #12 TEK SCREWS. PROVIDE ONE SCREW AT THE EDGES OF DECK PANELS AND AT 12" ON CENTER BETWEEN PANEL EDGES.
9. INSTALL DECK REINFORCEMENT AS SHOWN ON TYPICAL DETAIL ON S501 WHERE PENETRATIONS ARE REQUIRED.
10. INSTALL ROOF INSULATION, EQUIPMENT CURBS, AND ROOFING AS INDICATED ON ROOFING DRAWINGS.
11. REINSTALL DUCTWORK AND OTHER HUNG ITEMS IF REMOVED. INSTALL JOIST REINFORCEMENT AS SHOWN ON THE TYPICAL DETAIL ON S501 WHERE CONCENTRATED LOADS DO NOT OCCUR AT JOIST PANEL POINTS.



**EXISTING ROOF FRAMING REINFORCEMENT PLAN**  
(ABI #1-#5 AT AREAS 6,7,8,9, AND 10)  
1/8"=1'-0"



Rev#	Description	Date	Appr.

DESIGNED BY: CUNNINGHAM	DATE: 4/11/2023
DRAWN BY: STEPHEN WEYMOUTH	SCALE: 1/8" = 1'-0"
CHECKED BY:	DFE PROJECT NO: 23SR23-406D

**STATE OF MAINE**  
DEPARTMENT OF DEFENSE, VETERANS AND EMERGENCY MANAGEMENT

**Lincoln / Hancy**  
Engineering Associates, Inc.  
Maine, Inc. 1000  
1000 Main Street, Suite 100  
Portland, ME 04101  
Phone: 207-725-0101 Fax: 207-725-2541

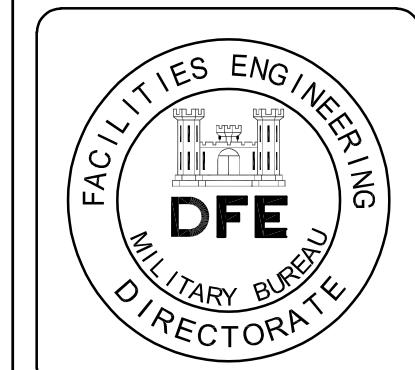
**MAINE ARMY NATIONAL GUARD ROOF**  
WATERVILLE, MAINE

**ROOF STRUCTURAL REINFORCEMENT**

**EXISTING ROOF FRAMING REINFORCEMENT PLAN, STRUCTURAL NOTES**

**PLAN PROGRESS**

- DRAFT
- 35% REVIEW
- 50% REVIEW
- 95% REVIEW
- FINAL REVIEW
- FOR BIDDING
- ISSUED FOR CONSTRUCTION
- RECORD DRAWINGS



Rev#	Description	Date	MC	Appr.
4	ADDENDUM	5-12-2023		

DESIGNED BY: CUNNINGHAM  
 DRAWN BY: STEPHEN WEYMOUTH  
 CHECKED BY:  
 DATE: 4/11/2023  
 SCALE: 1" = 1'-0"  
 DFE PROJECT NO: 23SR23-406D

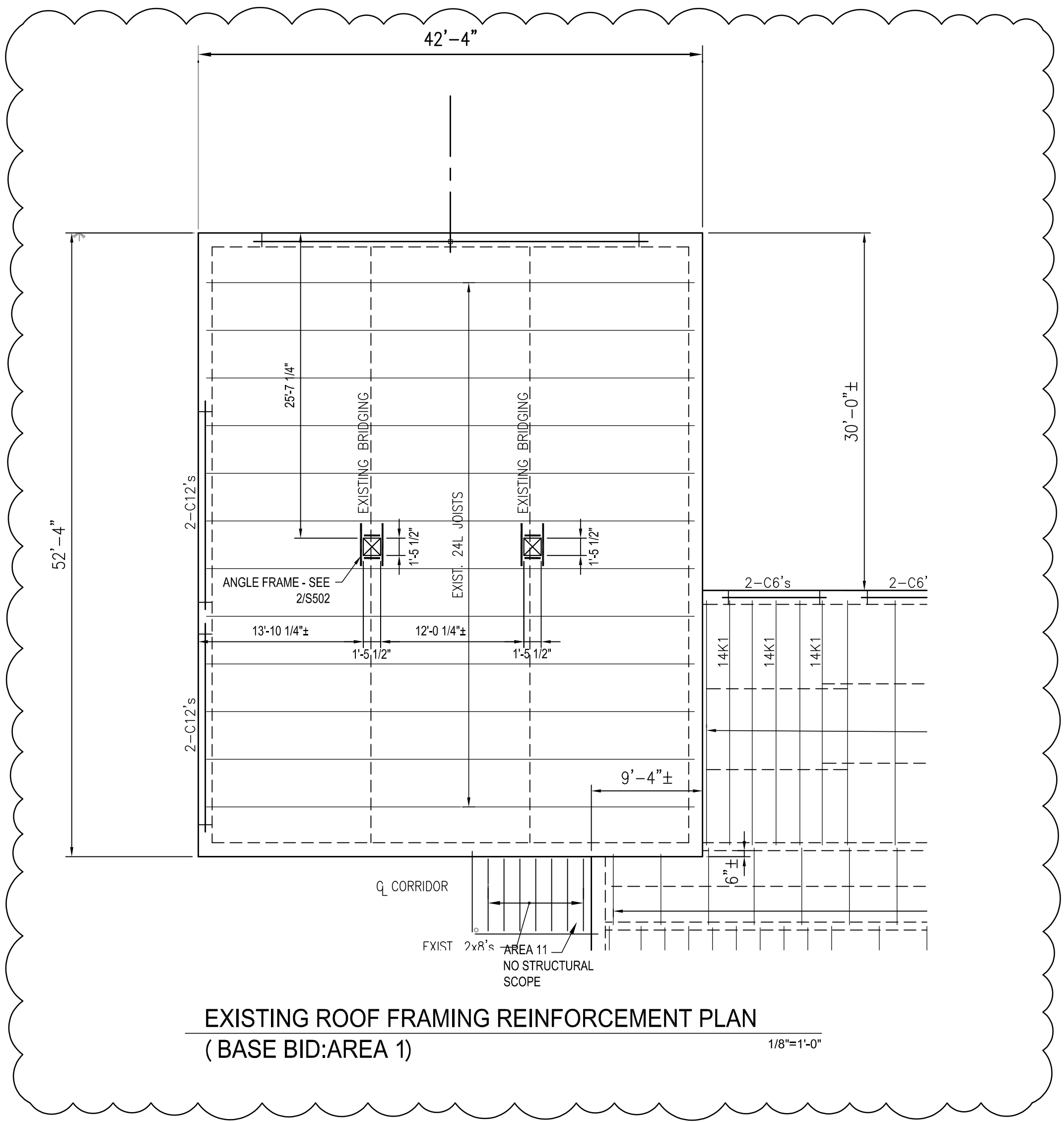
STATE OF MAINE  
 DEPARTMENT OF DEFENSE, VETERANS  
 AND EMERGENCY MANAGEMENT  
 Lincoln / Hancy  
 Engineering Associates, Inc.  
 1000 Main Street, Suite 100  
 Waterville, ME 05671  
 Phone: 207-272-1001 Fax: 207-272-2111

MAINE ARMY NATIONAL GUARD ROOF  
 WATERVILLE, MAINE  
 ROOF STRUCTURAL REINFORCEMENT  
 STRUCTURAL NOTES, SECTIONS,  
 AND DETAILS

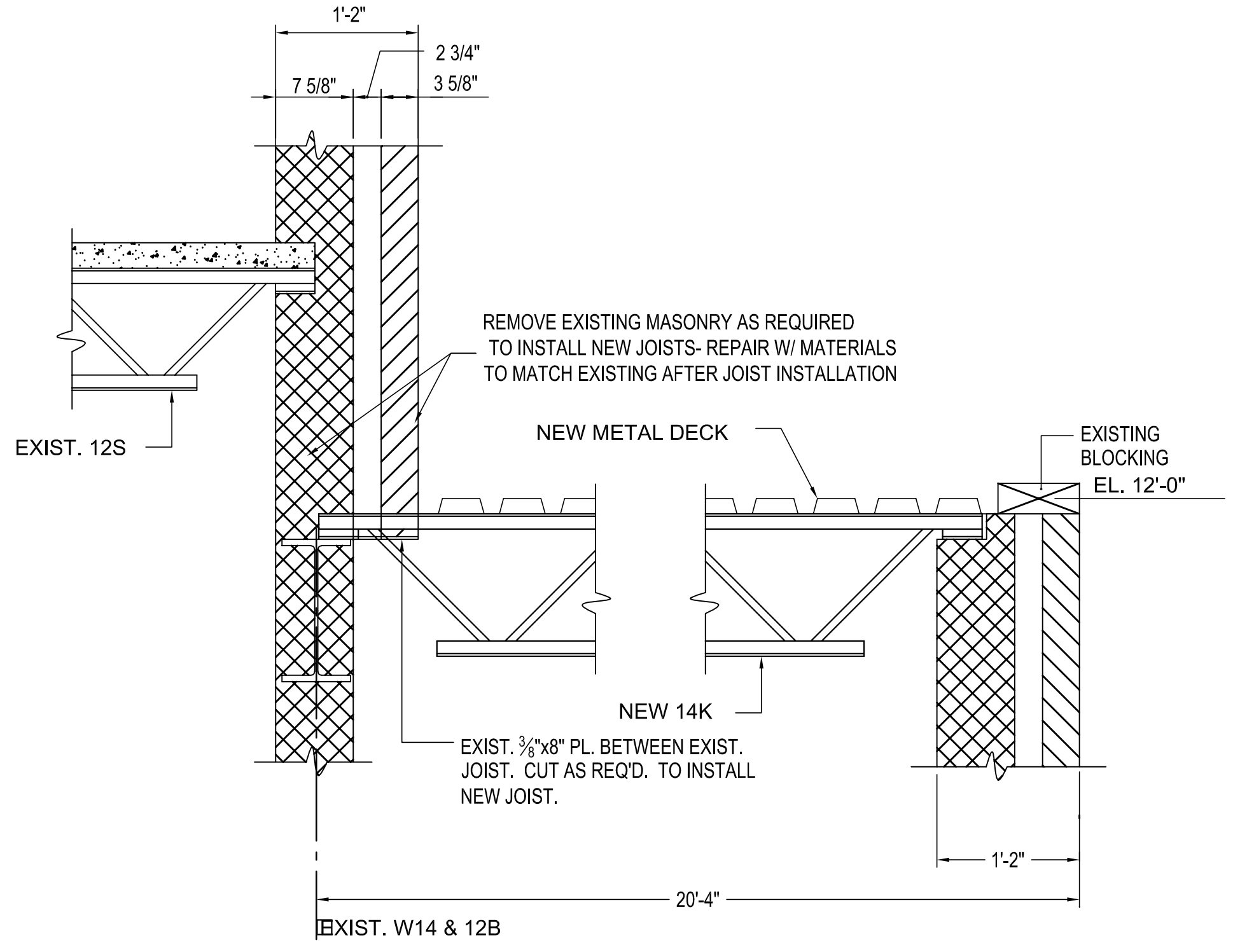
PLAN PROGRESS

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<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input type="checkbox"/>	FOR BIDDING
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

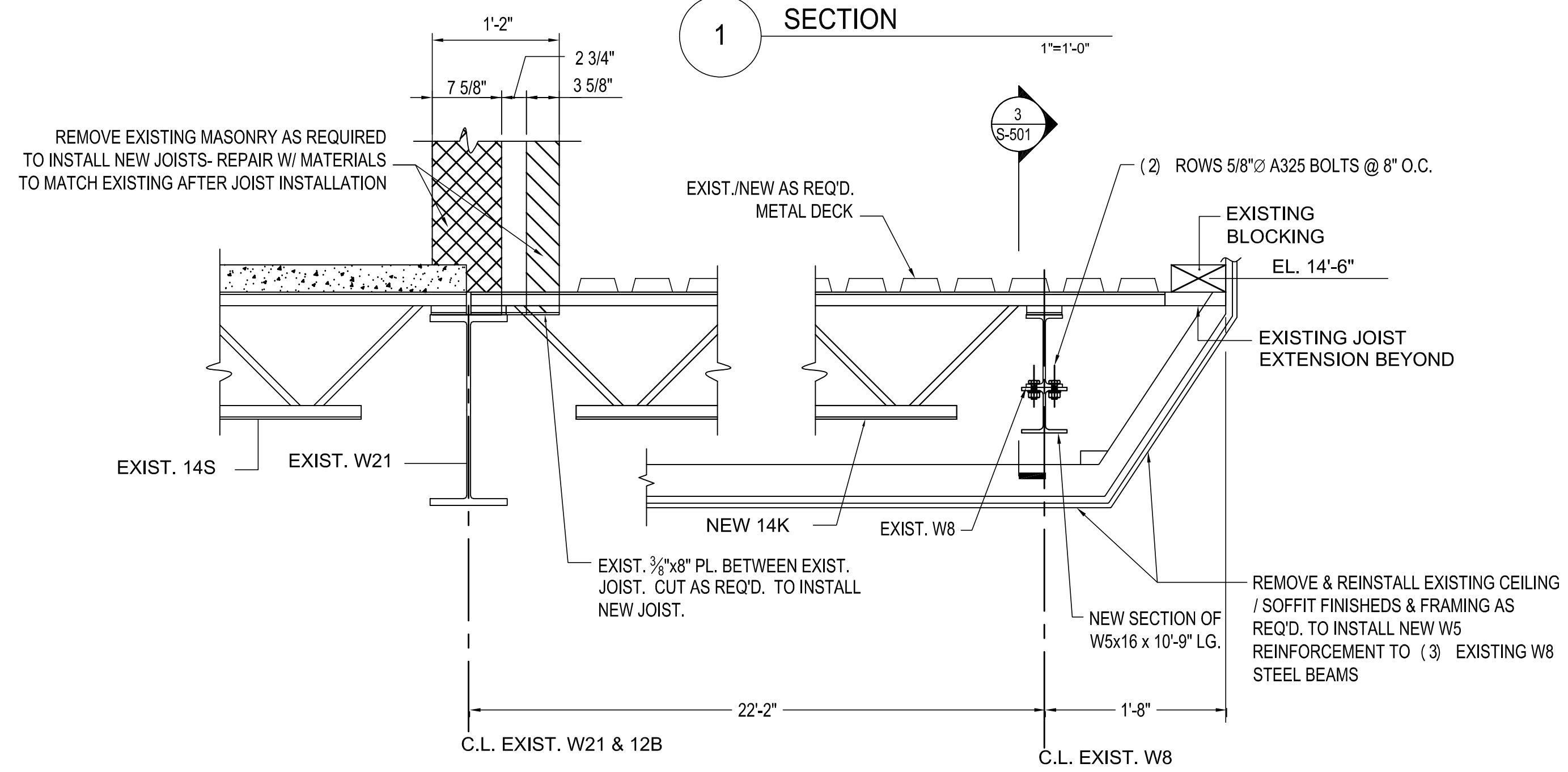
SHEET ID:  
**S-501**  
 SHEET: 4 OF 10



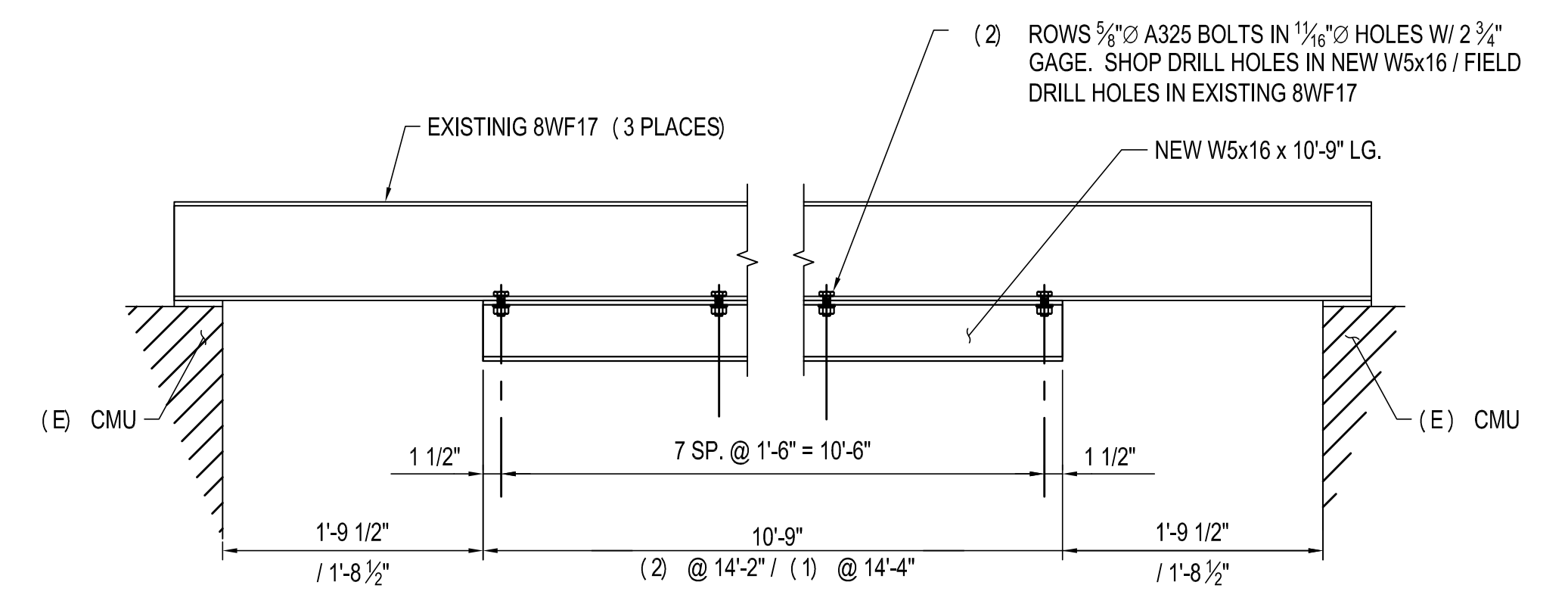
EXISTING ROOF FRAMING REINFORCEMENT PLAN  
 (BASE BID: AREA 1)  
 1/8"=1'-0"



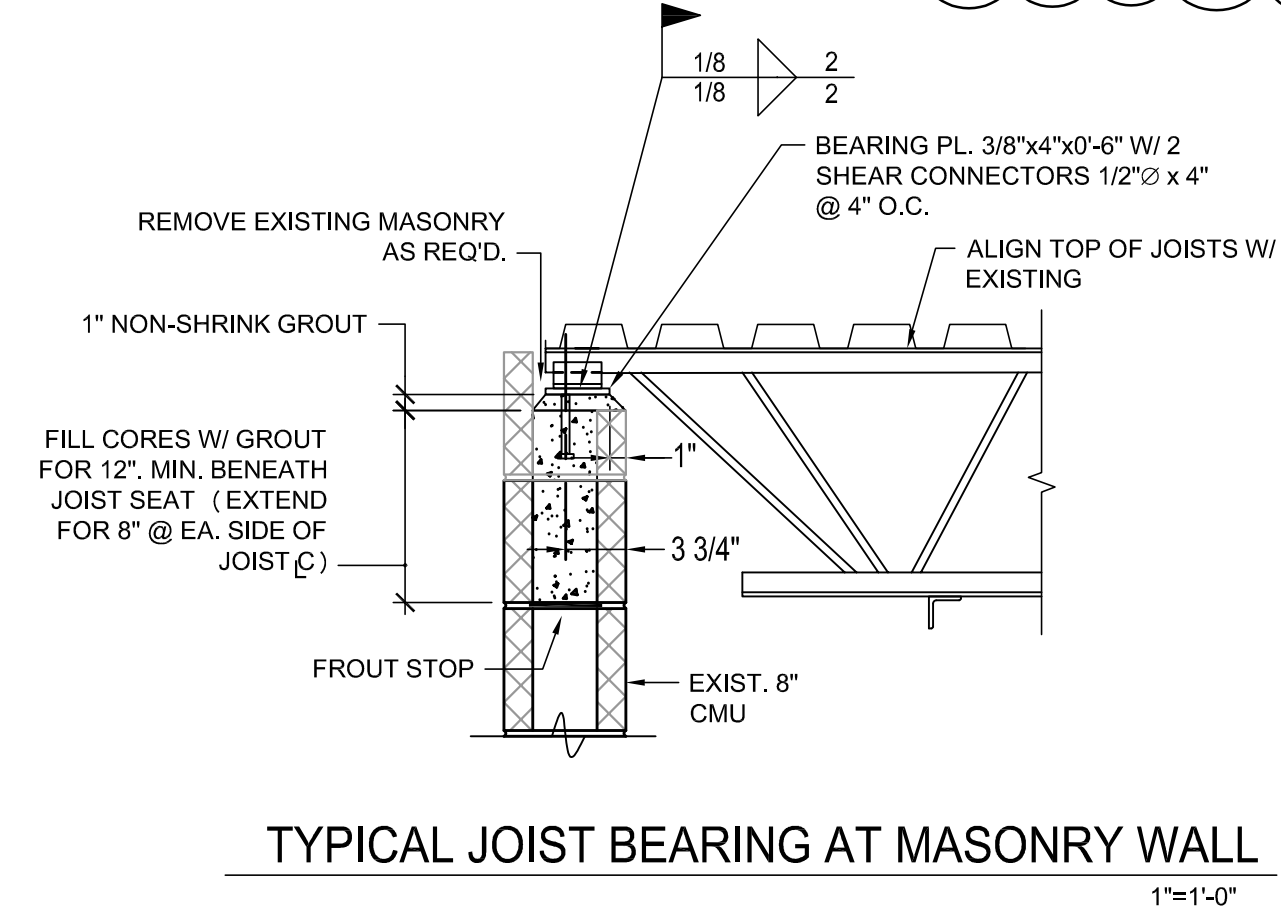
1 SECTION  
 1"=1'-0"



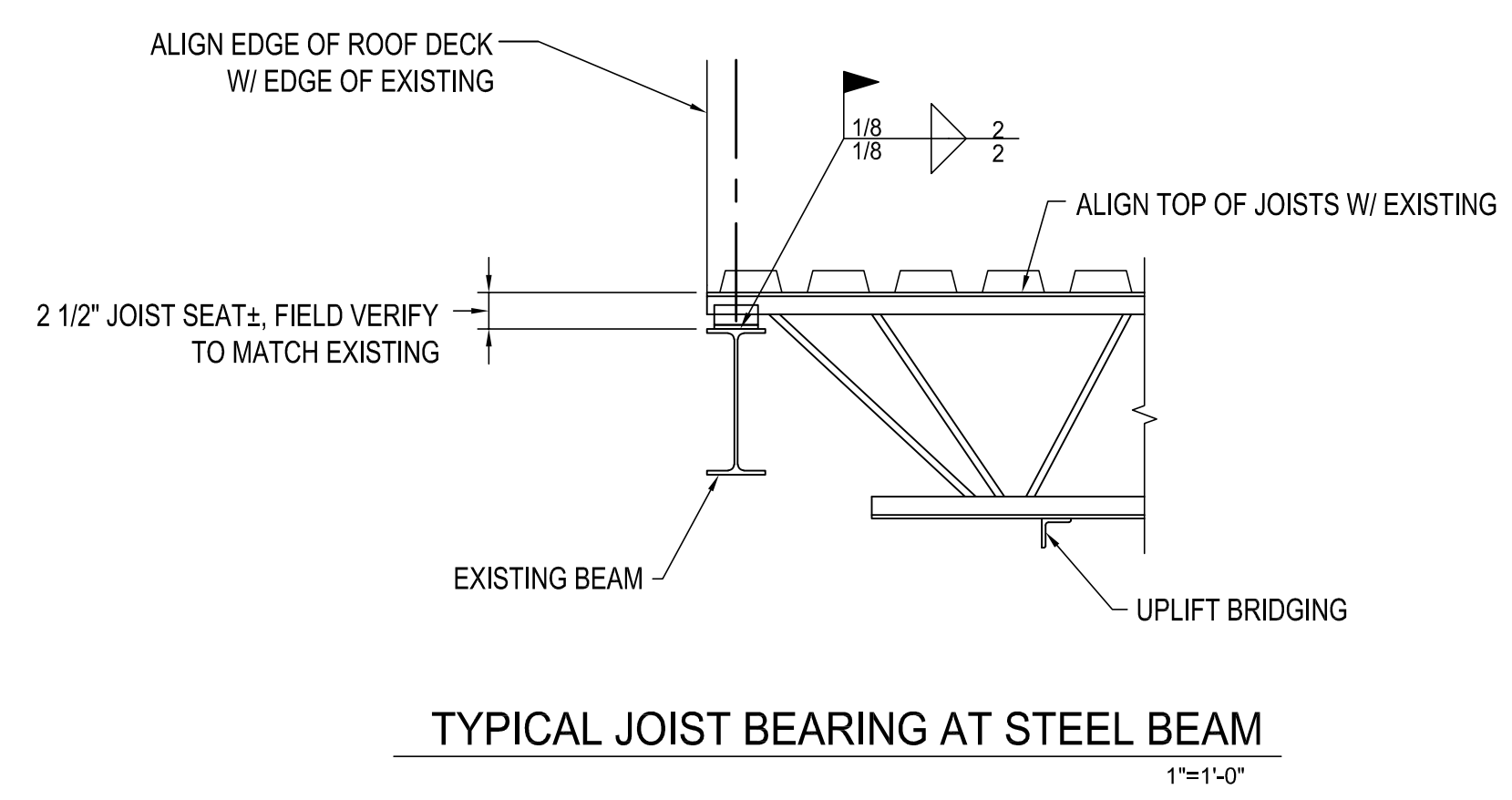
2 SECTION  
 1"=1'-0"



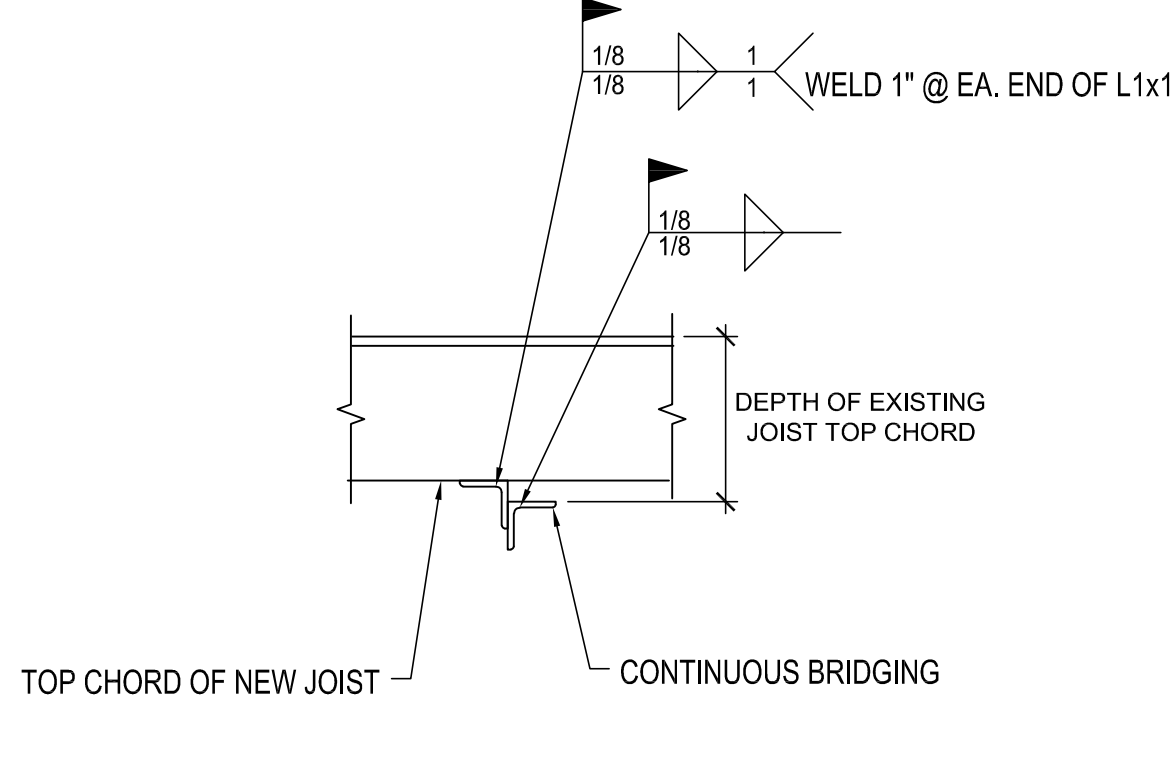
3 SECTION  
 1"=1'-0"



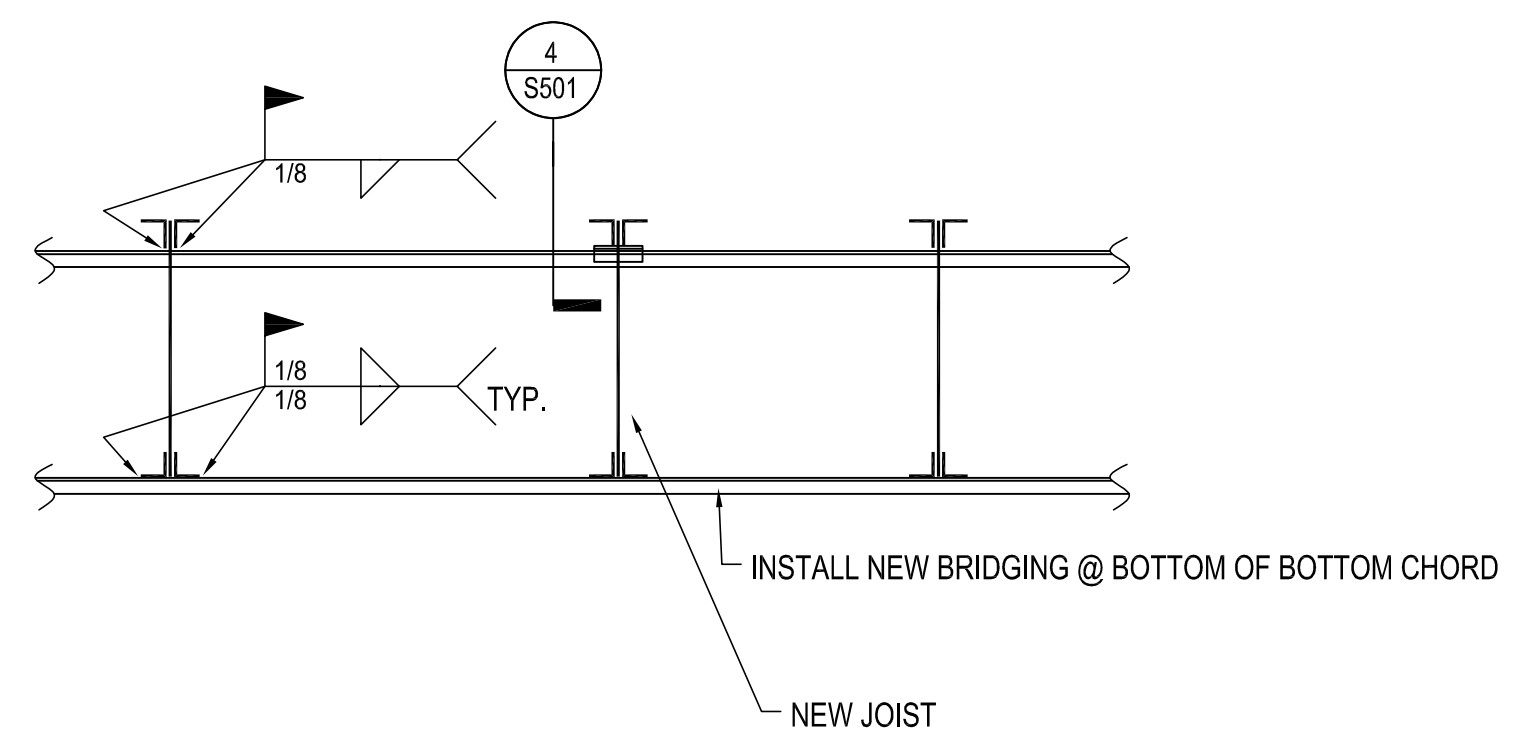
TYPICAL JOIST BEARING AT MASONRY WALL  
 1"=1'-0"



TYPICAL JOIST BEARING AT STEEL BEAM  
 1"=1'-0"

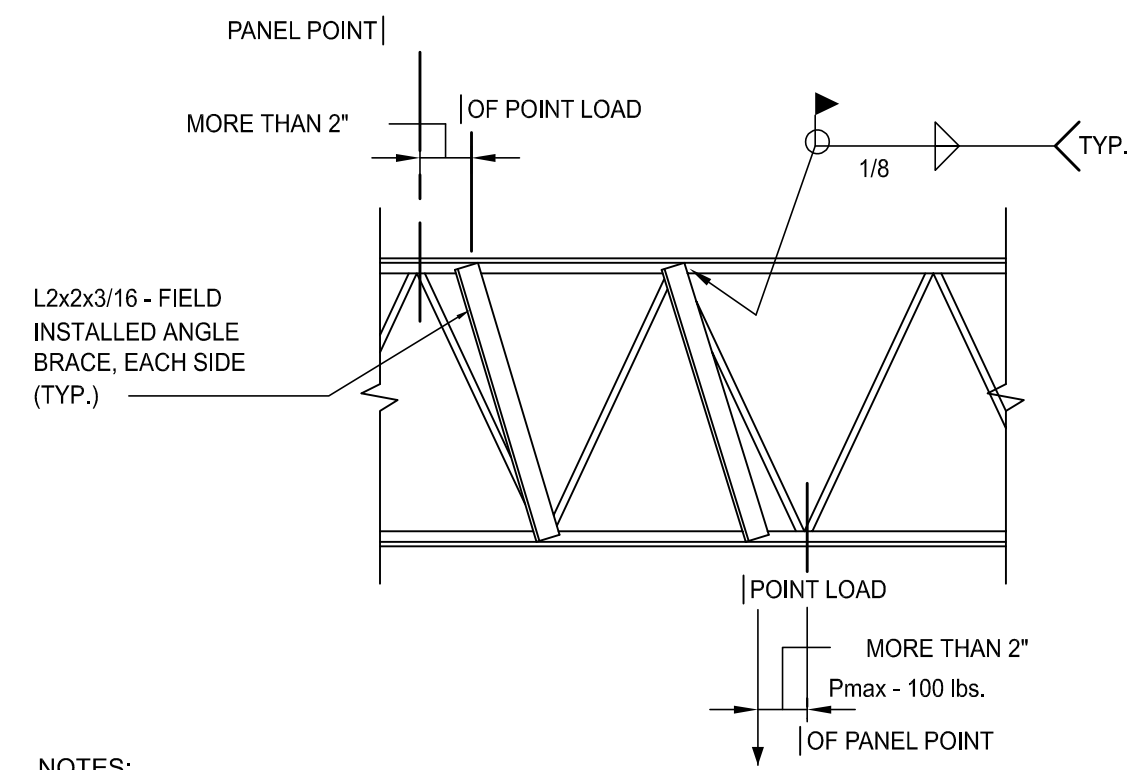


4 SECTION  
 1"=1'-0"



TYPICAL BRIDGING INSTALLATION DETAIL AT JOISTS  
 1"=1'-0"

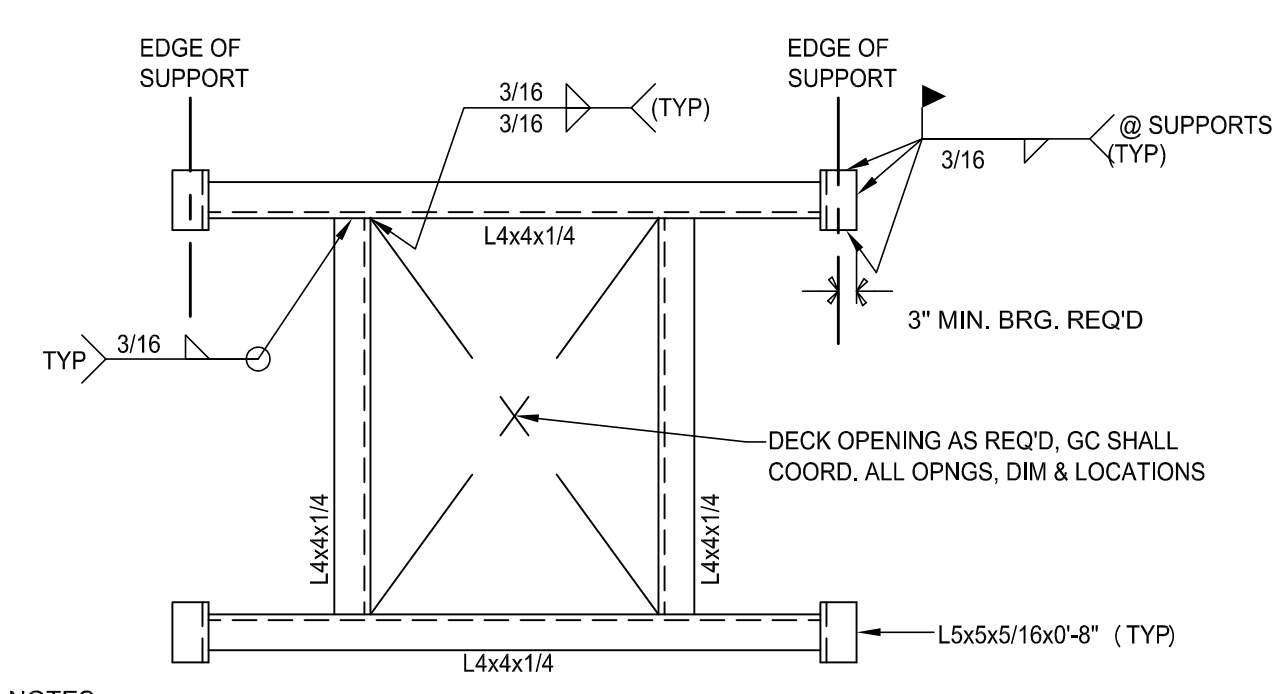




NOTES:

- DO NOT HANG CONCENTRATED LOADS LARGER THAN INDICATED, OR CLOSER THAN 2'-0" O.C., WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
- ADD ANGLE AS SHOWN WHEN THE CONCENTRATED LOAD IS LOCATED GREATER THAN 2" FROM THE PANEL POINT AS ILLUSTRATED.
- CONCENTRATED LOADS LESS THAN 40 LBS. OR A SERIES OF CONCENTRATED LOADS WITH A TOTAL LESS THAN 40 LBS. INSTALLED BETWEEN PANEL POINTS MAY BE HUNG FROM THE TOP OR BOTTOM CHORD WITHOUT INSTALLING L2x2 REINFORCEMENT.

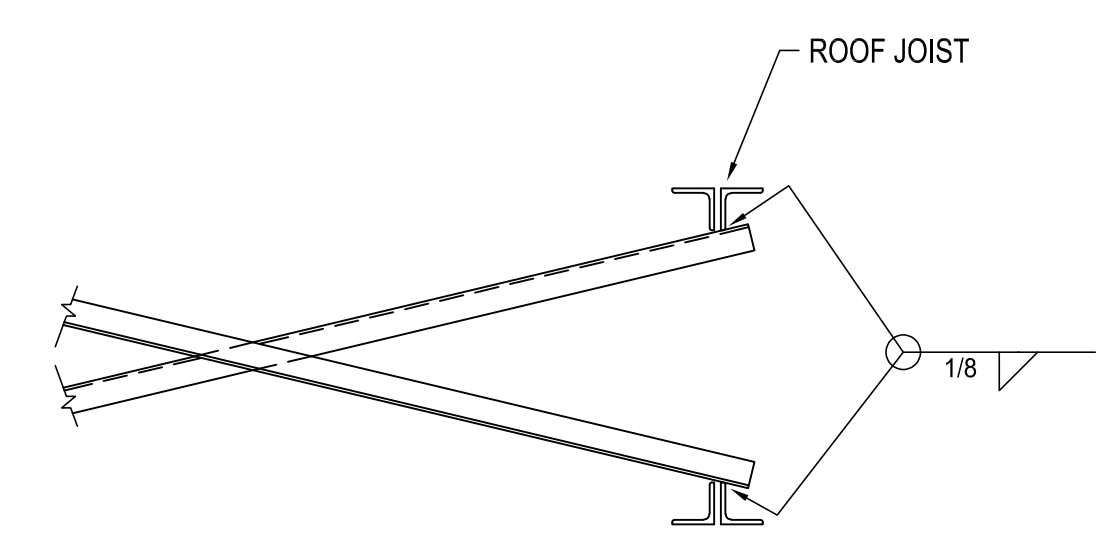
1 EXISTING JOIST REINFORCEMENT 3/4"=1'-0"



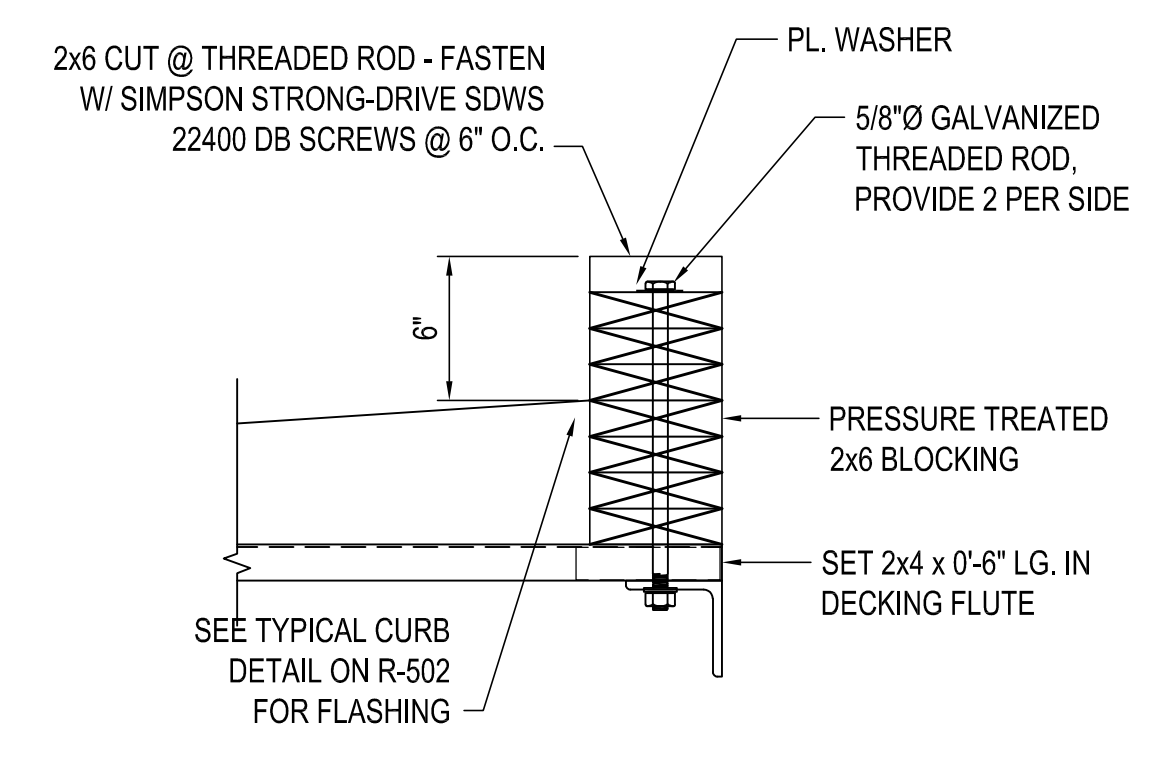
NOTES:

- 1, 2, 3, OR 4 SIDED FRAMES MAY BE USED AS REQUIRED. ALSO, LOOSE INTERIOR MEMBERS MAY BE USED FOR ADDED ADJUSTMENT.
- FRAME SHALL BE PROVIDED FOR ALL OPNGS LARGER THAN 12" @ AT ROOF DECK.
- FRAMES MAY BE FIELD WELDED WHERE REQUIRED TO FIT BETWEEN EXISTING FRAMING.

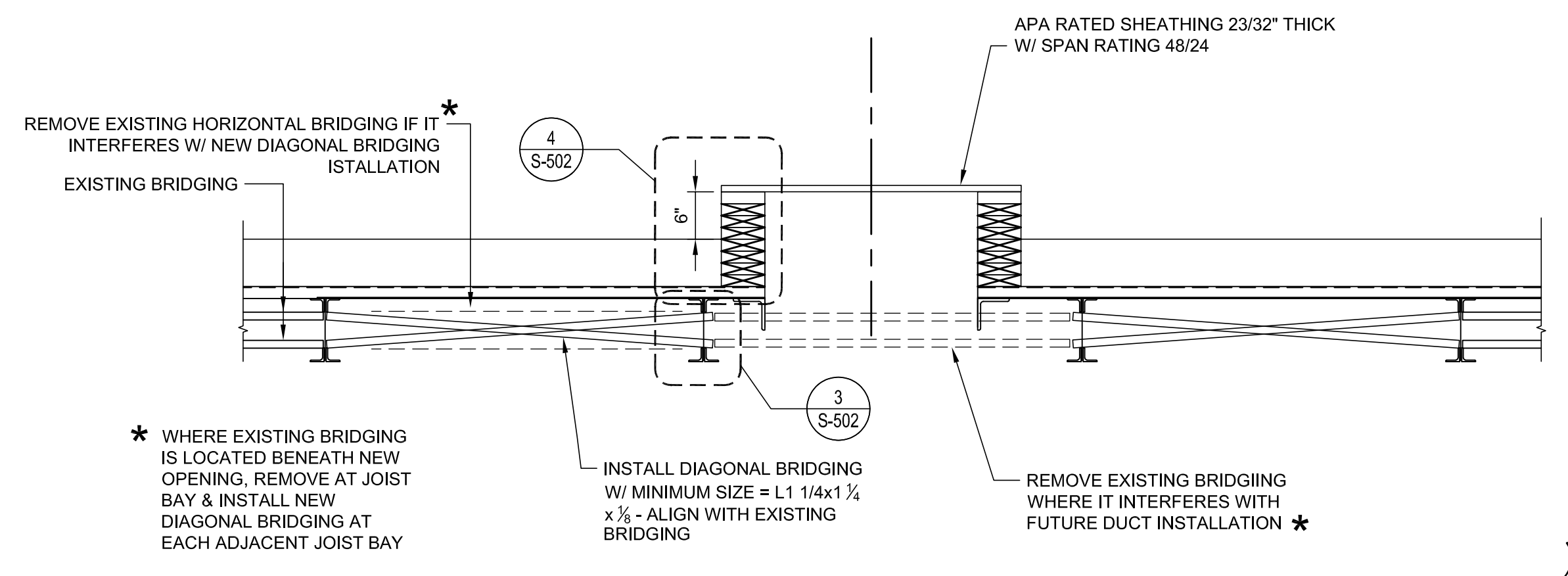
2 ROOF DECK OPENING FRAME 3/4"=1'-0"



3 BRIDGING DETAIL 1 1/2"=1'-0"



4 CURB DETAIL 1 1/2"=1'-0"

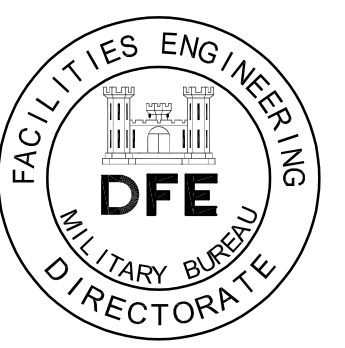


\* WHERE EXISTING BRIDGING IS LOCATED BENEATH NEW OPENING, REMOVE AT JOIST BAY & INSTALL NEW DIAGONAL BRIDGING AT EACH ADJACENT JOIST BAY

INSTALL DIAGONAL BRIDGING W/ MINIMUM SIZE = L 1 1/4x1 1/4 x 7/8 - ALIGN WITH EXISTING BRIDGING

REMOVE EXISTING BRIDGING WHERE IT INTERFERES WITH FUTURE DUCT INSTALLATION \*

5 TYPICAL DETAIL AT ROOF OPENINGS FOR PROPOSED DUCTS AND EXHAUST FANS 3/4"=1'-0"



PLAN REVISIONS			
Rev#	Description	Date	Appr.
4	ADDENDUM	5-12-2023	MC

DESIGNED BY: CUNNINGHAM	DATE: 4/11/2023	SCALE: 1"=1'-0"	DFE PROJECT NO: 23SR23-406D
DRAWN BY: STEPHEN WEYMOUTH	CHECKED BY:		

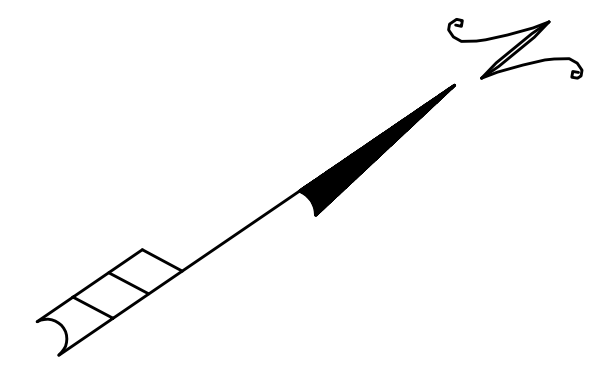
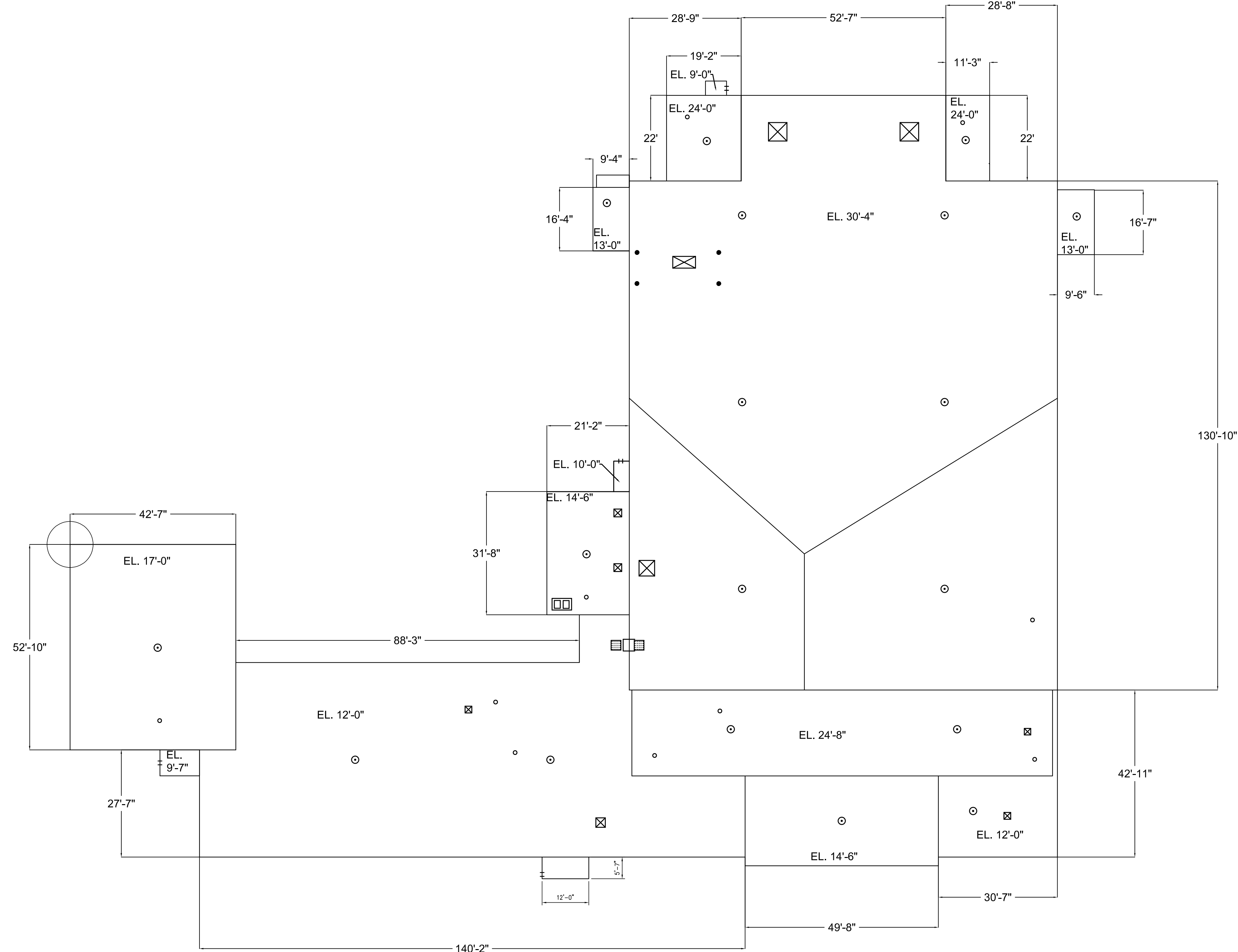
STATE OF MAINE  
DEPARTMENT OF DEFENSE, VETERANS  
AND EMERGENCY MANAGEMENT

Lincoln / Haney  
Engineering Associates, Inc.

MAINE PROFESSIONAL ENGINEERING BOARD  
No. 001, No. 7, 04001  
Phone: 207-228-1801 Fax: 207-228-2541

MAINE ARMY NATIONAL GUARD ROOF  
WATERVILLE, MAINE  
ROOF STRUCTURAL REINFORCEMENT  
STRUCTURAL NOTES, SECTIONS,  
AND DETAILS

PLAN PROGRESS
<input type="checkbox"/> DRAFT
<input type="checkbox"/> 35% REVIEW
<input type="checkbox"/> 50% REVIEW
<input type="checkbox"/> 95% REVIEW
<input type="checkbox"/> FINAL REVIEW
<input type="checkbox"/> FOR BIDDING
<input checked="" type="checkbox"/> ISSUED FOR CONSTRUCTION
<input type="checkbox"/> RECORD DRAWINGS



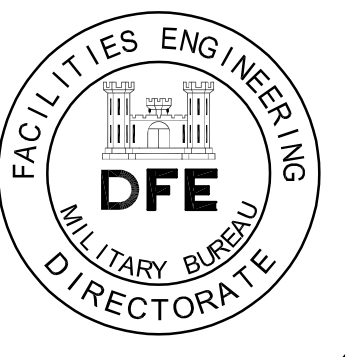
EXISTING ROOF SYSTEM:  
 0.060" ADHERED EPDM  
 1/2" H.D. FIBERBOARD  
 1/8" PER FOOT TAPERED ISO  
 STEEL DECK

LEGEND:

- DRAIN
- ⊠ CURB
- PLUMBING VENT
- CHIMNEY
- PIPE STUB
- ▨ WALKWAY PAD
- Y ANTENNA
- LADDER

EXISTING ROOF PLAN

1/16"=1'-0"



PLAN REVISIONS			
Rev#	Description	Date	Appr.
1	ADDENDUM	4-24-23	WB

DESIGNED BY: CUNNINGHAM	DATE: 4/1/2023
DRAWN BY: STEPHEN WEYMOUTH	SCALE: 1/16" = 1'-0"
CHECKED BY:	DFE PROJECT NO: 23SR23-406D

STATE OF MAINE  
 DEPARTMENT OF DEFENSE, VETERANS  
 AND EMERGENCY MANAGEMENT

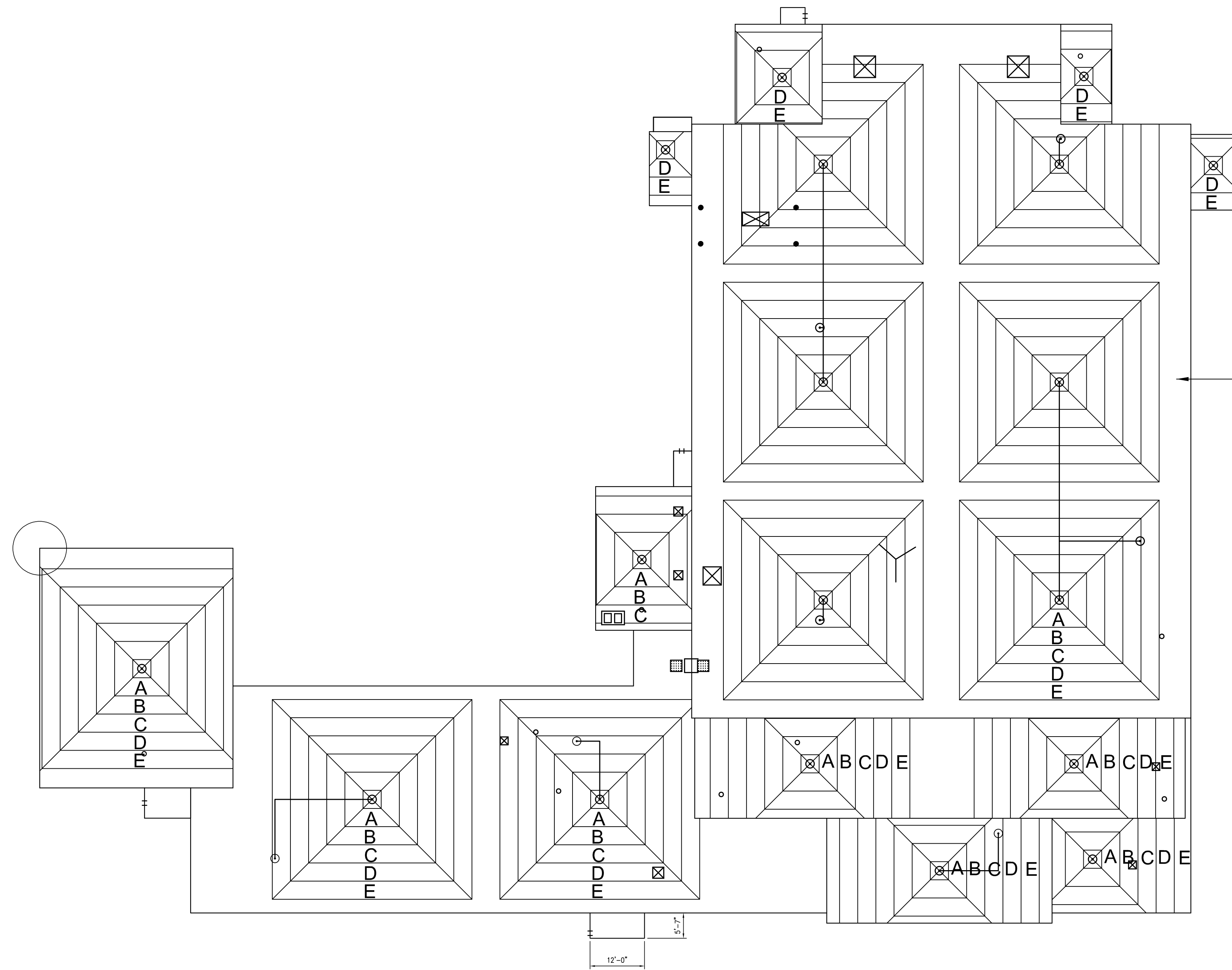
**Lincoln / Haney**  
 Engineering Associates, Inc.  
 1000 Main Street, Waterville, ME 04901  
 Phone: 207-272-1101 Fax: 207-272-2111

MAINE ARMY NATIONAL GUARD ROOF  
 WATERVILLE, MAINE  
 ROOF STRUCTURAL REINFORCEMENT  
 EXISTING ROOF  
 PLAN

PLAN PROGRESS
<input type="checkbox"/> DRAFT
<input type="checkbox"/> 35% REVIEW
<input type="checkbox"/> 50% REVIEW
<input type="checkbox"/> 95% REVIEW
<input type="checkbox"/> FINAL REVIEW
<input type="checkbox"/> FOR BIDDING
<input checked="" type="checkbox"/> ISSUED FOR CONSTRUCTION
<input type="checkbox"/> RECORD DRAWINGS

SHEET ID:  
**R-101**  
 SHEET: 5 OF 10





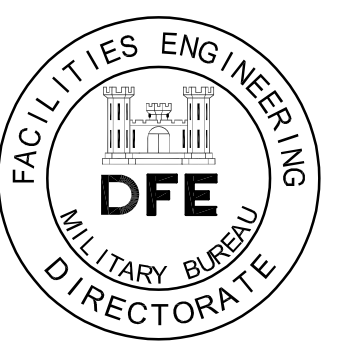
5.5" OF ISO. (ONE LAYER OF 2.0" ISO.  
PLUS ONE LAYER OF 3.5" ISO.)

1/8" FT. TAPERED ISO.  
CODE LETTER THICKNESS (IN.)

A	1-1.5
B	1.5-2
C	2-2.5
D	2.5-3
E	3.0-3.5

EXISTING TAPERED INSULATION PLAN

1/16"=1'-0"



PLAN REVISIONS

Rev#	Description	Date	Appr.
4	ADDENDUM	4-24-23	MC
1	ADDENDUM	4-24-23	WB

DESIGNED BY: CUNNINGHAM  
DRAWN BY: STEPHEN WEYMOUTH  
CHECKED BY:  
DATE: 4/11/2023  
SCALE: 1/16" = 1'-0"  
DFE PROJECT NO.: 23SR23-406D

STATE OF MAINE  
DEPARTMENT OF DEFENSE, VETERANS  
AND EMERGENCY MANAGEMENT

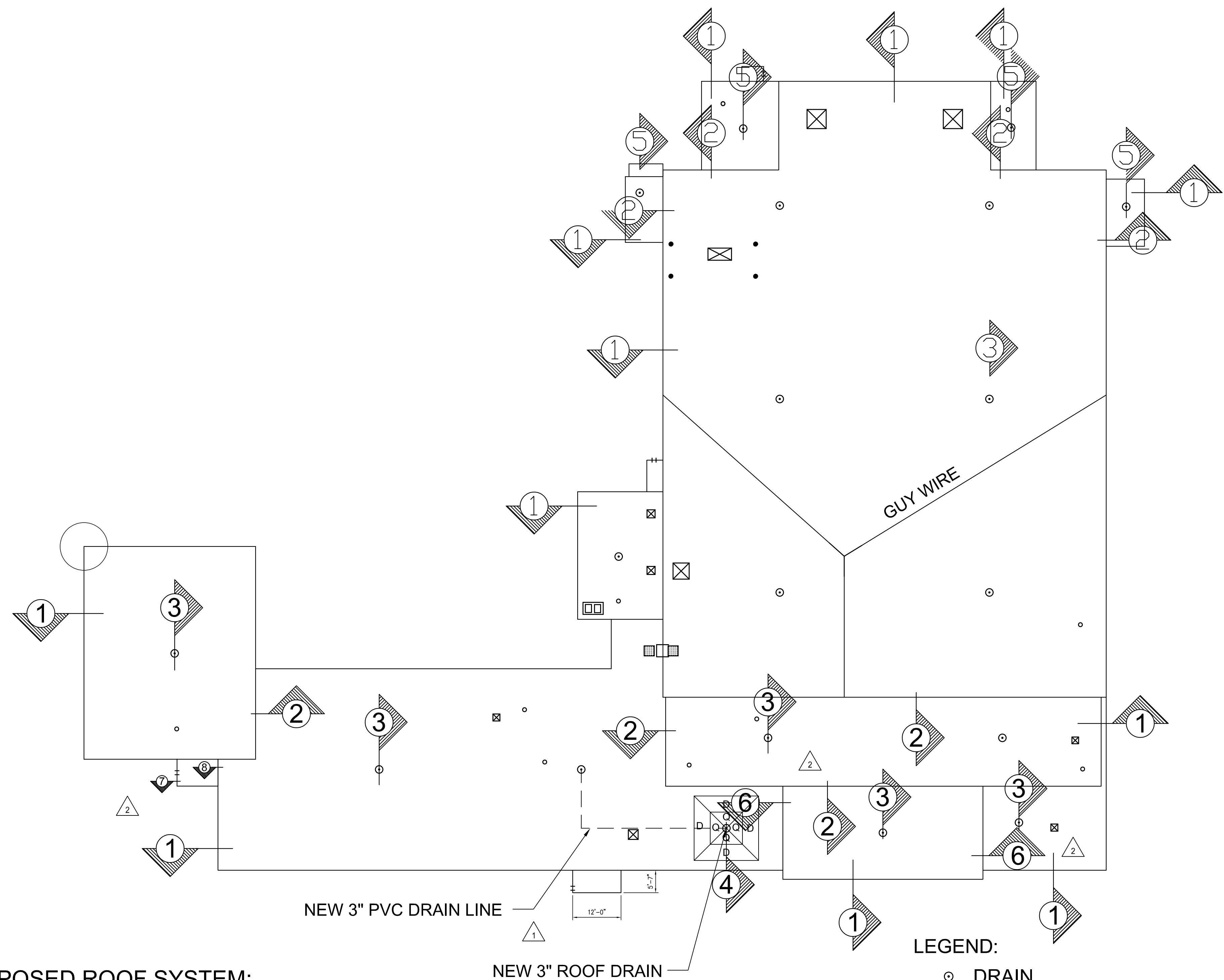
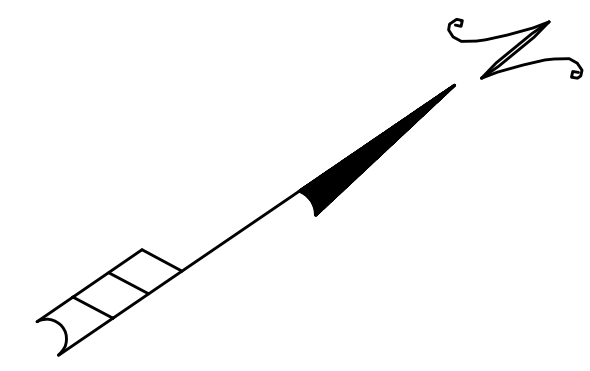
Lincoln / Haney  
Engineering Associates, Inc.  
Maine, New York, Massachusetts  
Phone: 207-728-1801 Fax: 207-728-2441

MAINE ARMY NATIONAL GUARD ROOF  
WATERVILLE, MAINE  
ROOF STRUCTURAL REINFORCEMENT  
EXISTING TAPERED INSULATION  
PLAN

PLAN PROGRESS

<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input type="checkbox"/>	FOR BIDDING
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:  
**R-102**  
SHEET: 6 OF 10



PROPOSED ROOF SYSTEM:  
 NEW 0.090" ADHERED EPDM  
 NEW 1/2" DENSDECK PRIME  
 EXISTING 1/8" PER FOOT TAPERED ISO  
 EXISTING STEEL DECK

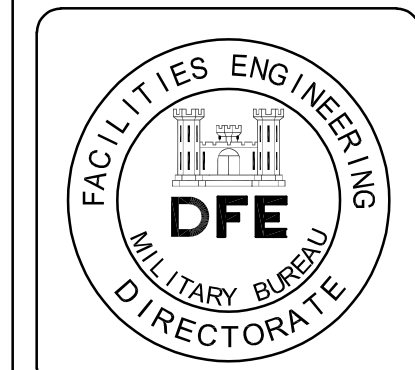
NEW 3" PVC DRAIN LINE  
 NEW 3" ROOF DRAIN

1/2"/FT. TAPERED ISO.  
 Q = 1/2" - 2 1/2"

1/8"/FT. TAPERED ISO.  
 D = 2 1/2" - 3"

- LEGEND:
- DRAIN
  - ⊗ CURB
  - PLUMBING VENT
  - ⊠ CHIMNEY
  - PIPE STUB
  - ◻ WALKWAY PAD
  - Y ANTENNA
  - LADDER

PROPOSED NEW ROOF PLAN  
 1/16"=1'-0"



PLAN REVISIONS			
Rev#	Description	Date	Appr.
2	ADDENDUM	4-28-23	WB
1	ADDENDUM	4-24-23	WB

DESIGNED BY: CUNNINGHAM  
 DRAWN BY: STEPHEN WEYMOUTH  
 CHECKED BY:  
 DATE: 4/11/2023  
 SCALE: 1/16" = 1'-0"  
 DFE PROJECT NO.: 23SR23-406D

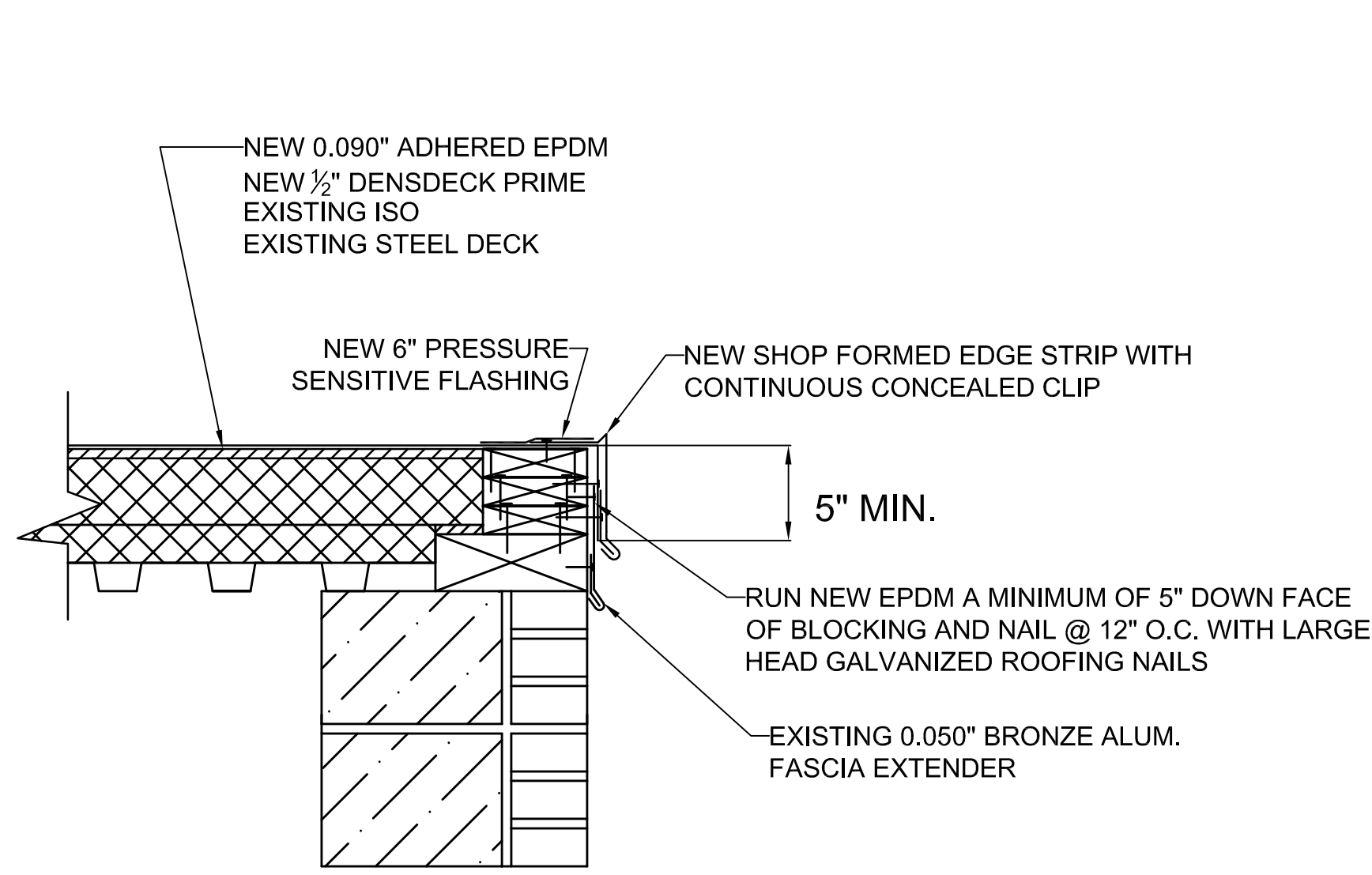
STATE OF MAINE  
 DEPARTMENT OF DEFENSE, VETERANS  
 AND EMERGENCY MANAGEMENT

Lincoln / Haney  
 Engineering Associates, Inc.  
 1000 Main Street, Suite 100  
 Waterville, ME 05671  
 Phone: 207-875-1801 Fax: 207-875-2441

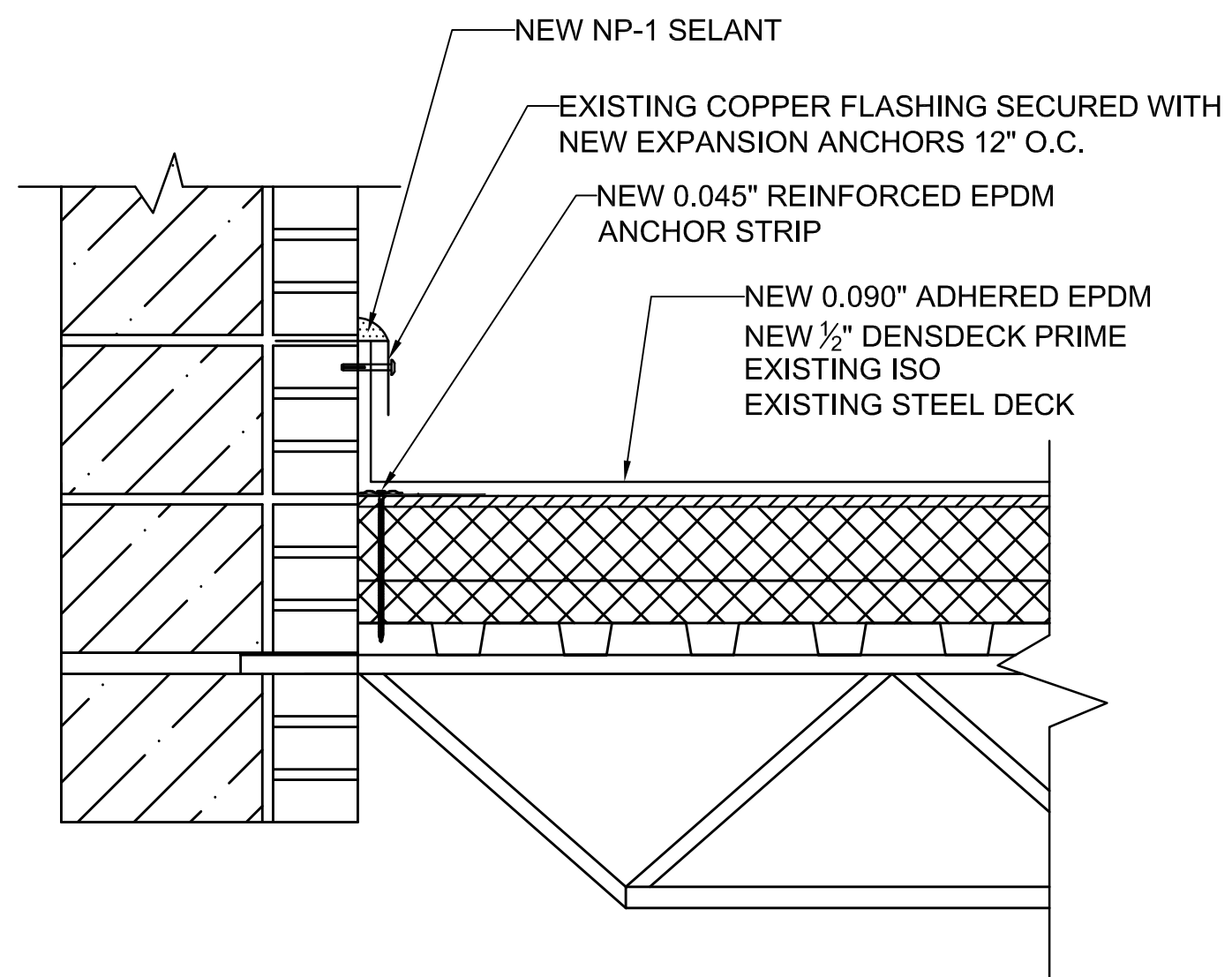
MAINE ARMY NATIONAL GUARD ROOF  
 WATERVILLE, MAINE  
 ROOF STRUCTURAL REINFORCEMENT  
 PROPOSED  
 NEW ROOF PLAN

PLAN PROGRESS
<input type="checkbox"/> DRAFT
<input type="checkbox"/> 35% REVIEW
<input type="checkbox"/> 50% REVIEW
<input type="checkbox"/> 95% REVIEW
<input type="checkbox"/> FINAL REVIEW
<input type="checkbox"/> FOR BIDDING
<input checked="" type="checkbox"/> ISSUED FOR CONSTRUCTION
<input type="checkbox"/> RECORD DRAWINGS

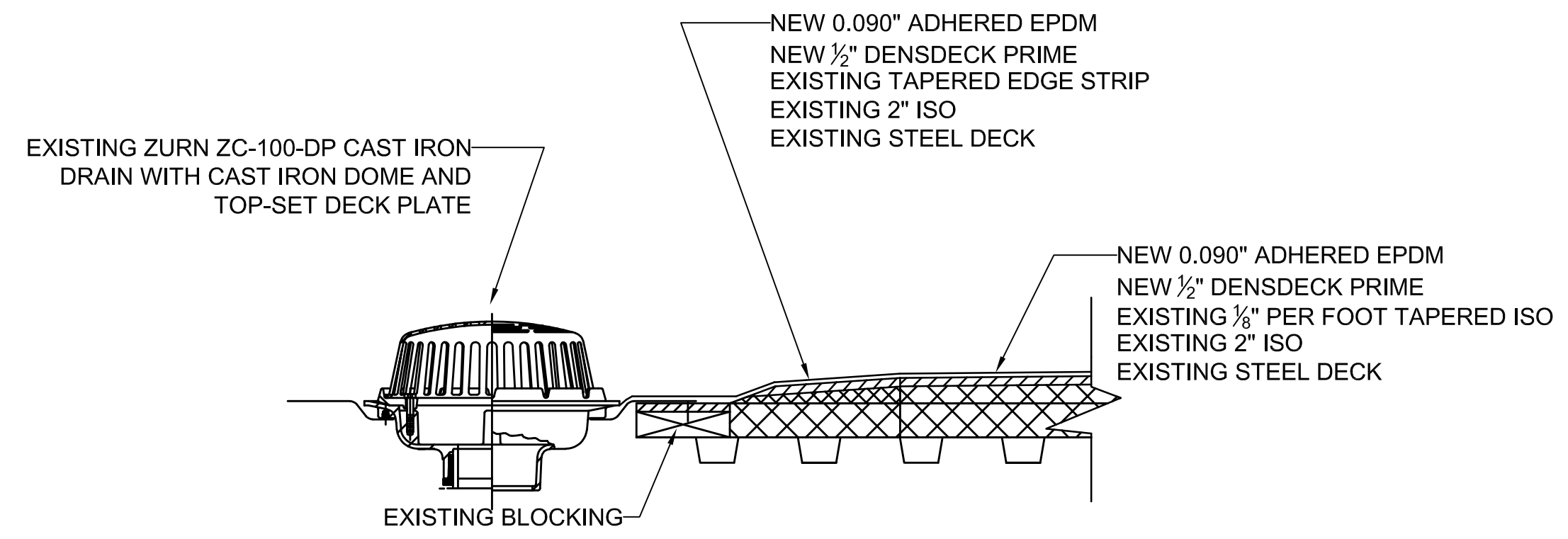
SHEET ID:  
**R-103**  
 SHEET: 7 OF 10



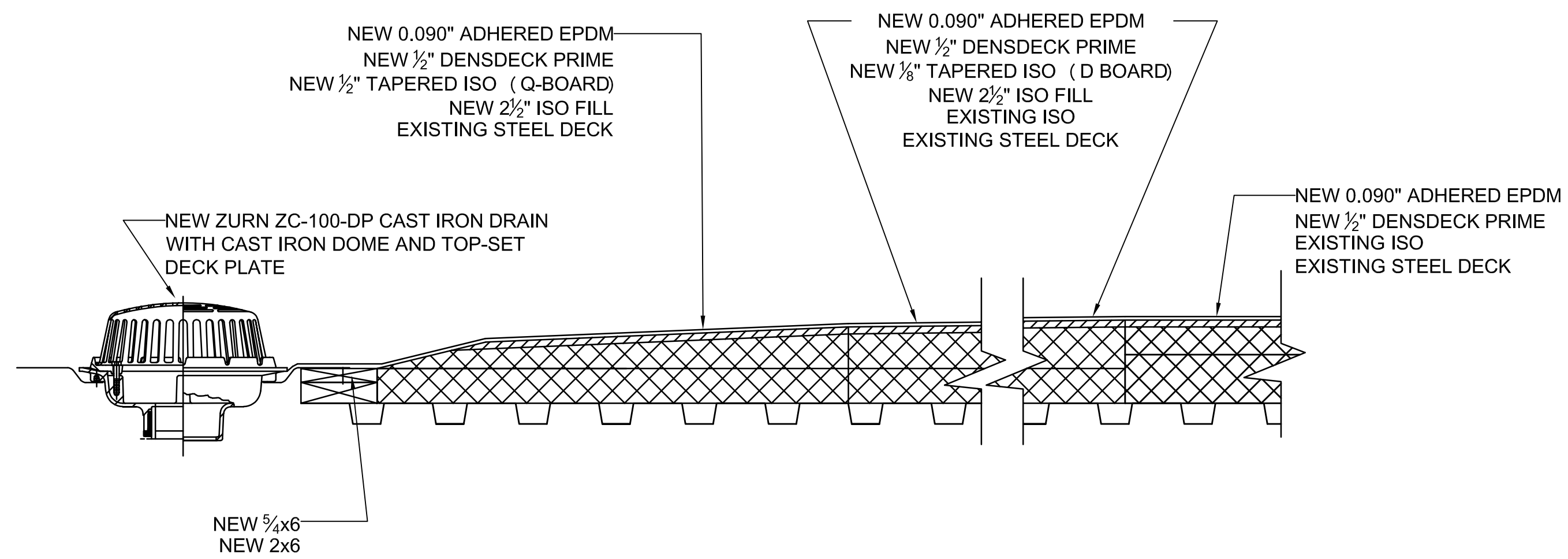
1 DETAIL  
1 1/2"=1'-0"



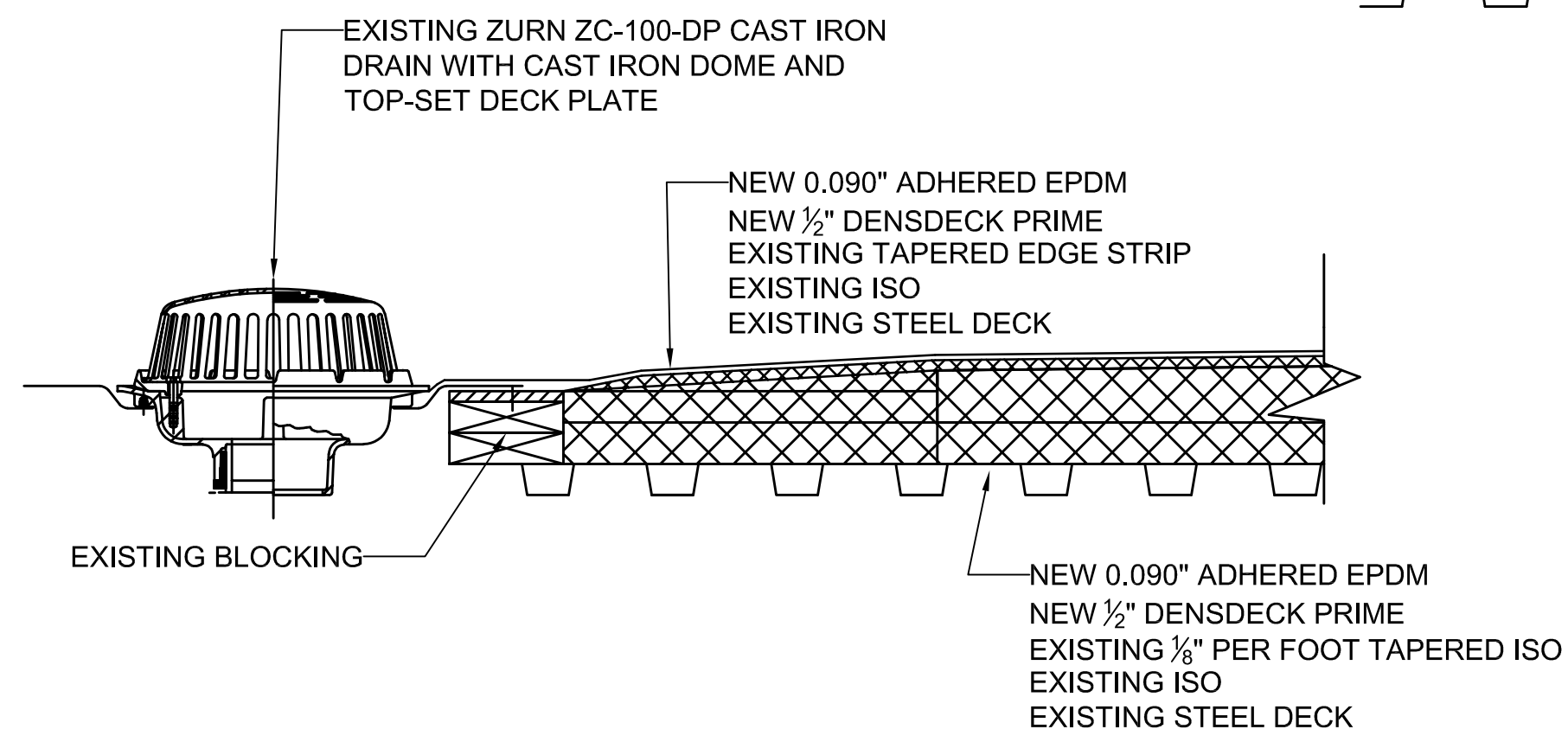
2 DETAIL  
1 1/2"=1'-0"



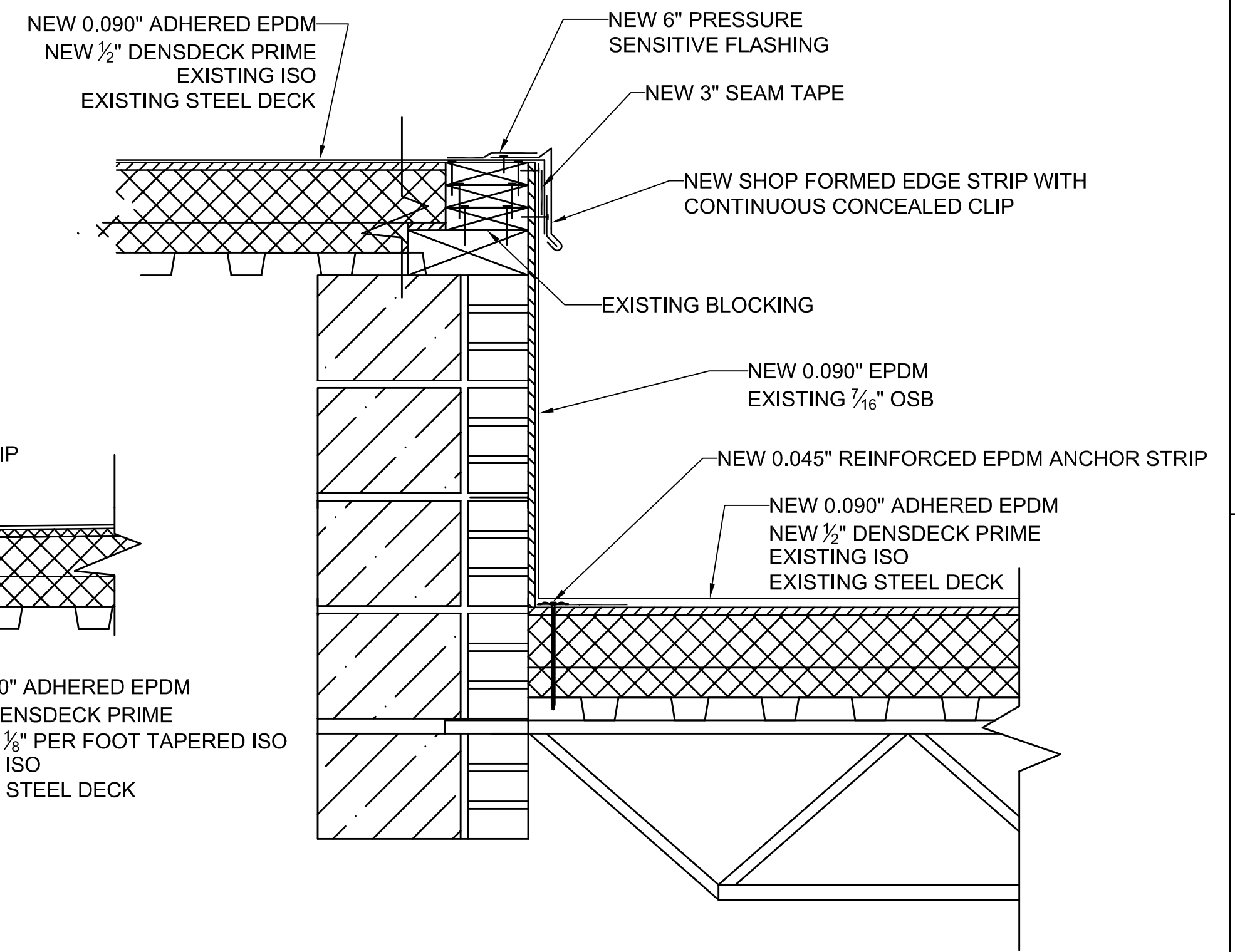
3 DETAIL  
1 1/2"=1'-0"



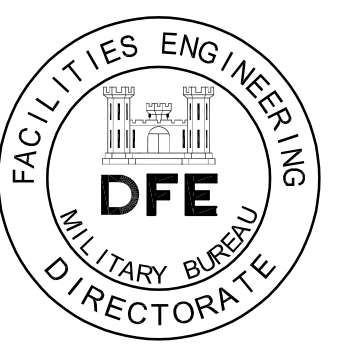
4 DETAIL  
1 1/2"=1'-0"



5 DETAIL  
1 1/2"=1'-0"



6 DETAIL  
1 1/2"=1'-0"



Rev#	Description	Date	Appr.

DESIGNED BY: CUNNINGHAM  
 DRAWN BY: STEPHEN WEYMOUTH  
 CHECKED BY:  
 DATE: 4/11/2023  
 SCALE: 1 1/2" = 1'-0"  
 DFE PROJECT NO.: 23SR23-406D

STATE OF MAINE  
 DEPARTMENT OF DEFENSE, VETERANS  
 AND EMERGENCY MANAGEMENT  
 Lincoln / Hancy  
 Engineering Associates, Inc.  
 1000 Main Street, Suite 100  
 Waterville, ME 05671  
 Phone: 207-875-1001 Fax: 207-875-2541

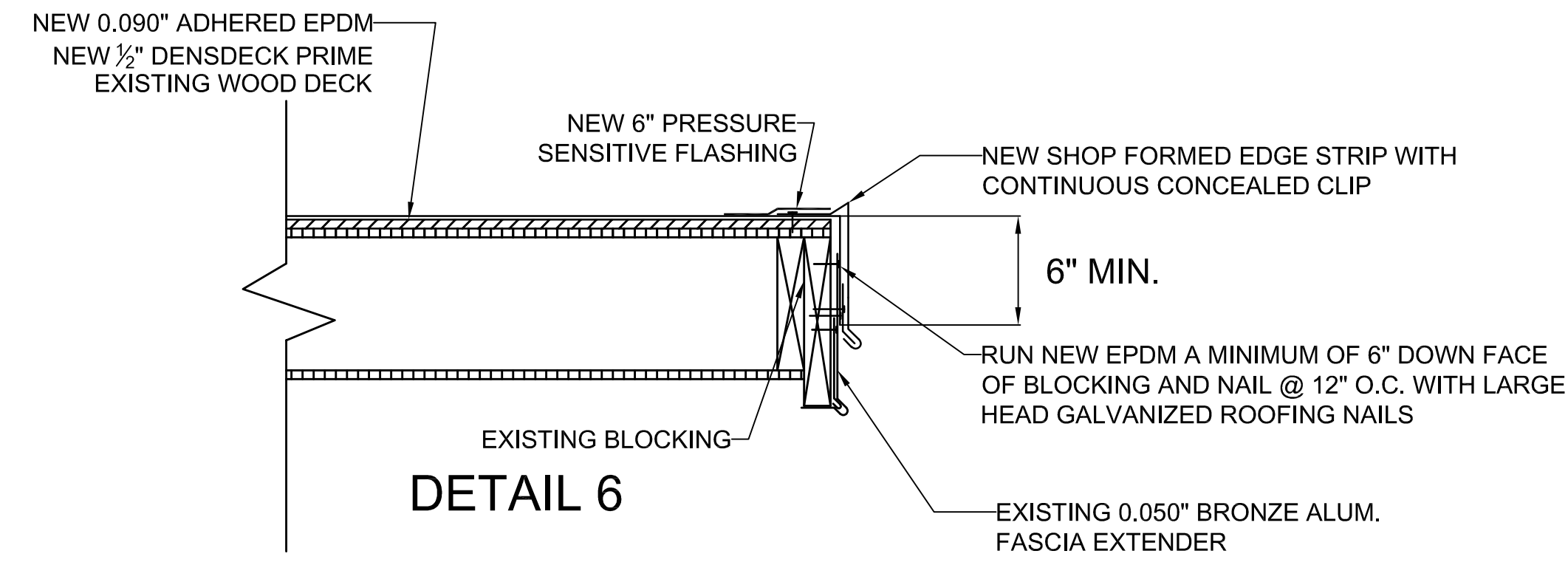
MAINE ARMY NATIONAL GUARD ROOF  
 WATERVILLE, MAINE  
 ROOF STRUCTURAL REINFORCEMENT  
 ROOFING SECTIONS  
 AND DETAILS

PLAN PROGRESS

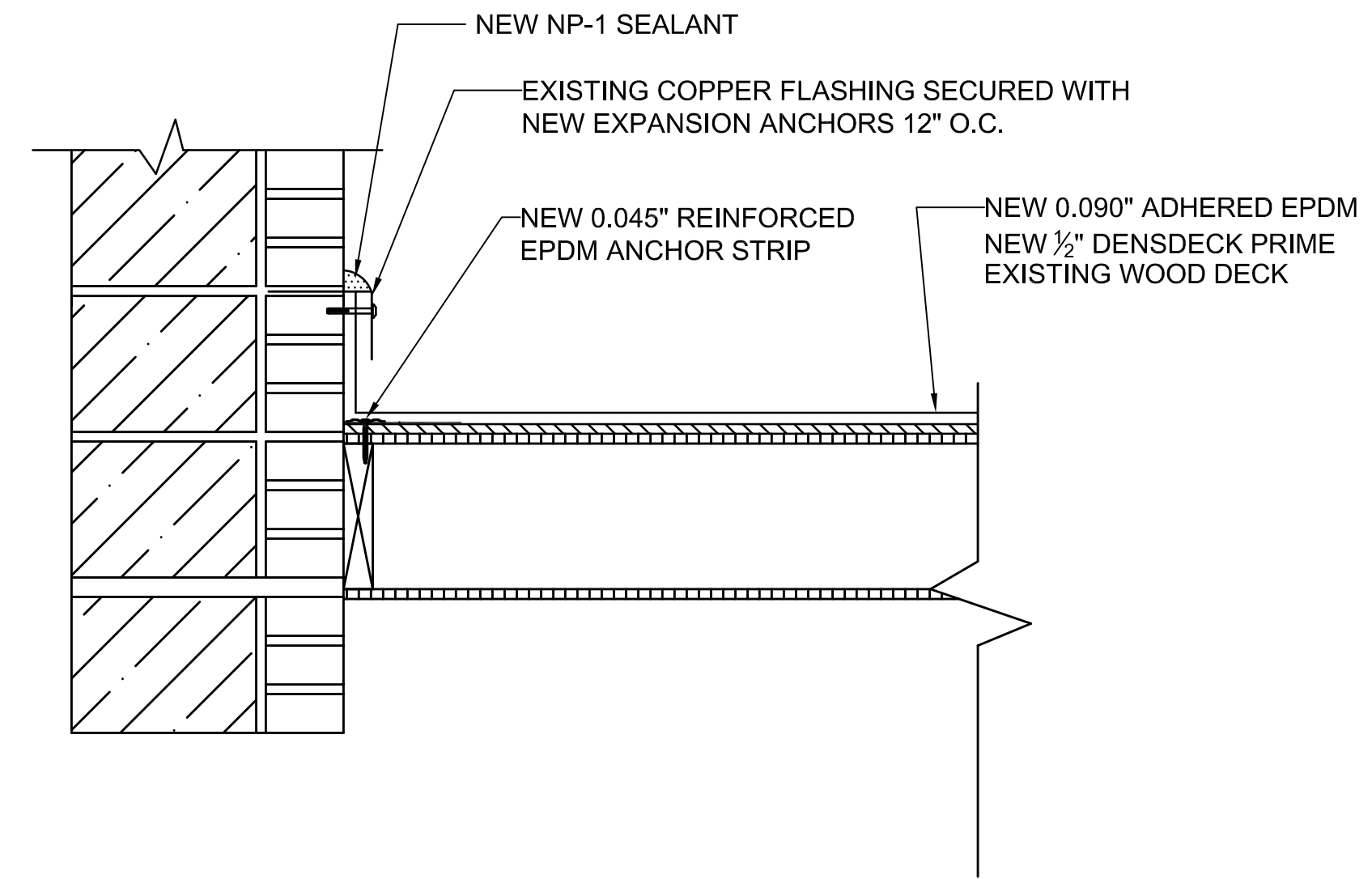
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<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input type="checkbox"/>	FOR BIDDING
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:  
**R-501**  
 SHEET: 8 OF 10

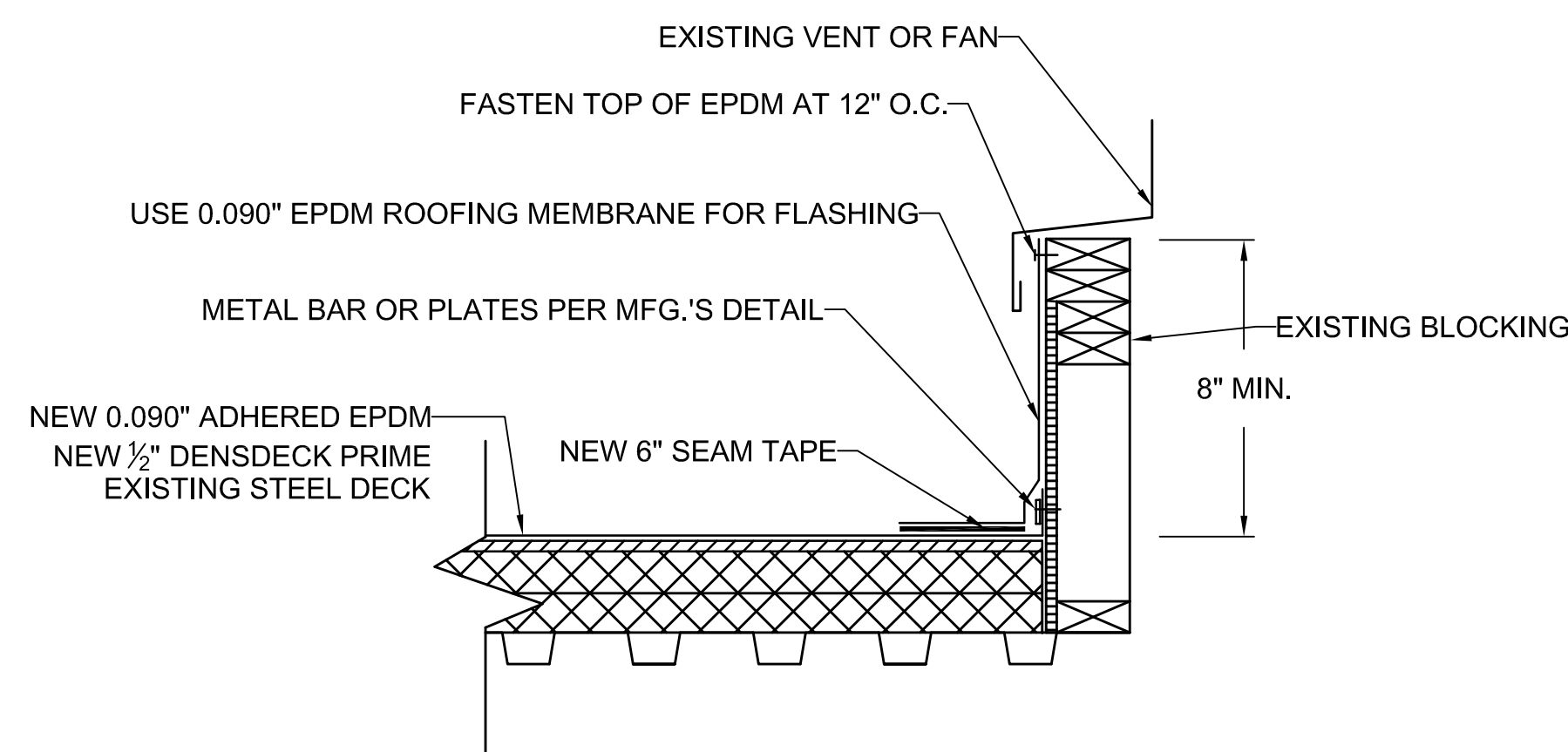




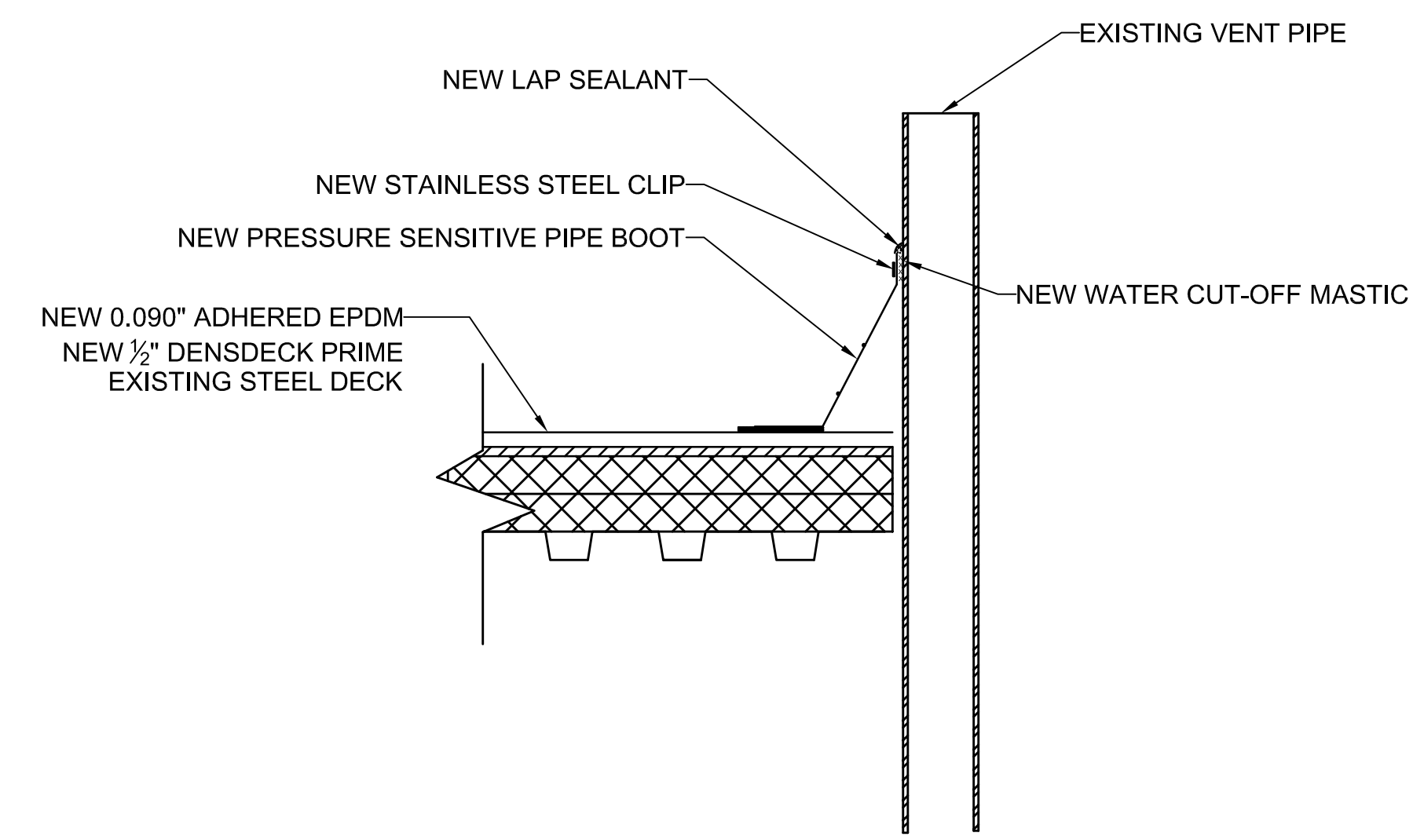
7 DETAIL 1 1/2"=1'-0"



8 DETAIL 1 1/2"=1'-0"



TYPICAL CURB DETAIL 1 1/2"=1'-0"



TYPICAL VENT DETAIL 1 1/2"=1'-0"

PLAN REVISIONS

Rev#	Description	Date	Appr.

DESIGNED BY: PAMEL CUNNINGHAM	DATE: 4/1/2023
DRAWN BY: STEPHEN WEYMOUTH	SCALE: 1 1/2" = 1'-0"
CHECKED BY:	DFE PROJECT NO: 23SR23-406D

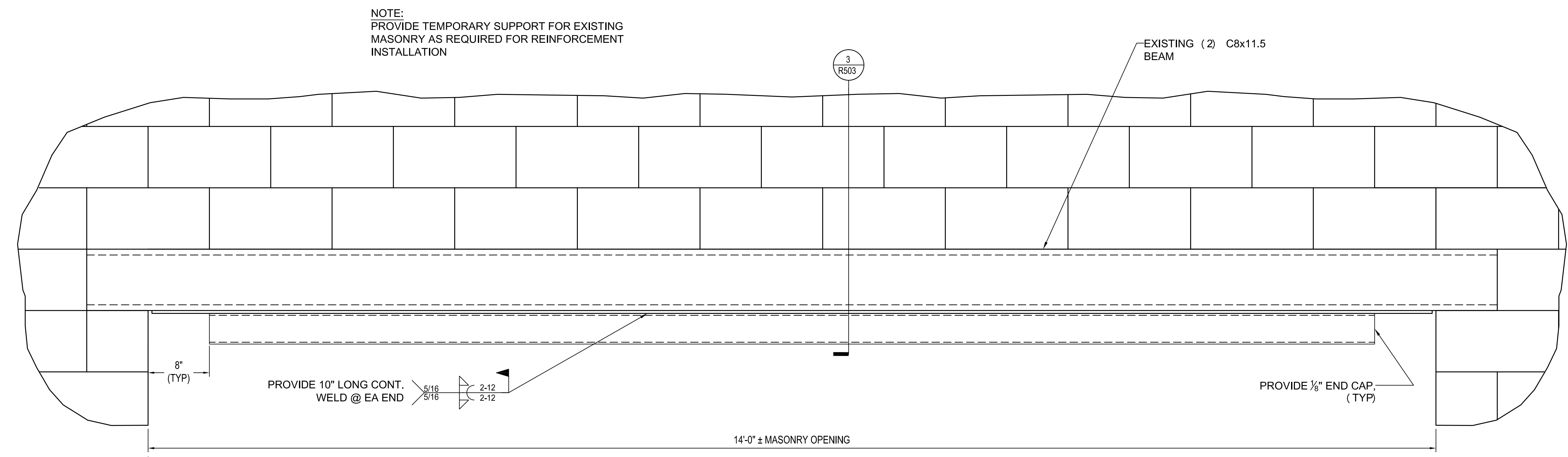
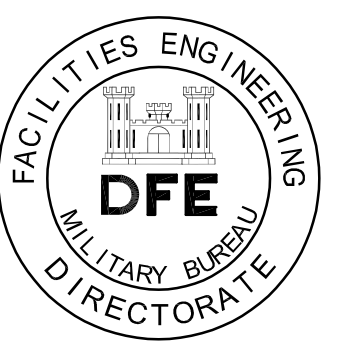
STATE OF MAINE  
DEPARTMENT OF DEFENSE, VETERANS  
AND EMERGENCY MANAGEMENT

Lincoln / Haney  
Engineering Associates, Inc.  
Maine, Inc. 1000  
Maine, Inc. 1000  
Phone: 207-228-1801 Fax: 207-228-2541

MAINE ARMY NATIONAL GUARD ROOF  
WATERVILLE, MAINE  
ROOF STRUCTURAL REINFORCEMENT  
ROOFING SECTIONS  
AND DETAILS

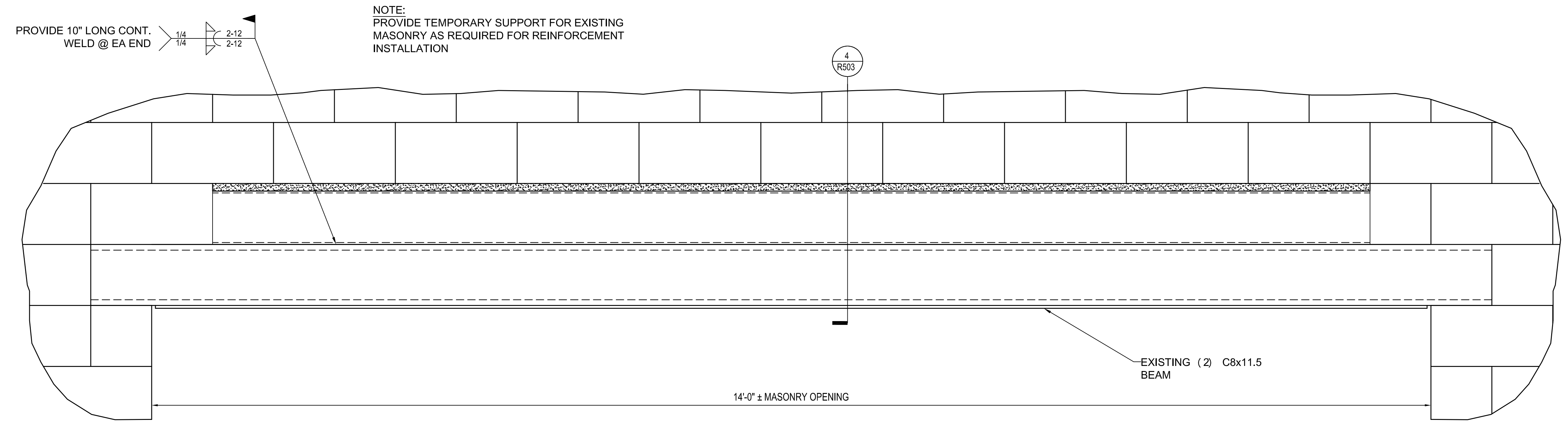
PLAN PROGRESS

<input type="checkbox"/> DRAFT
<input type="checkbox"/> 35% REVIEW
<input type="checkbox"/> 50% REVIEW
<input type="checkbox"/> 95% REVIEW
<input type="checkbox"/> FINAL REVIEW
<input type="checkbox"/> FOR BIDDING
<input checked="" type="checkbox"/> ISSUED FOR CONSTRUCTION
<input type="checkbox"/> RECORD DRAWINGS



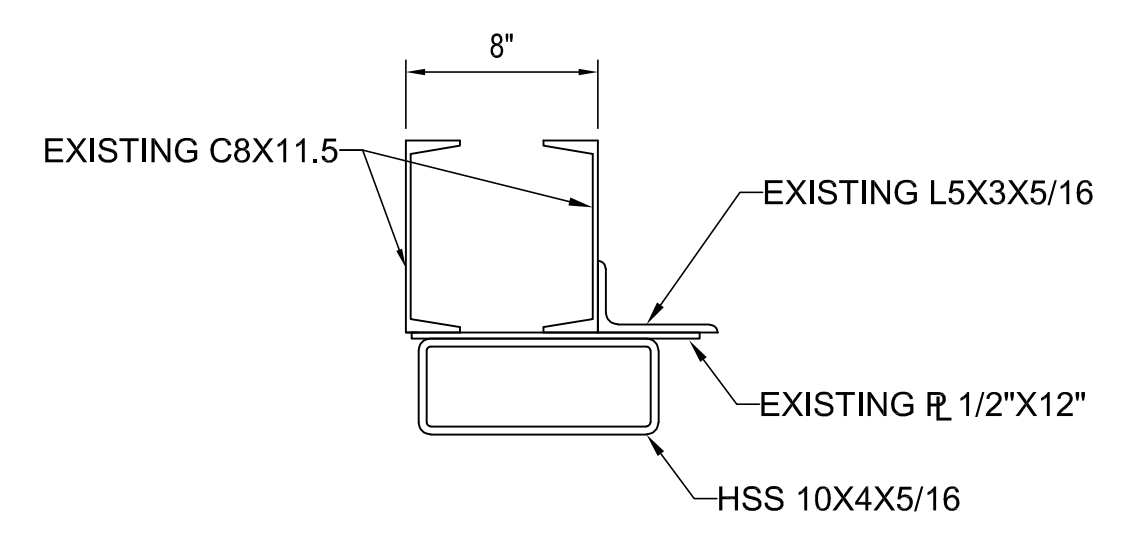
1 BEAM REINFORCEMENT DETAIL ELEVATION VIEW

1-1/2"=1'-0"



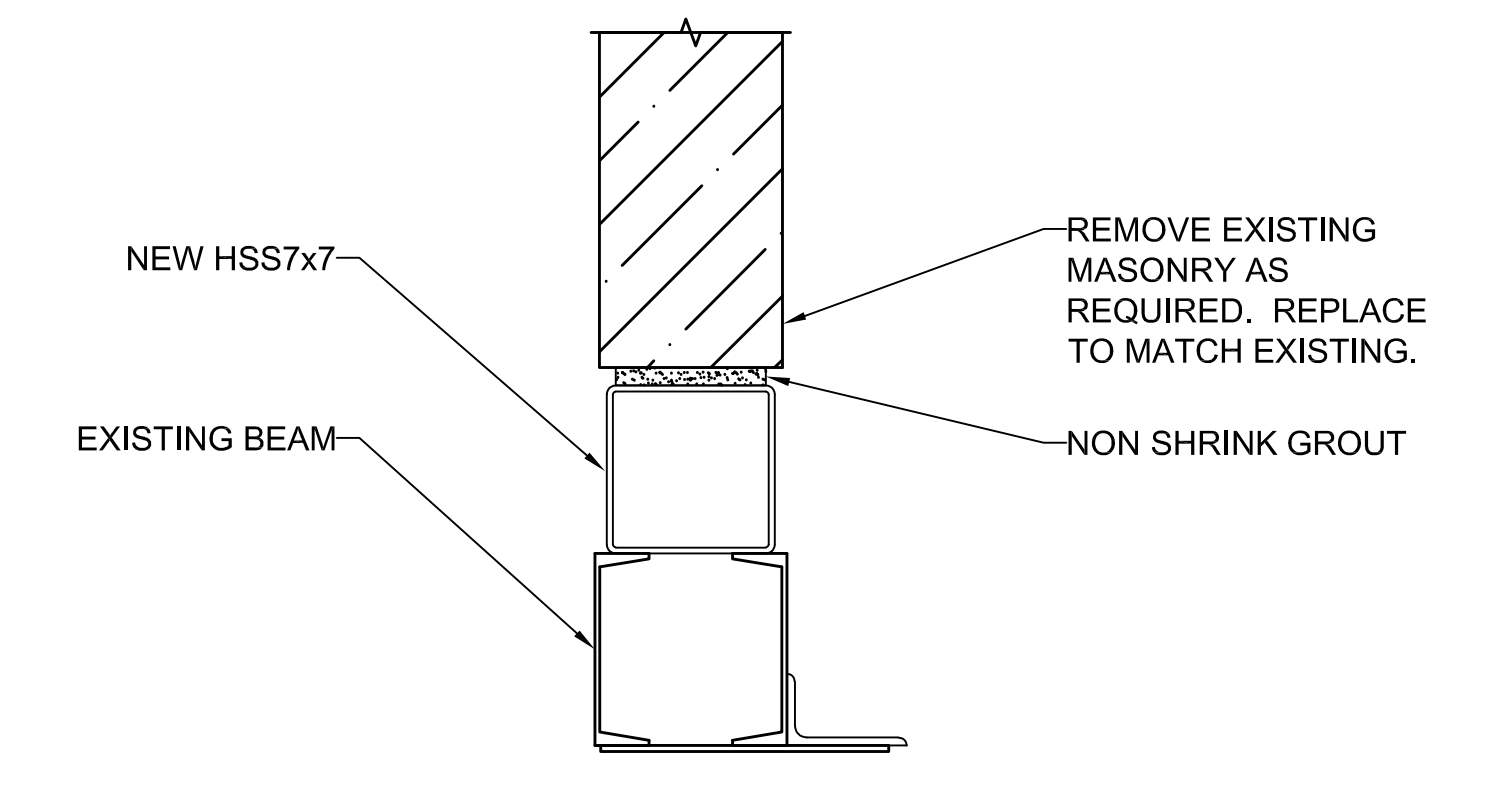
2 BEAM REINFORCEMENT DETAIL

1-1/2"=1'-0"



3 SECTION

1-1/2"=1'-0"



4 SECTION

1-1/2"=1'-0"

PLAN REVISIONS

Rev#	Description	Date	Appr.

DESIGNED BY: PAEL CUNNINGHAM	DATE: 4/11/2023
DRAWN BY: STEPHEN WEYMOUTH	SCALE: 1 1/2" = 1'-0"
CHECKED BY:	DFE PROJECT NO: 23SR23-406D

STATE OF MAINE  
DEPARTMENT OF DEFENSE, VETERANS  
AND EMERGENCY MANAGEMENT

Lincoln / Hancy  
Engineering Associates, Inc.  
Maine 00101  
Phone: 207-228-1801 Fax: 207-228-2541

MAINE ARMY NATIONAL GUARD ROOF  
WATERVILLE, MAINE  
ROOF STRUCTURAL REINFORCEMENT  
ROOFING ELEVATIONS  
AND SECTIONS

PLAN PROGRESS

<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input type="checkbox"/>	FOR BIDDING
<input checked="" type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:  
**R-503**  
SHEET: 10 of 10