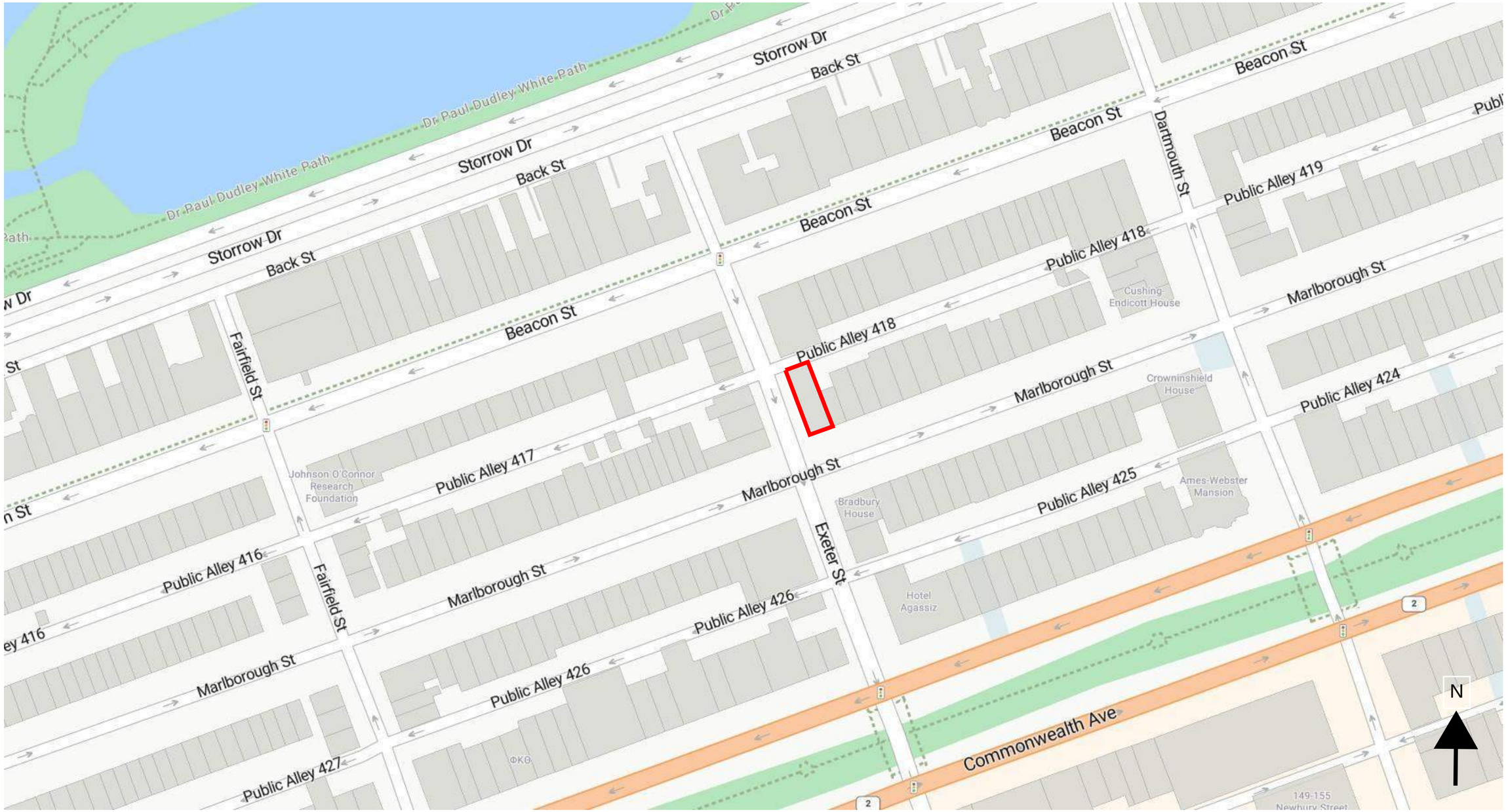

LOCUS PLAN

BUILDING ENVELOPE BET TECHNOLOGIES, INC.

50 OLIVER STREET, SUITE W-4
NORTH EASTON, MA 02356

Tel. 508 235 3587
www.buildingenvelopetech.com

199 MARLBOROUGH STREET,
BOSTON MA 02116

ROOF REPLACEMENT AND RELATED WORK

SOUTH ELEVATION - MARLBOROUGH STREET

PROJECT OVERVIEW

199 MARLBOROUGH STREET IS A 7 STORY BUILDING, ORIGINALLY CONSTRUCTED IN CIRCA 1890 AS AN APARTMENT BUILDING. IT SUBSEQUENTLY UNDERWENT MULTIPLE OCCUPANCIES, INCLUDING EDUCATIONAL DORMITORIES AND SIMILAR PURPOSES PRIOR TO BEING CONVERTED BACK TO RESIDENTIAL USE. THE PROPERTY WAS CONVERTED IN 1984 TO PROVIDE 18 INDEPENDENT CONDOMINIUMS.

SINCE 2020, THE PROPERTY HAS UNDERGONE A NUMBER OF RESTORATION EFFORTS. THESE PROGRAMS HAVE INCLUDED REMOVAL AND REPLACEMENT OF PENTHOUSE CLADDING, REPAIR OF MASONRY, REPAIR OF METAL CLADDING AND PAINTING, AND REPLACEMENT OF WINDOW SYSTEMS. THE EXISTING ROOF IS REPORTED TO DATE TO CIRCA 2008.

THE BUILDING IS BOUNDED BY MARLBOROUGH STREET TO THE SOUTH, EXETER STREET TO THE WEST, PUBLIC ALLEY 418 TO THE NORTH, AND THE ABUTTING 197 MARLBOROUGH STREET TO THE EAST.

THE PROPOSED PROJECT IS TO REPLACE THE LOW SLOPE ROOF SYSTEM ON THE BUILDING, WHICH IS LEAKING. THERE ARE THREE WOOD FRAMED DECKS ON THE ROOF WHICH MUST BE REMOVED AND REPLACED IN ORDER TO REPLACE THE ROOF. THE SCOPE OF WORK IS DESCRIBED IN DETAIL ON THE FOLLOWING ROOF PLAN DRAWING.

TWO OF THE THREE DECKS ARE BEING REPLACED IN THE SAME LOCATIONS AND CONFIGURATIONS AS THE EXISTING. THE ONLY PROPOSED CHANGE IS TO THE THIRD DECK WHICH WILL BE ENLARGED BY 4 FEET IN TWO DIRECTIONS ACCORDING TO THE 1993 ISD APPROVED DECK PLAN (ATTACHED). THE ONLY OTHER CHANGE IS TO EXTEND THE EXISTING RAILING ALONG THE EAST ROOF EDGE TO ENCLOSE THE ROOFTOP HVAC EQUIPMENT FOR SAFETY REASONS. PHOTOS OF THESE PROPOSED CHANGES ARE INCLUDED IN THIS SUBMISSION.

WEST ELEVATION - EXETER STREET

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OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

ROOF REPLACEMENT AND RELATED WORK

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
SCALE:	
DATE:	05/19/2026
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A1

ROOF WORK NOTES:

A1	EXISTING HVAC TO BE REMOVED AND REINSTALLED.
A2	EXISTING VENT AND CURB TO BE REMOVED AND REPLACED. HEIGHT OF NEW CURB TO ACCOMMODATE THE NEW ROOF ELEVATION. (SEE DETAIL 7/A103)
A3	EXISTING VENT PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAILS 8/A103)
4A	EXISTING ROOF STAND PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAIL 8/A103)
A5	PITCH POCKET TO BE REMOVED AND REPLACED. POURABLE SEALER POCKET TO BE INSTALLED. (SEE DETAIL 5/A103)
A6	ROOF TERMINATION AT WALL: EXISTING S.S. COPPER PANEL TO BE TRIMMED UP TO ALLOW FOR NEW ROOF BASE FLASHING. SEE DETAIL 6/A104)
A7	ROOF FASCIA: FASCIA TO BE REMOVED AND REPLACED. (SEE DETAIL 3/4/6/A103 & 1/4/A104)
A8	DECK RAILING: EXISTING DECK RAILS TO BE REMOVED AND REPLACED.
A9	PROVIDE NON-PENETRATING GUARDRAILS IN THE LOCATIONS INDICATED IN THE DRAWINGS.
A10	EXISTING GUTTER TO REMAIN. DOWNSPOUT EXTENSION: DOWNSPOUT TO BE CUT BACK AND EXTENSION TO BE RAISED TO ACCOMMODATE NEW ROOF ELEVATION.
A11	NEW SWINGING GATE LOCKABLE IN GUARDRAIL AND RAILING.
A12	NEW FALL ARREST ANCHOR TO BE INSTALLED IN THE LOCATIONS INDICATED IN THE PLANS.
A13	EXISTING PLANTERS TO BE REMOVED AND REPLACED. SIZES AND LOCATIONS AS INDICATED ON THE DRAWINGS.
A14	NEW ELEVATED 2' X 2' HYBRID PEDESTAL PORCELAIN PAVERS. REFER TO SHEETS 106 & 107.
A15	EXISTING SKYLIGHT TO REMAIN.
A16	NEW CONDENSER RACK SYSTEM
A17	REMOVE AND REINSTALL DOOR WITH NEW PAN FLASHING
A18	REPOINT MASONRY
A19	EXISTING GUTTER AND DOWNSPOUT TO BE REMOVED AND REPLACED.

SYMBOL LEGEND:

- DECK RAILING
- GUARDRAIL
- OLD SLEEPERS
- NEW CONDENSER RACKS
- NEW CONDENSER RACK LEGS & SPRINGS
- ROOF STAND PIPE
- VENT PIPE
- PITCH POCKET
- FALL ARREST ANCHOR
- 8" X 36" WOOD SLEEPER
- 4' X 4' STRUCTURAL DECK INVESTIGATION

SCOPE SUMMARY FOR LANDMARKS COMMISSION REVIEW:

- ROOFING: REMOVE AND REPLACE THE EXISTING FLAT EPDM MEMBRANE ROOF SYSTEM WITH A NEW MODIFIED BITUMEN ROOF SYSTEM AT THE MAIN BUILDING ROOF AND THE PENTHOUSE FLAT ROOF.

- DECKS: REMOVE AND REPLACE THE ROOFTOP DECKS WITH NEW PEDESTAL PAVER PATIOS. LOCATIONS AND CONFIGURATION TO MATCH EXISTING, EXCEPT SOUTHERN DECK TO BE EXTENDED 4 FEET TO SOUTH AND EAST TO MATCH ORIGINAL ROOF DECK PLAN APPROVED BY ISD IN 1999 (SEE ATTACHED).

- RAILINGS: REMOVE AND REPLACE WITH NEW ORNAMENTAL IRON RAILINGS, PAINTED BLACK. ADD WROUGHT IRON GUARD RAIL EXTENSION AT REAR OF ROOF AROUND HVAC EQUIPMENT FOR SAFETY.

- ROOF EDGE: REMOVE AND REPLACE EXISTING COPPER ROOF FASCIA WITH NEW COPPER FASCIA.

- GUTTER: REMOVE AND REPLACE REAR COPPER GUTTER IN KIND.

- NO WORK AT MASONRY CHIMNEYS.

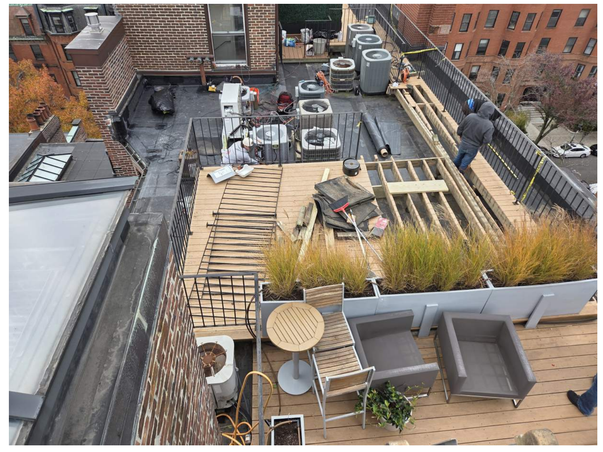
- EXISTING ROOFTOP HVAC CONDENSERS TO BE REMAIN.

- NO WORK AT PENTHOUSES EXCEPT REPLACEMENT OF FLAT ROOF SYSTEM. ALL EXISTING COPPER CLADDING AND MASONRY TO REMAIN AS IS.

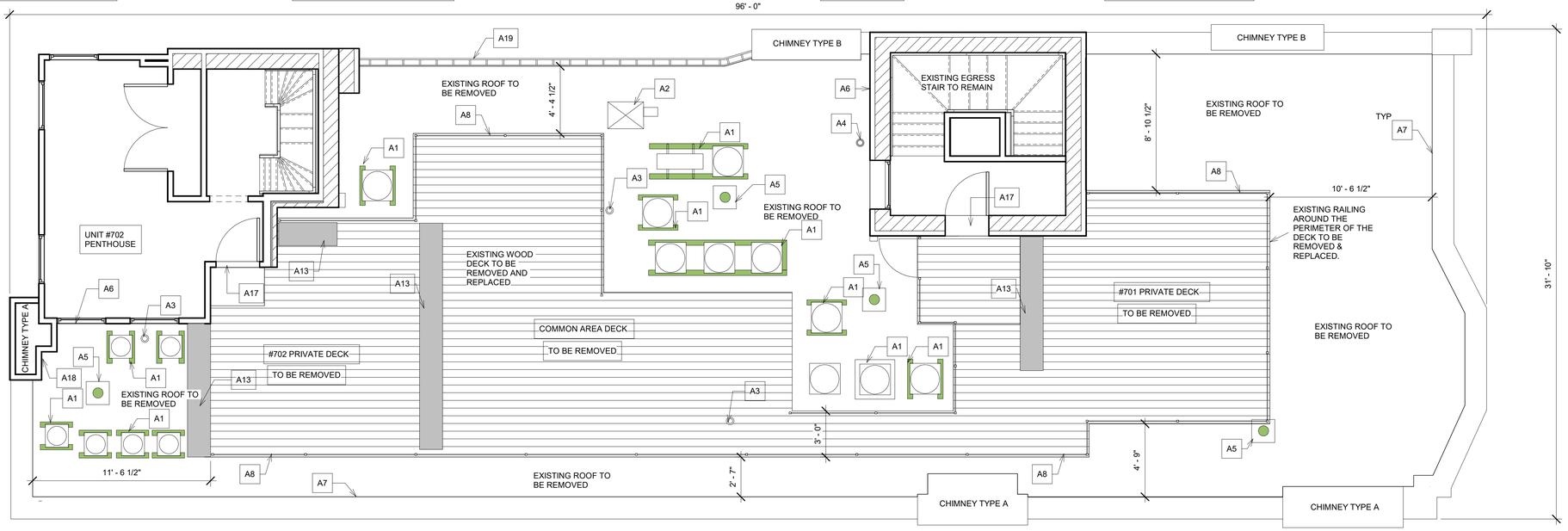
EXISTING PENTHOUSE - UNIT 702

EXISTING COMMON ROOF ENTRANCE

EXISTING GUTTER



OVERALL VIEW OF EXISTING DECK



1 Existing Roof Plan_LC
1/4" = 1'-0"

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OWNER

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P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

EXISTING ROOF PLAN

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
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DRAWING NUMBER

A2

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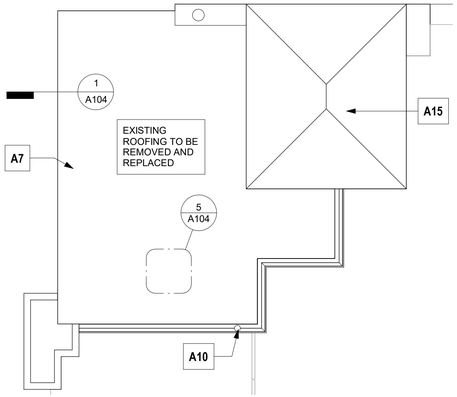
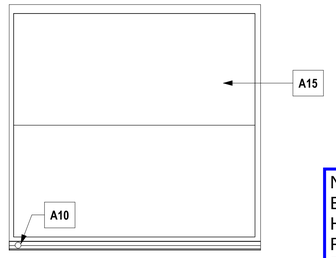


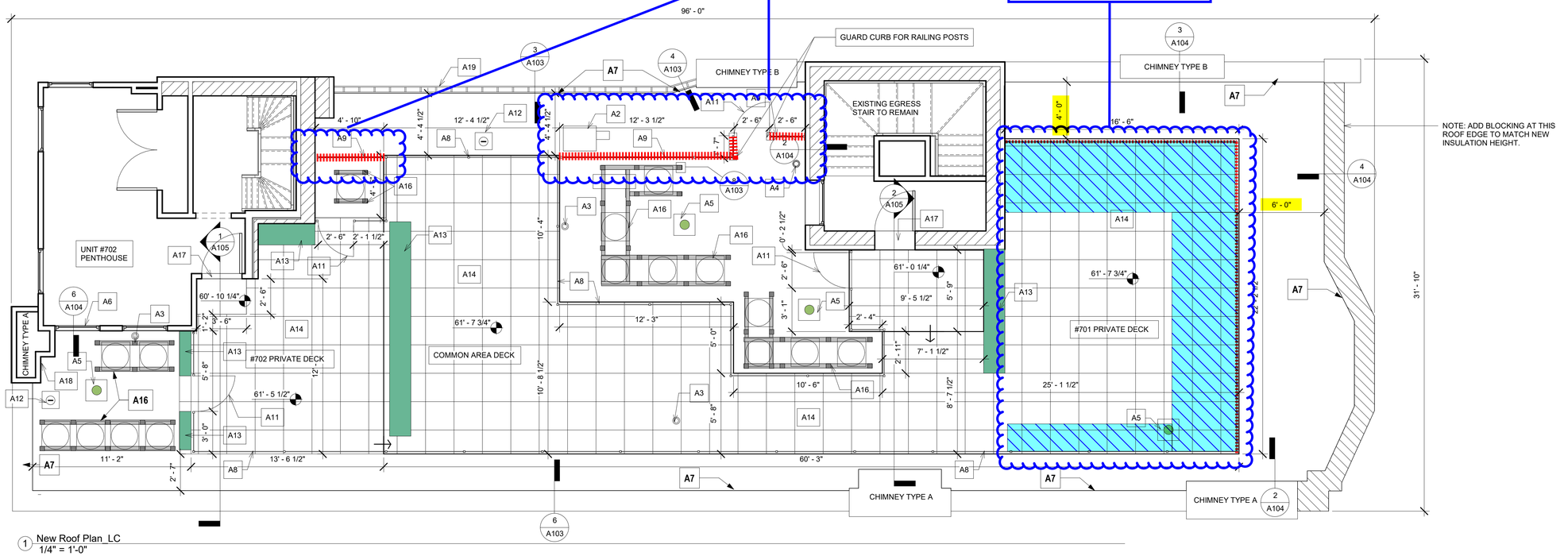
3 Penthouse Roof - Unit 702 Copy 1
1/4" = 1'-0"



2 Penthouse Roof - Common Deck Entrance Copy 1
1/4" = 1'-0"

NEW SAFETY GUARDRAIL EXTENSIONS TO ENCLOSE HVAC CONDENSERS ALONG REAR ROOF EDGE (RED DASHED LINES)

PROPOSED SOUTHERN DECK MODIFICATION. BLUE AREA SHOWS PROPOSED LARGER DECK SIZE RESTORED TO SETBACKS APPROVED BY ISD IN 1993 (ATTACHED).



1 New Roof Plan_LC
1/4" = 1'-0"

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OWNER

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P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

NEW ROOF PLAN

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
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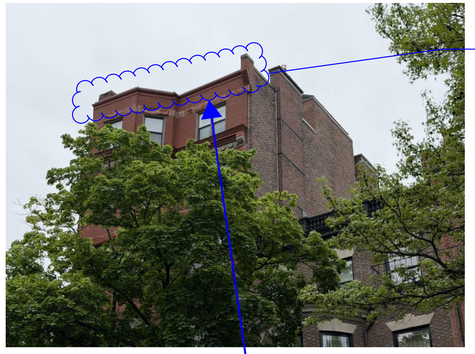
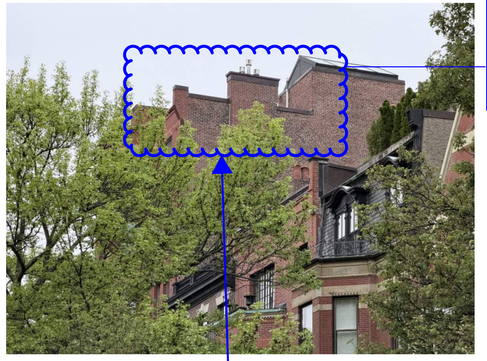
DRAWING NUMBER

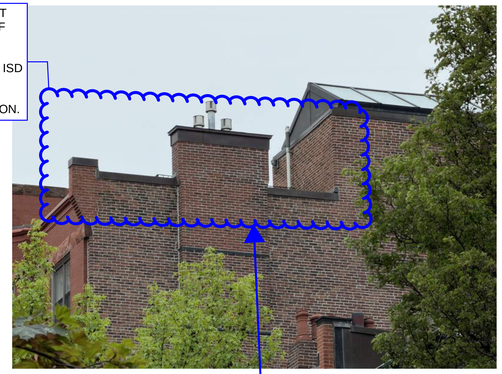
A3



SOUTH ELEVATION - MARLBOROUGH STREET - VIEW 1

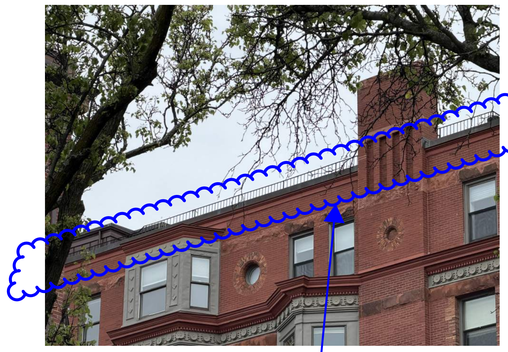


EAST ELEVATION - MARLBOROUGH STREET - VIEW 2

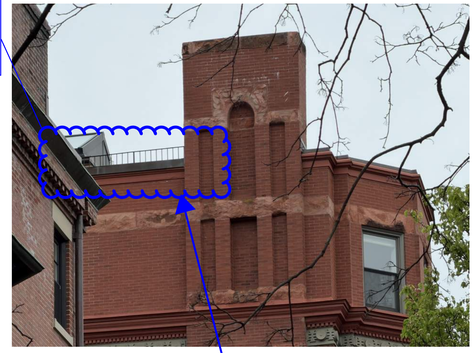


EAST ELEVATION - MARLBOROUGH STREET - VIEW 3

WEST ELEVATION - MARLBOROUGH STREET - VIEW 4



WEST ELEVATION - MARLBOROUGH STREET - VIEW 5



WEST ELEVATION - MARLBOROUGH STREET - VIEW 6

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OWNER

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Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

SOUTH EAST AND WEST ELEVATIONS FROM STREET LEVEL

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
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DRAWING NUMBER

A4

ONLY HVAC UNIT VISIBLE FROM THE STREET. IT WILL BE REMOVED AND REINSTALLED IN SAME LOCATION

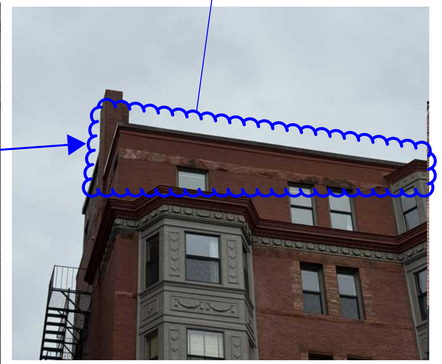
EXISTING COPPER FASCIA TO BE REPLACED WITH NEW COPPER FASCIA.

WEST ELEVATION - EXETER STREET - VIEW 1

WEST ELEVATION - EXETER STREET - VIEW 2

WEST ELEVATION - EXETER STREET - VIEW 3

EXISTING COPPER FASCIA TO BE REPLACED WITH NEW COPPER FASCIA.



WEST ELEVATION - PUBLIC ALLEY 418 - VIEW 1

NEW RAILING WILL BE REPLACED IN SAME LOCATION AND EXTENDED TO THE LEFT ACROSS THE BACK OF THE ROOF AS A SAFETY GUARDRAIL FOR THE HVAC CONDENSERS.

EXISTING COPPER GUTTER TO BE REMOVED AND REPLACED IN KIND.

EAST ELEVATION - PUBLIC ALLEY 418 - VIEW 2

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PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

NORTH EAST AND WEST ELEVATIONS FROM STREET LEVEL

REV.	DATE	REMARK

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DRAWING NUMBER

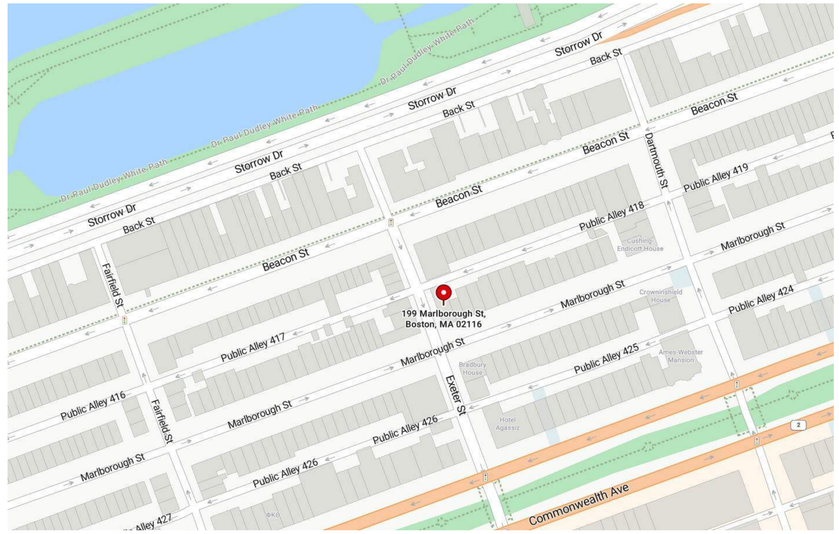
A5

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

PRICING SET
05/11/26

Sheet List	
Sheet Number	Sheet Name
A000	COVER SHEET
A100	EXISTING ROOF PLAN
A101	NEW ROOF PLAN
A102	REPLACEMENT DECK STRUCTURE
A103	ROOF DETAILS
A104	ROOF DETAILS
A105	ROOF ENTRANCES SECTION DETAILS
A106	PORCELAIN PAVER DETAILS
A107	PORCELAIN PAVER DETAILS
A108	MASONRY DETAILS



LOCATION MAP

BUILDING ENVELOPE
BET
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PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

COVER SHEET

REV.	DATE	REMARK

PROJECT NO:	25095
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SCALE:	1" = 1'-0"
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DRAWING NUMBER

A000

GENERAL NOTES:

1. CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCING WORK.

2. CONTRACTOR TO VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE DESIGNER PRIOR TO COMMENCING CONSTRUCTION.

3. SCOPE OF WORK AREA SHOWN ON THESE DRAWINGS ARE APPROXIMATE. EXACT AREAS AND DIMENSIONS OF EXISTING ELEMENTS AND EXTENT OF REPAIRS TO BE VERIFIED IN FIELD.

4. CONTRACTOR TO PERFORM ALL WORK IN A PROPER, SAFE, EXPEDITIOUS, WORKMANLIKE MANNER, AND IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL LAWS, CODES AND REGULATIONS.

5. CONTRACTOR TO BE MINDFUL OF ALL EXISTING CONSTRUCTION TO REMAIN AND PROVIDE PROTECTION AS NECESSARY TO MINIMIZE ANY CHANCE OF DAMAGE. THE CONTRACTOR SHALL REPAIR AND RESTORE ALL DAMAGED CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN PRE-CONSTRUCTION.

6. NO AREAS OF THE ROOF SHALL BE LEFT OPEN OR UNPROTECTED AT THE END OF A WORK DAY.

7. ALL DEBRIS AND ABANDONED MATERIALS TO BE REMOVED FROM ROOF.

8. THE BUILDING WILL REMAIN FULLY OCCUPIED DURING CONSTRUCTION.

ROOF WORK NOTES:

A1 EXISTING HVAC TO BE REMOVED AND REPLACED WITH RACK SYSTEM.

A2 EXISTING VENT AND CURB TO BE REMOVED AND REPLACED. HEIGHT OF NEW CURB TO ACCOMMODATE THE NEW ROOF ELEVATION. (SEE DETAIL 7/A103)

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A11 NEW SWINGING GATE LOCKABLE IN GUARDRAIL AND RAILING.

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- GUARDRAIL
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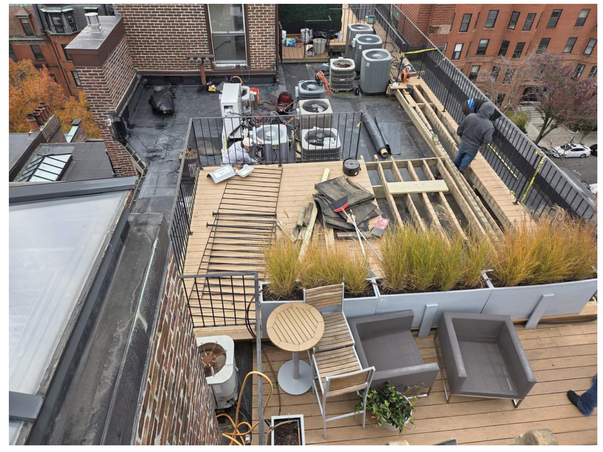
- NEW CONDENSER RACKS
- NEW CONDENSER RACK LEGS & SPRINGS
- ROOF STAND PIPE
- VENT PIPE
- PITCH POCKET
- FALL ARREST ANCHOR
- 8" X 36" WOOD SLEEPER
- 4' X 4' STRUCTURAL DECK INVESTIGATION

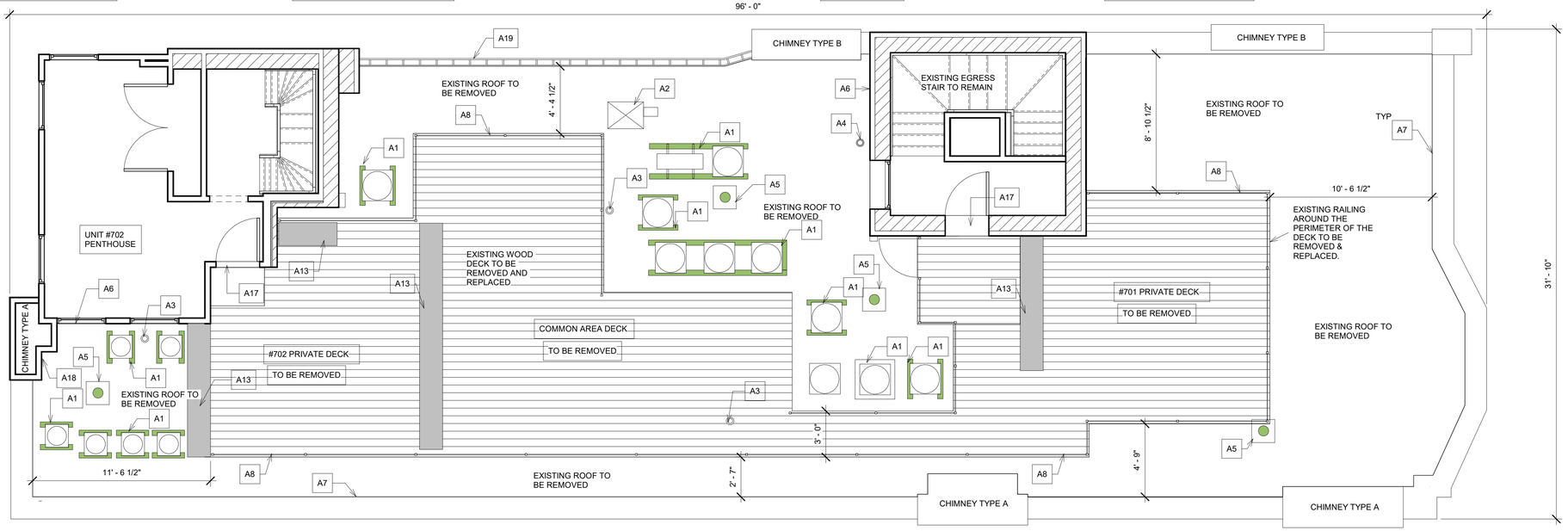
EXISTING PENTHOUSE - UNIT 702

EXISTING COMMON ROOF ENTRANCE

EXISTING GUTTER



OVERALL VIEW OF EXISTING DECK



1 Existing Roof Plan
1/4" = 1'-0"

BUILDING ENVELOPE BET TECHNOLOGIES, INC.

50 Oliver Street, Suite W-4
North Easton, MA 02356
(T) 508 238 3587
(F) 508 238 3718
WWW.BUILDINGENVELOPETECH.COM

OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

EXISTING ROOF PLAN

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A100

GENERAL NOTES:

1. CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCING WORK.

2. CONTRACTOR TO VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE DESIGNER PRIOR TO COMMENCING CONSTRUCTION.

3. SCOPE OF WORK AREA SHOWN ON THESE DRAWINGS ARE APPROXIMATE. EXACT AREAS AND DIMENSIONS OF EXISTING ELEMENTS AND EXTENT OF REPAIRS TO BE VERIFIED IN FIELD.

4. CONTRACTOR TO PERFORM ALL WORK IN A PROPER, SAFE, EXPEDITIOUS, WORKMANLIKE MANNER, AND IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL LAWS, CODES AND REGULATIONS.

5. CONTRACTOR TO BE MINDFUL OF ALL EXISTING CONSTRUCTION TO REMAIN AND PROVIDE PROTECTION AS NECESSARY TO MINIMIZE ANY CHANCE OF DAMAGE. THE CONTRACTOR SHALL REPAIR AND RESTORE ALL DAMAGED CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN PRE-CONSTRUCTION.

6. NO AREAS OF THE ROOF SHALL BE LEFT OPEN OR UNPROTECTED AT THE END OF A WORK DAY.

7. ALL DEBRIS AND ABANDONED MATERIALS TO BE REMOVED FROM ROOF.

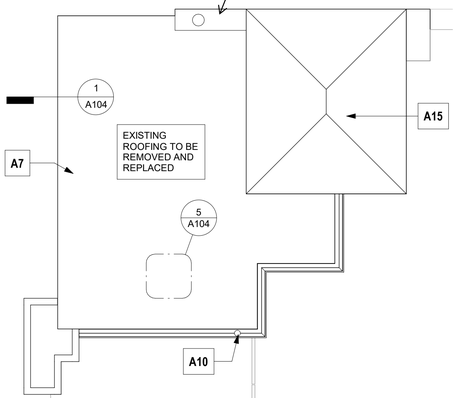
8. THE BUILDING WILL REMAIN FULLY OCCUPIED DURING CONSTRUCTION.

ROOF WORK NOTES:

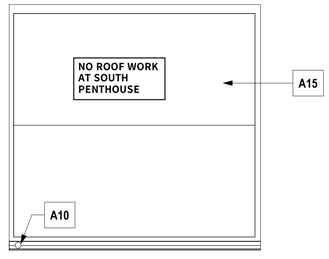
A1	EXISTING HVAC TO BE REMOVED AND REPLACED WITH RACK SYSTEM.
A2	EXISTING VENT AND CURB TO BE REMOVED AND REPLACED. HEIGHT OF NEW CURB TO ACCOMMODATE THE NEW ROOF ELEVATION. (SEE DETAIL 7/A103)
A3	EXISTING VENT PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAILS 8/A103)
4A	EXISTING ROOF STAND PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAIL 8/A103)
A5	PITCH POCKET TO BE REMOVED AND REPLACED. POURABLE SEALER POCKET TO BE INSTALLED. (SEE DETAIL 5/A103)
A6	ROOF TERMINATION AT WALL: EXISTING S.S. COPPER PANEL TO BE TRIMMED UP TO ALLOW FOR NEW ROOF BASE FLASHING. SEE DETAIL 6/A104)
A7	ROOF FASCIA: FASCIA TO BE REMOVED AND REPLACED. (SEE DETAIL 3/4/6/A103 & 1/4/A104)
A8	DECK RAILING: EXISTING DECK RAILS TO BE REMOVED AND REPLACED.
A9	PROVIDE NON-PENETRATING GUARDRAILS IN THE LOCATIONS INDICATED IN THE DRAWINGS.
A10	EXISTING GUTTER TO REMAIN. DOWNSPOUT EXTENSION: DOWNSPOUT TO BE CUT BACK AND EXTENSION TO BE RAISED TO ACCOMMODATE NEW ROOF ELEVATION.
A11	NEW SWINGING GATE LOCKABLE IN GUARDRAIL AND RAILING.
A12	NEW FALL ARREST ANCHOR TO BE INSTALLED IN THE LOCATIONS INDICATED IN THE PLANS.
A13	EXISTING PLANTERS TO BE REMOVED AND REPLACED. SIZES AND LOCATIONS AS INDICATED ON THE DRAWINGS.
A14	NEW ELEVATED 2' X 2' HYBRID PEDESTAL PORCELAIN PAVERS. REFER TO SHEETS 106 & 107.
A15	EXISTING SKYLIGHT TO REMAIN.
A16	NEW CONDENSER RACK SYSTEM
A17	REMOVE AND REINSTALL DOOR WITH NEW PAN FLASHING
A18	REPOINT MASONRY
A19	EXISTING GUTTER AND DOWNSPOUT TO BE REMOVED AND REPLACED.

SYMBOL LEGEND:

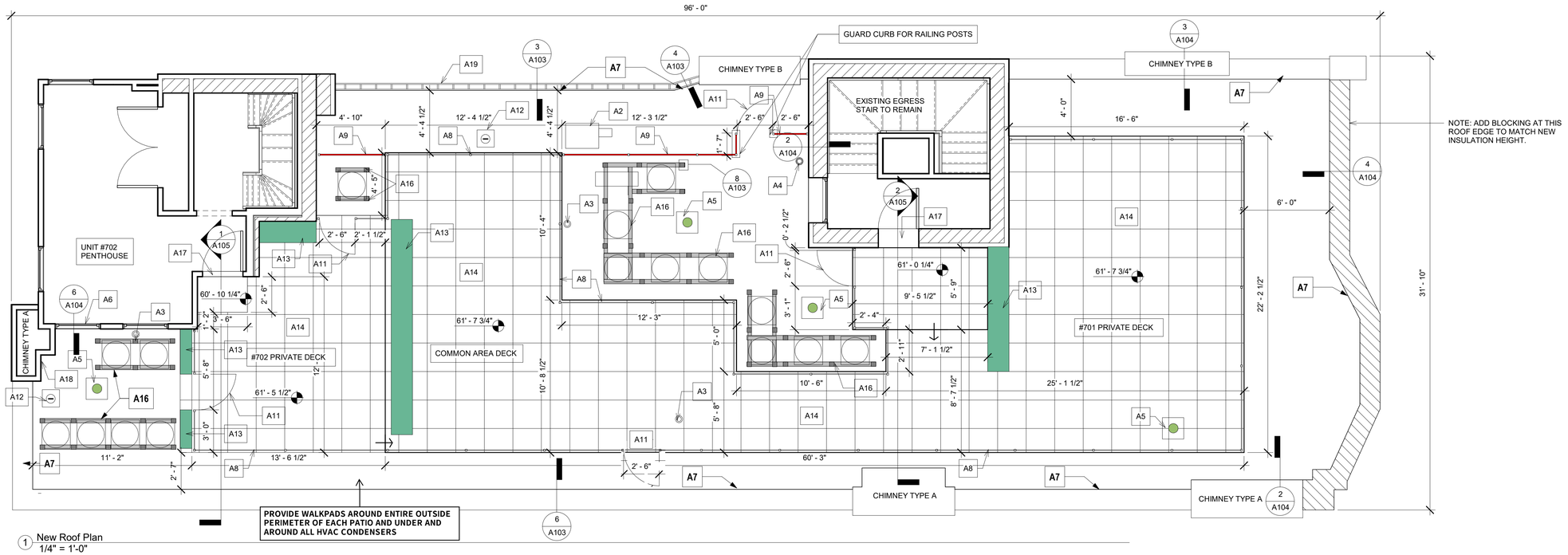
- DECK RAILING
- GUARDRAIL
- OLD SLEEPERS
- NEW CONDENSER RACKS
- NEW CONDENSER RACK LEGS & SPRINGS
- ROOF STAND PIPE
- VENT PIPE
- PITCH POCKET
- FALL ARREST ANCHOR
- 8" X 36" WOOD SLEEPER
- 4' X 4' STRUCTURAL DECK INVESTIGATION



3 Penthouse Roof - Unit 702
1/4" = 1'-0"



2 Penthouse Roof - Common Deck Entrance
1/4" = 1'-0"



1 New Roof Plan
1/4" = 1'-0"

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OWNER

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c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

NEW ROOF PLAN

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A101

GENERAL NOTES:

1. CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCING WORK.

2. CONTRACTOR TO VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE DESIGNER PRIOR TO COMMENCING CONSTRUCTION.

3. SCOPE OF WORK AREA SHOWN ON THESE DRAWINGS ARE APPROXIMATE. EXACT AREAS AND DIMENSIONS OF EXISTING ELEMENTS AND EXTENT OF REPAIRS TO BE VERIFIED IN FIELD.

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7. ALL DEBRIS AND ABANDONED MATERIALS TO BE REMOVED FROM ROOF.

8. THE BUILDING WILL REMAIN FULLY OCCUPIED DURING CONSTRUCTION.

ROOF WORK NOTES:

A1	EXISTING HVAC TO BE REMOVED AND REPLACED WITH RACK SYSTEM.
A2	EXISTING VENT AND CURB TO BE REMOVED AND REPLACED. HEIGHT OF NEW CURB TO ACCOMMODATE THE NEW ROOF ELEVATION. (SEE DETAIL 7/A103)
A3	EXISTING VENT PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAILS 8/A103)
4A	EXISTING ROOF STAND PIPE TO REMAIN. EXISTING FLASHING TO BE REMOVED AND REPLACED. (SEE DETAIL 8/A103)
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A10	EXISTING GUTTER TO REMAIN. DOWNSPOUT EXTENSION: DOWNSPOUT TO BE CUT BACK AND EXTENSION TO BE RAISED TO ACCOMMODATE NEW ROOF ELEVATION.
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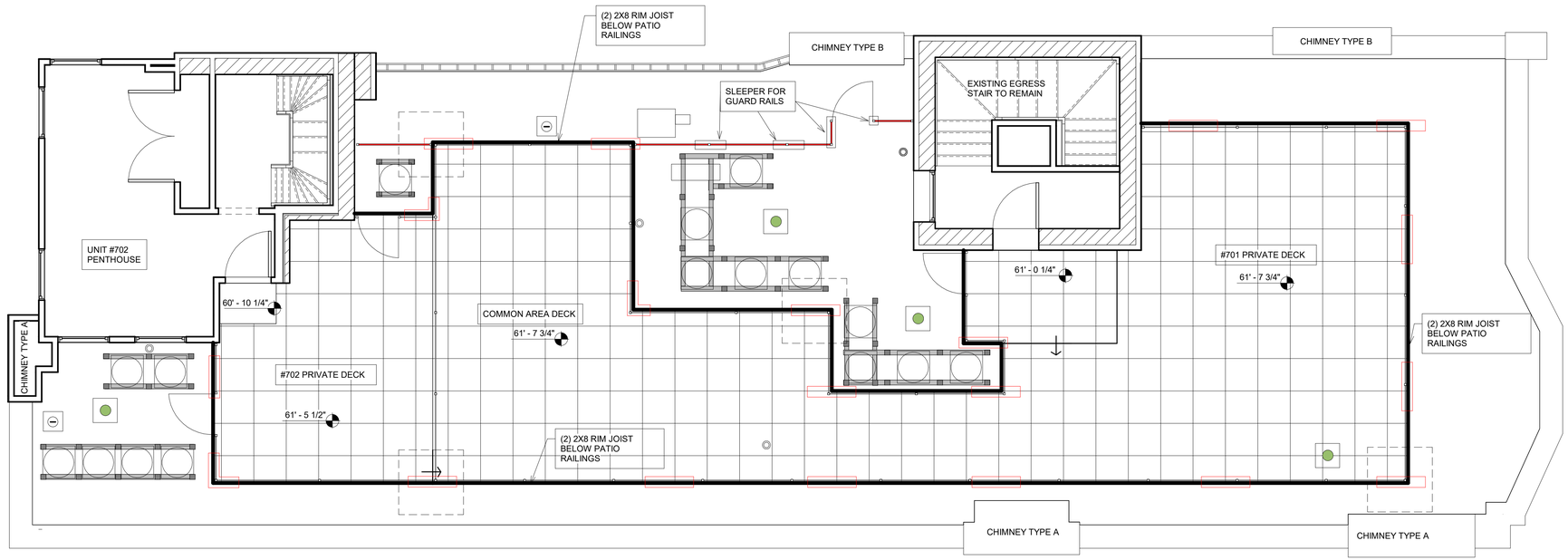
A18	REPOINT MASONRY
A19	EXISTING GUTTER AND DOWNSPOUT TO BE REMOVED AND REPLACED.

SYMBOL LEGEND:

- DECK RAILING
- GUARDRAIL
- OLD SLEEPERS
- NEW CONDENSER RACKS
- NEW CONDENSER RACK LEGS & SPRINGS
- ROOF STAND PIPE
- VENT PIPE
- PITCH POCKET
- FALL ARREST ANCHOR
- 8" X 36" WOOD SLEEPER
- 4' X 4' STRUCTURAL DECK INVESTIGATION



1 Roof & Roof Deck Replacement_
1/4" = 1'-0"

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OWNER

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c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

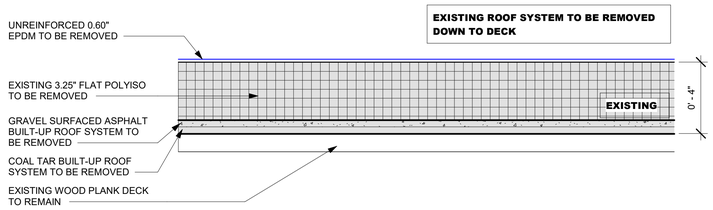
REPLACEMENT DECK STRUCTURE

REV.	DATE	REMARK

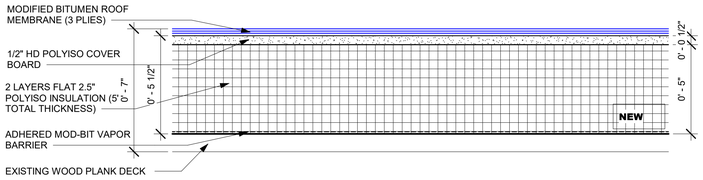
PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A102



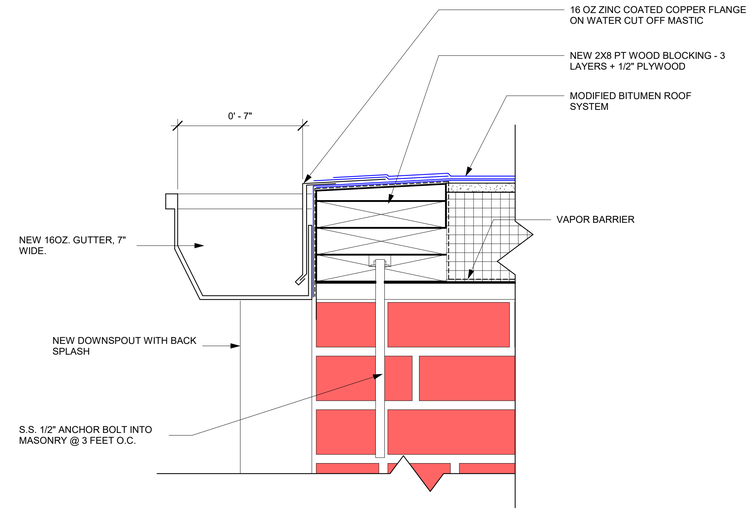
1 EXISTING EPDM ROOF
3" = 1'-0"



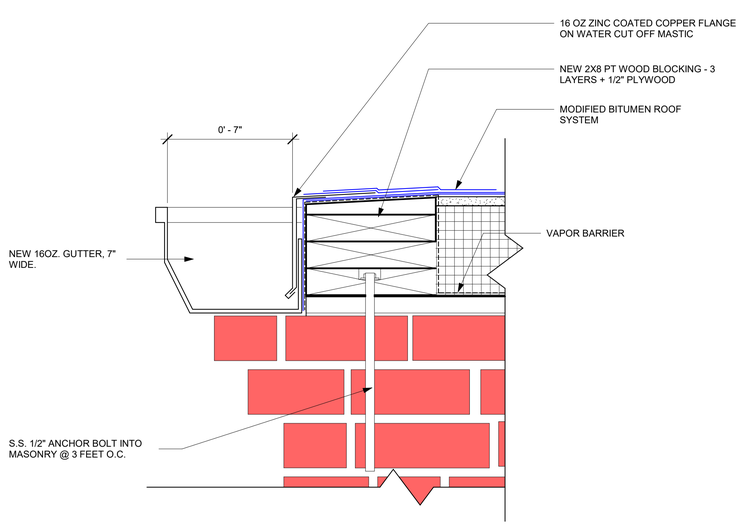
REPORT TO THE ARCHITECT ANY DISCREPANCIES PRIOR TO COMMENCING THE WORK.

PROVIDE CRICKETS AS REQUIRED AT CURBS & PENTHOUSES FOR DRAINAGE.

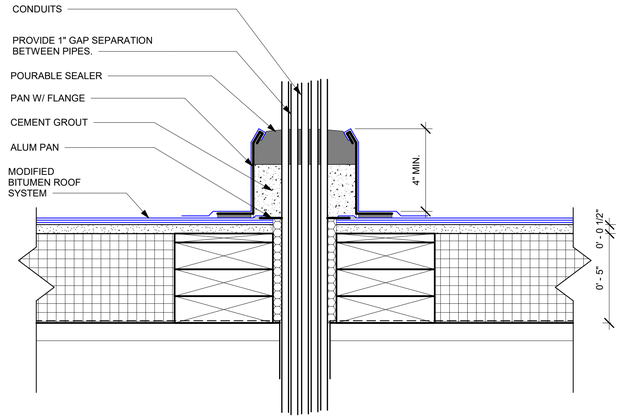
2 NEW MODIFIED BITUMEN ROOF
3" = 1'-0"



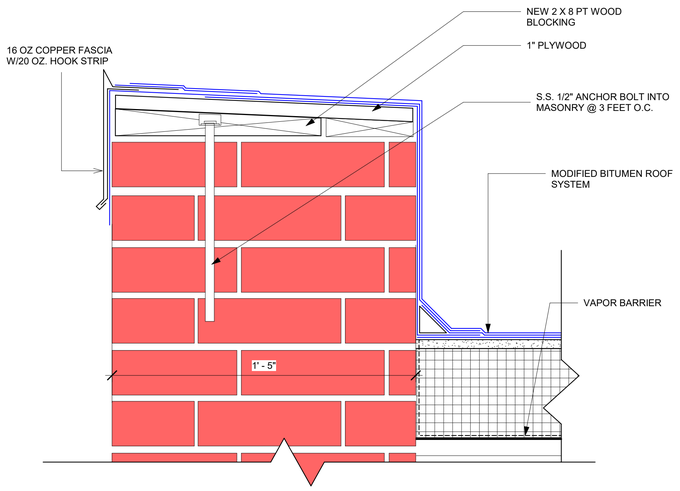
3 ROOF DETAIL AT GUTTER
3" = 1'-0"



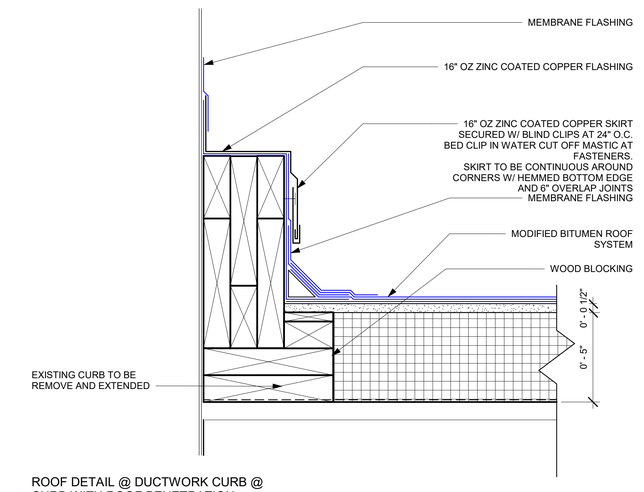
4 ROOF DETAIL AT GUTTER ON CORBELED LEDGE
3" = 1'-0"



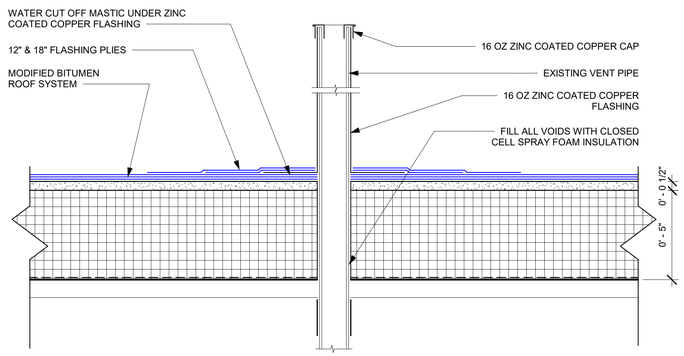
5 ROOF DETAIL @ CONDUIT
3" = 1'-0"



6 ROOF DETAIL @ TYP PARAPET WALL
3" = 1'-0"



7 ROOF DETAIL @ DUCTWORK CURB @ CURB WITH ROOF PENETRATION
3" = 1'-0"



8 ROOF DETAIL @ VENT PIPE FLASHING
3" = 1'-0"

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TECHNOLOGIES, INC.

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OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

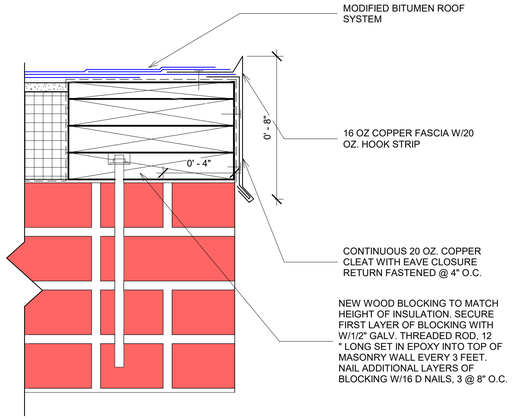
ROOF DETAILS

REV.	DATE	REMARK

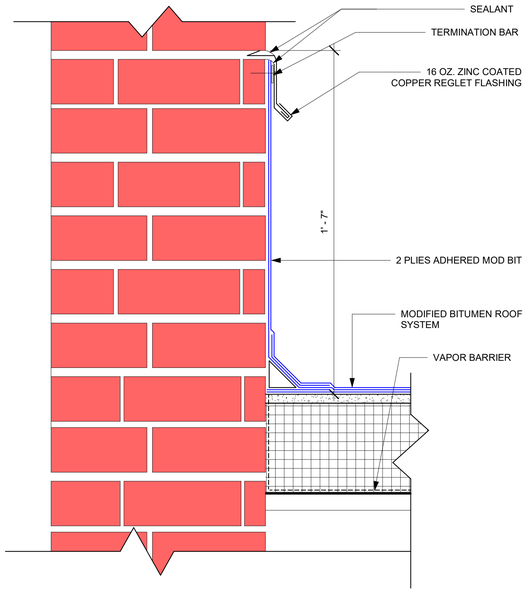
PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	3" = 1'-0"
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

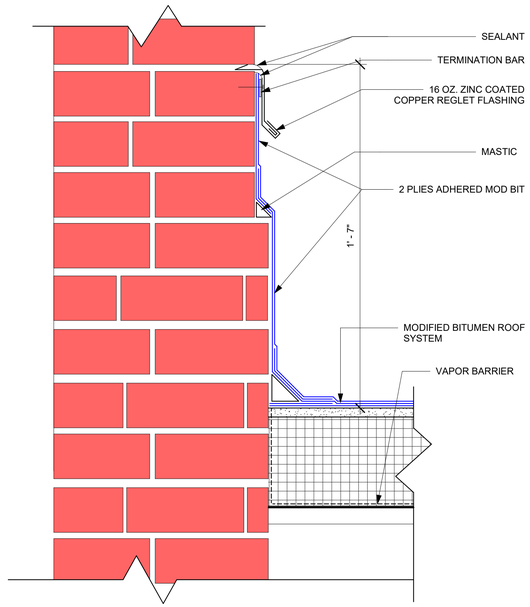
A103



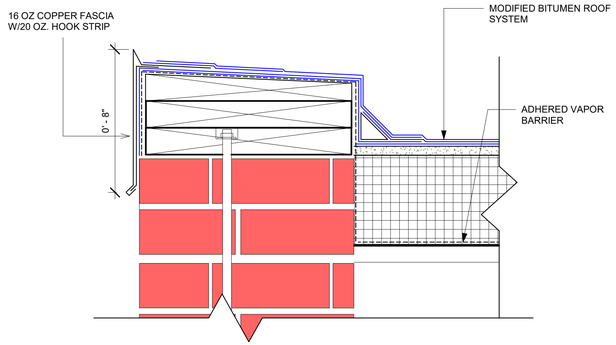
1 PENTHOUSE ROOF EDGE
3" = 1'-0"



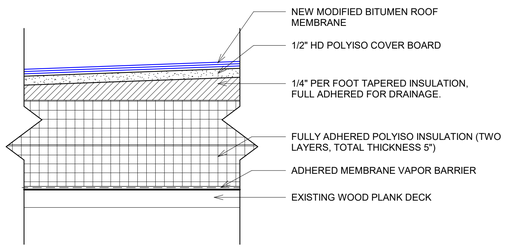
2 ROOF DETAIL @ CHIMNEY TYPE A
3" = 1'-0"



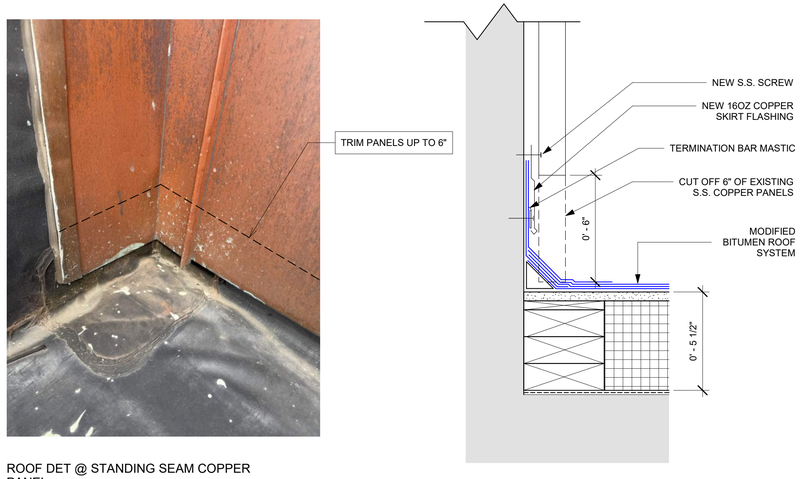
3 ROOF DETAIL @ CHIMNEY TYPE B
3" = 1'-0"



4 ROOF DETAIL @ FRONT PARAPET WALL
3" = 1'-0"



5 PENTHOUSE ROOF
3" = 1'-0"



6 ROOF DET @ STANDING SEAM COPPER PANEL
3" = 1'-0"

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PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

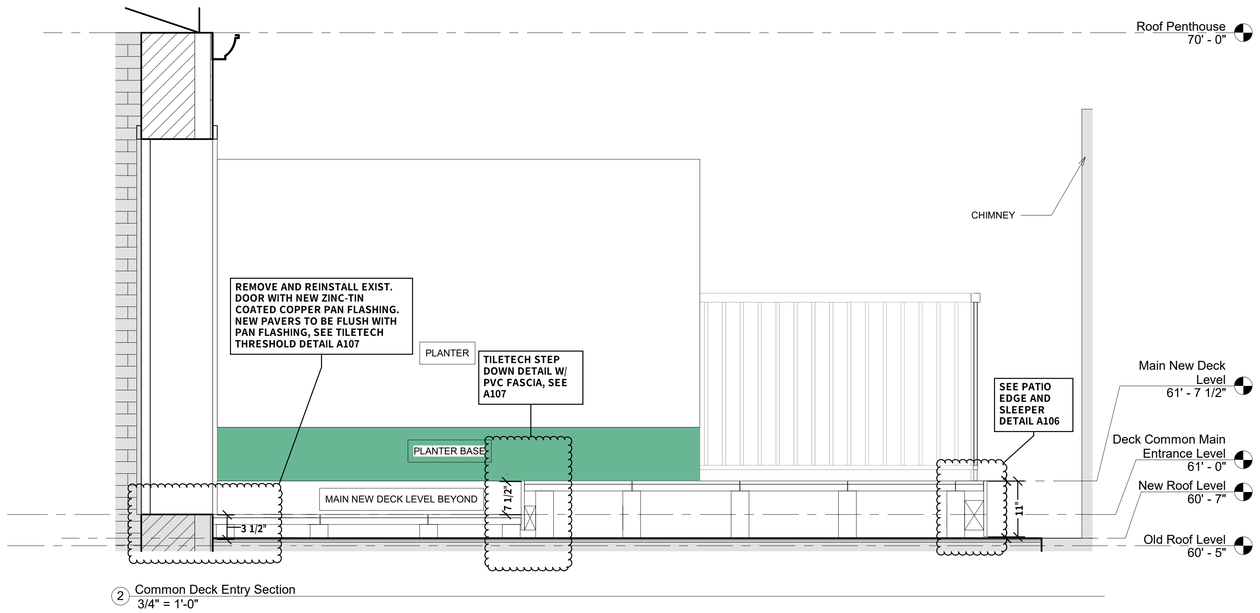
ROOF DETAILS

REV.	DATE	REMARK

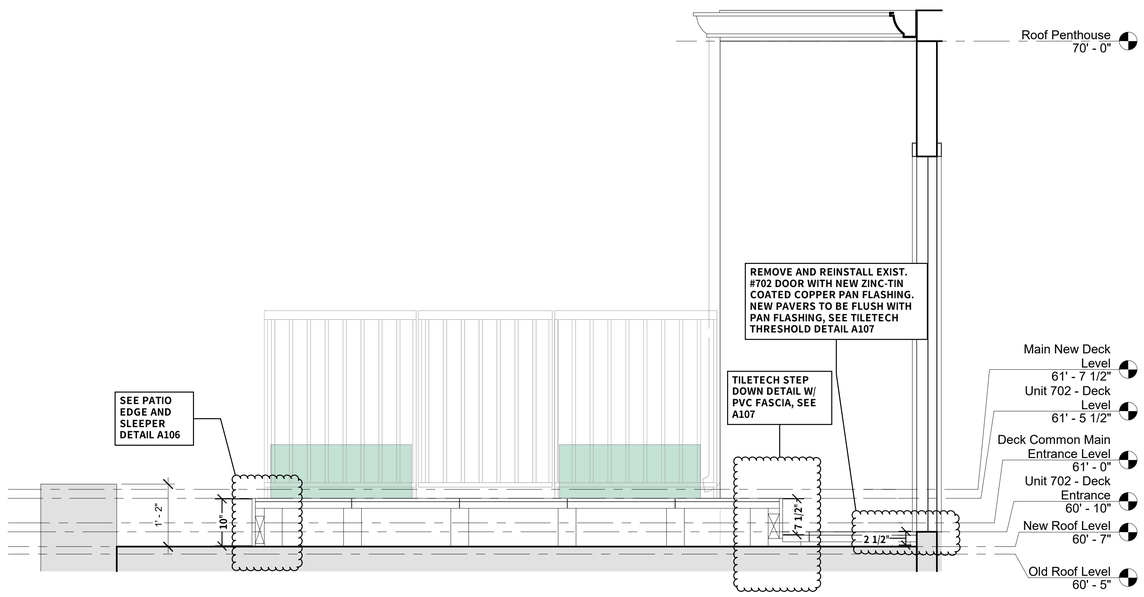
PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	3" = 1'-0"
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

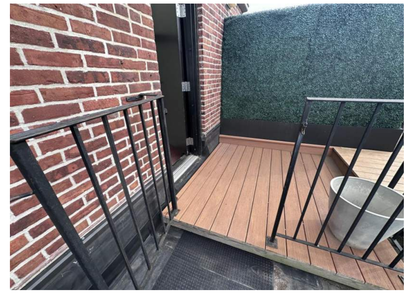
A104



2 Common Deck Entry Section
3/4" = 1'-0"

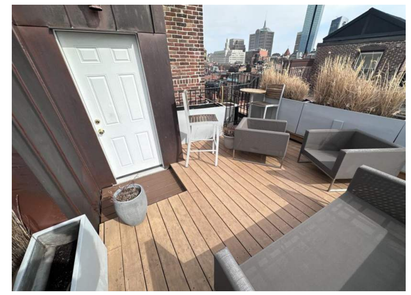


1 Unit 702 - Deck Entry Section
3/4" = 1'-0"



COMMON/701 PATIO - REMOVE AND REINSTALL DOOR WITH NEW ZTCC PAN FLASHING. PROVIDE LOWER LANDING FLUSH WITH DOOR PAN, THEN STEP UP TO PATIO LEVEL.

CLOSE UP VIEW OF COMMON ENTRANCE. DOOR OPENING IS ~5.5" ABOVE EXISTNG ROOF SURFACE



UNIT 702 PATIO. REMOVE AND REINSTALL DOOR WITH NEW ZTCC PAN FLASHING. PROVIDE LOWER LANDING FLUSH WITH DOOR PAN, THEN STEP UP TO PATIO LEVEL.

CLOSE UP VIEW OF UNIT 702 PATIO. DOOR OPENING IS ~4.5" ABOVE EXISITNG ROOF SURFACE

BUILDING ENVELOPE
BET
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PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

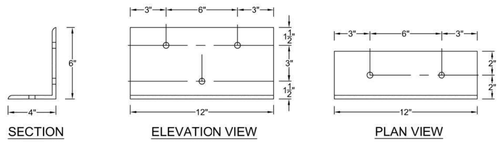
ROOF ENTRANCES SECTION DETAILS

REV.	DATE	REMARK

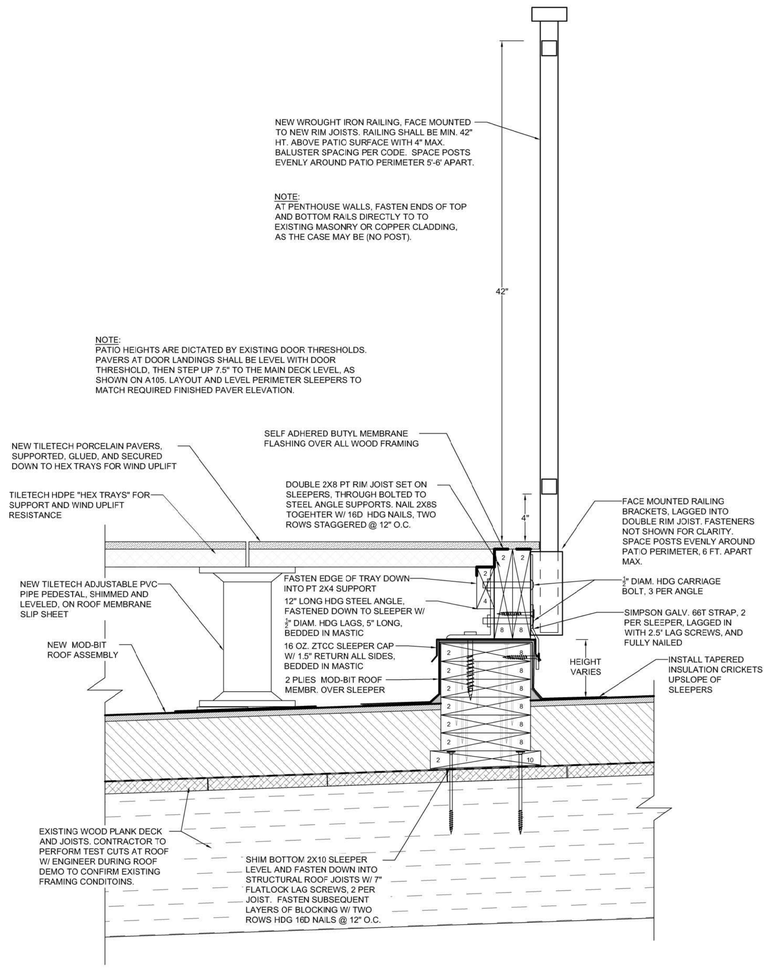
PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

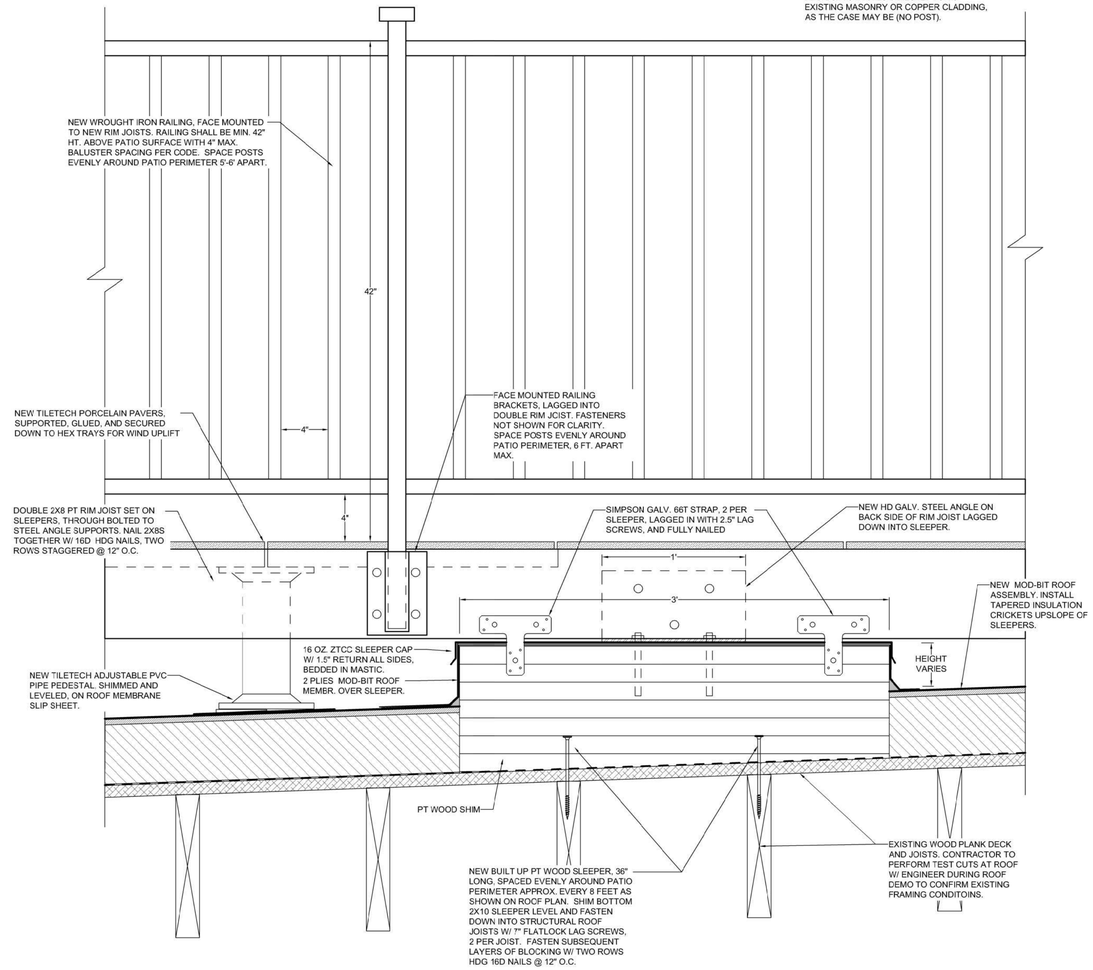
A105



HDG ANGLE SUPPORT DIMENSIONS



2 ROOF PATIO EDGE AND SLEEPER SUPPORT DETAIL (SECTION VIEW)
SCALE: 2 IN. = 1 FT.



1 ROOF PATIO EDGE AND SLEEPER SUPPORT DETAIL (ELEVATION VIEW)
SCALE: 2 IN. = 1 FT.

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BET
TECHNOLOGIES, INC.

50 Oliver Street, Suite W-4
North Easton, MA 02356
(T) 508 238 3587
(F) 508 238 3718
WWW.BUILDINGENVELOPETECH.COM

OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

ROOF PATIO SLEEPER DETAILS

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A106

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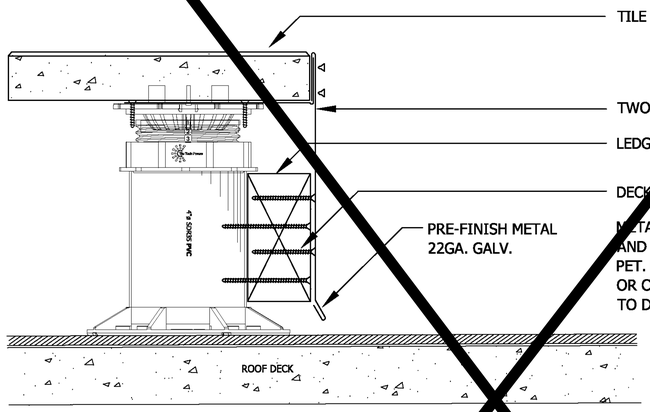
Tel: 213-380-5560
Fax: 213-380-5561

PERIMETER EDGE RESTRAINT OPTIONS

METAL FLASHING AND WOOD FASCIA CONTAINMENT DETAILS

METAL FLASHING CONTAINMENT

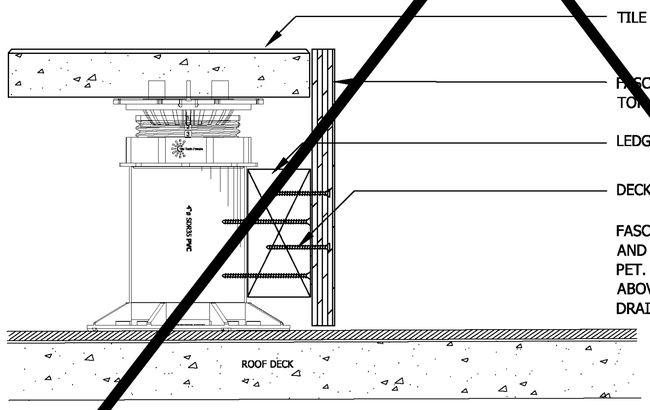


METAL FLASHING MUST FULLY CONTAIN PAVER AND TIE BACK INTO BUILDING WALL OR PARAPET. BOTTOM OF METAL FLASHING CAN BE BENT OR CUT ABOVE SUBSTRATE TO ALLOW WATER TO DRAIN.

B.E.T:

DETAIL NOT USED. SEE A106 FOR ROOF PATIO EDGE AND SLEEPER SUPPORT DETAIL.

WOOD FASCIA CONTAINMENT



FASCIA BOARD MUST FULLY CONTAIN PAVER AND TIE BACK INTO BUILDING WALL OR PARAPET. BOTTOM OF FASCIA BOARD CAN BE CUT ABOVE SUBSTRATE TO ALLOW WATER TO DRAIN.

GENERAL NOTES: APPLY TO ALL OF THE ABOVE PRODUCTS
1. INSTALLATION MUST BE COMPLETED IN ACCORDANCE WITH TILE TECH PAVERS PRODUCT SPECIFICATIONS.
2. DRAWING NOT TO SCALE.
3. USE OF BUFFER PADS IS MANDATORY.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.TILETECHPAVERS.com

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Fax: 213-380-5561

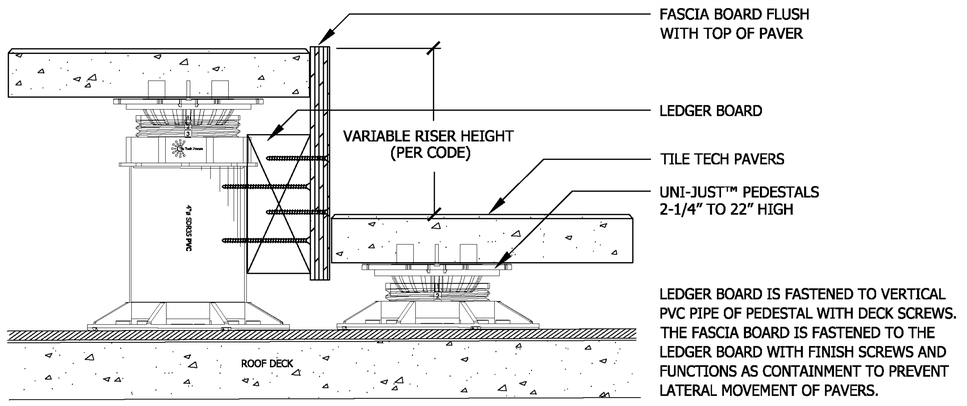
1/A THRESHOLD PEDESTAL APPLICATION

ENLARGED PLAN VIEW & SECTION DETAILS

B.E.T:

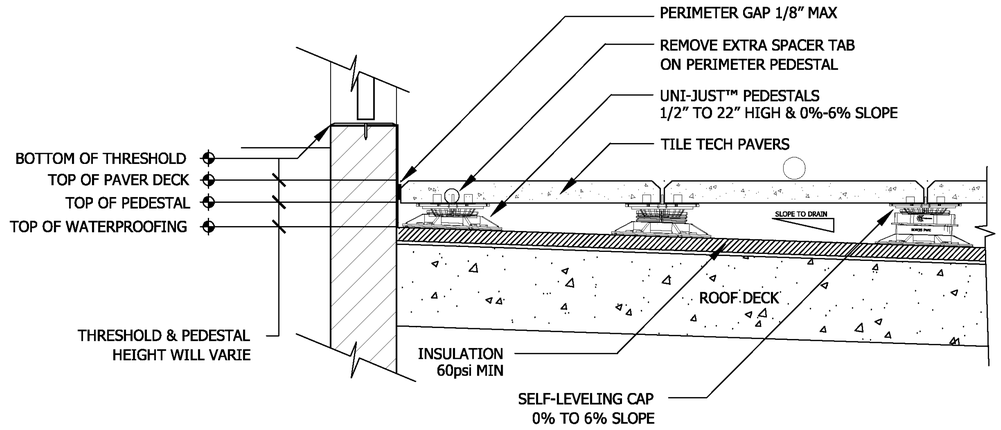
AT PATIO STEP DOWNS, INSTALL NEW 5/4" X 10" AZEK PVC FASCIA BOARD, FASTENED W/ 2 ROWS OF CORTEX SCREWS AND PLUGS, 12" O.C., INTO 2X6 PT LEDGER BOARD

STEP-DOWN CONTAINMENT



LEDGER BOARD IS FASTENED TO VERTICAL PVC PIPE OF PEDESTAL WITH DECK SCREWS. THE FASCIA BOARD IS FASTENED TO THE LEDGER BOARD WITH FINISH SCREWS AND FUNCTIONS AS CONTAINMENT TO PREVENT LATERAL MOVEMENT OF PAVERS.

THRESHOLD PEDESTAL APPLICATION - SECTION DETAILS



GENERAL NOTES: APPLY TO ALL OF THE ABOVE PRODUCTS
1. INSTALLATION MUST BE COMPLETED IN ACCORDANCE WITH TILE TECH PAVERS PRODUCT SPECIFICATIONS.
2. DRAWING NOT TO SCALE.
3. USE OF BUFFER PADS IS MANDATORY.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.TILETECHPAVERS.com

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BET TECHNOLOGIES, INC.
50 Oliver Street, Suite W-4
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(T) 508 238 3587
(F) 508 238 3718
WWW.BUILDINGENVELOPETECH.COM

OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

PORCELAIN PAVER DETAILS

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
SCALE:	3" = 1'-0"
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FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A107

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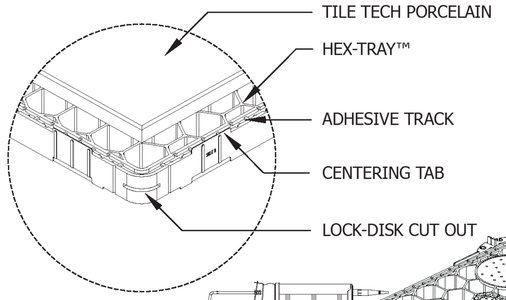
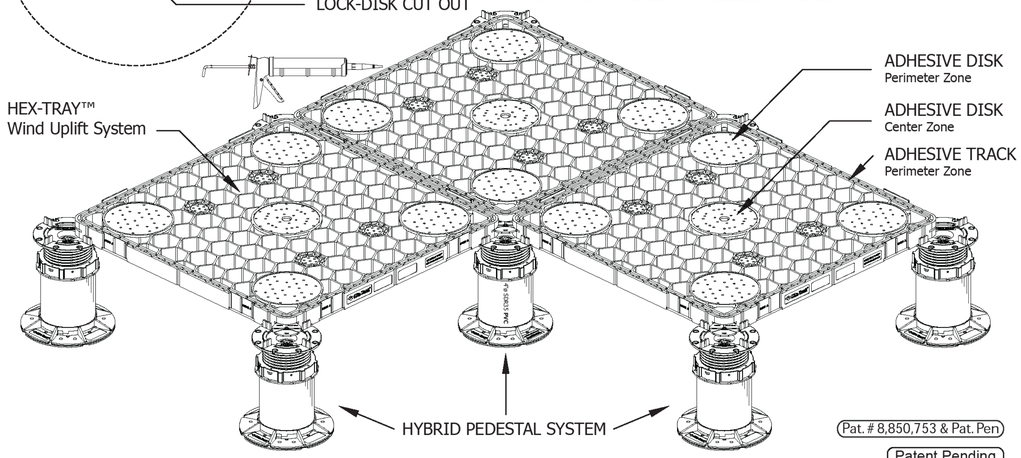
HEX-TRAY™ WIND UPLIFT SYSTEM

PAVER WIND-UPLIFT SYSTEM DETAILS. PLAN AND PROFILE VIEW



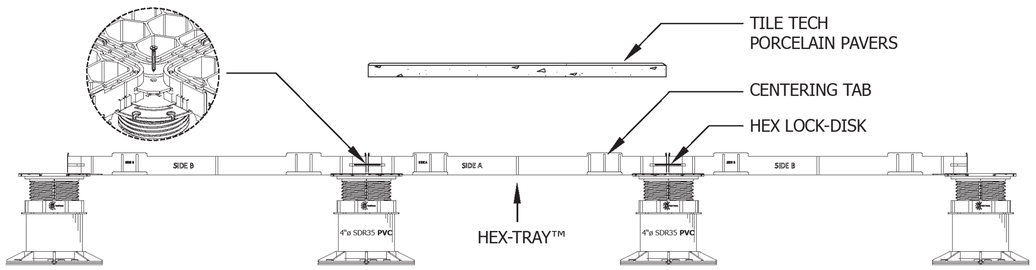
HEX-TRAY™ WIND UPLIFT SYSTEM COMPONENTS INCLUDES A HONEYCOMB STRUCTURAL TRAY WITH 3 ADHESIVE TRACK; PERIMETER, CENTER AND AUXILIARY ZONES. A HEX LOCK DISK, HEX 2MM SPACER TABS AND USER SUPPLIED 1-½" BLACK RUST PROOF SCREWS IN ADDITION TO CHEM-LINK™ M1 ROOFING ADHESIVE. PRE ASSEMBLE AND ADHERE THE PORCELAIN PAVERS TO THE HEX-TRAY™ USING CHEM-LINK™ M1 APPLIED TO THE ADHESIVE TRACK ON THE HEX-TRAY. THE PERIMETER ZONE IS THE MOST COMMON ADHESIVE TRACK. POSITION AND LEVEL HYBRID PEDESTAL SYSTEM ON TO GRID / CHALK LINES AND PLACE ASSEMBLED HEX-TRAY™ ON TO PEDESTAL SYSTEM. LEVEL & SECURE FOUR ADJACENT CORNERS TO PEDESTAL SYSTEM USING HEX-LOCK DISK AND SECURE WITH DECK SCREW. AT TERMINATION POINTS AND WALLS, THE HEX-TRAY CAN BE CUT TO MATCH THE CUT PORCELAIN PAVERS.



Pat. # 8,850,753 & Pat. Pen

Patent Pending

HEX-TRAY™ WIND UPLIFT - PROFILE VIEW



GENERAL NOTES: APPLY TO ALL OF THE ABOVE PRODUCTS

1. INSTALLATION MUST BE COMPLETED IN ACCORDANCE WITH TILE TECH INC PRODUCT SPECIFICATIONS.
2. DRAWING NOT TO SCALE.
3. USE OF BUFFER PADS IS MANDATORY.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.TILETECHPAVERS.com

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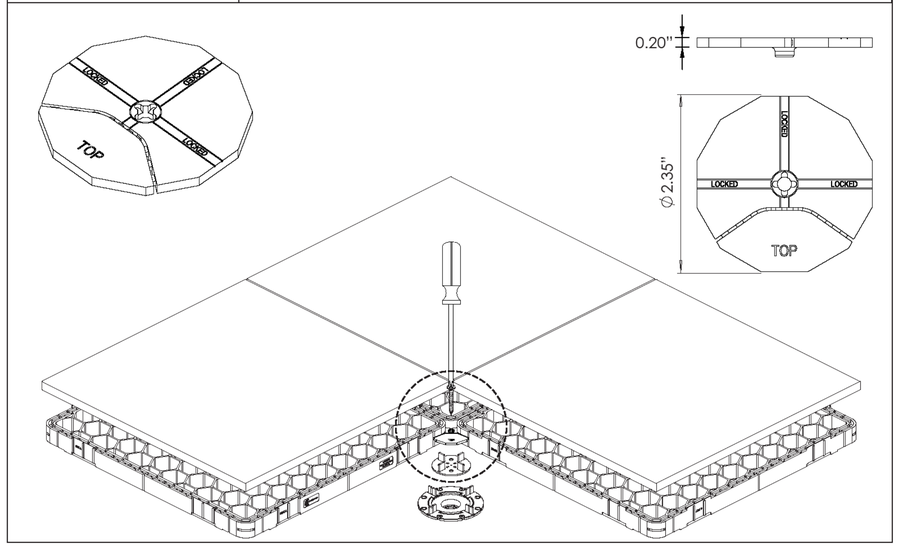
HEX-TRAY: PERFERATED LOCK DISK

PERFERATED LOCK-DISK / WASHER DETAILS



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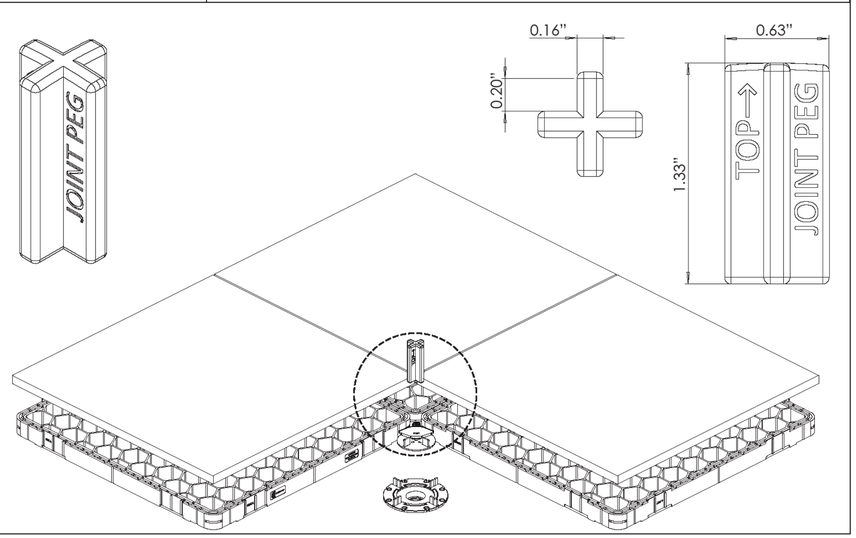
Toll Free: 888-380-5575 Fax: 213-380-5561

HEX-TRAY: JOINT CROSS PEG

JOINT SPACING DETAILS



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(T) 508 238 3587
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WWW.BUILDINGENVELOPETECH.COM

OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

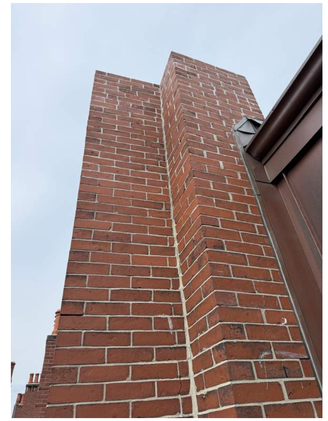
PORCELAIN PAVER DETAILS

REV.	DATE	REMARK

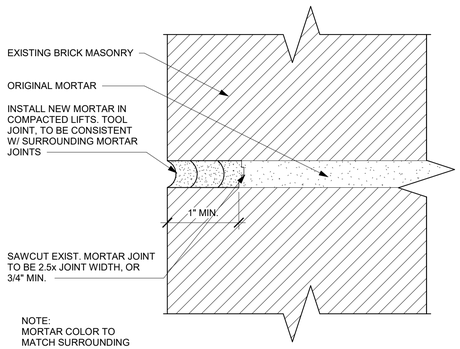
PROJECT NO:	25095
DRAWN BY:	Author
CHECKED BY:	Checker
SCALE:	3" = 1'-0"
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

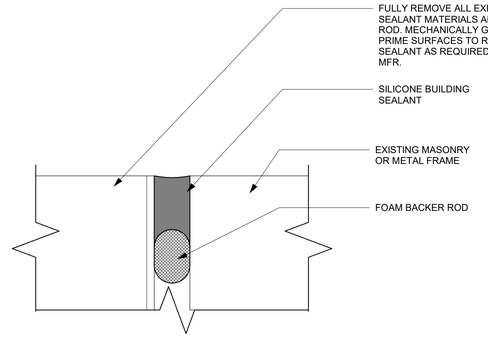
A108



50SF REPOINTING AT CHIMNEY - A18



1 BRICK MASONR REPOINTING DETAIL
12" = 1'-0"



3 EXTERIOR SEALANT JOINT REPLACEMENT
12" = 1'-0"

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North Easton, MA 02356
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OWNER

199 MARLBOROUGH STREET CONDOMINIUM ASSOCIATION

c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043

PROJECT TITLE

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET, BOSTON, MA 02116

DRAWING TITLE

MASONRY DETAILS

REV.	DATE	REMARK

PROJECT NO:	25095
DRAWN BY:	YMO
CHECKED BY:	DH
SCALE:	As indicated
DATE:	05/11/26
FILE NAME:	M:\2025\25095 - AMC Prop - 199 Marlborough Street\25095 - Revit\25095 - 199 Marlborough St_Roof replacement.rvt

DRAWING NUMBER

A109

SPECIFICATIONS

ROOF REPLACEMENT AND RELATED WORK

199 MARLBOROUGH STREET
BOSTON, MA 02116

Prepared for:
199 Marlborough Street Condominium Association
c/o AMC Property Services, LLC
P.O. Box 291
Hingham, MA 02043
Attn: Anthony McDermott

Issued: **May 14, 2026**

Prepared by:

BUILDING ENVELOPE
BET
TECHNOLOGIES, INC.

50 Oliver Street, Suite W4
North Easton, MA 02356

BET No. 25095

TABLE OF CONTENTS

SECTION 001000 - INVITATION TO BID

Date: May 14, 2026

To: Bidders

Re: Roof Replacement and Related Work
199 Marlborough Street
Boston, MA 02116
BET No. 25095

Dear Bidders:

You are hereby invited to submit a contract proposal for the completion of the Roof Replacement and Related Work at 199 Marlborough Street in Boston, Massachusetts. Attached herewith are general requirements, technical specifications, photographic annotations, and drawings further delineating the work.

199 Marlborough Street is a seven-story mass masonry and wood framed structure originally constructed circa 1890 as an apartment building. It subsequently underwent multiple occupancies, including educational dormitories and similar purposes prior to being converted back to residential use. In 1984, the building was converted to provide eighteen residential condominium units.

The primary scope of services includes, but is not limited to, providing the necessary labor and materials and equipment to remove the existing EPDM roof system down to the wood deck and install a new insulated modified bitumen roof system at the main building roof and the north penthouse roof. No work is to be done at the south penthouse roof.

The work includes the replacement of the three rooftop decks with new pedestal paver patios with new wrought iron railings and planters. The central roof deck is common area, while the two other decks are privately owned. Additional related work includes elevating the HVAC condensers onto steel racks, removing/reinstalling the penthouse doors with new pan flashings, installing new wrought iron guard rails at the HVAC clusters, and performing a small amount of repointing at the masonry chimneys.

Before submitting your proposal, please carefully review the existing conditions and all other conditions at the site which can affect the work. There will not be a pre-bid meeting. **Bidders are instructed to contact Board member, Martin Deeran, at (617) 542-0201 to arrange a time to access the roof.**

You are requested to submit your proposal with letterhead by **3:00 pm on Friday, May 29th, 2026**, to AMC Property Services, P.O. Box 291,Hingham, MA ATTN: Anthony McDermott, Property Manager, with copy to Building Envelope Technologies, Inc. (**BET**), 50 Oliver Street, Suite W4, North Easton, Massachusetts 02356, ATTN: David

Horton. All Bidders are to fully complete and submit the Bid Form included herein. Cover letters and references for similar projects are welcome.

The Board will be considering both price and schedule in awarding the contract. Please state your proposed initiation and completion dates for the project in your proposal, including all work necessary to complete punch list items. Time is of the essence in the Owner's consideration; if possible, they request that the work be substantially completed prior to September 1, 2026.

Should you note any discrepancies in or omissions from the specification or should you be in doubt as to their meaning, please immediately notify **BET**, and we will send appropriate written instruction and/or additional drawing detailing. Neither the owner, property manager, nor **BET** shall be responsible for any oral instructions.

All work on this property must meet the requirements of all applicable state and local codes, laws and ordinances. The building will be fully occupied. The majority of operations, excepting material handling, may be completed between the hours of 7 a.m. and 6 p.m. No noisy work shall be permitted before 7:30 am.

The contractor shall schedule his work, material deliveries, and provide protection so as to cause no interference with the owner's normal use of the building. To this end, the contractor shall note where all the existing egress ways are located and will provide for a continuation of egress uninterrupted. The contractor shall familiarize himself with all security measures of the building and comply with the requirements thereof.

The work will be undertaken in accordance with the terms and conditions established herein and as per issuance of a "Standard Abbreviated Form of Agreement Between Owner and Contractor" (AIA Doc. 104-2017). No work may commence until the contract has been established including, but not limited to, the appropriate issuance of certificates for insurance.

Following your review of the above and the following, should you have any questions, please do not hesitate to contact us immediately. If you cannot provide a proposal for the work, please contact this writer immediately.

Respectfully Submitted,

David Horton, PE
Principal

BUILDING ENVELOPE TECHNOLOGIES, INC.

DOCUMENT 00300 – BID FORM

199 Marlborough Street Condominium Association
c/o AMC Property Services, LLC.
PO Box 291
Hingham, MA 02043

Attn: Anthony McDermott

Re: Roof Replacement and Related Work
199 Marlborough Street
Boston, Massachusetts 02116
BET Project No. 25095

Dear Sir:

We hereby submit our proposal for the above referenced project as per these Specifications dated May 14, 2026, the Plans dated May 11, 2026, and related addenda.

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Having carefully examined the plans, specifications and addenda, and having visited the site and building and examined all conditions affecting the work, the undersigned proposes to furnish all labor and materials and perform the work called for, as follows:

A. BASE BID

The entire work called for on the plans, details, specifications and addenda noted above for the Roof Replacement and Related Work at 199 Marlborough Street Boston, Massachusetts 02116, for the lump sum dollar amount of:

_____ dollars ($ _____ .00)

Proposed Commencement Date: _____

Proposed Completion Date: _____

Estimated Lead Time for Pavers: _____(weeks)

B. ALTERNATES

None

C. BASE BID SCHEDLE OF VALUES

Bidders are requested to provide the following preliminary cost breakdown for their Base Bid:

Type of Work	Scheduled Value
Permitting	$
General Conditions	$
Access – Crane, Boom Lift, etc.	$
Roof Demolition	$
Mod-Bit Roofing & Sheet Metal	$
#701 Deck Removal and Replacement (including sleepers, wood framing, pedestal paver system and planters)	$
#702 Deck Removal and Replacement (including sleepers, wood framing, pedestal paver system and planters)	$
Common Deck Replacement (including Demo)	$
Masonry Repointing Repairs	$
Mechanical/Plumbing (HVAC condenser disconnect/reconnect with new mounting racks)	$
Electrical	$
Unit Price Work (Contract Quantities)	$
Structural Investigation Allowance	$5,000
Other:	$
Other:	$
Other:	$
Total:	$

D. HOURLY RATES

The undersigned hereby submits the following hourly rates for trade work, all-inclusive of profit, overhead, and other miscellaneous costs:

	TRADE	BASE	OVERTIME
1.	_____	$_____/EA/HR	$_____/EA/HR
2.	_____	$_____/EA/HR	$_____/EA/HR
3.	_____	$_____/EA/HR	$_____/EA/HR
4.	_____	$_____/EA/HR	$_____/EA/HR
5.	_____	$_____/EA/HR	$_____/EA/HR
6.	_____	$_____/EA/HR	$_____/EA/HR
7.	_____	$_____/EA/HR	$_____/EA/HR
8.	_____	$_____/EA/HR	$_____/EA/HR
9.	_____	$_____/EA/HR	$_____/EA/HR

E. SUBCONTRACTORS

If awarded the contract for this work, we propose to use the following subcontractors (name only one subcontractor for each category unless the work described is to be divided between more than one subcontractor):

Type of Work	Subcontractor Name
Demolition / Disposal	
Rough Carpentry	
Roofing + Sheet metal	
Masonry	
Mechanical/Plumbing	
Electrical	
Other	
Other	

F. UNIT PRICE SCHEDULE

The undersigned hereby submits the following unit prices for extra or additional work and for the deletion of work:

Description	Contract Quantity	Add/Deduct Cost
1. Rotted Wood Plank Deck Replacement (1" thick):	100 SF	$_____/SF
2. Misc. Brick Repointing:	50 SF	$_____/SF

G. REFERENCES

Please provide contact information for three clients, whose work you have performed within the last two years, as references with your bid.

Reference Project, Contract Name, and Phone:

1. _____

2. _____

3. _____

HEREBY SUBMITTED:

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment and is in all respects fair without collusion or fraud.

FIRM: _____

BY: _____

TITLE: _____

DATE: _____

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01000 - CONTRACT DESCRIPTION AND PROJECT REQUIREMENTS

PART 1 - GENERAL

1.1 LOCATION

A. The Work is located at 199 Marlborough Street, Boston, Massachusetts 02116.

1.2 OWNER

A. The word "Owner" used in these specifications or on the plans refers to 199 Marlborough Street Condominium Association. The words “Agent of the Owner” used in these specifications or on the plans refers to the property manager, AMC Property Services, LLC, PO Box 291, Hingham, Massachusetts 02043.

1.3 DESIGNER

A. The word "Architect, Engineer" as herein used refers to Building Envelope Technologies, Inc. (BET), 50 Oliver Street, Suite W4, North Easton, Massachusetts 02356.

1.4 CONTRACTOR

A. The word “Contractor” as herein used refers to the individual, partnership, firm or corporation whose proposal for the work contemplated in the accompanying plans and specifications is accepted.

1.5 SUBCONTRACTOR

A. The word "Subcontractor" as herein used refers to the individual, partnership, firm or corporation to whom portions of the work and/or materials included in this Contract are awarded by the General Contractor with the approval of the Designer.

1.6 SUMMARY OF WORK

A. The scope of work is to remove and replace the Main Roof and at the north Penthouse Roof at the building. The existing EPDM roof system and underlying BUR materials are to be removed down to the wood deck, and a new insulated modified bitumen roof system is to be installed. No work is to be performed at the southern penthouse roof, or at the lower window bay roofs, all of which were recently replaced during the previous façade restoration project. The work also includes replacement of the three rooftop decks with new pedestal paver patios.

B. The existing roof system at the Main Roof consists of:

1. 60 mil unreinforced EPDM membrane, adhered.
2. 3.25” flat polyiso insulation, mechanically fastened.
3. Older gravel surfaced asphalt BUR.
4. Older coal tar pitch BUR, mopped direct to the wood deck.
5. Wood plank deck. Assume 1” thick tongue and groove on wood joists, to be verified with the Engineer during demolition test cuts.

Bidders shall assume that the Penthouse Roof is of similar composition as the Main Roof, with older BUR materials under the existing EPDM roof.

View of Main Roof, taken from the Penthouse Roof, looking south. Main roof and north penthouse roof are to be removed and replaced. No work is to be done at the south *penthouse roof. Roof decks are to be removed and replaced with pedestal paver patios.*

Test cut found 3.25” flat polyiso over two layers of built-up roofing, over wood deck. All layers are to be removed down to the wood plank decking, then a new insulated modified bitumen roof system is to be installed at both the main roof and the north penthouse roof.

View of north Penthouse Roof to be replaced. Install new copper cap over old chimney. Install new copper fascia, but re-install existing copper gutter. Assume similar underlying BUR layers beneath the EPDM roof membrane. Note, skylight is newer and is to remain.

The entire roof drains to this gutter, which is to be removed and replaced with larger capacity 7" copper gutter. The existing copper downspouts were replaced during the recent façade restoration project and are to remain.

C. The new roof system shall be as follows:

1. Modified bitumen roofing covering, 3 plies, set in cold adhesive.
2. 1/2" high density polyiso insulation cover board, 60 psi minimum, adhered with polyurethane foam adhesive.
3. Tapered polyiso insulation, adhered with polyurethane foam adhesive, in select locations as noted on the Plans (curbs, base of walls, penthouse roof), to facilitate roof drainage.
4. 5" flat polyiso insulation (2 layers of 2.5" flat stock), adhered with polyurethane foam adhesive to the vapor retarder.
5. Modified bitumen vapor retarder membrane set in cold adhesive to the wood deck.
6. Wood plank deck.

D. The scope of work shall include, but is not limited to, the following:

1. Demolition – Remove and dispose of all existing roof materials down to the wood plank deck, including EPDM membrane, insulation, asphalt BUR, coal tar pitch BUR, membrane and metal flashings. Remove and dispose of all rooftop deck materials, including wooden deck framing, metal railings, decking boards, planters, and furniture to be discarded.

   Note, Owners shall be responsible for removing any furniture or other items they wish to save from their decks before the work begins.

2. Structural Investigation – After the decks are removed, but before the new roofing work begins, the contractor shall schedule 1 day on site with the Engineer to perform four large test cuts through the roof decking (each approximately 4 ft. x 4 ft. in size, see Roof Plan A102) so that the existing structural framing conditions can be reviewed, as required to ensure adequate structural support for the rooftop decks. An allowance of $5,000 shall be carried in the Bid for cutting and patching the roof at these four locations.

3. New Roof System – Install new insulated (R-30), 3-ply modified bitumen roof system, complete with new flashings and edge metal at both the main roof and the northern penthouse roof. Provide a 25-year Manufacturer's Full System warranty for the new roof.

4. Main Roof Edge - Remove and replace all layers of existing edge metal at the roof perimeters. Install new 16 oz copper fascia, 8" wide, with continuous 30 oz. copper cleat, as shown in the Plans. Add new PT blocking to southern roof edge facing Marlboro Street to match height of new insulation. Install new 7" wide copper gutter at rear roof edge, with new downspout leaders connected into the existing copper downspouts.

5. Penthouse Roof Edge – Remove and replace all layers of existing edge metal at the penthouse roof perimeter. Add new PT blocking to roof edge to match height of new tapered insulation. Install new 16 oz copper fascia, 8" wide, with continuous 20 oz. copper cleat, as shown in the Plans. Seal underside of fascia to brick/copper cladding. Note, existing copper gutter at penthouse is new and is to be removed and reinstalled after the new copper fascia is installed.

6. Deteriorated Decking Replacement – Contractor shall provide a Unit Price cost to remove and replace deteriorated wood plank decking found during the work. Contractor shall base the unit pricing on 1" thick tongue and groove decking planks, and shall carry a total of 100 sq. ft. of decking replacement in their Bid. Final

contract sum shall be adjusted up or down based on the actual quantity of decking found to require replacement.

7. Penthouse Skylight – The penthouse skylights are newer and are to remain in place. Install new aluminum skirt flashings up under the skylight frame to terminate the new roofing.

8. Masonry Walls and Chimneys – Existing above-roof masonry walls and chimneys were recently repaired and are generally in good condition. Contractor to carry 50 sq. ft. of brick mortar joint repointing in their bid for miscellaneous repointing. Final contract sum shall be adjusted up or down based on the actual quantity of decking found to require replacement.

9. Penthouse Copper Wall Cladding – Penthouses were recently clad with standing seam copper cladding panels, which is in good condition and shall remain in place. Where additional flashing heigh tis needed to terminate the new roof system at the base of the walls, the existing copper panels shall be trimmed up approximately 6”, and a new copper skirt flashing shall be inserted up behind the existing copper cladding to counterflash the roof base flashing termination bar.

10. Penthouse Doors – Existing penthouse doors are in good condition and are to be removed and reinstalled with new copper pan flashings integrated into the new roof system. Remove and replace interior and exterior perimeter sealant joints with silicone sealant, bronze color.

11. Masonry Base Flashings – Install new copper reglet flashings at rising brick masonry walls and chimneys, minimum 8” above new roof surface. Cut new copper flashing into mortar joint, secure with lead wedges, and install silicone sealant along reglet joint.

12. Walkpads – Provide new adhered mod-bit walkpads around all outside patio perimeters, at all gates, and under and around all HVAC clusters where maintenance workers are likely to traffic.

13. Unit-Owned HVAC Condensers – Provide new elevated steel HVAC racks with vibration isolators to mount existing HVAC condensers approximately 12” above finished roof surface. All disconnect/reconnection work shall be performed by the Owner’s HVAC contractor. Roofing contractor to schedule and coordinate the disconnect/reconnect work with the HVAC contractor to minimize equipment downtime for the residents.

14. New Roof Deck Supports – Remove existing wood-framed decks with new pedestal paver patios. Provide continuous double 2x8 rim

joist around the deck perimeters, mounted and secured down to embedded wood sleepers as shown on the Roof Plan. Exact sleeper locations to be coordinated with the Engineer following the structural investigation test cuts. The intent of the double 2x8 rim joist is to provide edge securement and containment for the pavers and structural support for the new deck railings.

15. New Pedestal Paver Patios – Install new pedestal paver patios for the three rooftop decks (2 private, 1 common area) over the new roof system, as shown on the Roof Plan. Pavers shall be shimmed to provide a level patio surface. Pavers shall be supported by and fastened down plastic support trays, as required by the paver manufacturer to resist required wind uplift pressures. Pavers at entrance landings are to be installed level and flush with penthouse door thresholds, then each landing area shall step up to the main patio level.

16. Patio Railings and HVAC Guard Railings – Provide new wrought iron railings, as required by the City of Boston Landmarks Commission, at the new patios and the designated HVAC maintenance areas. All railings shall be a minimum 42” tall above the walking surface they serve. Baluster spacing at deck railings shall be 4” maximum; balusters at HVAC guard railings shall be spaced 10” apart maximum. Patio railings are to be face mounted to the new PT rim joist framing. Guard rails are to fastened to existing patios and penthouse walls. Intermediate guard rail posts shall be lagged down into elevated, embedded wood sleepers. Paint all railings black. Provide swinging iron gates with lockable latch hardware at locations shown on Roof Plan.

17. Planters – Provide new faux vegetation privacy planters, six feet in height, at the sides of the common area patio to delineate the private spaces from the common area patio.

18. Safety Tie-Offs – Install new deck mounted tie-off davit posts at the two locations noted on Roof Plan.

1.7 BID ALTERNATES:

A. None

1.8 SCHEDULE:

A. Immediately after Award of contract and prior to the pre-construction meeting, the Contractor will prepare a detailed, written Sequence of Construction of the various phases of the project that will proposes to follow. This outline shall clarify and be in more detail than schedule submitted with the proposal. This outline shall be presented to the Project

Manager who will review and modify the outline. At the pre-construction meeting, the project outline and schedule will be reviewed in great detail with the Contractor. After this meeting, the Contractor shall prepare and submit to the Owner and Designer within 5 working days, a final schedule, with dates and sequence of the operations that reflect the input of the pre-construction meeting.

B. The Contractor shall meet weekly with the Owner's Representative to discuss the progress of work and to schedule work.

C. The Contractor shall provide a work schedule that lists anticipated locations of work for the upcoming 10 consecutive calendar days. Contractor shall update this schedule weekly.

1.9 SPECIFICATIONS

A. Titles to Divisions and paragraphs in these specifications and in the notes on the drawings or pictures are introduced for convenience, and shall not be taken as an exact, correct or complete segregation of materials and labor.

B. No responsibility is assumed by the Designer or the Owner for omissions or duplications by the Contractor or his subcontractors due to real or alleged error in arrangement of matter in this specification or in notes on the drawings.

C. Latest revisions of Federal, State and ASTM Specifications shall be used where only the specification number without date or revision number is given in specifications.

D. The omissions from the plans and/or specification of express reference to any labor or materials reasonably to be inferred from and necessary for the proper execution of the work shall not relieve the Contractor or subcontractor from furnishing them of a kind in keeping with the general character of the work.

E. The Designer shall decide all questions which may arise as to the quality, quantity, acceptability, fitness and rate of progress of the several kinds of work and materials to be performed and furnished under the Contract, and shall decide all questions which may arise as to the fulfillment of the Contract on the part of the Contractor. The Designer's determination and decision shall be final and conclusive.

F. Attention is directed to the fact that typographical errors may appear in the text of the specifications. Should any such errors be found, they shall not serve to alter the sense of the passage concerned, nor shall they be permitted to provide a basis for any extra claim by the Contractor by reason thereof.

G. Any such errors found which lead to ambiguity of intent shall be referred to the Designer for clarification prior to submitting any Proposal for Work. The submitting of a proposal shall be construed as indicating that no such ambiguities exist.

H. Submission of the bid proposal and issuance of the warranty shall be evidence that the contractor has thoroughly reviewed the existing site conditions and accepts the provisions of this Specification.

1.10 WARRANTIES/GUARANTEES

A. Various Specification sections require specific written warranties from Subcontractors, suppliers, and manufacturers.

B. Nothing contained in this Article shall be construed to establish a period of limitation with respect to any other obligation, which Contractor might have under the Contract Documents. The establishment of the time period of two (2) years after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents related only to the specific obligation of Contractor to correct the work, and has no relationship to the time within which his obligation to comply with the Contract Document may be sought to be enforced, nor to the time within proceedings may be commenced to established Contractor's liability with respect to his obligations other than specifically to correct the Work.

C. The Contractor guarantees and warrants to the Owner that all work performed under the Contract will be free from defects in material and workmanship and that the repairs will be weathertight. The Contractor shall correct any work that fails to conform to the requirements of the Contract Documents where such failure to conform appears during the progress of the work, and shall remedy any defects due to faulty materials, equipment or workmanship which appear within a period of two (2) years from the Date of final Acceptance. Contractor shall submit sample warranty form to Designer and Owner for approval. Final form shall be notarized.

D. All deficiencies of the work not meeting this specification or manufacturers standard shall be corrected by the responsible contractor at his expense during the warranty period on a non-proration basis.

E. The Contractor shall include all guarantee and warranty costs, including inspection and re-inspection fees, if required, in his base bid.

1.11 LABOR AND MATERIALS

A. All labor in connection with this work, including trucking, handling, installation, etc., shall be done by skilled craftsmen normally employed by the various construction trades.

B. The Contractor shall provide, at his sole cost, all labor, transportation, materials, apparatus, utilities, scaffolding and utensils necessarily and reasonably implied on the drawings and/or in this specification as belonging to the work.

C. All materials and workmanship shall be of the best of their several kinds. Unless otherwise specified, all materials shall be new and the Contractor, if required, shall furnish satisfactory evidence of their quality.

D. The omission from the specification of express reference to any labor or materials reasonably to be inferred therefrom and necessary for the proper execution of the work shall not relieve the Contractor from furnishing them of a kind in keeping with the general character of the work.

E. The Designer shall decide all questions which may arise as to the quality, quantity, acceptability, fitness and rate of progress of the several kinds of work and materials to be performed and furnished under the Contract on the part of the Contractor, and the Designer's determination and decision shall be final and conclusive.

F. The Contractor and his Subcontractor may use the Owner's existing water and power source, designated toilet facilities, lighting and connections. If the contractor requires electrical power, he shall pay all costs necessary to make the necessary temporary connections and remove them when completed. The Owner shall provide power for lighting and small tools at no cost to the Contractor. The Contractor shall arrange for a water supply for his use during the construction and shall pay all connection costs associated with this service. The Contractor shall provide potable drinking water for all personnel on the project.

G. All labor employed by the Contractor and his Subcontractors for performance of the work shall be able to converse with the Owner and Designer in English.

1.12 MISCELLANEOUS PROVISIONS

A. The Contractor shall be responsible for the proper care and protection of all portions of the construction and all materials delivered and work performed by the Contractor until the completion and acceptance of the construction as a whole, and the construction shall be delivered at completion in an undamaged condition.

B. The Contractor shall take all necessary precautions for the safety of, and shall provide and continuously maintain the necessary protection to prevent damage, injury or loss to:

1. All workmen, Owner's employees, the public and all other persons who may be affected thereby; and

2. All the work, all materials or equipment to be incorporated therein, whether in storage on or off the site; and

3. Any other property at the site or adjacent thereto including, but not limited to roofs, trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

C. The invalidity in whole or in part of any article, section, subsection, sentence, clause, phrase or word, or other provision of this specification and any exhibits attached or documents attached hereto, shall not affect the remaining portions thereof.

1.13 VERIFICATION OF DIMENSIONS AND CONDITIONS

A. The Contractor shall be responsible for visiting the site and verifying all dimensions and required sizes in the field before submitting his bid. The Contractor shall notify the Designer, in writing, of any discrepancy in the dimensions stated in the plans or of any discrepancy in the sizes of specified materials. Claims for additional monies due to his failure to properly verify such dimensions shall not be honored.

B. It shall be the Contractor's responsibility to record, photograph and document any damage to the building, its grounds or contents which exist prior to the start of work under this Contract. Contractor shall notify the Designer, in writing, prior to the start of work if any damage, noted above, exists.

C. Claims by the Contractor that damage, discoloration, staining, etc., existed prior to the start of his work on the project shall not be acknowledged or accepted without the documentation required above.

1.14 TESTS AND INSPECTIONS

A. The Contractor will schedule and coordinate tests and inspections of his workmanship and materials as may be required by the Building Code, State or municipal laws, and as required under the various Sections of the Specifications.

B. Should any material or work be found, after testing or inspection, to be defective or inferior, such material and/or work shall be removed and replaced with new. The removal and replacement herein called for shall be at the Contractor's expense.

C. If the Owner elects to have independent testing, the Contractor shall provide equipment for access and shall make no claims for delays resulting from such testing.

1.15 MECHANIC APPROVAL

A. Any worker employed on site or whom the Contractor desires to employ on site may be rejected from such employ by the Owner and/or Designer and/or their representative(s) if such worker fails to demonstrate or maintain the required expertise. The Owner, Designer, and/or their representative shall not be required to state their reasons for such rejection.

1.16 PROTECTION

A. The Contractor shall protect all streets, walls, underground and overhead utilities, and in particular the building and contents below. All work shall be accomplished in such a way that water is always excluded from entering the exterior building envelope. Contractor shall not leave the site nights, weekends or other times unless permanent or temporary closure of the building envelope is made. All areas shall be left in a weathertight condition in their entirety at all times, and if necessary Contractor shall have two shifts of workers each day in order to accomplish the above.

B. No water shall be allowed to enter the facility. The Contractor shall take such measures as are necessary to dry out materials in order that the work can continue with minimum delay.

C. No element of the existing construction shall be overstressed due to construction loads.

D. The Contractor must not interfere with the facility operations, personnel, customers, delivery vehicles, etc. The Contractor must cooperate with the Owner in this regard 100%.

E. Contractor shall cover and protect all walls, windows, etc., where material is to be hoisted or removed from the building. Contractor shall be responsible for all scrapes, stains, and damage to the walls and shall repair or replace any walls or windows which are damaged by his operations, to the satisfaction of the Designer and Owner.

F. Whenever the possibility exists that debris or materials may fall causing a hazard to persons inside or outside the building, the Contractor shall post one or more of his employees to temporarily close these hazardous areas. The person in charge of the facility shall be notified prior to the commencement of work that may pose this type of hazard. Proper barricades shall be provided to prevent normal access to or around these areas.

G. Staging: Protect all vehicles and persons with appropriate protection and barricades to comply with all Federal, state and local regulations including ANSI A10.6. Provide drawings or samples of all protection and barricades

for the Owner's approval prior to installation. As a minimum, provide the following, unless precluded by Codes or other applicable regulations:

1. Swing stages and pipe staging are permissible means of exterior access for laborers and equipment. Hoists are permissible for raising and lowering materials. Swing stage and electronic cables and ropes shall be positively secured to the structure as required to prevent slapping the building and disturbing occupants. When winds are predicted to exceed 30 mph, the Contractor shall remove all cables and ropes from the face of the building at the end of the work day. The Contractor is responsible for any damage caused by cables or ropes. If the Contractor elects to use pipe staging for any portion of the work, the lower 8 feet of the pipe staging shall be constructed to prevent unauthorized people from climbing the staging.

H. The Contractor is prohibited from storage of materials on or foot traffic across any areas not in contract adjoining the area which work is being performed unless written authorization has been obtained from the Owner.

I. Contractor shall properly protect all areas beneath his work where falling debris or dust is expected due to his operations. Contractor shall be responsible for providing adequate personnel to clean and protect these areas.

J. No smoking shall be allowed at any time in or on the building or in related work or storage areas. The enforcement of this provision shall be the responsibility of the Contractor.

K. No open flames or similar sources of ignition shall be allowed on the building or in related work or storage areas.

L. Owner communication is essential during construction. Each space adjacent to or below shall be notified as to the dangers when work is in progress in their area. Protection from these hazards shall be provided by the Contractor.

1.17 ACCESS TO SITE

A. The Contractor shall use only authorized access to the existing building, and shall not block, nor interfere with, traffic or parking facilities except as authorized in writing by the Owner. Equipment and materials shall not be stored on the ground.

B. The Contractor shall cooperate with the Owner for the purposes of entry control and other security matters, and shall observe security rules established by the Owner, including daily registering of workmen and wearing badges, if required.

C. The Contractor shall obtain all specialty permits required by governing authorities, including any required for disposal of demolition debris or for use or blockage of streets or sidewalks.

END OF SECTION

SECTION 024100 – DEMOLITION

PART 1 – GENERAL

1.1 SCOPE

A. The scope of the work without limiting the generality thereof consists of furnishing all labor, material and equipment necessary to complete the removal and replacement of the roof assembly and related work.

B. Demolition shall include but is not limited to the following:

1. Inspection and documentation of existing conditions.

2. Removal of all existing roof materials at the main roof and northern penthouse roof down to the wood plank deck, including EPDM membrane, insulation, asphalt BUR, coal tar pitch BUR, membrane and metal flashings.

3. Removal of main roof gutter. Note existing downspouts are to remain.

4. Removal of existing edge metal and main roof and north penthouse roof.

5. Removal of existing wood sleepers for HVAC condensers.

6. Removal of all rooftop deck materials, including wooden deck framing, metal railings, decking boards, planters, and any patio furniture to be discarded (to be determined by Owner). Note, Owners shall be responsible for removing any furniture or other items they wish to save from their decks before the work begins.

7. Proper disposal of all removed materials.

1.2 JOB CONDITIONS

A. The Contractor shall inspect the premises, prior to submittal of his proposal, for conditions, which will affect his work.

B. All demolition and removal of debris and construction operation shall not interfere with the Owner's use of the property.

C. The Owner assumes no responsibility for the actual condition of the structure. The Contractor shall examine all existing conditions and notify the Owner and Designer in writing of aspects, which will adversely affect his work or be affected by his operations. The Contractor shall make all such contingencies known at the time of his bid submittal.

D. Any adjacent building or paved area damaged during demolition as a direct result of the demolition contractor activities shall be replaced or restored by the Contractor at no expense to the Owner.

1.3 SAMPLES AND TECHNICAL DATA

A. Submit samples, complete manufacturer's technical data of all materials and systems listed, to the Designer for approval.

B. Written procedures and drawings describing removal procedures, debris containment, and apparatus.

C. Written procedures and/or drawings describing means of temporary weather production and interior barrier walls.

PART 2 – PRODUCTS

2.1 MATERIALS

A. All materials are to be new. Store all materials to prevent wetting or other damage. Fully cover all materials with waterproof “breathable” coverings (not polyethylene). All materials shall be delivered to the job site in their original, unopened containers with the manufacturer’s name, grade, number, batch identification and date of production on the container or packaging. Do not use materials whose shelf life has expired. Do not allow materials to freeze. Use identical materials from the same manufacturer throughout the entire project.

B. Do not store debris on roof deck. Take care not to overstress deck.

PART 3 – EXECUTION

3.1 GENERAL

A. The Contractor may only utilize the designated access way for trafficking of all materials. If adjacent roof areas not in contract are used for traffic, they shall be protected 100% of subject area with a 1/2” layer of fiberboard and a 1/2” layer of OSB (plywood). Secure plywood to prevent displacement.

B. It is strongly emphasized to the Contractors that the areas around the demolition are extremely sensitive and care must be exercised to prevent collateral damages.

C. The Contractor shall coordinate his work so as to complete all flashings and terminations for work in that area each day.

D. The Contractor shall provide protection if work debris creates hazards with the Owner's operations.

E. All rubble shall be considered the property of the Contractor and shall be removed from the site in its entirety on a daily basis and be legally disposed of off-site. On site storage of discarded material will not be permitted.

3.2 PROTECTION

A. Before starting demolition, the Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance or interruption of any public/private utilities or services or any component of said utilities or services under the jurisdiction of the Owner, utility companies or corporations, Police Department, Fire Department and Public Works Department including gas, electricity, steam, refrigeration, telephone, telegraph, police signal, fire alarm, water, sanitary sewer, storm drainage and other systems which will be affected by the work to be performed under this Contract.

B. Adequate protection of persons and property shall be provided at all times. The work shall be executed in a manner to avoid interference with the use of adjacent buildings, or properties, and to avoid interruption of free passage to or from such buildings, or properties.

C. Investigate and comply with any rules or regulations relative to providing any paying for uniformed Fire Department or Police to regulate hazards or control traffic on existing streets or ways which are affected by the Contractor's operation.

3.3 BRACING

A. Any existing framing affected by demolition or increased loads must be adequately braced with shoring designed and stamped by a structural Engineer. Said Engineer shall review and expressly approve such shoring or bracing before demolition can continue of before loads are increased.

B. The Contractor shall submit any necessary shop drawings to the Designer as conditions are revealed during demolition.

3.4 PERFORMANCE

A. Prior to start of any work in any area, verify interior conditions on walls and/or underside of deck as appropriate.

B. Provide adequate protection of the materials, finishes, and equipment to prevent breakage, scratches, and other damage during work associated with this section.

C. Schedule and execute all work to avoid exposing the building and its contents to inclement weather. Prevent water intrusion through the temporary protection.

D. Contractor shall avoid damages to existing materials, finishes, and equipment to remain.

E. When using mechanical cutter, provide shrouds on equipment, and water misting to minimize dust.

END OF SECTION

SECTION 05500 – MISCELLANEOUS METALS

PART 1 – GENERAL

1.1 GENERAL

A. The Contractor shall provide all materials and perform all work as indicated on the Drawings, as specified, and as evidently necessary to properly complete the work of this Section.

B. All miscellaneous metal work is required as necessary including, but not limited, to items listed hereinafter:

1. Wrought iron railing at roof patio perimeters.

2. Wrought iron guard railings at HVAC enclosures.

3. HVAC equipment rails with vibration isolation curbs.

4. Roof tie off anchor posts at HVAC service locations.

5. Steel angles for pedestal paver rim joist support.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Refer to Table of Contents.

1.3 QUALITY ASSURANCE

A. Reference Standards: Conform to governing laws, building codes, and the following standards:

1. American Iron and Steel Institute applicable standards.

2. American Institute of Steel Construction: "Code of Standard Practice for Steel Buildings and Bridges"; and "Specifications for the Design, Fabrications and Erection of Structural Steel for Buildings"; in 1980 "Manual of Steel Construction" (eighth edition).

3. National Association of Architectural Metal Manufacturers (NAAMM), applicable publications.

4. American Welding Society Code: Standard Code for Arc and Gas Welding in Building Construction.

5. American Society of Testing and Materials applicable publications.

1.4 SUBMITTALS

A. Shop Drawings: Submit shop drawings of all miscellaneous metal items to the Designer for review showing sizes and thicknesses of all members, types of materials, welds, methods of connection and assembly complete dimensions, clearances, anchorage, relationship to surrounding work by other trades, finishes, shop paint and protective coatings and other pertinent details of fabrication and installation..

B. The Contractor shall check the shop drawings and indicate in suitable colored pencil his corrections, holes, brackets, attachments, etc. for other trades and necessary field dimensions before forwarding them to the Designer for review.

C. Provide notarized certification on fabricator's letterhead that materials and finishes furnished are as herein specified.

D. Samples: When requested by the Designer, submit duplicate samples of materials to be furnished under this Section.

E. Do not order materials or being fabrication until the Designer's acceptance of submittals has been obtained.

1.5 PRODUCT HANDLING AND STORAGE

A. All materials shall be carefully handled and stored under cover in a manner to prevent deformation and damage to the materials and to shop finishes, and to prevent rusting and the accumulation of foreign matter on the metal work. All such work shall be repaired and cleaned prior to erection.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Patio Railings:

1. New patio railings shall be custom fabricated ornamental wrought iron railings, face-mounted to the new wood rim joists, as shown in the Plans.

2. Railings shall be 42” tall above the patio surface with a maximum baluster spacing of 4 inches.

3. Railings shall be shop painted Black with two coats of direct to metal (DTM) rust protective enamel paint.

4. Provide swinging gates with lockable latch hardware at locations indicated on the Roof Plan.

B. HVAC Enclosure Guard Railings:

1. New guard railings for enclosing HVAC equipment service areas shall be custom fabricated ornamental wrought iron railings, post and wall-mounted.

2. Guard railings shall be a minimum of 42” in height above the finished roof surface with a maximum baluster spacing of 10 inches.

3. Provide swinging gates with lockable latch hardware at locations indicated on the Roof Plan.

C. HVAC Condenser Mounting Systems:

1. New vibration isolation curb and rail system for mounting rooftop HVAC condensers shall be a delegated design by NOVIA Corporation of Salem, NH.

2. New rails shall be set on “Flashable Roof Rail (FFR)” vibration isolation curbs by NOVIA. New curbs shall be maximum 8” in height off the finished roof surface. Design intent is to keep HVAC condensers as close to roof surface as possible.

3. Frame sizes, footprints, members and number of post penetrations are shown schematically on the Drawings and shall be confirmed based upon the Delegated Design submission.

4. Steel members of sufficient strength to prevent equipment flexure during operation.

5. Rails shall include the following features:

   a. Rails shall be manufactured from 11 ga. galvanized tube steel, reinforced and cross braced as required.

   b. Springs shall have all the features of TYPE B restrained isolator with min 1.5” deflection.

   c. Galvanized steel strut support shall be provided as required to properly support equipment maximum deflection over the width of the frame of L/360.

   d. The Rail shall maintain the same installed and operating height with or without the equipment load and shall be capable of being utilized as a blocking device.

e. Rail shall be fully assembled at the factory and shipped as one piece.

f. Provide flexible connections for all piping connected to rotating equipment Model “SR” as manufactured by NOVIA.

D. Roof Davit Tie-Offs:

1. Basis of Design: American Anchor; Bolt Through Roof Anchors.

a. System shall resist pullout with force of 5000 pounds in any direction.

b. Safety anchoring eye, bolts and connecting hardware shall be fabricated with stainless steel.

c. Steel bases shall be fabricated of hot-dipped galvanized mild steel.

d. Exposed Structural Components: Stainless steel, conforming to ASTM A 276 or A 666, Type 304, with minimum yield strength of 42 ksi.

e. Steel: Steel, conforming to ASTM A 36, Type 350W with 50 ksi yield strength for HSS and 43 ksi for plate and all other sections; hot dip galvanized to ASTM A 123 or A 153.

E. Steel Angle Deck Supports: Hot dipped galvanized steel angles, 6”x4”x5/16”, each section 12 inches in length, pre-punched for fastener placement as noted on Plans.

F. General: All materials shall be new stock, free from defects impairing strength, durability or appearance and of best commercial quality for each intended purpose.

G. Provide all anchors, bolts, sockets, sleeves and other parts required for securing each item of work of this Section to the construction, including furnishing to concrete workers all required inserts and sleeves for use at concrete and furnishing to masons of all items required to be built into masonry. Anchor bolts shall be structural grade steel with American Standard machine threads and hexagonal nuts and washers.

H. All exposed fastenings shall be of the same material and finish as the metal to which applied, unless otherwise noted.

I. Welding rods shall conform to AWS Standards and the recommendation of the welding rod manufacturer.

J. Steel Shapes, Bars and Plates: ASTM A-36.

K. Structural Steel Tubing: ASTM A-501 (unspliced).

L. Steel Pipe: ASTM A-53, Grade B (unspliced).

M. Standard Threaded Fasteners: ASTM A-307, Grade A.

N. High-Strength Threaded Fasteners: ASTM A-325.

O. Hot-Dip Galvanizing: For steel angles, provide coating for iron and steel fabrications applied by the hot-dip process. Galvanizing bath shall contain special high grade zinc and other earthly materials.

1. Comply with ASTM A 123 for fabricated products and ASTM A 153 for hardware.

2. Provide thickness of galvanizing specified in referenced standards.

3. Fill vent holes after galvanizing, if applicable, and grind smooth.

4. Galvanizing shall exhibit a rugosity (smoothness) 4 rug or less (16-20 microns of variation) when measured by a profilometer over a 1 inch straight line on the surface of elements that are less than 24 pounds per running foot. Profilometer shall be capable of operating in 1 micron increments.

P. Warranty: Provide galvanizer's standard warranty that materials will be free from 10 percent or more visible rust for 20 years. Warranty for the finish gloss and color shall be 10 years in accordance with the performance specifications referenced.

Q. Shop paint (concealed components): Shop paint for ferrous surfaces shall be high quality lead free, rust inhibitive primer: Tnemec 10-99, Sherwin Williams Kem-Kromite or P&L Effecto Rust Inhibitive Primer.

R. Field Painting: Rust-inhibitive primer for existing structural steel shapes and touch-ups: ZIRP by Duncan Galvanizing, Everett, MA.

S. Fasteners:

1. Expansion anchors: 3/4 inch diameter wedge type expansion anchor, galvanized to conform to ASTM A153, Trubolt by Ramset/Redhead. Lengths as required to provide embedments shown on the drawings. All anchor lengths are to be clearly marked at the threaded end of the anchor.

2. Adhesive anchors to be used to secure new steel to masonry: 3/4 inch diameter threaded steel rod, ASTM A307, galvanized to

conform to ASTM A153, with ceramic-filled epoxy adhesive, Epcon System Ceramic 6 with galvanized screens, by ITW Ramset/Redhead. For use when expansion anchors slip during installation torquing.

2.2 FABRICATION AND WORKMANSHIP

A. Take field measurements before starting fabrication. Metal surfaces shall be clean and free from mill scale, flake, rust, and rust pitting and shall be well formed and finished to shape and size, true to details with straight, sharp lines and angles and smooth surfaces. Curved work shall be to true radii. Exposed sheared edges shall be eased. Joints shall be neatly framed, square or mitered true, and strongly welded or bolted as required.

B. Weld all permanent connections. Weld shall be continuous on all exposed surfaces and where required for strength on concealed surfaces. Exposed welds shall be ground flush and smooth. Do not use screws or bolts where they can be avoided. Where used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

C. Fastenings shall be concealed where practicable. Thickness of metal and details of assembly and supports shall give ample strength and stiffness. Joints exposed to weather shall be formed to exclude water. All miscellaneous metal work shall be complete with all necessary bolts, nuts, plates, fastenings and fittings.

D. Do all cutting, punching, drilling, tapping, metal working and reinforcing required for attachment of hardware and of work by other trades.

E. Live loads shall be not less than the minimum required by the governing laws and building code, without failure or permanent deformation, and with deflection not to exceed 1/360 of length of any member. In addition, railings shall be a minimum of 200 pounds applied at any point along the top rail in any direction.

F. All items shall be plainly marked to show their location in the building.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General:

1. Accurately erect work square, plumb, level and true, accurately fitted, and with tight joints and intersections. Securely fasten in place. Set in conformity with its use in the structure and as indicated on the Drawings. Furnish lose all anchors, inserts and other members to be set in concrete or masonry to the appropriate

trades for installation. Later cutting or drilling shall be avoided wherever possible.

2. All metal work shall be rigidly braced and secured to surrounding construction, and shall be tight and free of rattle, vibration, or noticeable deflection after installed.

3. Touch-Up and Repair: For damaged and field-welded metal coated surfaces, clean welds, bolted connections and abraded areas.

4. For galvanized surfaces, apply organic zinc repair paint complying with requirements of ASTM A 780, modified to 95 percent zinc in dry film. Galvanizing repair paint shall have 95 percent zinc by weight, ZiRP by Duncan Galvanizing. Thickness of applied galvanizing repair paint shall be not less than coating thickness required by ASTM A 123 or A 153 as applicable. Touch-up of galvanized surfaces with silver paint, brite paint, or aluminum paints is not acceptable.

5. For factory-applied finish coatings, field-touch-up shall be performed by factory approved personnel for warranties to apply. Touch-up shall be such that repair is not visible from a distance of 6 feet. If non factory-approved technicians are used for field touch-up, no warranties shall exist.

6. A touch-up repair kit or touchup instructions shall be provided to the Owner for each type of factory-applied finish.

7. Where members, other than expansion bolts or inserts, are fastened into concrete, set the members in holes formed by galvanized sheet steel sleeves, and secure permanently in place by installation of proprietary-type expanding group suitable for the intended use, manufactured specifically for such purpose, used strictly in accordance with manufacturer's directions. Holes to receive members shall be formed with galvanized sheet metal sleeves, expanded polystyrene foam, or other approved method to provide at least 1/2" clearance around entire perimeter. Where exposed, hold expanding grout back 1/2" from finish surface and fill voids with Portland cement grout finished flush with surrounding concrete surface.

B. Railing Installation:

1. Install new embedded wood sleepers at the perimeter of the new patios and at intermediate guard rail post locations, as shown on the Roof Plan. All sleepers shall be securely fastened down into

the building structure, and shall be fully flashed into the new roof system and provided with 16 oz. zinc tin coated copper caps. Install tapered insulation crickets upslope of sleepers to promote roof drainage.

2. Install new galvanized steel angle supports onto the new sleepers. Fasten the angles down to the sleepers with ½" HDG lag screws, bedded in mastic.

3. Install new double 2x8 built up rim joist at patio perimeters. Anchor double rim joist into the new steel angle iron supports, and to the outer face of the sleeper curbs with HDG connectors, as shown on the Detail Drawings. See Section 06600 – Rough Carpentry.

4. Install new 42" wrought iron railings at the patio perimeters, mounted to the face of the new wood rim joist. Space posts evenly around the patio perimeters, no more than 6 feet apart, per the manufacturer's recommendations. All railings to be installed plumb and level.

5. Install new 42" wrought iron guard railings around the HVAC condenser service areas as noted on the Roof Plan. All railings to be installed plumb and level.

6. Secure ends of guard railing sections to existing patio railings and to the penthouse walls, where applicable. Mount intermediate guard rail posts down onto embedded wood sleepers with ZTCC caps. Bed all lag bolts in water cutoff mastic.

7. Provide swinging wrought iron gates with lockable hardware where noted on the Roof Plan.

C. HVAC Condenser Mount Installation:

1. Existing rooftop HVAC condensers shall be disconnected, mounted onto new vibration isolation curbs and rails, and then reconnected.

2. All disconnection and reconnection work is to be performed by the Owner's mechanical contractor. Roofing contractor shall coordinate the work with the Owner's mechanical contractor to minimize equipment downtime. Schedule and notify affected owners accordingly.

3. Set condenser supports accurately in locations and to elevations indicated and in accordance with the manufacturer's shop drawings.

4. Do not locate posts in valleys, or any areas where they will inhibit drainage. Provide tapered insulation crickets upslope of mounting curbs to promote roof drainage.

5. Flash the roof mounting curbs into the new roof system per the roof system manufacturer's standard installation details.

6. Align and adjust various members forming part of complete frame or structure prior to permanently fastening. Execute alignment adjustments to compensate for discrepancies in elevations and alignment.

7. Level and plumb individual members of structure as specified on the Shop Drawings.

8. Provide allowances for differential temperature at time of erection and mean temperature when structure is completed and in service.

9. Baseplates, Bearing Plates and Leveling Plates: Clean deck surfaces of bond-reducing materials. Level all areas with shims, grout or new decking dependent on existing conditions.

10. Shoring & Temporary Bracing: Provide suitable temporary bracing as needed during construction to ensure the safety and stability of the structure. Leave temporary bracing in position as necessary for safety and until all connections are completed.

11. Remove shoring and erection bolts. Fill galvanizing vents, vent holes and erection bolt holes to prevent water entry into hollow steel members and roofing penetrations.

D. Safety Tie-Off Davits:

1. Install new fall arrest anchors per manufacturer installation instructions at locations noted on the Roof Plan.

2. All work is to be done from above. No disruption of the finished interior ceilings will be permitted.

3. Contractor is to cut and replace wood plank decking to access ceiling plenum space for tie-off installation.

END OF SECTION

SECTION 06100 – ROUGH CARPENTRY

PART 1 – GENERAL

1.1 SCOPE

A. The work of this Section, without limiting the generality thereof, consists of furnishing and installing all carpentry and related items as indicated on the Drawings and/or specified herein, and as required to complete the replacement of the exterior roof deck and roofing.

B. Provide all blocking as specified herein and indicated on drawings needed for installation of roof assemblies and roof patios.

C. Structural blocking and curbs for deck structure support and attachment.

1.2 RELATED WORK UNDER OTHER SECTIONS

A. Refer to Table of Contents.

1.3 DELIVERY AND STORAGE

A. All materials, when delivered to site, shall be stacked and stored above the ground under protective coverings or indoors in such a manner as to insure proper drainage, ventilation, and protection from the weather.

B. The contractor shall be allowed limited storage within the building or on site. All other material shall be brought to the site on a daily basis.

C. Stack stock edge or lay flat on a smooth, level surface. Protect edges and corners from chipping.

D. Don’t store new materials directly on the ground.

E. If pressure treated framing is saturated, don’t install it until it dries out.

F. Carry members by the narrow edge and support it when you cut large pieces.

1.4 JOB CONDITIONS

A. Materials shall be applied to properly prepare dry areas.

B. Materials which have a temperature other than the application temperatures of the manufacturer shall not be applied.

C. Any adjacent building, landscape, or paved area damaged during construction shall be replaced or restored by the Contractor at no expense to the Owner.

D. Contractor shall provide all necessary temporary protection and barriers to segregate the work to prevent damage to adjacent areas.

E. Protect stock against dampness during and after delivery. Store under cover in a well-ventilated portion of the building and where not exposed to extreme changes of temperature or humidity.

1.5 DIMENSIONS AND QUANTITIES

A. Dimensions and quantities of work shall be determined by the Contractor. The area plans have been compiled from various sources and may not reflect the conditions at the time of construction.

B. It is the Contractor's responsibility to verify the condition shown and to immediately notify the Designer of any discrepancy.

C. Limited dimensioned or detailed exterior wood repair drawings are provided for the explicit purpose of ensuring the Contractor has fully surveyed the existing conditions and has a full working knowledge of the Scope of Work.

1.6 SAMPLES AND TECHNICAL DATA

A. Submit samples, complete manufacturer’s technical data of all materials and systems listed to the Designer for approval.

B. The Contractor shall prepare two (2) samples of each type of blocking for approval by Designer. Area, size, and location of sample to be designated solely by the Designer. Approved samples will be used as a standard of comparison for all similar work. The samples are required to verify the Contractor’s ability to achieve proper results using approved procedures.

C. The Contractor shall submit each type of proposed fastener to Designer for approval.

1.7 INTENT

A. It is not the intent of this Specification to define the types, sizes, or installation methods for each item of work. Methods of installation, joinery, sizes, types of finish, and other information pertaining to the millwork and other items of required finish shall be installed in accordance with the details on the Drawings and/or existing conditions for the specific locations involved, unless otherwise specified herein. Grades and types of finish shall be as specified under this Section.

1.8 QUALITY ASSURANCE

A. The “Quality Standards” of the Architectural Woodwork Institute shall apply and by reference are hereby made a part of this specification. Any reference to Premium, Custom or Economy in this specification shall be as defined in the latest edition of the AWI “Quality Standards.”

B. Any item not given a specific quality grade shall be “Premium Grade” as defined in the latest edition of the AWI “Quality Standards.”

C. Woodwork manufacturer must have a reputation for doing satisfactory work on time and shall have successfully completed comparable work. The Designer reserves the right to approve the woodwork manufacturer selected to furnish all of the woodwork.

D. Lumber and plywood shall be identified by the official grade mark, except where grade mark will interfere with the natural finish. In such cases, the material shall be accompanied by a certificate of inspection issued by an acceptable lumber grading or inspection agency.

E. Nominal lumber dimensions shall conform to minimum established by the American Lumber Standard of the U.S. Department of Commerce.

PART 2 – PRODUCTS

2.1 DIMENSIONAL LUMBER

A. Blocking materials shall be of sound stock, new, straight, or consistent size, free of stains and mildew. Where exposed or semi-exposed, wood members shall be selected for the best possible appearance from the grade of stock specified.

B. All wood shall be kiln-dried to moisture contents as follows:

1. For exterior work – 14% to 19%, with average not to exceed 15%.

C. Blocking materials shall be surfaced four sides and shall bear the grade and trademark of the association under whose rules it is produced, and a mark of mill identification. Materials shall be construction grade Douglas Fir, Hem-Fir, West Coast Hemlock, West Coast Fir, or Southern Yellow Pine.

D. Blocking shall be furnished in the longest practicable lengths with respect to each intended use, at least twelve feet unless shorter lengths are required. Single length pieces shall be used whenever possible.

E. Wood for concealed use shall be pressure-treated with waterborne salt preservatives that will have no deleterious effect on the adjacent

materials. Treatment shall be fire-rated construction. Treatment shall leave a noticeable tint to wood so that treated wood can be visually differentiated from untreated wood. No oil-based pentachlorophenol or creosote treatments shall be permitted. All pressure treated stock shall be kiln dried after treatment.

F. Lumber design values and plywood span ratings shall be recognized by issuance of a National Evaluation Report which shall include evaluation of strength testing for roof applications.

G. In addition to UL monitoring for flame spread certification, product and kiln drying, after treatment shall be monitored by Timber Products Inspection (TP).

H. Lumber shall be kiln dried after treatment to 19% or less moisture content, and plywood to 15% or less moisture content.

I. Treatment formulation shall contain no halogens, sulfates, chlorides, or ammonium phosphate.

J. Treatment shall qualify as non-hygroscopic in accordance with ASTM D 3201.

K. All lumber shall bear the grade mark of an ALSC Board of Review approved Agency, current Edition, association grading rules govern.

L. Solid stock lumber (i.e., pine, spruce) shall be premium grade materials as required to meet the American Wood Institute's quality standards.

M. Woodwork (to receive paint finish): AWI Custom Grade.

1. Species; Solid Wood: Any closed grain hardwood complying with AWI Section 100 for the quality grade selected.

2. Cut; Solid Wood: Plain Sawn.

2.2 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment or other construction, including the following:

1. Concealed Blocking.

2. Nailers.

3. Furring.

4. Grounds.

B. For items of dimension lumber size, provide No. 2 grade lumber with 15% maximum moisture content and any of the following species:

1. Mixed southern pine; SPIB.

2. Hem-fir or Hem-fir (north); NLGA, WCLIB, or WWPA.

3. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPA.

4. Eastern softwoods; NELMA.

5. Northern species; NLGA.

6. Western woods; WCLIB or WWPA.

C. General Lumber and Grading Requirements:

1. Standards: In addition to requirements shown and specified, comply with applicable provisions for grading and workmanship of AWI “Quality Standards.”

2. Surfaces and Patterns: Provide lumber surfaced 4 sides [S4S] and worked to profiles shown.

3. Moisture Content: Kiln-dry lumber to the moisture content recommended by the AWI Section 100-G-3 or as otherwise noted.

2.3 PLYWOOD

A. Plywood for replacement and miscellaneous concealed use shall be 1/2", 5/8”, 3/4" thick, unless otherwise noted, exterior grade of Group 1 or 2 species, Type CC or better. All plywood shall have an APA stamp on it and shall meet the requirements of Product Standard PS 1-83 for Construction and Industrial Plywood.

B. Nailers 10” wide and narrower that are indicated as plywood may be a single piece of dimensional lumber as specified in Paragraph 2.01 of this Section. Nailers over 10” in width shall be plywood unless otherwise noted.

2.4 FASTENERS

A. Powder-actuated type fasteners shall not be permitted. Only stainless steel or fluoropolymer coated fastenings are permitted. Fasteners for deck plank shall be 2.5”> length.

B. General purpose fasteners for concealed wood blocking shall be hot-dipped galvanized common nails, sized according to the Massachusetts Building Code for the intended use.

C. Fasteners for securing wood blocking to wood shall be of sufficient length so they penetrate the mating member by a minimum of 1-1/2”.

D. Glue for lamination and fabrication of wood items – exterior grade, waterproof, phenolic resin glue.

1. Adhesives: moisture resistant, complying with Fed. Spec. MMM-A-125, Type II, or MMM-A-188, Type I, II, or III; type best suited for the purpose.

E. Provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

F. Nails, Brads, and Staples: ASTM F 1667, Fed. Spec., FF-N-105. Nails must be stainless steel sized to provide 1-1/2" average penetration.

G. Wood Screws: ASME B18.6.1, Fed. Spec. FF-S-111.

H. Screws for Fastening: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened. Screws for fastening existing wood plank deck shall be #14, zinc-coated wood to steel fastener with self-drilling points.

I. Lag Bolts: ASME B 18.2.1.

J. Bolts: Steel bolts complying with ASTM A307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

K. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

PART 3 – EXECUTION

3.1 GENERAL

A. Installation of all woodwork specified shall meet with the requirements of AWI Quality Standard, Section 1700 "Custom Grade" and the additional requirements specified herein.

B. Coordinate installation with the work of other trades to ensure exact fit and perfect alignment. Verify dimensions before proceeding and obtain measurements at job site for work required to be accurately fitted to other construction.

C. Install work plumb, level, true and straight with no distortions. Provide shims as required.

D. Construct all carpentry work plumb, level, and true with tight, close fitting joints. Carpentry shall be securely attached and braced to surrounding construction, and executed in a first-class workmanship manner.

E. Take all necessary field measurements before starting fabrication of built-in work.

F. Attach the Work securely in place.

1. Nailing: Blind nail where possible. Use finishing nails where exposed. Set nail heads for filling, except for exterior wood scheduled to receive natural finish (if any).

2. Anchoring: Secure the Work to anchors or to blocking which is built-into or directly attached to substrates.

G. Plywood, when used in layers, shall have each layer secured equally, with fastener spacing as specified herein.

H. Blocking when installed in multiple layers shall have all joints staggered by a minimum of one foot. All corner joints shall be installed in a woven fashion.

I. Provide all rough hardware required to complete the work, using concealed fastenings wherever possible. In general, concealed fastenings shall be stainless steel. All exposed fastenings in all exposed locations shall be non-ferrous or galvanized steel.

J. Frames, sills, etc. shall be free of splices along lengths of members. Running trim shall have a minimum of splices or joints and where such splices or joints occur, they shall be fastened securely so that all exposed surfaces result in smooth, continuous planes.

K. All splice joints shall shed water and be placed perpendicular to view. All joints shall be mitered. Additionally provide shiplap joints where indicated for trim edges.

L. Plywood shall not be used for composite field fabricated millwork unless otherwise noted.

M. No use of exposed finish plywood is permitted for replacement stock.

3.2 FASTENING

A. All wood shall be fastened firmly enough to resist a force of 150 pounds per linear foot in any direction.

B. Fasteners for wood blocking shall be staggered and spaced 12" o.c. when secured to wood. Small pieces such as at penetrations, shall have a minimum of four fasteners per piece. A fastener shall be located no more than four inches from the end of each piece.

C. Counterbore at all bolt heads, nuts, and washers as may be required to provide flush surface for finishes.

D. Fasteners for any concrete substrates shall be installed in two rows staggered at 12” o.c. and at about 2” from edges.

E. New plywood, if required, shall be installed with fasteners at 12” o.c. vertically and 16" o.c. horizontally.

F. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. CABO NER-272 for power-driven fasteners.

2. Published requirements of metal framing anchor manufacturer.

3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in the Uniform Building Code.

4. Table 2305.2, "Fastening Schedule," in the BOCA National Building Code.

5. Table 2306.1, "Fastening Schedule," in the Standard Building Code.

6. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternative Attachments," in the International One- and Two-Family Dwelling Code.

G. Use common ringed wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting member; pre-drill as required.

H. Securely fasten woodwork items to blocking with surface nailing as required. Countersink and fill flush with the woodwork so that the finished heads are undetectable.

I. Refasten all existing wood plank, to remain, into steel support beams.

3.3 STRUCTURAL PLANK DECKING REPLACEMENT

A. Remove and replace any structural decking planks found to be rotted, broken, or otherwise unsound. All decking replacement work shall be performed on a Unit Price basis per the Bid.

B. Resecure any existing wood plank roof decking found to be loose, but in sound condition.

3.4 NEW ROOF EDGE NAILERS

A. Remove and replace all existing roof edge blocking and nailers with new PT 2x8 lumber as shown in the Detail Drawings.

B. Secure the new edge nailers down to the top of the masonry walls with 10" long, ½" diameter threaded rod tie down anchors, set in epoxy, as shown in the Detail Drawings. Space anchors every 3-4 feet around the entire roof perimeter. New copper edge metal cleat and fascia shall be fastened into the new nailer.

C. Install two new layers of 2x8 blocking at the roof edge facing Marlboro Street to accommodate new roof insulation, as shown on the Roof Plan.

3.5 ROOF PATIO SLEEPER SUPPORTS AND RIM JOISTS

A. Install new embedded wood sleepers at the perimeter of the new patios and at intermediate guard rail post locations, as shown on the Roof Plan.

B. All sleepers shall be securely fastened down into the building structure, and shall be fully flashed into the new roof system and provided with 16 oz. zinc tin coated copper caps.

C. Install tapered insulation crickets upslope of sleepers to promote roof drainage.

D. Install new galvanized steel angle supports onto the new sleepers. Fasten the angles down to the sleepers with ½" HDG lag screws, bedded in mastic.

E. Install new double 2x8 built up rim joist at patio perimeters. Anchor double rim joist into the new steel angle iron supports, and to the outer face of the sleeper curbs with HDG connectors, as shown on the Detail Drawings.

F. Install additional PT 2x4 nailer support along the interior face of the double 2x8 rim joist to support the edge of the new pedestal paver trays, as shown in the Detail Drawings.

G. Install new self adhered membrane flashing over the rim joist and 2x4 support ledge to protect the lumber from water infiltration (GCP Vycor or Deck Protector flashing)

END OF SECTION

SECTION 075200 – MODIFIED BITUMEN MEMBRANE ROOFING

PART 1 – GENERAL

1.1 SCOPE

A. Furnish and install a complete, watertight modified bitumen roofing membrane system at designated locations in accordance with manufacturer's system requirements.

B. The work of this section consists of furnishing and installing all components of the cold-applied built-up modified bitumen roof system and related items as indicated on the drawings and/or as specified herein and includes, but is not limited to, the following:

1. Inspection and documentation of existing conditions.
2. Modified bitumen vapor barrier adhered with cold adhesive.
3. Flat polyisocyanurate insulation and cover-board, adhered with polyurethane adhesive.
4. Built-up roofing membrane, 3 plies, adhered with cold adhesive.
5. Bituminous base flashing and edge metal.
6. Replacement of copper gutter at Main roof only.
7. Installation of walkway pads providing full traffic pathway between access points, and around and under mechanical equipment.
8. Mechanical and perimeter curbs.

1.2 RELATED SECTIONS

A. Section 024100 – Demolition

B. Section 061000 – Rough Carpentry

C. Section 077600 – Porcelain Paver & Pedestals

D. Section 076000 – Flashings, Sheet Metal and Miscellaneous

E. Section 151000 – Temporary Mechanical Disconnects

F. Section 161000 – Temporary Electrical Disconnects

1.3 REFERENCE STANDARDS

A. References in these specifications to standards, test methods, codes etc., are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout these specifications.

1. ASTM: American Society for Testing and Materials; Philadelphia, PA (215) 299-5585.

2. FM: Factory Mutual Engineering and Research; Johnston, RI.

3. CBO: International Conference of Building Officials; Whittier, CA (213) 699-0541.

4. NRCA: National Roofing Contractors Association; Rosemont, IL (708) 299-9070.

5. OSHA: Occupational Safety and Health Administrations; Washington, DC (202) 523-8036.

6. RIEI: Roofing Industry Educational Institute; Englewood, CO (303) 790-7200.

7. SMACNA: Sheet Metal and Air Conditioning Contractors National Association; Chantilly, VA (703) 803-2980.

8. UL: Underwriters Laboratories; Northbrook, IL (708) 272-8800.

1.2 DESCRIPTION OF WORK

A. The basic work descriptions (components, layering and attachment methods) required in this specification are referenced below. See also manufacturer's specifications for specific products, preparation, application and details.

B. Basis of Design System (Siplast Paradiene):

1. PROJECT TYPE: Reroofing.

2. DECK: 1" Wood Plank deck.

3. VAPOR BARRIER : Paradiene 20 SA, or equal.

4. INSULATION: 2 layers of 2 ½" flat polyisocyanurate.

5. COVER BOARD: ½" HD Polyisocyanurate, 60 psi minimum.

6. ROOF SYSTEM: Paradiene 30FR BW, 3-ply. Applied by cold adhesive.

7. FLASHING SYSTEM: Parapro and Veral.

1.3 PREINSTALLATION CONFERENCE: Conduct conference at Project site. Review methods and procedures related to roofing system including, but not limited to, the following:

A. Meet with Owner, Design, Owner's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.

B. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

C. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.

D. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.

E. Review structural loading limitations of roof deck during and after roofing.

F. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

G. Review governing regulations and requirements for insurance and certificates if applicable.

H. Review temporary protection requirements for roofing system during and after installation.

I. Review roof observation and repair procedures after roofing installation.

1.4 SUBMITTALS

A. All submittals which do not conform to the following requirements will be rejected.

B. SUBMITTALS OF EQUALS. Submit primary roof systems to be considered as equals to the specified roof system no less than ten (10) days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an

addendum prior to bid date; only then will equals be accepted at bidding. Include the following submittals of equals prior to bid:

1. Two 3” × 5” samples of the primary roofing and flashing sheets.

2. Latest edition of the roofing system manufacturer’s specifications and installation instructions.

3. Provide evidence and description of manufacturer’s quality control/quality assurance program for the primary roofing products supplied. The quality assurance program description shall include all methods of testing for physical and mechanical property values. Provide confirmation of manufacturer’s certificate of analysis for reporting the tested values of the actual material being supplied for the project prior to issuance of the specified guarantee.

4. Descriptive list of the materials proposed for use.

5. Evidence of Underwriters’ Laboratories Class A acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings. No other testing agency approvals will be accepted.

6. Evidence of Factory Mutual Approval Standard 4470 for the proposed membrane system.

    a. The roof assembly configuration (including base sheet, insulation, etc.) shall be documented by the manufacturer to have passed minimum uplift testing for FM 1-90 at the field of the roof.

7. Letter from the proposed primary roofing manufacturer confirming the number of years it has directly manufactured the proposed primary roofing system under the trade name and/or trademarks as proposed.

8. List of three (3) of the manufacturer’s projects, located in the United States, of equal size and degree of difficulty which have been performing successfully for a period of at least five (5) years.

9. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; breaking load; ultimate elongation; dimensional stability; compound stability; granule embedment and resistance to thermal shock (foil faced products).

10. Sample copy of the specified guarantee.

1.5 SUBMITTALS PRIOR TO PROJECT CLOSE-OUT

A. Provide a Certificate of analysis from the testing laboratory of the primary roofing materials manufacturer, confirming the physical and mechanical properties of the roofing membrane components. Perform testing in accordance with the parameters published in ASTM D 5147 and UEAtc* and indicate Quality Assurance/Quality Control data as required to meet the specified properties. A separate Certificate Of Analysis is required for each production run of material and shall indicate the following information:

1. Material type.
2. Lot number.
3. Production date.
4. Dimensions and Mass (indicate the lowest values recorded during the production run):
    a. Roll length.
    b. Roll width.
    c. Selvage width.
    d. Total thickness.
    e. Thickness at selvege.
    f. Weight.
5. Physical and Mechanical Properties:
    a. Low temperature flexibility.
    b. Breaking load.
    c. Ultimate elongation.
    d. Dimensional stability.
    e. Compound stability.
    f. Granule embedment.
    g. Resistance to thermal shock* (foil faced products).

1.6 QUALITY ASSURANCE

A. Provide primary roofing products, including each type of sheet, all manufactured in the United States, supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than ten (10) years. Provide secondary or accessory products which are acceptable to the manufacturer of the primary roofing products.

B. Provide primary roofing materials manufactured under a quality control/quality assurance program. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.

C. The proposed roof system shall conform to the following requirements. No other testing agency approvals will be accepted.

1. Underwriters Laboratories Class A acceptance of the proposed roofing system (including cold adhesive) without additional requirements for gravel or coatings.

2. Factory Mutual Approval Standard 4470 listing for the proposed membrane system. The roof configuration (including fastening of base sheet, insulation, etc.) shall be per FM 1-90 wind uplift construction in the field.

D. Have a minimum of two (2) years' experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.

E. Submit a completed manufacturer's application for roof guarantee form along with shop drawings of the roofs showing all dimensions, penetrations, and details. The form shall contain all the technical information applicable to the project including deck types, roof slopes, base sheet and/or insulation assemblies (with method of attachment, and fastener type), and manufacturer's membrane assembly proposed for installation. The form shall also contain accurate and complete information requested including proper names, addresses, zip codes and telephone numbers. The project must receive approval, through this process, prior to shipment of materials to the project site.

F. The work to be performed under this specification shall include, but is not limited to, the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply

with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.

G. Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

H. Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

I. In addition to the guarantee, furnish to the Owner the manufacturer's printed recommendations for proper maintenance of the specified roof system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.

1.7 PRODUCT DELIVERY STORAGE AND HANDLING

A. Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.

C. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.

D. Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.8 PROJECT/SITE CONDITIONS

A. Requirements prior to job start:

1. Give a minimum of five (5) days' notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.

2. Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.

3. Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

B. Environmental requirements:

1. Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.

2. At low temperatures, the specified cold adhesive becomes more viscous, making even distribution more difficult. The cold adhesive should be stored in a warm place immediately prior to use. A shop squeegee should be used to assist in an even distribution of the adhesive (cut notches out of the rubber blade of the squeegee). Application should be suspended in situations where the adhesive cannot be kept at temperatures allowing for even distribution.

C. Protection requirements:

1. Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.

2. Prevent access by the public to materials, tools and equipment during the course of the project.

3. Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.

4. Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.9 GUARANTEE/WARRANTY

A. Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the

manufacturer's twenty-five (25) year Total System NDL Warranty labor and materials guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Owner.

B. Upon completion of the work and prior to acceptance of the work, the Contractor shall submit a Guarantee to the Owner. The Guarantee shall be for a two (2) year period and shall cover any defect in the work or materials. The Guarantee shall be submitted in a form acceptable to the Owner.

C. The Contractor shall thoroughly inspect all substrates prior to the application of new materials. If any defects exist, the Contractor shall advise the Designer and suggest remedial actions. Upon acceptance of the substrates, the Contractor's guarantee will include the entire roof system for water tightness.

D. All details relating to the installation of the roofing system shall be approved by the roofing system manufacturer and installed in such a manner that the manufacturer will furnish its standard extended warranty for the installation. The Designer will retain right of final acceptance of details and installation.

PART 2 – PRODUCTS

2.1 DESCRIPTION OF SYSTEMS

A. A roof membrane assembly consisting of three (3) plies of a prefabricated, fiberglass reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, secured to a prepared substrate. Reinforcement mats are impregnated and coated each side with a high quality SBS modified bitumen blend. The modified bitumen finish ply shall be fully adhered to the modified bitumen base ply. Provide sheet components to meet the following physical and mechanical requirements.

B. Acceptable Manufacturers:

1. Siplast

2. Soprema

C. Basis of Design:

1. Siplast Paradiene 30FR adhered roof system.

    a. Modified Bitumen, Base ply and intermediate ply, Paradiene 20.

1) Thickness (avg.): 87 mils – 2.2 mm

2) Weight (avg. per 100 ft^2 of coverage) – 62 lbs – 3.0 kg/sq m

3) Low temperature flexibility @ -15°F (-26°C) – Pass (ASTM D 5147)

4) Breaking Load (avg.) @ 73°F – 30 lbf/inch (ASTM D 5147)

5) Ultimate Elongation (avg.) @ 73°F – 50% (ASTM D 5147)

6) Compound Stability (min.) @ 250°F (121°C)

7) Approvals – UL Class Listed, FM Approved (products shall bear seals of approval)

8) Reinforcement – fiberglass mat

b. Modified Bitumen Finish Ply – Paradiene 30FR BW

1) Thickness (avg.): 130 mils – 3. mm

2) Weight (avg. per 100 ft2 of coverage) – 90 lbs – 4.4 kg/sq m

3) Low temperature flexibility @ -15ºF (-26ºC) – Pass (ASTM D 5147)

4) Breaking Load (avg.) @ 73ºF – 30 lbf/inch (ASTM D 5147)

5) Ultimate Elongation (avg.) @ 73ºF – 55% (ASTM D 5147)

6) Compound Stability (min.) - 250ºF (121ºC)

7) Approvals – UL Class listed, FM Approved (products shall bear seals of approval

8) Reinforcement – fiberglass mat

9) Surfacing – ceramic granules, white. SRI of 82 or higher

(i) Siplast Paradiene 30FR BW

c. Stripping Ply – (same as roof system base ply, unless noted).

D. Flashing materials:

1. Metal-Clad Modified Bitumen Flashing Sheet – Veral Aluminum

a. Thickness (avg): 150 mils (3.8 mm) (ASTM D 5147)

b. Thickness (min): 146 mils (3.7 mm) (ASTM D 5147)

c. Weight (min per 100 ft^2 of coverage): 96 lb (4.6 kg/m^2)

d. Coating Thickness – back surface (min): 40 mils (1 mm) (ASTM D 5147)

e. Low temperature flexibility @ 0°F (-18°C): Pass (ASTM D 5147)

f. Ultimate Elongation (avg) @ 73°F (23°C): 45% (ASTM D 5147)

g. Tear-Strength (avg): 120 lbf (0.54 kN) (ASTM D 5147

h. Reinforcement: fiberglass scrim mat or other meeting the performance and dimensional stability criteria

i. Surfacing: aluminum metal foil

2. Catalyzed Acrylic Resin Flashing System – ParaPro: A specialty flashing system consisting of a PMMA-based, fully reinforced membrane installed over a prepared or primed substrate. The flashing system consists of a catalyzed acrylic resin primer, basecoat, and topcoat, combined with a non-woven polyester fleece.

2.2 VAPOR BARRIER

A. Modified Bitumen Underlayment adhered with cold adhesive.

B. Siplast Paradiene 20 Base ply, or equal.

2.3 INSULATION MATERIALS

A. All insulation materials shall be supplied by roof system manufacturer and shall be included in the roof system warranty.

1. Manufacturer: Siplast Paratherm polyisocyanurate insulation

2. The insulation shall have a minimum aged “R”-value as indicated in accordance with RIC/TIMA Technical Bulletin 281-1

3. Composition: Insulation shall be closed-cell polyisocyanurate core integrally bonded to asphalt fiberglass felt facing.

4. Density: 2.1 pounds per cubic foot

5. Compressive Strength: 20 pounds per square inch (min.).

6. Size: 4 ft.x 4 ft. for adhered applications.

B. Tapered polyisocyanurate insulation shall be installed as necessary to provide positive drainage of all roof areas, including at gutter edge and at crickets. Penthouse roof shall be provided with tapered insulation.

C. Cover Board: All cover board materials shall be supplied by roof system manufacturer and shall be included in the roof system warranty.

1. High density polyiso cover board, ½” thick, minimum 60 psi compressive strength.

D. Insulation adhesive: Siplast adhesive low-rise, polyurethane adhesive.

E. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

F. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.

G. Spray Polyurethane Foam Insulation for filling gaps and sealing around penetrations shall be ‘Great Stuff’ by Dow, Zero Draft’, by BASF, or approved equal.

2.4 ROOFING ACCESSORIES

A. Adhesives:

1. Solvent-Free Membrane Adhesive for horizontal surfaces: A single component, solvent-free modified asphalt adhesive designed for application of the specified roof membrane system:

a. Siplast PA 311R by Siplast; Irving, TX.

2. Solvent-Free Flashing Adhesive for vertical surfaces: A single component, solvent-free modified adhesive. The adhesive blend shall be formulated in a grade for application of flashing materials.

a. Siplast SFT Cement PA 828 by Siplast; Irving, TX.

B. Bituminous cutback materials

1. Primer: A high flash, quick drying, asphalt solvent blend which meets or exceeds ASTM D 41-85 requirements.

a. Siplast PA-917LS Asphalt Primer

2. Mastics: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586-86 Type II and FED Spec No. SS-C-153, Type I requirements.

a. Siplast PA-1021 Plastic Cement

C. Caulking/Sealants: A single component, high performance, elastomeric sealant. Acceptable types are as follows:

1. ASTM D 232, Fed Spec No. TTS 0023C

a. Flexible Seal; by AC Products, Inc.; Placentia, CA (714) 630- 7311.

2. ASTM C 920, Fed Spec No. TTS 0023

3. Tremseal by TREMCO; Cleveland, OH (216) 292-5000.

4. ASTM C 920, Fed Spec No. TTS 0023C Type II C

a. Sonolastic NP 1 by Sonneborn Building Products; Minneapolis, MN (612) 835-3434.

b. Black Jack No. 1010 by Gibson-Homans; Twinsburg, OH (216) 425-3255.

D. Ceramic Granules: No. 11 Grade Specification Ceramic granules of color scheme matching the granule surfacing of the finish ply.

E. Flashing Sheet base of wall: 0.060” thick unreinforced, cured neoprene membrane.

F. Fasteners:

1. For fastening metal perimeter securement to the perimeter of the roof area to concrete pavers, use Rawl Zamac pins.

G. Gutter” 16 oz - Red copper.

H. Walkway pad: Ceramic coated non-woven polyester modified bitumen walkway pads.

I. Pourable sealer: shall be a proprietary compound furnished by the membrane manufacturer

J. Grout for pourable sealer pockets shall be Thoroc 747 Rapid-Set Grout by Harris Specialty Chemicals, Inc., Jacksonville, FL.

K. Batt insulation: Unfaced Mineral-Fiber Blanket Insulation: Thermal insulation combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665, Type I (blankets without membrane facing).

1. Mineral-Fiber Type: Fibers manufactured from glass.

2. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indices of 25 and 50, respectively.

PART 3 – EXECUTION

3.1 PREPARATION

A. General:

1. After removing all existing roofing, sweep or vacuum all surfaces, removing all loose and foreign substances prior to commencement of roofing.

B. In designated areas, remove all existing:

1. Refer to Section 024100.

2. Roof membrane.

3. Insulation.

4. Base flashings.

5. Edge metal and gutter.

6. Flanged metal flashings.

7. Cants, wood blocking.

8. Walkways.

9. Non-functional penetrations/curbs.

10. Vapor retarder.

11. Metal trim, counterflashing, etc.

3.2 VAPOR RETARDER INSTALLATION

A. Primer: Surfaces to receive vapor barrier underlayment must be clean and dry. Note prior to primer use coordinate mechanical air handling equipment shut down.

B. Install base sheet in cold adhesive per manufacturer requirements. Apply Base from low to high points, in a shingle fashion, so that the laps will shed water. Overlap all edges by at least 2 ½ inches. End laps should be staggered 4”.

C. Install cant utilizing mastic sealant around perimeter of roof and at all penetrations to seal cold joints, prior to installing base, Fill all gaps in structural systems with approved spray polyurethane foam insulation.

D. Position membrane carefully so as to avoid fish-mouths and wrinkles.

E. Immediately after installation, roll the base membrane with a 10 pound roller wrapped in a resilient material. Utilize hand roller/broom at detail locations.

F. Repairs: Following application, inspect all membrane for tears, punctures, fish-mouths, blisters, and voids due to misalignment at seams.

1. Remove damaged membrane. Prime exposed substrate and allow primer to dry. Apply a new section of base to primed substrate, extending at least 6 inches on to underlying adhered membrane on all sides. Firmly roll repaired area with a 2-inch hand roller to ensure a good seal. Slit fish-mouths and overlap the edges. Place a section of new base over the repair allowing it to extend at least 6 inches in all directions. Firmly roll repair section to ensure a good seal.

3.3 INSULATION INSTALLATION

A. Insulation shall be installed over a clean, dry and properly prepared roof surface acceptable to the membrane manufacturer, Roofing Contractor and the Designer. The Contractor shall inspect the surface to determine that it is smooth and uniform to receive the new insulation. Prior to starting the work, the Contractor shall notify the Designer that the substrate is ready for new work to begin.

B. No more insulation shall be installed than can be completely covered

with the finished roofing system on the same working day.

C. Install insulation panels with end joints offset; edges of the panels shall be in moderate contact without forcing applied in strict accordance with the insulation manufacturer's requirements and the following instructions. Where insulation is installed in two or more layers, stagger joints 12" in each direction, between layers.

1. No piece of insulation shall be cut to fit less than two square feet unless size of opening dictates.

2. Insulation shall be installed without gaps or voids and with smooth transitions and tightly fitting joints. Insulation with dense "knit line" grooves shall not be installed.

3. The insulation and cover board shall be neatly cut to fit around roof penetrations and projections.

4. Provide tapered insulation crickets at curbs and other locations as shown on the Plans.

D. Provide tapered insulation crickets as required to provide positive roof drainage in all areas. Install tapered crickets prior to installing cover board.

E. Utilize spray foam filler to fill all gaps in excess of 1/4", and around all roof penetrations.

F. All installed insulation must be fully protected from precipitation and condensation damage at all times. Any wet insulation shall be marked, removed from the site and replaced prior to installation of new membrane. Insulation shall be stored covered with waterproof tarps in a manner acceptable to the manufacturer and the Designer. If stored on the roof, insulation shall be placed on pallets at least 4" high with a 1" buffer of EPS board underneath to prevent puncturing of the roof membrane. Insulation shall not be stored in low areas and shall be stored so as not to overstress the structure.

3.4 POSITIVE DRAINAGE

A. No ponding water shall be permitted to remain longer than 48 hours after rain. Contractor shall be responsible for correcting any roof areas that pond water beyond 48 hours.

3.5 INSULATION & COVER BOARD ADHESIVE ATTACHMENT

A. Contractor shall perform adhesion tests to confirm adequate insulation securement strength prior to installation. Proper adhesion of existing

roof coatings and base to their substrate must be verified prior to bonding to these materials.

B. The surface to which the adhesive is to be applied shall be smooth, dry, and free of fins, sharp edges, loose and foreign materials, oil and grease and standing water. All sharp projections and loose material shall be removed by sweeping, blowing or vacuum cleaning.

C. Adhere insulation with 3/4-1" bead of adhesive at the following rates, as required to meet FM wind uplift standards:

1. 6" on center in the field of the roof (2 lineal feet per square foot of insulation);

2. 4" on center at 12' perimeter and corners of roof (3 lineal feet per square foot of insulation).

3. Adhere multiple layers of insulation and cover board at same rate.

D. Apply urethane adhesive when the substrate and ambient temperature is 45º F (7º C) or above.

E. Select the appropriate version of Urethane Adhesive based on the forecasted temperatures.

F. Place 4' x 4' maximum insulation boards into adhesive after allowing it to rise between ½" to ¾" and develop string/body (approx. 1.5 - 2 min. at room temperature) but before the adhesive reaches a "tack-free" state.

G. Designate one person to walk and roll boards into place using a 150 lb. weighted roller adding constant weight or slitting boards where necessary until adhesive sets-up.

3.6 ROOF MEMBRANE INSTALLATION

A. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing shall immediately follow application of base sheet and/or insulation as a continuous operation.

B. An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. The contractor shall make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, metallic powder, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner.

C. Prime metal flanges (all jacks, edge metal, lead drain flashings, etc.) and concrete and masonry surfaces with a uniform coating of ASTM D 41-85 asphalt primer.

D. Cutting or alterations of bitumen, primer, and sealants will not be permitted.

E. Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets. Stagger the lap seams between the base, intermediate, and finish ply layers. Stagger the courses to ensure this.

1. Apply all layers of roofing parallel to the slope of the deck.

2. Fully bond the two base plies in a shiplap fashion to the prepared substrate, utilizing minimum three (3) inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps a minimum of three (3) feet.

3. Fully bond the finish ply to the base plies, utilizing minimum three(3) inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps of the finish ply a minimum three (3) feet. Stagger side laps of the finish ply a minimum twelve (12) inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum three (3) feet from end laps in the underlying base ply.

F. FLASHING APPLICATION:

1. Flash walls and curbs using the reinforcing sheet and the metal foil flashing membrane. The reinforcing sheet shall have minimum three (3) inch side laps and extend a minimum of three (3) inches onto the base ply surface and three (3) inches up the parapet wall above the cant.

2. Fully adhere the flashing reinforcing sheet. The laps of the metal foil flashing layer and the lap seams in the reinforcing layer should not coincide.

3. After the final roofing ply has been applied to the top of the cant, prepare the surface area that is to receive flashing coverage by torch heating granular surfaces or by application of asphalt primer; allowing primer to dry thoroughly.

4. Apply the metal foil-faced flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Extend the flashing sheet a minimum of four (4) inches beyond the toe of the cant onto the prepared surface of the

finished roof and up the wall to the desired flashing height.

5. Prime end laps of the metal-clad modified bitumen sheet with a uniform coating of the specified asphalt primer and allowed to thoroughly dry prior to overlapping of adjoining sheets.

6. Probe laps using a clean, heated roofing trowel and heat fuse dry laps of the metal-clad modified bitumen sheet to ensure a complete seal.

7. Using a clean, heated roofing trowel, lightly crimp the foil surfacing over the membrane edges (approximately 1/8-1/4” width) along all side and end laps of the metal-clad modified bitumen sheet.

8. Exert sufficient pressure on the metal clad modified bitumen sheet flashings to ensure the prevention of air pockets. this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges.

9. Nail the top edge of the flashing on 6” centers.

G. WATER CUT-OFF:

1. At end of day’s work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing. Cut-offs shall additionally be installed to separate new roofing from contamination of existing.

3.7 ROOF SYSTEM INTERFACE WITH RELATED COMPONENTS

A. In all cases, unless otherwise approved, incorporate flanged components into the system between the application of the intermediate ply and the finish ply. The flange must be primed with a uniform coating of approved ASTM D 41-85 asphalt primer and allowed to dry thoroughly; all flanges must be set in approved mastic.

B. EDGE METAL:

1. Completely prime metal flanges and allow to dry prior to installation. Turn the base ply down two (2) inches past the roof edge and over the nailer.

2. After the base ply and continuous cleat (if applicable) have been installed, set the flange in mastic and stagger nail every three (3) inches on center.

3. Strip-in the flange using the base ply material, extending a minimum of four (4) inches beyond the edge of the flange.

4. The intermediate and finish plies shall then be applied, terminating at the gravel-stop rise of the edge metal.

5. SEE ITEM: SEALANT, for finish of this detail.

C. SEALANT:

1. Caulk all exposed finish ply edges at edge metal, gravel stops, waste-stacks, pitch-pans, vent stacks, etc., with a smooth continuous bead of approved sealant.

3.8 WALKWAY PADS

A. Install new modified bitumen walkway pads at all ladders, hatches, doors, and provide a continuous travel pathway across each roof section as shown on Plans.

3.9 FIELD QUALITY CONTROL AND INSPECTIONS

A. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

B. Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.

C. FINAL INSPECTION.

1. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.

2. GUTTER DRAINAGE VERIFICATION: At final inspection of all work, water test gutter to capacity to check for downspout leaks.

D. ISSUANCE OF THE GUARANTEE: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

E. TWO-YEAR INSPECTION: Contact the manufacturer during the ninety(90) day period immediately preceding the two (2) year

anniversary of the guarantee date to arrange for a mandatory two-year inspection. The inspection shall be attended by the Contractor and the manufacturer's representative. A two-year inspection punch list shall be compiled by the manufacturer and submitted to the Contractor for his completion. Upon completion sign and mail the punch list form to the manufacturer's headquarters, verifying that all items are in accordance with the manufacturer's recommendations.

END OF SECTION

SECTION 07600 – FLASHINGS, SHEETMETAL & MISCELLANEOUS

PART 1- GENERAL

1.1 SCOPE

A. Provide all metal flashing required to complete the flashing application according to details. This includes, but is not limited to, the following:

1. Miscellaneous sheet metal flashing as required for new flashings.
2. Roof edge metal.
3. Sleeper caps.
4. Door pan flashing.
5. Main roof gutter.

B. In order that the membrane system and other work are properly coordinated, installed and compatible and shall be guaranteed as specified, all work shall be the responsibility of a single subcontractor.

1.2 RELATED WORK

A. Additional items of related work are specified and included in the Table of Contents.

1.3 SUBMITTALS

A. Samples of all sheetmetal shall be submitted to the Designer upon request. Labels for sheetmetal shall be provided, showing weights, gauges or thickness.

B. Submit complete manufacturers' data, consisting of complete product description and specifications, complete test data, complete installation instructions, and other pertinent technical data required for complete product and product use information. Do not order materials or begin installation until manufacturers' data and samples/drawings have been approved.

C. Submit detail shop drawings. Final approval shall be by the Designer.

D. The Contractor shall submit each type of proposed fastener to Designer for approval.

1.4 CODES AND STANDARDS

A. Metal installation shall be in accordance with the Sheet Metal Manual published by the Sheet Metal and Air Conditioning Contractor National Association, Inc. (SMACNA) latest edition.

1.5 COORDINATION

A. Work in connection with other trades by the timely performance of work. Fully cooperate with other contractors to ensure complete integration and coordination of all work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Flashings shall be installed where shown on the drawings or specified herein. If a portion of the work, which is normally flashed during construction as general practice has not been shown or specified as requiring insulation, the Contractor shall bring this to the Designer's attention.

1. Roof edge metal: 16 oz. copper fascia with 20 oz. copper cleat.

2. Sleeper caps: 16 oz. zinc-tin coated copper (Freedom Gray) by Revere Copper.

3. Door Pan Flashings: 16 oz. zinc-tin coated copper (Freedom Gray) by Revere Copper.

4. Skirt flashing for under penthouse standing seam copper cladding: 16 oz. copper

5. Reglet flashing for masonry walls and chimneys: 16 oz. copper

B. To prevent corrosion, the indicated fastener materials shall be used with the following sheet metals:

Sheetmetal	Nails	Screws	Rivets
Aluminum	Aluminum or Zinc	Aluminum or Zinc	Aluminum or Zinc
Copper	Copper	Bronze	Copper
Lead Coated Copper	Copper	Brass	Brass

Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

C. For attaching sheetmetal to concrete masonry, use 1/8" diameter Rawl Zamac plugs.

D. All lap sealants and adhesives shall be as recommended and required by the manufacturer of the elastomeric flashing materials and installed at the completion of each day's work.

E. Metal flashing at walls and parapets: Type 1, Class A, American-made cold rolled copper, ASTM B 370, 16 oz., fascia and 20 oz. hook strip as noted in the drawings. All copper sheets shall carry markings of producer, temper, and weight. Make required connections with solder of 50% block tin and 50% pig lead and solid copper rivets (at lap seams). ASTM B 32, Class 50A or 50B bar form with an approved brand of soldering flux. Use individual locking cleats of the same weight as the base material.

F. Spray polyurethane foam shall be “Great Stuff” by Down, or approved equal.

G. Slip sheet for use under copper shall be 5 lb. /100 s.f. red rosin building paper.

H. Sealant for miscellaneous use in flashing installations shall be Dow Chemical Co., Inc. #790 or approved equal.

I. Flashing membrane not in contact with shingled roofing shall be 40 mil. thick self-adhering reinforced butyl such as “Vycor Ultra” by W.R. Grace, or approved equal. Provide membrane manufacturers approved primer and mastic for hard to seal conditions.

J. Fasteners and accessories for copper flashing: Use copper or brass screws, bolts, or nails as required. Nails to be 12 gauge, with minimum 3/8" diameter flathead, annual threaded, with needle point, and of sufficient length to obtain 1-1/4” embedment into blocking, and for full depth into plywood.

K. Rivets for metal flashing connections: copper rivets, solid 1/8” dia. flathead rivets, of proper length for the metal being fastened; “pop” rivets are prohibited.

L. Release tape: 0.060” thick polyethylene, adhesive-backed on one side, width as required.

M. Fasteners:

1. All other screws, nuts, washers, bolts, rivets and other miscellaneous fastening devices incorporated in the product shall be of non-magnetic 316 stainless steel compatible with aluminum and of sufficient strength to perform the functions for which they are used.

PART 3 EXECUTION

3.1 GENERAL

A. All personnel concerned with shop fabrication and field inspection of sheetmetal work must be qualified sheetmetal journeymen who may be assisted by sheet metal apprentices qualifying for their journeymen status. For foreman of the crew must have at least 5 years' experience in sheetmetal work.

B. Comply with waterproofing membrane manufacturer's requirements as accepted by the Designer. Install as indicated on the Drawings and as specified.

C. Secure counterflashing with 2" blind clips 4" from each end and at maximum 1'-6" on center. Fabricate flashings end closures to match.

D. Except as otherwise shown on the approved shop drawings or specified herein, the workmanship of sheet metal work, method of forming joints, anchoring, cleating, provisions for thermal movement, etc., shall conform to the standard details and recommendations of the sheet metal producer and those of producer organizations and research institutions and associations governing the sheet metal used, in addition to the standards and details set forth in "Architectural Sheet Metal manual" of the Sheet Metal and Air Conditioning Contractors' National Association, Inc.

1. To greatest extent possible, fabricate sheet metal components in shop, and thoroughly clean joints on both sides of the sheet metal work as specified herein below.

2. Face nailing will not be permitted. Concealed cleating or other approved, concealed method must be used to attach sheet metal work to the structure.

3. Seams, except where expansion provisions are required or where otherwise specified or detailed, shall be flat-locked and shall finish at least 1½ in. in width.

4. Exposed edges shall be doubled back ½ in. in such a manner as to conceal them and to provide stiffness, and shall generally be bent out at a 45 degree angle.

5. Generally, sheet metal cap flashings shall overlap base flashings at least 4 in. Form “Spring” into the cap flashings for tight contact. Secure lower edge of cap flashings with cleats where necessary. Fabricate corner flashings in single pieces.

6. All flat-locked seams shall be sweat and lace soldered. Soldering shall be done slowly with well heated coppers, and ample solder shall be used so that the seam will show at least 1 in. of evenly flowed solder.

7. As a general sheet metal fabrication procedure, remove all flux from faces of sheet metal and then neutralize the flux reside by swabbing with washing soda or ammonia. Pre-tin and clean all soldered joints before final assembly wherever possible.

8. Seal all working-joints in sheet metal work with low-modulus sealant to assure positively weathertight conditions throughout, sing materials as specified herein before.

9. All sheet metal remaining exposed in the finished work shall be cleaned and left free from stains and blemishes.

3.2 INSTALLATION

A. Proceed with flashing work concurrently to prevent water intrusion in the assembly.

B. All mating joint surfaces shall be pre-tinned, riveted in a staggered pattern 1-2” OC., and sweat soldered.

C. Sheet metal panel lines, brakes, and angles are to be sharp and true, and surfaces free from objectionable wave, warp, or buckle. Fold exposed edges of sheet metal back to form 1/2" wide hem on side concealed from view.

D. Finished work to be free from water leakage under all weather conditions.

E. Workmanship and methods employed for forming, anchoring, cleating, and forming of expansion and contraction joints of sheet metal work must conform to details and descriptions in referenced standards unless otherwise shown on the drawings.

F. Install electrolytic isolation materials between dissimilar metals. Do not use dissimilar metals in contact with each other. Construct so runoff water from one type of metal does not flow over dissimilar metal.

G. Generally, flashing and sheet metal work shall be in lengths not exceeding 10 feet and free from longitudinal joints. All flashing in contact with

dissimilar metal shall be coated with asphalt paint. All joints in copper shall be pre-tinned, locked and soldered. Expansion joints shall be formed by joining ends of sheets together with a 3-inch loose lock, filled with elastic cement. Expansion joints shall be installed every 30 feet in straight runs; straight runs less than 30 feet shall have similar expansion joint at center of the run.

H. Reinforce all metal flashing corners as required; solder for permanently waterproof connections. After soldering, removed immediately all traces of acid or flux with an appropriate neutralizer, followed by repeated washing and scrubbing. Do not use plain lap joints, but form joints with soldered lock seams, except where expansion joints are called for. All joints must be waterproof.

I. Mechanically clean all metal to be soldered with steel wool or by other acceptable means, apply flux, and pre-tin. For lead-coated copper, remove lead coating by sanding or grinding to produce bright red surface, prior to applying flux and pre-tinning. Perform all soldering slowly with well heated heavy (10 lbs. per pair) coppers (irons) with properly tinned, clean, blunt tips. Apply enough heat to sweat the solder completely through the full width of the seam. Close clinch lock seams gently with a block of wood and mallet, then flux and show at least one full inch of continuous and evenly flowed solder. Whenever possible, do all soldering in flat position. All sloped and vertical seams shall be laced and soldered a second time.

J. Reinforce all metal flashing corners as required; rivet and solder all flashing corners for permanently waterproof connections. Space rivets at 1” o.c. in staggered pattern unless otherwise indicated. After soldering, immediately remove all traces of acid or flux with an appropriate neutralizer, followed by repeated washing and scrubbing.

K. Using manufacturer’s bonding adhesive, fully adhere membrane as indicated.

L. All exposed fasteners shall be finished to match metal flashings. Use of exposed fasteners in installation shall be pre-approved by Designer.

M. Detail transverse joints in all flashing pieces to provide a watertight condition, and allow for expansion/contraction of the metal at each joint. Provide pre-fabricated corner pieces with joints locked, riveted, and soldered watertight. Provide a transverse expansion joint 20 ft. on center and 2 ft. away from all changes in flashing direction (each side) and from all terminations of flashing, unless otherwise noted.

N. Exposed Sheet Metal Work: Securely anchor sheet metal work, but allow for thermal movement and building movement. Use concealed fasteners to the greatest extent possible. Install work to be permanently

weatherproof and watertight. Provide separating underlayment between sheet metal and cementitious substrates.

O. Reglets: Provide reglets where indicated and where needed to terminate flashings and counterflashings. Coordinate installation with related and adjacent work. Wedge sheet metal into reglets with continuous lead wedges and seal entire reglet with sealant.

P. All exposed sheet metal work shall be cleaned at completion of installation. Grease and oil films, handling marks, contamination from steel wool, fitting and drilling debris shall be removed and the work scrubbed clean. All exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks. Daily cleanup and removal from the site of all shavings, clippings, sheerings, rivets, fasteners, and whatever other debris resulting from these operations are required.

Q. Door Pan Flashing Installation:

1. Install new 16 oz. zinc-tin coated pan flashing at both penthouse patio entrance doors. Remove and reinstall doors as required to install pan flashings.

2. Custom fabricate pan flashings, sized to fit snugly into the rough opening over the new roofing membrane at the sill, and to fully receive the door pan and frame.

3. Turn pan up minimum 2” at sides and ½” at rear. Solder corners water tight.

4. Install pan flashing bedded in mastic over new roof membrane. Fasten into jambs of rough opening through the sides of the pan. Do not fasten down through pan flashings.

5. Strip in jambs of rough opening with self adhered butyl membrane flashing extending down into the sides of the pan flashing.

6. Reinstall the door into the rough opening. Fasten through the jambs and head. Bead threshold in sealant into pan flashing.

7. Seal gap around door with spray foam insulation, then install interior and exterior backer rod and sealant at perimeter joints.

END OF SECTION

SECTION 07760 – PORCELAIN PAVERS AND PEDESTALS

PART 1 – GENERAL

1.1 SCOPE

A. Furnish and install a complete Architectural Pavers and Adjustable Pedestals deck support system with a maximum cavity height of up to 22 inches, including pedestals, support trays, pavers, perimeter blocking, trim and railings, as shown in the Plans and Detail Drawings.

1.2 RELATED WORK UNDER OTHER SECTIONS:

A. Refer to table of contents.

1.3 REFERENCE:

A. American Society for Testing and Materials (ASTM)

1. ASTM D 638 - Tensile Properties of Plastics
2. ASTM D 790 - Flexural Properties of Unreinforced and Reinforced Plastics Insulating
3. ASTM D 1525 -Vicat Softening Temperature of Plastics

1.4 SUBMITTALS:

A. Samples:

1. Porcelain Pavers: Submit 12”x12” samples for all manufacturer standard types, colors and textures.
2. Pedestals: Submit sample of each pedestal component.
3. PVC Pipe: Submit 12-inch long sample of PVC pipe.

B. Shop Drawings:

1. Submitted by contractor showing all components required for the paver & pedestal requirements. Shop drawings shall include plan drawings showing layout of all paver areas and detail drawings showing how the various components of the system fit together. Include manufacturer’s literature completely describing all components of the paver pedestal systems and giving detailed installation recommendations and instructions. Also included detailed installation drawings for all Porcelain Pavers.

1.5 QUALITY ASSURANCE:

A. Manufacturer Qualifications: All products covered under this Section shall be produced by a manufacturer with a minimum of fifteen (15) years proven production experience.

B. Installer Qualifications: Installer shall have a minimum of three (3) years proven construction experience and be capable of estimating & building from blueprint plans and details, determining elevations, in addition to proper material handling.

C. Special Consideration: The installer and or subcontractor must assume the responsibility for and take into consideration (1) the structural capability and adequacy of the structure to carry the dead and live load weight(s) involved, and (2) that the density of any insulation is satisfactory to resist crushing and damaging the waterproofing membrane.

1.6 DELIVERY, STORAGE, AND HANDLING:

A. Protect Porcelain Pavers and Pedestal System during shipment, storage and construction against damage. Store a minimum of 4 inches off the ground in a dry location and cover with polyethylene to protect from contact with materials which would cause staining or discoloration.

1.7 PROJECT CONDITIONS

A. Pedestal System specified are to be used with pedestrian traffic only & all four (4) sides of a deck system must restrain and contain the decking panels with perimeter blocking or walls. Decking panels must not be allowed to move laterally.

B. All membrane waterproofing and protection board surfaces to receive pedestals must be broom clean, frost free, and free of dirt, oil or any rough foreign matter, which may impair the waterproofing / roofing manufacturers guarantee or protection requirements.

C. The substrate that is to receive pedestals must have slope and provide positive and adequate drainage in accordance with good building practice and applicable building codes.

D. Decks over Roofing and Waterproofing:

1. If high density closed cell extruded 60psi polystyrene insulation is installed on top of the membrane in a protected membrane system, Pedestals may be installed directly on top of this type of insulation.

2. Do not use Pedestals over any insulation less than 60psi or with low density polystyrene (bead board) insulation.

E. Installation or anticipated installation of additional items on top of the deck such as planters, hot tubs, sculptures, or industrial equipment must be supported directly by additional pedestals that are in addition to the main deck paver/tile pedestal system. Failure to adequately support the additional weight of any such features or items may cause significant damage to the deck, underlying structure, or waterproofing.

1.1 WARRANTIES / GUARANTEES:

A. Pedestal System (Porcelain Pavers and pedestals) shall remain free from defects for a period of ten (10) years. The contractor shall warrant that his work will remain free from defects of labor and materials used in conjunction with his work in accordance with the general conditions for this project or a maximum of three (3) years.

PART 2 – MATERIALS

2.1 MANUFACTURERS:

A. The Paver Pedestal Systems specified herein are based upon products manufactured by Tile Tech Inc.

B. Paver Pedestal Systems equal in appearance and function and meeting these specifications will be acceptable when the specified submittals are approved in writing by the Architect prior to bid.

2.2 MATERIALS:

A. PORCELAIN PAVERS:

1. Type: Porce-Pave Porcelain Pavers, Tile Tech Inc. or equal

2. Finish: Porce-Plank™

3. Color: Standard range manufactured by Tile Tech Inc. or equal.

4. Size: Nominal 24” x 24” x 3/4”

5. Weight: 9lbs per Sqft.

B. HYBRID PEDESTALS:

1. Stak-Cap™ Tile Tech Inc. Pedestals or equal: PVC Pipe & Stack Adjustable

a. Stack or use SDR35 PVC pipe to accommodate various HEIGHT adjustments of ½” to 2”.

b. Each cap provides maximum of ½" of HEIGHT and 1% SLOPE. Rotate and stack one cap relative to another to accommodate SLOPE adjustments from 0% to 5%.

c. Base diameter of 6-inch and top diameter of 5-¼-inch and is ½-inch high.

d. Made of high impact and flame resistant ABS plastic.

e. Use of Buffer Pads under Stak-Cap™ Pedestals is MANDATORY.

2. Uni-Just™ Pedestals: PVC Pipe & Screw Adjustable

a. Assembly consist of 5 parts: Uni-Base™, Uni-Collar™, Uni-Insert™, Uni-Cap™ & Buffer Pads.

b. Use SDR35 PVC pipe to accommodate various HEIGHT adjustments from 2-½" to 22". Additional precise height adjustment of up to 1-½" with the use of Uni-Insert™ which can screw up or down while loaded. Additional heights beyond 24" can be accomplished subject to consultation with manufacturer and approval by manufacturer.

c. Self-leveling and can tilt in any direction to a level plane to accommodate SLOPE adjustments from 0% to 4%.

d. Base diameter of 7.25-inch with bearing surface area of thirty eight (42) square inches.

e. Made of 100% recycled and flame resistant High Density Polypropylene.

f. Use of Buffer Pads under Uni-Just™ Pedestals is MANDATORY.

3. Uni-Shims™: 1/8-inch & 1/16-inch Thick

a. Can be used whole or broken into halves or quarters and can be stacked up to 2 high.

b. Used on top or under Stak-Cap™ or Uni-Just™ Pedestals for fine leveling of pedestals and or individual Porcelain Pavers.

c. Made of high impact and flame resistant ABS plastic.

C. SUPPORT TRAY UNITS

1. Wind Uplift and Safety System Paver Unit Support Trays: Manufacturer's standard honeycomb structural trays with adhesive tracks in perimeter, center, and auxiliary zones. Include locking disks with fasteners, spacer joint pegs, and roofing adhesive as approved in writing by manufacturer.

    a. Basis-of-Design Product: Subject to compliance with requirements, provide Tile Tech Inc.; Hex-Tray Wind Uplift and Safety System or comparable product by one of the following:

        - Tyle Tech Paver System.

    b. Nominal Weight: 1.25 lb/sq. ft. (6 kg/sq. m).

    c. Nominal Size: 24 by 24 inches (600 by 600 mm)

    d. Nominal Thickness: 1-1/2 inch (38 mm).

D. OTHER COMPONENTS: INSTALLER OR USER SUPPLIED:

1. Pedestal Pipe: 4-inch diameter SDR35 PVC Sewer Pipe

    a. Used with either Stak-Cap™ or Uni-Just™ Pedestals and is cut to required height.

    b. Dimensions: 4.215-inch outside diameter & 3.890-inch inside diameter.

    c. Meet ASTM D-3034 and F-679.

    d. NOT supplied with pedestal components by Tile Tech Pavers.

2. Protection Course: As recommended by roofing membrane manufacturer to prevent damage to roofing while allowing adequate flow to drainage system.

3. PVC Pipe: Nominal 4-inch (102-mm) OD SDR35 PVC sewer pipe complying with requirements of ASTM D3034 or ASTM F679. Cut pipe to heights to suit Project.

4. Perimeter Containment System: Materials and components provided by Installer to restrain pedestal roof paver support system.

2.3 PERIMETER CONTAINMENT AND SUPPORT

A. The complete assembly of insulation (if used), protection board (if used), drainage mat (if used), pedestals and Porcelain Pavers must be restrained at the perimeter of the deck area.

B. Perimeter parapet walls, concrete dividers or other perimeter restraint must be capable of resisting lateral forces (including seismic and wind). Cumulative movement in excess of 1/8 inch will void the Tile Tech Pavers Pedestal System warranty.

C. See Section 06600 – Carpentry and Detail Drawings (Sheet A106) for perimeter sleeper containment and railing support construction.

PART 3 – EXECUTION

3.1 EXAMINATION:

A. Prior to starting work inspect the substrate to ensure that it has been properly prepared to accept the Tile Tech Pedestal System. The substrate and or surface shall be clean and free of any projections and debris which may impair the performance of the pedestal and or the deck system. Verify all elevations, required pedestal heights and deck dimensions. Commencement of work shall imply acceptance of surfaces & deck conditions.

B. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.2 PREPARATION:

A. The substrate surface that will receive the Pedestal System must structurally capable of carrying the dead and live loads anticipated.

1. Insulation UNDER membrane: Insulation required to be installed within a roofing system below deck supports must meet the roofing membrane manufacturers’ specifications and must have a minimum core density of 60psi.

3.3 INSTALLATION:

A. Install in accordance with Tile Tech Pavers and other contributing manufacturer's instructions. Installation requirements vary for each individual project site. Decking paver or tile used, pattern, grid layout, starting point, and finished elevation should be shown on plan view shop drawings, which have been prepared and approved by the designer, installing contractor and/or owner.

B. GRID LAYOUT AND ELEVATIONS:

1. Once the starting point and the finished elevation of the deck surface have been determined, the “Top of Pedestal Elevation” (finished elevation less decking paver or tile thickness) is

established and marked around the perimeter using a transit water level or laser leveling device.

2. Precise measurements should be taken and deck area should be accurately defined. Mark off and ‘square up’ all outside edges with control lines using "snapped" chalk lines. Mark two (2) lines that are perpendicular to each other across the deck area. Continue to mark a grid of lines in both directions marking the location of each pedestal. Use the control lines as references to periodically check and assure a square layout during installation.

3. Next, a pedestal must be placed where each measured grid line meets the perimeter. Remove two (2) spacer tabs in line with one another atop each pedestal system placed around the perimeter. Remove all four (4) spacer tabs at corners.

4. Adjust each pedestal height to the “Top of Pedestal Elevation” marked on the perimeter. Position the pedestal as close to the edge of the perimeter as possible, with the two remaining spacer tabs aligned with the grid line. Using the elevation marked on the perimeter, stretch a mason’s line along and slightly ahead of the second row of pedestals. A laser leveling device may also be used for this purpose.

5. On larger decks, it is recommended that Tile Tech Pedestal System be pre-assembled and pre-set to the proper elevation and placed in position prior to the installation of decking paver or tile.

6. As the pedestals located along the grid lines are loaded with Porcelain Pavers or tiles, fine vertical height adjustment can be made by inserting and rotating, from the top, a T-handle Hex Key in to the Uni-Insert™ of the Pedestal assembly. Clockwise rotation of the Uni-Insert™ will raise the bearing surface and the deck. Counter-clockwise rotation will lower the top bearing surface and deck.

7. Always maintain adequate thread engagement. Tile Tech Pedestal Uni-Insert™ contains a locking tab that will not allow the screw to extend past its maximum extension. Never use if the locking tab is broken. If the height required goes beyond the Uni-Insert™ limit re-cut PVC pipe to the correct height and re-assemble the pedestal using the correct size pipe.

8. Slight irregularities in decking paver or tile thickness can be compensated for by using one (1) to two (2) shim segments. Place on top of the pedestal, under the corner(s) of the decking paver or tile. Use no more than two (2) shims on top of the pedestal and always adhere quartered (1/4) wedges with construction adhesive.

9. Stak-Cap™ Pedestal can be used for limited and or fixed height requirements. Complete deck and grid layout as instructed above. Stack no more than five (5) fixed height Stak-Cap™ Pedestals together and place in lieu of Uni-Just™ Pedestals where needed. Stak-Cap™ Pedestal can also be used with PVC pipe to reduce cost. Spacer tabs can be removed to accommodate perimeter and corner support locations.

C. SLOPE AND HEIGHT COMPENSATION:

1. Stak-Cap™ Pedestals can provide limited slope and height compensation to maintain a level decking surface over sloping substrates and is accomplished using a combination of the following:

   a. Rotate and stack one cap in relation to another to change slope and add height. Each cap will add ½-inch of height and provide 1% slope. Stack no more than 5 caps.

   b. Can also be used with PVC Pipe cut to required height of maximum of 6-inches.

2. Uni-Just™ Pedestals can provide both slope and height compensation to maintain a level decking surface over sloping substrates and is accomplished using a combination of the following:

   a. PVC Pipe cut to varying lengths to compensate for GENERAL height requirements.

   b. SCREW extension for PRECISE height adjustment.

   c. Self-Leveling cap that pivots and tilts in any direction for slope compensation from 0% to 4%.

3. Tile Tech Pedestals are designed to be rotated for final precise adjustment when they are fully loaded. Pedestals should be leveled in each succeeding row as the installation proceeds. Final height adjustment or maintenance is easily made by simply using a T-handle Hex Key that allows you to adjust the pedestals without removing the Porcelain Pavers. T-handle Hex Key is inserted between the four paver corners to engage Uni-Insert™ portion and is adjusted clockwise or counter clockwise to level as needed.

4. Uni-Shims™ may be used in multiples, whole or quarters, and placed under the pedestal base or on top the pedestal cap to level pedestals. Use a small amount of construction adhesive to adhere sections of shims and/or whole shims to each other or to the

pedestal. DO NOT use construction adhesive to adhere pedestal or shims to insulation, roofing or waterproofing membrane. Additional sections of shims may be used and should be available for regular maintenance.

3.4 PERIMETER CONTAINMENT:

A. Any area of the pedestal deck that is not restrained by a parapet or foundation wall must be 'boxed-in' and contained. The deck panels will move if all sides are not adequately restrained. Perimeter framing and edging boards located at the outside of the deck perimeter must be installed to provide restraint. No movement should be allowed at the perimeter of the deck system greater than one tab width. Follow perimeter sleeper and rim joist detail in Plans for perimeter containment.

3.5 FIELD QUALITY CONTROL:

A. Inspect often during installation to assure that grid spacer lines are being maintained in a straight and consistent pattern and that deck Porcelain Pavers or tiles are level and not rocking. Unless otherwise specified in writing to allow for expansion, inspect to assure that all paver spacing between tiles and at perimeter walls does not exceed a tab width. Particular attention should be made to assure that all pedestrian entry or access points to the deck are level and that the deck surface tiles are not randomly raised or uneven creating a tripping or safety hazard. Confirm that deck pedestal height excess of sixteen (16) inches have been braced in accordance with Tile Tech Pavers written instructions.

3.6 ROUTINE MAINTENANCE AND CARE:

A. The deck owner must perform routine maintenance of the deck. Check for rocking Porcelain Pavers and adjust using T-Handle Hex Key or shim immediately. Pedestals can settle and may have to be realigned. Failure to do so can cause a tripping hazard. Periodically check spacer tabs and immediately replace broken tabs to limit deck movement. Make sure the edge restraint stays intact and structurally sound.

B. Extra Materials: Deliver supply of maintenance materials to the owner. Furnish not less than 1 percent maintenance materials from same lot as materials installed and enclosed in protective packaging with appropriate identifying labels.

END OF SECTION

SECTION 07900 – SEALANTS

PART 1 – GENERAL

1.1 SCOPE

A. The work of this Section consists of all exterior sealing work and related items as specified herein, and includes, but is not limited to, the following:

1. The sealing of exterior joints, including but not limited to:

a. Perimeter of door assemblies.

b. Dissimilar exterior joints.

B. All materials shall be verified by the Contractor as proper for each intended use, and the entire work of this Section shall be done in such a manner that each installation will fulfill its intended purpose.

1.2 SUBMITTALS

A. Contractor shall provide shop drawings in accordance with the General Requirements for the approval of the Owner:

1. Manufacturer's descriptive literature and data sheets for primer, foam backer rod, bond breaker tape and other sealant joint accessories.

B. Contractor shall prepare one sample of each type of repair (i.e., gasketing, sealants, etc.) technique for approval by Designer. Area, size and location of samples to be designated solely by Designer. Approved samples will be used as a standard of comparison for all similar work. The test samples are required to verify the Contractor's ability to achieve proper results using approved procedures.

1.3 APPLICABLE STANDARDS

A. ANSI Specification A116.1.

B. American Society of Testing and Materials (ASTM) Standards C679, C639, D2240, D412, D624, C719.

1.4 DELIVERY AND HANDLING

A. Sealants shall be delivered to the job site in sealed containers bearing the manufacturer's name – mixed, stored, handled and applied in strict accordance with manufacturer's detailed instruction, copies of which shall be submitted with samples for approval and made available to the Architect at all times on the job site.

B. Manufacturer's label shall indicate date of manufacture of sealants, or manufacturer shall otherwise attest to date of manufacture. Period of time no longer than 12 months shall have elapsed from date of manufacture to date of usage on job.

1.5 JOB CONDITIONS

A. Materials shall be applied to properly prepared dry areas unless otherwise noted.

B. Materials which have a temperature other than the application temperatures of the manufacturer shall not be applied.

C. Any adjacent building or site conditions damaged during construction solely as a result of Reconstruction Contractor's actions shall be replaced or restored by the Contractor at no expense to the Owner.

D. Liquid materials, such as solvents and adhesives, shall be stored away from open flames, sparks and excessive heat.

E. All existing sealants removed in the context of the work shall be removed entirely (grinding, scraping, solvent wash, etc.), from surfaces to be resealed.

PART 2 – MATERIALS

2.1 GENERAL

A. Sealant materials shall consist of materials compatible with all materials they contact.

1. Colors for all sealants and caulking materials shall be selected by the Owner from manufacturer's colors.

2.2 JOINT SEALANT AND ACCESSORIES

A. Sealant Systems:

1. Sealant for general use shall be No. 756 SMS High Performance Silicone Building Sealant as manufactured by Dow Corning Corporation, Midland, MI.

2. Bond-Breaker Tape: 0.006" thick polyethylene, to which sealant does not bond, adhesive-backed on one side, width as required. Tape shall be 480 or 481 as manufactured by 3M.

3. Cleaner for joints shall be isopropyl alcohol (90%), or other approved by the sealant manufacturer.

B. Primers:

1. Primers as recommended by the sealant manufacturer for use in conjunction with the sealant for application on the various types of materials to which the sealer is applied.

C. Sealant back-up rod: For all external joints, closed cell, non-gassing when cut, polyethylene rod, ITP backer pad by Thermo Polymers Ltd., Missisauga, Ontario. Diameter of rod is to be approximately 30% in excess of joint width.

PART 3 – EXECUTION

3.1 GENERAL – SEALANTS AND CAULKING

A. All caulking and sealant installation must be done by a skilled mechanic, approved by the Designer in accordance with the specifications and manufacturers' written instructions so as to produce weather tight and watertight joints.

B. Do not apply caulking when the ambient air temperature or the temperature of surface to be caulked is below 40ºF or above 100ºF. Do not apply sealant during rain or snow.

C. Bond Breaker Tape: Install bond breaker tape if existing connection will not provide proper width to depth ratios with utilization of backer rod such that sealant will adhere only to sides of the joint when installed. At cove beads, install bond breaker tape into corner to provide balanced adhesion on each side.

D. Keep covers tightly on all canned and volatile products to prevent premature curing. Materials which have been partially cured must be discarded.

E. All power tools used for joint preparation shall have head covers so as to prohibit marring of surface from contact with tool metal.

3.2 PREPARATION – SEALANTS AND CAULKING

A. Mask off the edges of joints to prevent staining unless it can be demonstrated that the quality of workmanship is high enough so that this protection is not needed.

B. All joints to receive sealant shall be dry and free of loose particles, oil or grease, or other material that would prevent or interfere with full adhesion of the sealant.

C. Cut existing sealant out of joint in its entirety. Following initial bulk removal, joint shall be hand-cut to remove excess material. All stone and concrete surfaces shall be further prepared by grinding all sealant joint interfaces to produce profiles indicated.

D. Clean joints following bulk sealant removal utilizing clean, soft, absorbent lint-free cloths with a two cloth method:

1. Thoroughly clean all surfaces of loose debris.

2. Dispense solvent onto the cloth. A plastic (solvent-resistant) squeeze bottle works best for organic cleaning solvents. Do not dip the cloth into the container of solvent, as this will contaminate the cleaning agent.

3. Wipe vigorously to remove contaminants. Check the cloth to see if it has picked up contaminants. Rotate the cloth to a clean area and rewipe until no additional dirt is picked up.

4. Immediately wipe the cleaned area with a separate clean, dry cloth.

5. Organic solvent must be removed with the dry cloth before the solvent evaporates or the cleaning will be less effective. Some surfaces or weather conditions will allow a small amount of residual organic solvent to remain. If this is the case, the surface must be allowed to dry before installing backer rod and sealant.

6. No original exterior sealant or gasketing shall remain.

3.3 SEALANT JOINTS

A. Primer:

1. Joint surfaces should be clean and dry. Apply masking tape to the surfaces next to the joint to keep excess primer and sealant of areas where they are not intended.

2. Pour some primer into a small, clean container, and be sure to replace and tighten the cap on the primer can. To prevent deterioration of the primer, do not pour more than a 10-minute supply into the container.

3. Apply the primer in a thin film with a clean brush. CAUTION: Over priming can cause adhesion loss between the sealant and the primer. If too much primer has been applied, a powdery, chalky, dusty film will form on the surface. Excess primer should be removed by dusting the joint with a clean, dry, lint-free cloth or a non-metallic bristle brush.

4. Allow the primer to dry until all the solvent evaporates. This typically takes 5 to 30 minutes, depending on temperature and humidity.

5. Inspect the surface for dryness. If too much primer has been applied, a powdery, chalky, dusty film will form on the surface. In this case, remove excess primer with a clean, dry, lint-free cloth or a non-metallic bristle brush before applying sealant.

6. At the start of the sealant work mockup sealant joints for pull testing, to be performed by the designer, with and without the use of primer to verify if the use of primer improves the adhesion of the sealant.

B. Examination:

1. Verify that the joint surfaces are free of water, ice, frost, oil, grease, laitance, rust and other deleterious materials that would prevent the proper adhesion of the primer or sealant.

2. Verify that unsound substrates are replaced.

3. Beginning of application means the acceptance of substrate by the Contractor.

C. Set bond breaker tape at joint centers without bridging.

D. Install back-up rod material into joint openings. The rod shall be clean and dry. Remove all wet backer rod from the job site. Replace any backer rod not sealed over by the end of each day and solvent clean surfaces again.

1. Place the rod so that the sealant depth measured at the center of the joint after tooling is one-half of the sealant joint width, with a minimum depth of 1/4" and a maximum depth of 1/2". At shim, cover edges of shim with bond breaker tape.

2. Provide rod sizes as required. Change rod sizes frequently as required by variations in the joint width. Do not twist rods together. Butt ends of rods tightly.

3. Do not touch with fingers or otherwise contaminate the substrate surfaces while inserting the backer rod.

4. Place bond breaker full width of joint or equally spaced over right angle transitions where sealant is installed in "but" joint fashion.

E. Apply sealant only to clean, dry, primed surfaces at ambient temperatures above 40ºF, joint depth to width ratio shall be 1 to 2. In no case shall depth be less than 1/4" or more than 1/2".

F. Recheck correct backer rod and bond breaker tape positioning before applying sealant.

G. Fill all joints solidly and continuously with a sealant, neatly applied with a standard caulking gun in a continuous motion, using slight pressure. "Push" the sealant bead ahead of the nozzle; do not "drag" the nozzle.

H. Within 5 minutes of sealant application and before sealant skins over, dry tool the joint surface with a concave tool to insure intimate contact with substrate and to eliminate air bubbles. Do not use any liquid for tooling. Provide a smooth, uniform, finished surface.

I. Avoid contaminating adjacent surfaces with excess sealant. Remove all traces of smears and droppings on metal or glass surfaces promptly, using a solvent recommended by the sealant manufacturer and that will not damage or discolor the building surfaces. Remove smears and droppings on face surfaces by mechanical means after the initial cure of the sealant.

J. Shingle all perpendicular lap joints in preformed sealants. Provide 1/4"-1/2" overlap of perpendicular pieces. Unless otherwise noted, all vertical pieces shall overlap horizontals.

K. Perform all cuts in preformed sealant with razor knife.

3.4 CLEAN-UP

A. All surfaces stained, soiled or discolored during sealing shall be cleaned or restored.

B. Smears and excess sealant shall be removed with a cleaning agent as recommended by the material manufacturer.

END OF SECTION

SECTION 151000 – TEMPORARY MECHANICAL DISCONNECTS

PART 1 – GENERAL

1.1 SCOPE

A. Roofing contractor to coordinate roofing work with Owner's HVAC contractor, who will perform all disconnect/reconnect work.

B. Disconnect all rooftop exhaust fans, piping, and equipment to enable the installation of new roofing per the details. Install new roofing and flashings as required, and reinstall exhaust fans, piping, and equipment.

C. HVAC condensers are to be reinstalled on new vibration isolation curbs and rails.

1.2 RELATED WORK

A. Section 024100 – Demolition

B. Section 075200 – Modified Bitumen Roof

C. Section 055000 – Miscellaneous Metals

D. Section 161000 – Temporary Electrical Disconnects

1.3 SPECIAL PROVISIONS

A. The Contractor shall employ mechanics proficient in the trades involved.

B. The Contractor shall disconnect mechanical equipment only when performing roofing work in the immediate area of the equipment.

C. Each unit shall be fully operational immediately after reinstallation. Shutdown time for each unit shall be limited to an eight (8) hour period unless otherwise agreed in writing by the Owner.

D. Any disconnect must be coordinated with and approved by the Owner.

E. No venting to atmosphere of chlorofluorocarbons (CFC's) or hydrochlorofluorocarbons (HCFC's).

1.4 TESTING

A. Prior to commencing roofing work requiring removal of a rooftop unit, the Contractor shall test the mechanical unit in the presence of the Designer.

B. All deficiencies in operation, including unusual noises, will be noted in writing and shall become a matter of record.

C. Upon completion of the reinstallation of each unit, it shall be retested by the Contractor in the presence of the Designer.

D. Any deficiencies which were not noted in the initial testing shall be corrected by the Contractor at his expense.

PART 2 – PRODUCTS

2.1 A. Any replacement parts or additional materials need due to changes in curb or sleeper heights shall be as recommended by the manufacturer of the mechanical unit, or as required by governing codes.

PART 3 – EXECUTION

3.1 A. After disconnection, move units a sufficient distance to permit the installation of roofing and flashing materials.

B. Units shall be moved onto existing roofing to the maximum extent possible. Provide plywood bases on which to rest disconnected units.

C. Provide plywood traffic ways for moving units. If mechanical contrivances of wheeled "A" frame-type hoists are used, plywood shall be placed under the equipment for its fully route of movement. Plywood shall be a minimum of 5/8" thick.

D. Provide permanent electrical termination and duct terminations for all unused units.

END OF SECTION

SECTION 16100 – TEMPORARY ELECTRICAL DISCONNECTS

PART 1 – GENERAL

1.1 SCOPE

A. Roofing contractor to coordinate roofing work with Owner's HVAC contractor, who will perform all disconnect/reconnect work for rooftop mechanical equipment.

B. HVAC condensers are to be reinstalled on new vibration isolation curbs and rails.

C. Disconnect all rooftop equipment to enable the installation of new roofing. Install new roofing and flashings, as required and reinstall equipment.

D. The Contractor is to remove any roof top mechanical equipment on the building as needed, and reinstall equipment to remain in operation after roofing work is complete in each area.

E. Contractor is to disconnect and remove mechanical equipment only when roofing in the equipment's immediate area and shall replace equipment to remain in full operation after roofing is completed.

1.2 RELATED WORK

A. Section 024100 – Demolition

B. Section 055000 – Miscellaneous Metals

C. Section 075200 – Modified Bitumen Roof

D. Section 151000 – Temporary Mechanical Disconnects

1.3 SPECIAL PROVISIONS

A. The Contractor shall employ mechanics licensed in the electrical trade.

B. The Contractor shall disconnect electrical equipment or feeds only when performing roofing work in the immediate area of the equipment or feed.

C. Each feed or unit shall be fully operational immediately after reinstallation. Shutdown time for each item shall be limited to an eight (8) hour period unless otherwise agreed in writing by the Designer.

D. Prior to commencing any disconnects, the Owner shall be given 48 hours' notice. Shutdowns must be approved by and coordinated with the Owner.

1.4 TESTING

A. Before starting the project, test all units in the Designer's presence noting any operating or performance deficiencies, including other than normal noises or sounds. Found deficiencies will be noted and made a matter of record by the Contractor for the work of this section.

PART 2 – EXECUTION

2.1 REMOVALS

A. Disconnect and move units a sufficient distance to permit flashing operations of the concerned curb. Disconnected units will be moved onto existing roofing in so far as practicable. Provide plywood traffic ways for moving units. If mechanical contrivances of wheeled "A" frame type hoists are used, plywood will be placed under the equipment and for its full route of movement. Provide plywood bases to rest disconnected units on. Plywood shall be not less than 5/8" thick.

B. Before removing the unused and abandoned penetrations, Contractor must disconnect the units. All electrical wires of these units shall be securely capped with approved caps.

C. Resetting – As soon as practicable after the flashing operations on a curb are completed:

1. Install any required duct or electrical extensions.

2. Reinstall the units and reconnect for operation.

D. Retesting – As soon as units have been reconnected and serviceable, retest them with the Designer to assure that they are fully operational and do not evidence any deficiencies not previously noted.

E. Electrical disconnects and reconnects of all roof top equipment, fan, etc. will be performed by the Contractor's licensed personnel. Any shutdowns will be coordinated with and approved by the Owner at least 48 hours in advance.

END OF SECTION