

# Horsley Witten Group

*Sustainable Environmental Solutions*

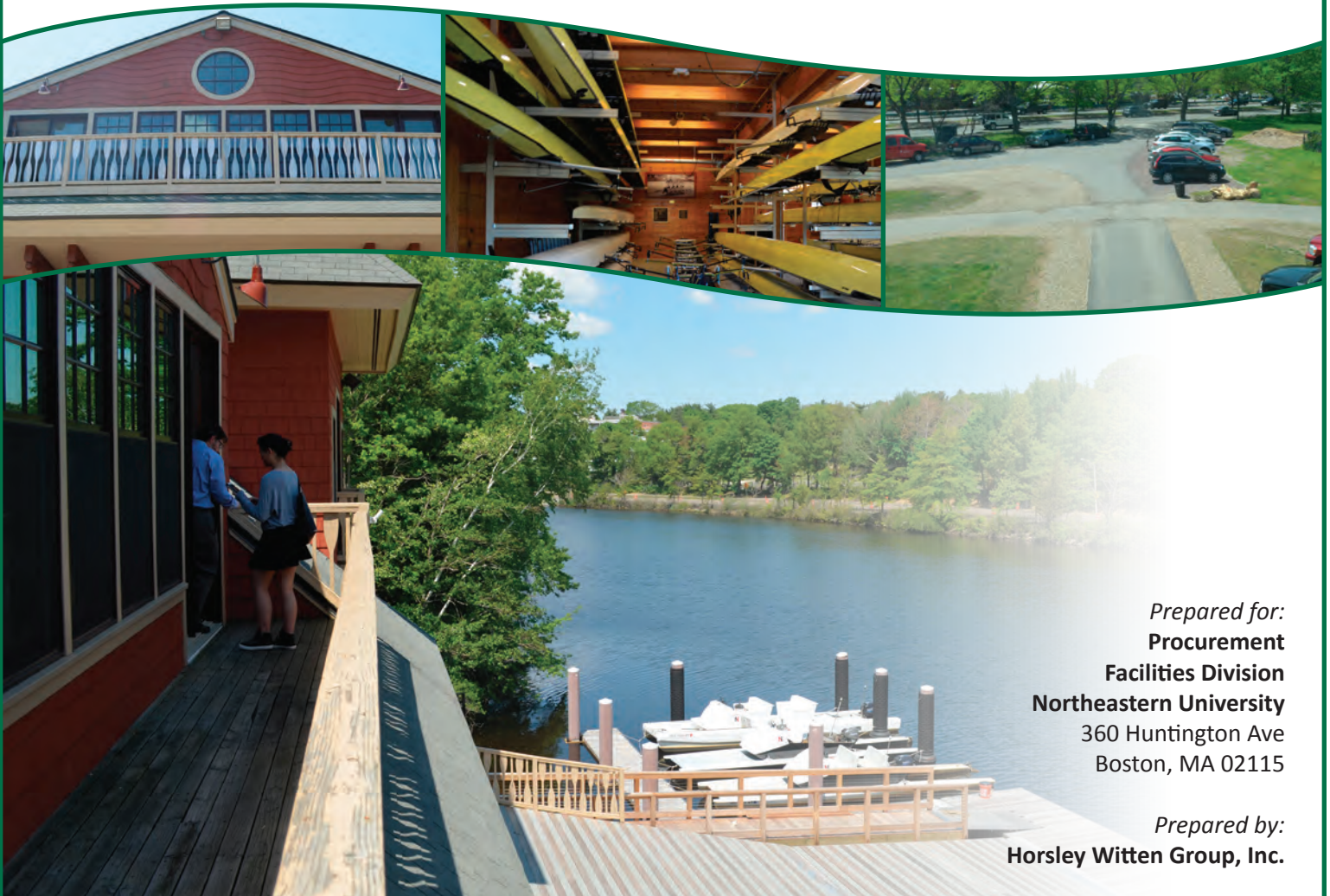
294 Washington Street, Suite 801 • Boston, MA • 02108  
Phone - 857-263-8193 • Fax - 508-833-3150 • [www.horsleywitten.com](http://www.horsleywitten.com)



## Notice of Intent Northeastern University Henderson Boathouse – Roof Repairs

Boston, Massachusetts

November 2018



*Prepared for:*  
**Procurement  
Facilities Division  
Northeastern University**  
360 Huntington Ave  
Boston, MA 02115

*Prepared by:*  
**Horsley Witten Group, Inc.**



November 5, 2018

Amelia Croteau  
Boston Conservation Commission  
Boston City Hall Room 801, 8<sup>th</sup> Floor  
1 City Hall Square  
Boston, MA 02201

**Re: Notice of Intent Application  
Response to the Enforcement Order  
The repair of the roof at Henderson Boathouse  
1345 Soldier's Field Road, Boston, MA  
MassDEP File Number: 006-1547**

Dear Members of the Boston Conservation Commission:

As required by the Enforcement Order received on October 5, 2018, the Horsley Witten Group, Inc. (HW) is submitting on behalf of the Applicant, Northeastern University (University), the enclosed Notice of Intent (NOI) and supporting materials for Henderson Boathouse Roof Repairs at 1345 Soldier's Field Road Boston, Massachusetts. As you are aware, the Commonwealth of Massachusetts (acting by and through its Division of Capital Asset Management and Maintenance in consultation with the Department of Conservation and Recreation (DCR)) is the owner of the property, but the property is leased to, and operated and maintained by, the University.

The roof repair work was completed at the request of the University by S.R.C. Roofing, Inc. and included the removal of existing asphalt shingles and single ply EPDM roofing assemblies, and replacement with new asphalt shingles and a thermoplastic (TPO) roofing system. The University repaired the roof in anticipation of the completion of the site plan improvements described in NOI filing #006-1547 (and subsequent modification filing). The staging activities for the roof work occurred within the Limit of Work for site plan improvements, portions of which are within the 25-foot Riverfront Area and the 100-foot Buffer Zone to Inland Bank.

Enclosed please find eight copies of the NOI application, supporting documentation, and site plans. An electronic copy will be emailed to [environment@boston.gov](mailto:environment@boston.gov). A check in the amount of \$1,500 to cover the City filing fee is enclosed. The State's share of the filing fee (\$362.50) has been sent to the DEP lock box in Boston. The Applicant will send notification of the pending public hearing to abutters in accordance with local filing regulations within the required timeframe.

If you have any questions and/or require additional information pertaining to this submittal, please contact me at (508) 833-6600 or at [bkuchar@horsleywitten.com](mailto:bkuchar@horsleywitten.com).

Boston Conservation Commission

November 5, 2018

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Sincerely,

**Horsley Witten Group, Inc.**

A handwritten signature in black ink, appearing to read "B. Kuchar". The signature is fluid and cursive, with a large initial "B" and a long, sweeping underline.

Brian Kuchar, RLA, P.E.

Senior Landscape Architect/Engineer

Enclosures

cc: MassDEP, Northeast Regional Office  
Jason Lawson, Northeastern University  
Michael Glover, Northeastern University



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 3 - Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
MassDEP File Number

Document Transaction Number  
**BOSTON**  
City/Town

**Important :**  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

**A. General Information**

1. Project Location (**Note:** electronic filers will click on button to locate project site):

1345 Soldiers Field Road Boston 02135  
a. Street Address b. City/Town c. Zip Code  
Latitude and Longitude: 42.363905 -71.141696  
d. Latitude e. Longitude  
2200577000  
f. Assessors Map/Plat Number g. Parcel/Lot Number

2. Applicant:

Catherine Walsh  
a. First Name b. Last Name  
Northeastern University  
c. Organization  
360 Huntin ton Ave  
d. Street Address  
Boston MA 02115  
e. City/Town f. State g. Zip Code  
c.walsh@northeastern.edu  
h. Phone Number i. Fax Number j. Email Address

3. Property owner (required if different from applicant):  Check if more than one owner

MADCR   
a. First Name b. Last Name  
251 Causeway Street, Suite 900  
c. Organization  
d. Street Address  
Boston MA 02114  
e. City/Town f. State g. Zip Code  
617-626-1250 mass.parks@state.ma.us  
h. Phone Number i. Fax Number j. Email address

4. Representative (if any):

Brian Kuchar  
a. First Name b. Last Name  
Horsley Witten Grou , Inc.  
c. Company  
90 Route 6A  
d. Street Address  
Sandwich MA 02563  
e. City/Town f. State g. Zip Code  
508-833-6600 bkuchar@horsleywitten.com  
h. Phone Number i. Fax Number j. Email address

5. Total WPA Fee Paid (from NOi Wetland Fee Transmittal Form):

\$750 \$362.50 N/A  
a. Total Fee Paid b. State Fee Paid c. City/Town Fee Paid

Note:  
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.



### WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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#### A. General Information (continued)

6. General Project Description:

Roof repair improvements to the Henderson Boathouse.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- 1.  Single Family Home
- 2.  Residential Subdivision
- 3.  Commercial/Industrial
- 4.  Dock/Pier
- 5.  Utilities
- 6.  Coastal engineering Structure
- 7.  Agriculture (e.g., cranberries, forestry)
- 8.  Transportation
- 9.  Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1.  Yes  No      If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Suffolk

a. County

2285

c. Book

b. Certificate # (if registered land)

193

d. Page Number

#### B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1.  Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2.  Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

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**B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)**

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet _____	2. linear feet _____
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet _____	2. square feet _____
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet _____	2. square feet _____
	3. cubic yards dredged _____	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet _____	2. square feet _____
	3. cubic feet of flood storage lost _____	4. cubic feet replaced _____
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet _____	
	2. cubic feet of flood storage lost _____	3. cubic feet replaced _____

- f.  Riverfront Area
- Charles River (inland)
1. Name of Waterway (if available) - specify coastal or inland \_\_\_\_\_
2. Width of Riverfront Area (check one):
- 25 ft. - Designated Densely Developed Areas only
- 100 ft. - New agricultural projects only
- 200 ft. - All other projects
3. Total area of Riverfront Area on the site of the proposed project: 5,071 square feet
4. Proposed alteration of the Riverfront Area: 0
- a. total square feet \_\_\_\_\_ b. square feet within 100 ft. \_\_\_\_\_ c. square feet between 100 ft. and 200 ft. \_\_\_\_\_

5. Has an alternatives analysis been done and is it attached to this NOI?  Yes  No

6. Was the lot where the activity is proposed created prior to August 1, 1996?  Yes  No

3.  Coastal Resource Areas: (See 310 CMR 10.25-10.35)

**Note:** for coastal riverfront areas, please complete **Section B.2.f.** above.



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**B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)**

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet _____	
	2. cubic yards dredged _____	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. <input type="checkbox"/> Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet _____	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet _____	
h. <input type="checkbox"/> Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet _____	
	2. cubic yards dredged _____	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet _____	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged _____	
i. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet _____	
4. <input type="checkbox"/> Restoration/Enhancement	If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.	
	a. square feet of BVW _____	b. square feet of Salt Marsh _____
5. <input type="checkbox"/> Project Involves Stream Crossings		
	a. number of new stream crossings _____	b. number of replacement stream crossings _____



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## C. Other Applicable Standards and Requirements

- This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

### Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to [http://maps.massgis.state.ma.us/PRI\\_EST\\_HAB/viewer.htm](http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm).

- a.  Yes  No **If yes, include proof of mailing or hand delivery of NOI to:**

**Natural Heritage and Endangered Species Program  
Division of Fisheries and Wildlife  
1 Rabbit Hill Road  
Westborough, MA 01581**

August 2017

b. Date of map \_\_\_\_\_

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review\*
1.  Percentage/acreage of property to be altered:  

(a) within wetland Resource Area	_____
	percentage/acreage
(b) outside Resource Area	_____
	percentage/acreage
  2.  Assessor's Map or right-of-way plan of site
2.  Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work \*\*
- (a)  Project description (including description of impacts outside of wetland resource area & buffer zone)
  - (b)  Photographs representative of the site

\* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

\*\* MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.





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**C. Other Applicable Standards and Requirements (cont'd)**

(c)  MESA filing fee (fee information available at [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm)).  
Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

*Projects altering 10 or more acres of land, also submit:*

(d)  Vegetation cover type map of site

(e)  Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1.  Project is exempt from MESA review.  
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm); the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2.  Separate MESA review ongoing.                      a. NHESP Tracking # \_\_\_\_\_                      b. Date submitted to NHESP \_\_\_\_\_

3.  Separate MESA review completed.  
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a.  Not applicable – project is in inland resource area only                      b.  Yes     No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -  
Southeast Marine Fisheries Station  
Attn: Environmental Reviewer  
1213 Purchase Street – 3rd Floor  
New Bedford, MA 02740-6694  
Email: [DMF.EnvReview-South@state.ma.us](mailto:DMF.EnvReview-South@state.ma.us)

Division of Marine Fisheries -  
North Shore Office  
Attn: Environmental Reviewer  
30 Emerson Avenue  
Gloucester, MA 01930  
Email: [DMF.EnvReview-North@state.ma.us](mailto:DMF.EnvReview-North@state.ma.us)

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.



# WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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## C. Other Applicable Standards and Requirements (cont'd)

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
- a.  Yes  No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC \_\_\_\_\_
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
- a.  Yes  No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
- a.  Yes  No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
- a.  Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1.  Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
  2.  A portion of the site constitutes redevelopment
  3.  Proprietary BMPs are included in the Stormwater Management System.
- b.  No. Check why the project is exempt:
1.  Single-family house
  2.  Emergency road repair
  3.  Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

## D. Additional Information

- This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1.  USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2.  Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
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**D. Additional Information (cont'd)**

- 3.  Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
- 4.  List the titles and dates for all plans and other materials submitted with this NOI.  
 Schematic Construction Lay Down Plan Henderson Boathouse Roof Replacement Project  
 a. Plan Title  
 Building Enclosure Associates  
 b. Prepared By  
 02/05/18  
 d. Final Revision Date  
 c. Signed and Stamped by  
 Not to Scale  
 e. Scale  
 f. Additional Plan or Document Title  
 g. Date
- 5.  If there is more than one property owner, please attach a list of these property owners not listed on this form.
- 6.  Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
- 7.  Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
- 8.  Attach NOI Wetland Fee Transmittal Form
- 9.  Attach Stormwater Report, if needed.

**E. Fees**

- 1.  Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

N/A	N/A
2. Municipal Check Number 17646	3. Check date 11/05/2018
4. State Check Number Tracey	5. Check date Orciuch
6. Payor name on check: First Name	7. Payor name on check: Last Name





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

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#### F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	11-5-18
2. Date	11-2-18
3. Signature of Property Owner (if different)	11/8/18
4. Date	11/8/18
5. Signature of Representative (if any)	6. Date

**For Conservation Commission:**

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

**For MassDEP:**

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

**Other:**

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.





**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
**NOI Wetland Fee Transmittal Form**  
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**A. Applicant Information**

1. Location of Project:

1345 Soldiers Field Road Boston  
 a. Street Address b. City/Town  
 17646 362.50  
 c. Check number d. Fee amount

2. Applicant Mailing Address:

Catherine Walsh  
 a. First Name b. Last Name  
 Northeastern University  
 c. Organization  
 360 Huntington Ave  
 d. Mailing Address  
 Boston MA 02115  
 e. City/Town f. State g. Zip Code  
 617-373-2000 c.walsh@northeastern.edu  
 h. Phone Number i. Fax Number j. Email Address

3. Property Owner (if different):

MA DCR  
 a. First Name b. Last Name  
 c. Organization  
 251 Causeway Street, Suite 900  
 d. Mailing Address  
 Boston MA 02114  
 e. City/Town f. State g. Zip Code  
 617-626-1250 mass.parks@state.ma.us  
 h. Phone Number i. Fax Number j. Email Address

**B. Fees**

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

**Step 1/Type of Activity:** Describe each type of activity that will occur in wetland resource area and buffer zone.

**Step 2/Number of Activities:** Identify the number of each type of activity.

**Step 3/Individual Activity Fee:** Identify each activity fee from the six project categories listed in the instructions.

**Step 4/Subtotal Activity Fee:** Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

**Step 5/Total Project Fee:** Determine the total project fee by adding the subtotal amounts from Step 4.

**Step 6/Fee Payments:** To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



PID	OWNER	ADDRESSEE	MLG_ADDRESS	MLG_CITYSTATE	MLG_ZIPCODE
2200584000	MVC WESTERN AVE REALTY LLC	C/O MOUNT VERNON CO INC	29 COMMONWEALTH AV	BOSTON MA	2116
2200470000	COMMONWLTH OF MASS M D C		CHARLES RIVER	ALLSTON MA	2134
2200532001	COMMWLTH OF MASS		SOLDIERS FIELD RD	ALLSTON MA	2163
2200551001	SGT HOLDING CORP	C/O HARVARD REAL ESTATE SERVICES-HOLYOKE CTR F	1350 MASSACHUSETTS AVE	CAMBRIDGE MA	2138
2200550000	1200 SFR LLC	C/O 1200 SFR LLC	29 COMMONWEALTH AVE 6TH FL	BOSTON MA	2116
2200569001	FOUR 41 LLC	C/O 441 LLC	5 WASHINGTON ST # D6	READING MA	1867
2200562002	SKATING CLUB OF BOSTON	C/O DAYS INN	1234 SOLDIERS FLD RD	BRIGHTON MA	2135
2200551000	WESTNGHSE BRDCSTNG CO	RYAN & CO C/OC TERRI WHITE	2800 POST OAK BLVD STE 4200	HOUSTON TX	77056
2200562003	HARVARD RE/ALLSTON INC	C/O HARVARD REAL ESTATE SERVICES-HOLYOKE CTR F	1350 MASSACHUSETTS AVE	CAMBRIDGE MA	2138
2200576000	HARVARD REAL ESTATE-ALLSTON	C/O HARVARD REAL ESTATE-ALLSTON INC	1350 MASSACHUSETTS AV	CAMBRIDGE MA	2138
2200579001	HARVARD REAL ESTATE	C/O HARVARD REAL ESTATE ALLSTON INC	1350 MASSACHUSETTS AV STE 980	CAMBRIDGE MA	2138
2200577001	COMMWLTH OF MASS		SOLDIERS FIELD RD	ALLSTON MA	2134
2200572000	JOSEPH M SMITH COMMUNITY	C/O JOSEPH M SMITH COMMUNITY HEALTH CENTER	287 WESTERN AV	ALLSTON MA	2134
2200579000	HARVARD RE/ ALLSTON INC	C/O HARVARD REAL ESTATE SERVICES-HOLYOKE CTR F	1350 MASSACHUSETTS AVE #912	CAMBRIDGE MA	2138
2200594000	MVC WESTERN AVE REALTY LLC	C/O MVC WESTERN AVE REALTY LLC	29 COMMONWEALTH AV	BOSTON MA	2116
2200562000	SKATING CLUB OF BOS THE		1240 SOLDIERS FIELD RD	BRIGHTON MA	2135
2200565000	STARR SHERMAN H	C/O STARR-FINER-STARR LLP	1280 SOLDIERS FIELD RD	BRIGHTON MA	2135
2200566000	KENNEY GREG A TS	C/O HARVARD REAL ESTATE SERV	1350 MASSACHUSETTS AV #1027	CAMBRIDGE MA	2138
2200563010	DIV TELFORD LLC	C/O DIV TELFORD LLC	125 HIGH ST 21ST FL	BOSTON MA	2110
2200530000	HARVARD COLLEGE		60 NO HARVARD	ALLSTON MA	2134
2200581000	SOLDIERS FIELD ENTERPRISES		1270 SOLDIERS FIELD RD	BRIGHTON MA	2135
2200577010	PRESIDENT & FELLOWS OF	PRESIDENT & FELLOWS OF HARVARD COLLEGE	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	2138
2200578000	HARVARD REAL ESTATE	C/O HARVARD REAL ESTATE ALLSTON INC	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	2138
2200579002	HARVARD REAL ESTATE	C/O HARVARD REAL ESTATE ALLSTON INC	1350 MASSACHUSETTS AV STE 980	CAMBRIDGE MA	2138
2200542000	CITY OF BOSTON		WESTERN AVE	ALLSTON MA	2134
2200562001	COMM OF MASS M D C		SOLDIERS FIELD RD	ALLSTON MA	2134
2200533000	HARVARD COLLEGE		69 NO HARVARD	ALLSTON MA	2134
2200569000	HARVARD REAL ESTATE	C/O HARVARD REAL ESTATE ALLSTON INC	1350 MASSACHUSETTS AV #980	CAMBRIDGE MA	2138
2200577000	COMMONWEALTH OF MASSCHUSETTS		525 WESTERN AVE	ALLSTON MA	2134
2200580010	SOLDIERS FIELD ENTERPRISES	C/O SOLDIERS FIELD ENTERPRISES LLC	1270 SOLDIERS FIELD RD	BRIGHTON MA	2135
2200583000	MVC WESTERN AVE REALTY LLC	C/O MOUNT VERNON CO / RA	29 COMMONWEALTH AV 6TH FL	BOSTON MA	2116
2200595000	500 WESTERN AVENUE LLC	C/O WESTERN AVENUE LLC	500 WESTERN AV	BRIGHTON MA	2135
2202748000	COMMWLTH OF MASS		NO BEACON	BRIGHTON MA	2135

**NOTICE OF INTENT  
ABUTTER NOTIFICATION LETTER**

**DATE:** November 5, 2018

**RE:** Upcoming Boston Conservation Commission Public Hearing

**To Whom It May Concern:**

As an abutter within 100 feet of the project site, please be advised that a Notice of Intent (NOI) application was filed with the Boston Conservation Commission and the Massachusetts Department of Environmental Protection regarding the following project.

**APPLICANT:** Northeastern University  
c/o Jason Lawson  
360 Huntington Ave, Boston, MA

**PROJECT LOCATION:** Henderson Boathouse – Roof Repairs  
1345 Soldiers Field Road, Boston, MA

**ASSESSOR'S MAP & PARCEL:** Map-Lot: 2200577000

**PROJECT DESCRIPTION:**

Northeastern University proposes to replace the roof on the Henderson Boathouse.

**APPLICANT'S AGENT:** Horsley Witten Group, Inc.  
c/o Brian Kuchar, RLA, P.E.  
90 Route 6A, Sandwich, MA 02563  
(508) 833-6600

**PUBLIC HEARING:** Boston City Hall  
PIEMONTE ROOM, 5<sup>TH</sup> FL  
1 City Hall Square  
Boston, MA 02201

**DATE:** Wednesday, November 21, 2018

**TIME:** Beginning at 6:00 P.M.

**NOTE:** Plans and application materials describing the project are on file with the Conservation Commission, 1 City Hall Square, Boston, MA (617-635-3850).



Pay To Commonwealth of Massachusetts-DEP

Check No. 17646

Re.

17646

THE HORSLEY WITTEN GROUP, INC.  
90 ROUTE 6A, UNIT 1  
SANDWICH, MA 02563  
508-833-6600



P.O. BOX 10  
ORLEANS, MA 02653  
capecodfive.com

53-7107/2113

DATE

AMOUNT

PAY TO THE ORDER OF: Three Hundred Sixty Two and 50/100 Dollars

11/5/2018

\$362.50

Commonwealth of Massachusetts-DEP  
DEP  
P.O. Box 4062  
Boston, MA 02211

*Tracy Pond*  
AUTHORIZED SIGNATURE

Security features. Details on back.

⑈017646⑈ ⑆211371078⑆ 86 4007877⑈

THE HORSLEY WITTEN GROUP, INC.

17647

Pay To City of Boston

Check No. 17647

Re.

THE HORSLEY WITTEN GROUP, INC.

90 ROUTE 6A, UNIT 1  
SANDWICH, MA 02563  
508-833-6600



P.O. BOX 10  
ORLEANS, MA 02653  
capecodlive.com

17647

DATE

AMOUNT

PAY One Thousand Five Hundred and 00/100 Dollars  
TO THE  
ORDER  
OF: City of Boston

11/5/2018

\$1,500.00

*Tracy Orville*  
AUTHORIZED SIGNATURE

FD Security features. Details on back.

⑈017647⑈ ⑆211371078⑆ 86 4007877⑈

# PROJECT NARRATIVE

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Henderson Boathouse – Northeastern University  
Boston, Massachusetts

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November 2018

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    4.2 Erosion and Sedimentation Control ..... 7

## ATTACHMENTS

### Attachment A – Locus Maps

Figure 1 – USGS Topographic Map

Figure 2 – Aerial Photograph

Figure 3 –FEMA Flood Insurance Rate Maps

Figure 4 – Environmental Constraints

### Attachment B – Photographs

Attachment C – Project Narrative (submitted with modification)

Attachment D – Project Plan (submitted with modification)

## Henderson Boathouse – Northeastern University Boston, Massachusetts

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November 2018

### SUMMARY

*On February 5, 2018 the Applicant, Northeastern University, and the Department of Conservation and Recreation sent in a formal request for an amendment to the original Order of Conditions (OOC) for DEP file No. 006-1547. The request was for the proposed changes to the language of the OOC by DCR counsel and to include language on the proposed roof repair work to the Boathouse. On February 21, 2018 the Conservation Commission held a meeting for the amendment request. At that meeting the roof repairs were presented and discussed as well as the OOC changes. After a brief discussion of the roof repairs, the majority of the discussion pertained to the changes to the OOC. Due to the inability to come to an agreement on the proposed change to the OOC the meeting was continued with the request that DCR representation be present at the next meeting. Since that time the University has been working with both the City and DCR to come to a resolution. Per the Conservation Commission, the amendment request is still pending and no additional work has been permitted. This NOI is being submitted in response to an Enforcement Order for the replacement of the roof without a valid order of conditions.*

*The Boathouse is located within Riverfront Area and within the 100-foot buffer zone to Inland Bank. This resource area and buffer zone is regulated under the Massachusetts Wetlands Protection Act. An erosion and sedimentation control barrier was used to protect downgradient resource areas, and construction-related impacts will be restored upon completion.*

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## 1.0 INTRODUCTION

### 1.1 Project Description

Northeastern University (applicant) has repaired the roof of the existing Henderson Boathouse at 1345 Soldiers Field Road, Boston, Massachusetts.

The boathouse location serves as the headquarters for the Northeastern University Rowing Teams. The building was originally designed by Graham Gund Architects in 1988 and is sited in close proximity to the Charles River. The building's roofs were clad in asphalt shingles and EPDM membrane which are original to the building's construction and are now nearly 30 years old. The roofs exceeded their service life and the building has experienced active water leakage issues. The existing wood cladding on the chimneys is deteriorated and also in need of replacement. Northeastern University is responsible for the maintenance of the building and repaired the roof to address the leakage issues and deterioration of other exterior elements which were impacted by the roofing work

## 2.0 GENERAL SITE DESCRIPTION

The Boathouse and its associated 1.67 acre site is located at 1345 Soldier's Field Road along the Charles River in Boston, MA between the Arsenal Street Bridge to southwest and the Eliot Street Bridge to the northeast (Figures 1 and 2). The property and building is leased from the Commonwealth of Massachusetts with Division of Capital Asset Management and Maintenance (DCAMM) having jurisdiction over the building and the Department of Conservations and Recreation (DCR) having jurisdiction over the site. The leased area includes 57,500 sf (1.32 acres) of Upland area and 15,200 sf (.35 acres) of Watershed Area and is part of a larger Charles River linear parkland that runs along both sides of the Charles River.

The facilities maintained by the University at the site include the Boathouse, gravel and paved parking areas, paved/gravel building entrance drive, boat trailer storage areas, lawn and minor landscaping (trees). A portion of the Dr. Paul Dudley White Bike Path, maintained and operated by DCR, bisects the property from east to west/west to east. A looped one way access road with two curb cuts provides vehicular access on and off west bound Soldier's Field Road to the site which includes a combined vehicular and boat trailer loading, parking and storage zone. A series of public garden plots are also located adjacent to the building and path and a number of trees dot the perimeter. The Boathouse facility provides access to the Charles River for the University's crew team and affiliated users via the sloped timber dock along the River.

The site abuts the Charles River to the North, the Christian A. Herter Park to the east, Soldiers Field Road to the South and the Charles River Community Garden to the west. The University parking facilities within the lease area also serve as shared parking for the community garden users.

The site is mostly cleared/maintained landscape consistent with other boathouses/development along the Charles River. The general topography is relatively flat with slopes varying from less than 2% on the west side of the building and up to 10% on the east side. The area north of the bike path, which includes the building and lawn/trailer storage area, drains in both a northeasterly and northwesterly direction. The vegetation consists of a variety of River Birch, Oaks, Black Cherry



Spirea, Nut sedge and Pokeweed among others. Invasive plant species were observed on site closer to the water's edge and included Japanese Knotweed, Japanese Bittersweet, and Buckthorn. Honey Locusts line Soldiers Field Road between the two parking entrance curb cuts. The west and south side (front) of the boathouse consists of mowed manicured lawns with irrigation. The trees with the landscape along the west side of the boathouse include two Sweet Gum, five Shadbush and one Red Maple. The lawn area on the west side is currently mowed to the water's edge. The east side of the building is less manicured and has a vegetated buffer between the lawn and the water's edge. Existing trees include two River Birch.

## 2.1 State-listed Rare Species Habitat

According to the most recent version of the *Massachusetts Natural Heritage Atlas* (14<sup>th</sup> Edition, August 1, 2017), the project corridor does not fall within areas of *Estimated Habitat of Rare Wildlife and Certified Vernal Pools* and/or *Priority Habitat of Rare Species* as designated by the Massachusetts Natural Heritage and Endangered Species Program (NHESP)(Figure 3).

## 2.2 FEMA Designation

According to the most recent version of the FEMA National Flood Insurance Rate Map (No. 25025C0057G, effective September 25, 2009), the property is located within Zone X, Area of Minimal Flood Hazard (Figure 4).

## 2.3 Wetland Resource Areas

### 2.3.1 Resource Area Delineation Methodology

The resource areas were identified and delineated by others and taken from the plan entitled "Lease Plan of Northeastern University Henderson Boathouse" prepared by Nitsch Engineering, Inc. dated October 7, 2015. A list of the resource areas located at the site and their regulatory definitions is provided below.

### 2.3.2 Riverfront Area

Riverfront Area is defined at 310 CMR 10.58(2)(a)3 as "*the area of land between a river's mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away, except that the parallel line is located ... 25 feet away in densely developed areas, as designated by the Secretary of the Executive Office of Energy and Environmental Affairs pursuant to 301 CMR 10.00: Densely Developed Areas.*"

Pursuant to 310 CMR 10.58(2)3.a. the Riverfront Area in Boston is 25 feet away.

Riverfront Area within the project limits consists of developed areas in the form of docks, impervious areas, a two story building, landscaped areas, and a bituminous concrete pathway. Only a relatively narrow vegetated corridor occurs along the Charles River in this area. The vegetation along this area consists of a variety of river birch (*Betula nigra*), oaks (*Quercus* sp), black cherry (*Prunus serotina*), spiraea (*Spiraea* sp), nut sedge (*Cyperus* sp) and pokeweed (*Phytolacca americana*) among others. Invasives species were observed on site closer to the water's edge and included Japanese knotweed (*Fallopia japonica*), Oriental bittersweet (*Celastrus orbiculatus*), buckthorn (*Frangula* sp) and other weeds.

### 2.3.3 Inland Bank and Land Under Waterbodies and Waterways

Bank is defined at 310 CMR 10.54(2)(a) as *the portion of land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent floodplain, or, in the absence of these, it occurs between a water body and an upland. A Bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel or stone. The upper boundary of a Bank is first observable break in the slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level [310 CMR 10.54(2)(c)].*

Land Under Water Bodies and Waterways is defined at 310 CMR 10.56(2)(a) as *the land beneath any creek, river, stream, pond or lake. Said land may be composed of organic muck or peat, fine sediments, rocks or bedrock. The boundary of LUW is the mean annual low water level.*

The proposed project is located within the buffer to Inland Bank which consists of developed areas including a two story building, landscaped areas, gravel areas, and paved walkways and access ways.

## 3.0 PROPOSED PROJECT

### 3.1 Description

The following scope of work was provided by Building Enclosures Associates, Inc, (roof contractor) and the work was completed from May 2018 to Mid June 2018.

The roof repair project included the removal of existing asphalt shingles and single ply EPDM roofing assemblies and replacement with new asphalt shingles and a thermoplastic (TPO) roofing system. The asphalt shingles were replaced in kind. The existing EPDM roofing membrane is black in color, while the new thermoplastic roofing system is grey in color. This roofing membrane is not visible from the ground. Existing drainage provisions from these roofs was not be altered.

There are a number of advantages to using thermoplastic membranes as opposed to EPDM membranes. Thermoplastic membranes such as TPO require less long-term maintenance than EPDM membranes as the seams are heat-welded together and do not rely on the sealants required with EPDM roofs. Thermoplastic roofs also offer better solar radiant heat reflection properties, which may contribute to increased energy-savings as compared to the existing EPDM roof.

Existing copper nosing and flashings remain in place wherever possible. Select replacement of wood siding was performed as needed during replacement of the step flashing at the asphalt shingled roofs. Any siding installed as part of the step flashing work was replaced in kind.

The chimney cladding was replaced with a new fiber cement siding to match the aesthetics of the existing cladding. Fiber cement siding is a low-maintenance alternative to the existing wood cladding and has a long service life. This new cladding was painted to match the existing chimney cladding.

Associated work included the removal of the existing balcony decking, railings and balusters to facilitate the roof replacement work underneath and adjacent to the balcony. New IPE balcony decking was used to replace the existing pressure treated wood decking. The existing railings and

balusters were removed and reinstalled, with select replacement of deteriorated wood components as needed. The new components were painted to match existing. The balcony is visible from the Charles River and general aesthetics of the balcony and railings were not altered.

Activities performed as part of this project did not occur beyond the limits of the land lease and the roof work was limited to the area within the temporary construction fencing. Aerial lifts and scaffolding were used as means to access the roofs and the use of these devices were occurred within the temporarily fenced area and the adjacent Overflow Storage Area. Vehicular traffic was restricted to paved areas outside of the construction fencing with the exception of the delivery and removal of materials from the Overflow Storage Area. The grass surrounding the building in these areas was partially disturbed and silt fencing was installed along at the perimeter as to contain sediment and provide erosion control during construction. All areas disturbed for construction activities were restored to near existing conditions for completion of work. (See Photos).

The majority of the roof repair work occurred within the building footprint, which is located within both the 25' Riverfront Area and the 100' Buffer Zone. The following activities occurred within the 25 foot Riverfront Area and 100-foot buffer zone:

- Roof repair as described above
- Small staging for the repairs
- Installation of erosion and sedimentation controls including silt socks

### 3.2 Affected Jurisdictional Areas

The approximate total area of disturbance within the staging and construction fence area was approximately 25,400 sf (.58 acres). All of the work occurred within the existing disturbed/maintained landscape area with the Buffer Zone and Riverfront Area.

**Table 1. Approximate Resource Areas**

WORK WITHIN DISTURBED RESOURCE AREA	IMPACT	
	(SF)*	(acres)
<b>Disturbed Inland Bank (excludes RFA)</b>		
0-100 - ft Buffer Zone (roof and perimeter)	13,900	.32
0-100 - ft Buffer Zone (roof only)	6,240	.14
<b>Disturbed Riverfront Area</b>		
0-25-foot (roof and perimeter)	4,322	.10
0-25-foot (roof only)	909	.02

### 4.0 PROTECTION OF RESOURCE AREA INTERESTS

All of the work occurred within the existing lawn area at the Boathouse and trees and planting with the Riverfront and Wetland Buffer Zone were not disturbed. Prior to construction, erosion and sediment controls were installed around the perimeter to protect the resource. All disturbed lawn areas have been seeded and restored to the existing lawn condition.

## 4.1 Riverfront Area

The proposed project will occur within the 25-foot Riverfront Area along the Charles River. The project will result in the disturbance of 18% of the Riverfront Area, however this area is already disturbed with a building and landscaped areas, and the disturbance is temporary.

### 4.1.1 Riverfront Area Redevelopment

Portions of the proposed project also occur within existing degraded portions of the 25-foot Riverfront Area and constitute redevelopment under the regulations at 310 CMR 10.58(5). The Project is designed to address to the extent practicable and improvement over existing conditions as follows.

*(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.*

The existing maintained lawn disturbed during the roof repair work has been restored to the original condition.

*(b) Stormwater management is provided according to standards established by the Department.*

As a roof repair, stormwater management improvements were not provided as part of this project.

*(c) Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The work was not located closer to the river than existing conditions and does not result in an increase in impervious surface. The roof repair occurred on the building itself and in areas that are already disturbed.

*(d) Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The roof repairs occurred within the existing areas of disturbance, within the existing building footprint.

*(e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).*

*The roof repair work occurred within the existing areas of disturbance and did not exceed the amount of degraded area.*

*(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include:*

1. *removal of all debris, but retaining any trees or other mature vegetation;*
2. *grading to a topography which reduces runoff and increases infiltration;*
3. *coverage by topsoil at a depth consistent with natural conditions at the site; and*
4. *seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;*

(Not applicable)

*(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 to 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Environmental Affairs.*

(Not applicable)

#### 4.1.2 Buffer Zone

The proposed project includes 7,204 SF of disturbance, of which 3,992 includes proposed impervious surface. The existing conditions of this buffer zone area includes, mowed grass, bituminous concrete, dirt and gravel areas that are used for informal parking. Although the proposed project increases the amount of impervious in the buffer zone, it will formalize parking and direct stormwater runoff, which currently sheet flows untreated to the Charles River, to a bioretention basin for treatment before it flows into the Charles River.

## 4.2 Erosion and Sedimentation Control

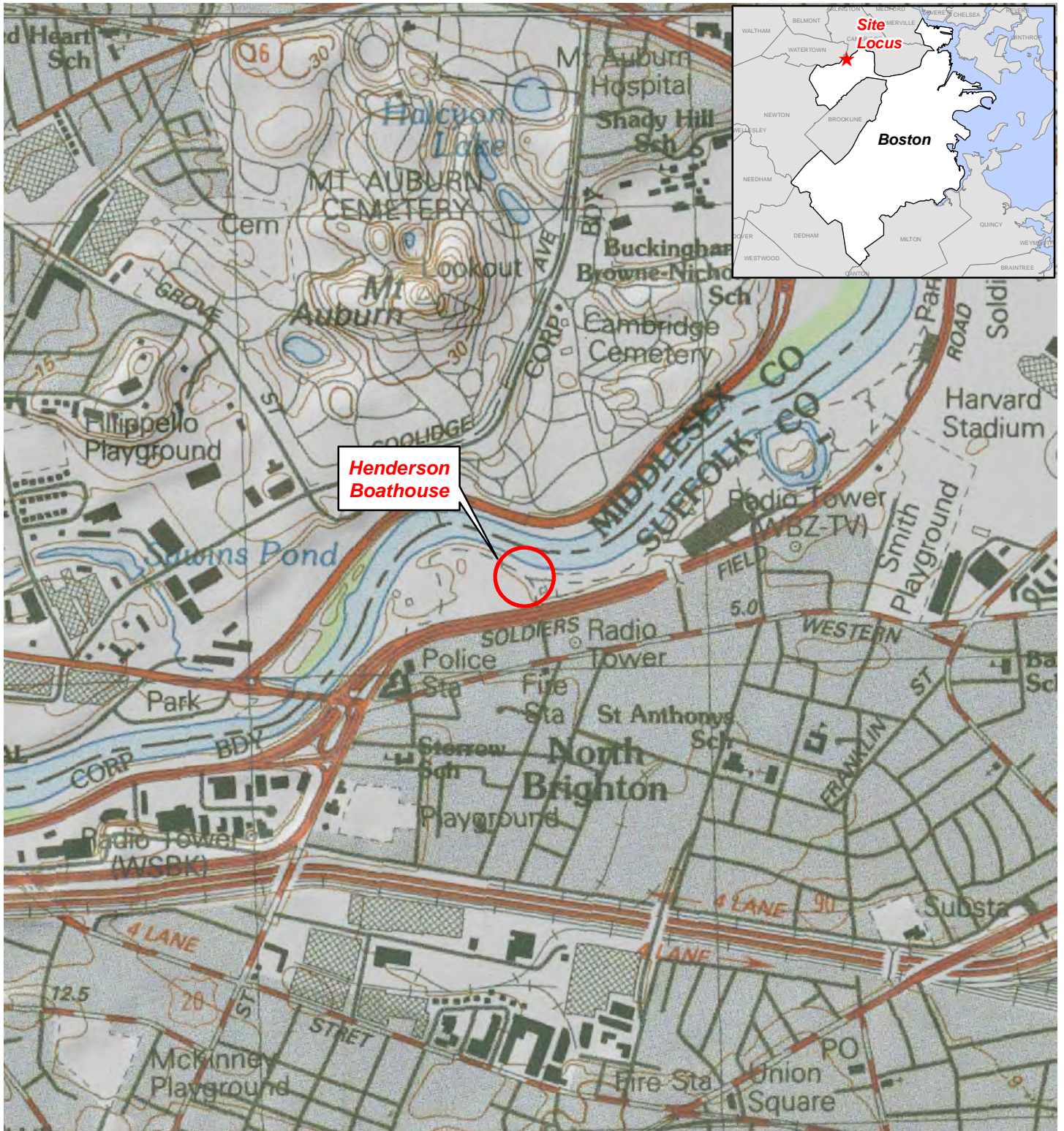
The Applicant protected the resource area by installing erosion and sedimentation controls prior to construction.

## ATTACHMENT A: LOCUS MAPS

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**Henderson  
Boathouse**

Document Path: H:\Proposals\Massachusetts\Town\Boston\Northeastern\Henderson Boathouse\GIS\USGS\_Locus.mxd

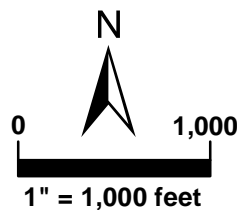
\*Newton Topographic Quadrangle

**Horsley Witten Group**  
Sustainable Environmental Solutions

90 Route 8A • Unit 1 • Sandwich, MA 02563  
508-833-8000 • horsleywitten.com



**USGS Locus**  
Northeastern University  
Henderson Boathouse  
Boston, MA



Date: 8/10/2016

Figure 1






Document Path: H:\Proposals\Massachusetts\Town\Boston\Northeastern\Henderson Boathouse\GIS\Aerial.mxd

\*Imagery - NAIP2014

**Horsley Witten Group**  
 Sustainable Environmental Solutions  
 90 Route 8A • Unit 1 • Sandwich, MA 02563  
 508-833-8500 • horsleywitten.com



N



0 200

1" = 200 feet

Aerial Photo  
 Northeastern University  
 Henderson Boathouse  
 Boston, MA

Date: 8/10/2016

Figure 2








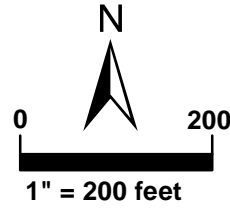
**Henderson Boathouse**

Document Path: H:\Proposals\Massachusetts\Town\Boston\Northeastern\Henderson Boathouse\GIS\Existing\_Constraints.mxd

\*Newton Topographic Quadrangle

**Legend**

-  Parcels
-  MassGIS Data - MassDEP Oil and/or Hazardous Material Sites with Activity and Use Limitations (AUL)
-  Open Water (DEP Wetlands)



**Horsley Witten Group**  
 Sustainable Environmental Solutions  
 90 Route 8A • Unit 1 • Sandwich, MA 02563  
 508-833-8500 • horsleywitten.com



Existing Constraints  
 Northeastern University  
 Henderson Boathouse  
 Boston, MA















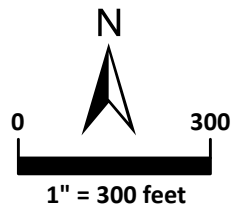


Document Path: H:\Projects\2016\16102-NU-Henderson Boathouse\GIS\Maps\Soils.mxd

**Legend**

-  Parcels
-  1, Water
-  254B, Merrimac
-  420B, Canton
-  602, Urban land
-  603, Urban land
-  653, Udorthents
-  655, Udorthents

\*Soils - MassGIS 2012



**Horsley Witten Group**  
 Sustainable Environmental Solutions  
 90 Route 6A • Unit 1 • Sandwich, MA 02563  
 508-833-8500 • horsleywitten.com



NRCS SSURGO-Certified Soils  
 Middlesex & Norfolk-Suffolk Soils  
 Northeastern University  
 Henderson Boathouse  
 Boston, MA

Date: 8/21/2017

Figure 5



## ATTACHMENT B: PHOTOGRAPHS

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**Horsley Witten Group**  
*Sustainable Environmental Solutions*

**Pre-Construction**



Photo 1: Boathouse from the front



Photo 2: East side of the Boathouse



Horsley Witten Group  
*Sustainable Environmental Solutions*



Photo 3: West Side of Boathouse



Photo 5: East side of Boathouse and Bike Path





Photo 4: Riverside of Boathouse and Dock



Photo 7: Riverside with dock



**Construction/Post Construction**



Photo 1: Boathouse from the front



Photo 2: East side of the Boathouse





Horsley Witten Group  
*Sustainable Environmental Solutions*



Photo 3: West side of the Boathouse



Photo 4: River side of the Boathouse





**Horsley Witten Group**  
*Sustainable Environmental Solutions*

# ATTACHMENT C: PROJECT NARRATIVE

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Submitted with modification





## PROJECT NARRATIVE

Project: Roof Replacement and Related Work  
Henderson Boathouse, Northeastern University  
1345 Soldiers Field Road, Boston, MA

Date: February 5, 2018

Anticipated Project Schedule: Spring 2018

### Project Description and Existing Condition Summary

The Ernest Henderson Boathouse located at 1345 Soldiers Field Road in Boston, Massachusetts serves as the headquarters for the Northeastern University Rowing Teams. The building was originally designed by Graham Gund Architects in 1988 and is sited in close proximity to the Charles River. The building's roofs are clad in asphalt shingles and EPDM membrane which are original to the building's construction and are now nearly 30 years old. The roofs have exceeded their service life and the building has experienced active water leakage issues. The existing wood cladding on the chimneys is deteriorated and also in need of replacement.

Northeastern University is responsible for the maintenance of the building and undertaking a scope of repair work to address the leakage issues and deterioration of other exterior elements which will be impacted by the roofing work

### Scope of Proposed Repair Work

The scope of the roof replacement project includes removal of existing asphalt shingles and single ply EPDM roofing assemblies and replacement with new asphalt shingles and a thermoplastic (TPO) roofing system. The asphalt shingles will be replaced in kind. The existing EPDM roofing membrane is black in color, while the new thermoplastic roofing system will be grey in color. This roofing membrane is not visible from the ground. Existing drainage provisions from these roofs will not be altered.

There are a number of advantages to using thermoplastic membranes as opposed to EPDM membranes. Thermoplastic membranes such as TPO require less long-term maintenance than EPDM membranes as the seams are heat-welded together and do not rely on the sealants required with EPDM roofs. Thermoplastic roofs also offer better solar radiant heat reflection properties, which may contribute to increased energy-savings as compared to the existing EPDM roof.

Existing copper nosing and flashings are to remain wherever possible. Select replacement of wood siding will be performed as needed during replacement of the

Project Narrative  
Henderson Boathouse, Northeastern University  
1345 Soldiers Field Road, Boston, MA  
February 5, 2018  
Page 2 of 2

step flashing at the asphalt shingled roofs. Any siding installed as part of the step flashing work will be replaced in kind.

The chimney cladding is to be replaced with a new fiber cement siding to match the aesthetics of the existing cladding. Fiber cement siding is a low-maintenance alternative to the existing wood cladding and has a long service life. This new cladding will be painted to match the existing chimney cladding.

Associated work includes removal of the existing balcony decking, railings and balusters to facilitate the roof replacement work underneath and adjacent to the balcony. New IPE balcony decking will replace the existing pressure treated wood decking. The existing railings and balusters will be removed and reinstalled, with select replacement of deteriorated wood components as needed. The new components will be painted to match existing. The balcony is visible from the Charles River and general aesthetics of the balcony and railings will not be altered.

#### Contractor Means & Methods, Environmental Impact Control Measures

The Contractor is responsible for ensuring that all materials on site are dealt with in an appropriate, controlled manner. The Contractor is also responsible for means and methods of construction including but not limited to containing all construction debris and reducing potential for debris to blow off of roof, from within dumpsters, etc. and into Charles River and surrounding green space. Staging of aerial equipment, dumpsters and stored materials on site is to be coordinated in advance with all identified and interested parties.

Activities performed as part of this project are not to occur beyond the limits of the land lease and all efforts will be made to isolate these activities to the area within the temporary construction fencing. Aerial lifts and scaffolding may be used as means to access the roofs and use of these devices will be isolated to the temporarily fenced area and to the adjacent Overflow Storage Area. Vehicular traffic will be restricted to paved areas outside of the construction fencing with the exception of any necessary delivery or removal of materials from the Overflow Storage Area. The grass surrounding the building in these areas may be disturbed and silt fencing will be utilized at the river's edge as a means of erosion control during the project. All areas disturbed for construction activities will be restored to near existing conditions for completion of work.

Please do not hesitate this office if there are any questions or additional information is required.

# ATTACHMENT D: PROJECT PLANS

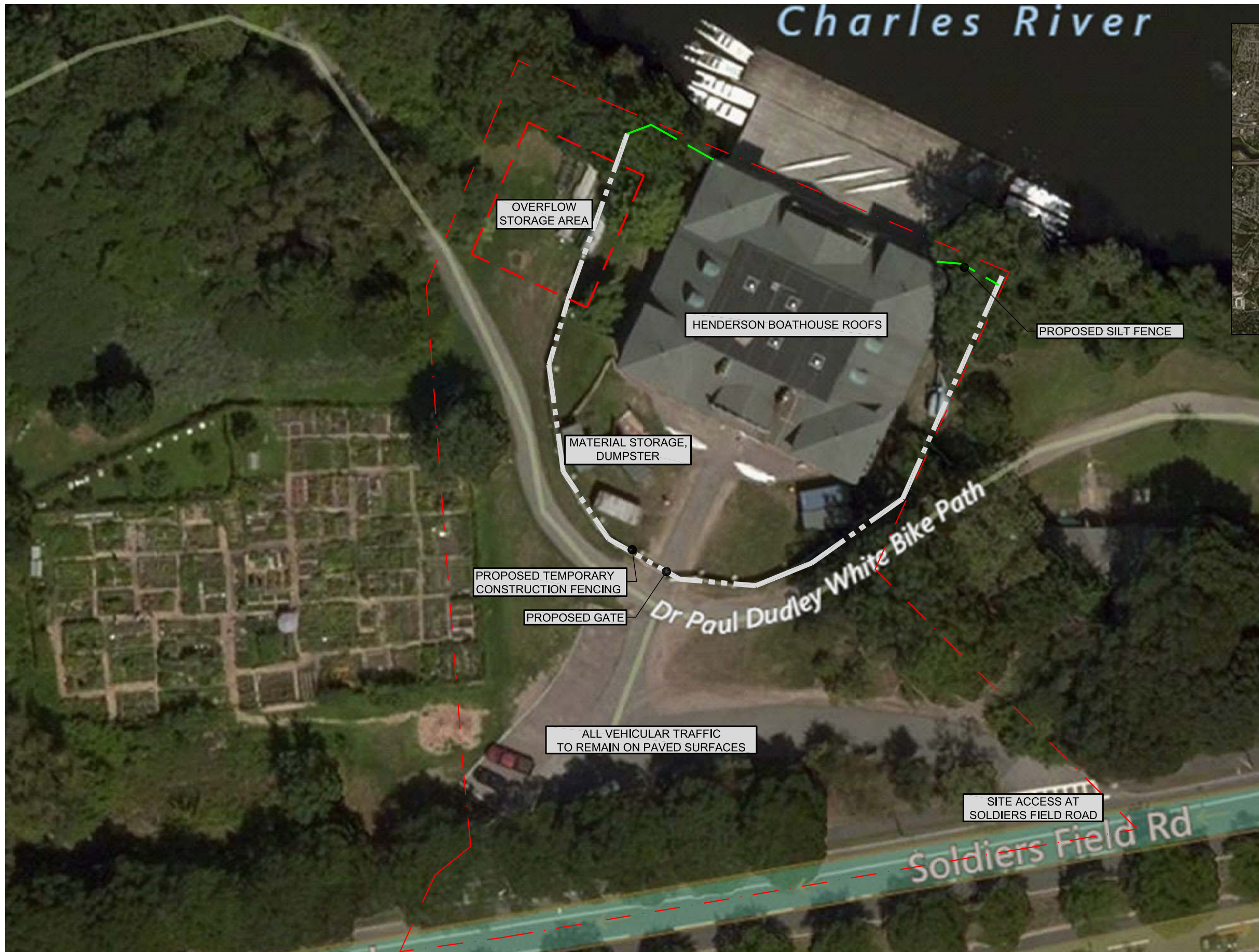
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Submitted with modification









SITE:  
1345 SOLDIERS FIELD ROAD

VICINITY MAP

NOTE:  
The Contractor is responsible for ensuring that all materials on site are dealt with in an appropriate, controlled manner.

The Contractor is responsible for means and methods of construction including but not limited to containing all construction debris and reducing potential for debris to blow off of roof, from within dumpsters, etc. and into Charles River and surrounding green space.

Staging of aerial equipment, dumpsters and stored materials on site is to be coordinated in advance with all identified and interested parties.

NOTE:  
Aerial images obtained from BING.

— · — Limits of Land Lease obtained from Site Improvement Drawings prepared by Horsley Witten Group, Inc. dated January 2018.

Not to Scale, provided as graphic representation of schematic lay down conditions.

SITE PLAN

OWNER:  
Northeastern University  
140 Cullinane Hall  
360 Huntington Avenue  
Boston, MA 02115  
(617) 373-7611

CONSULTANT:  
BUILDING ENCLOSURE ASSOCIATES LLC  
Charlestown Navy Yard  
31 Fifth Street  
Boston, MA 02129  
Tel: (617) 520-9555  
Fax: (617) 520-9554

**SCHEMATIC CONSTRUCTION LAY DOWN PLAN**  
HENDERSON BOATHOUSE  
ROOF REPLACEMENT PROJECT

PROJECT:  
NORTHEASTERN UNIVERSITY  
HENDERSON BOATHOUSE  
1345 SOLDIERS FIELD ROAD  
BRIGHTON, MA

Date Issued: FEBRUARY 5, 2018



**GENERAL CONSTRUCTION NOTES:**

- ALL WORK SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE, 9th EDITION.
- ALL NEW WORK TO BE PERFORMED IN ACCORDANCE WITH FM GLOBAL STANDARDS FOR UPLIFT RESISTANCE. ALL WORK TO MEET NORTHEASTERN UNIVERSITY STANDARDS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS.
- THE GENERAL CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL POLICE DETAILS.
- THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. MAINTAIN ALL EGRESS COMPONENTS AND PATHWAYS - DO NOT BLOCK EGRESS COMPONENTS.
- PROVIDE TEMPORARY BARRIERS AND PROTECTION FOR ALL OCCUPANTS.
- PROVIDE A MINIMUM 72-HOUR NOTICE TO THE OWNER PRIOR TO SHUTTING DOWN MEP/FITEL/DATA SERVICES.
- PROVIDE SUBMITTALS, PRODUCT DATA AND SHOP DRAWINGS FOR REVIEW AND/OR APPROVAL BY CONSULTANT FOR ALL WORK PRIOR TO START OF CONSTRUCTION. SEE PROJECT CONTRACT AND SPECIFICATION REQUIREMENTS FOR SUBMITTAL PROCEDURES.
- PROVIDE DEMOLITION AND SELECTIVE DEMOLITION AS SHOWN ON PLANS; REMOVE THE WASTE DEBRIS FROM THE SITE TO A RECYCLE CENTER COMPANY AND/OR LEGAL LANDFILL DISPOSAL SITE. REMOVE DEBRIS IMMEDIATELY; DO NOT ALLOW TO STOCKPILE ON FLOORS AND ROOF.
- ALL SHORING, MEANS AND METHODS, DESIGN AND ENGINEERING ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL PROVIDE THEIR OWN STATE OF MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER TO PROVIDE THESE SERVICES.
- PROTECT ALL EXISTING BUILDING COMPONENTS TO REMAIN; THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION PHOTO SURVEY (INTERIOR AND EXTERIOR) OF ALL BUILDING COMPONENTS. ALL BUILDING COMPONENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT NO COST TO THE OWNER.
- IN ANY CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE PROJECT SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
- THE CONTRACTOR SHALL MAKE NO DEVIATION FROM DESIGN DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR REVIEW AND WRITTEN AUTHORIZATION BY THE OWNER AND/OR CONSULTANT.
- WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED AND/OR INFERRED TO BE SIMILAR TO THAT SHOWN AT THE CORRESPONDING PLACES SHALL BE REPEATED AND CONSIDERED PART OF THE BASE SCOPE OF WORK.
- ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND LOCAL LAWS AND REGULATIONS.
- CONTRACTOR SHALL NOT SCALE DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. CONTRACTOR SHALL MAKE REQUESTS FOR ADDITIONAL INFORMATION/CLARIFICATIONS THROUGH A RFI WRITTEN REQUEST TO THE CONSULTANT. WORK COMPLETED BY THE CONTRACTOR WITHOUT FIELD VERIFIED DIMENSIONS AND/OR INFORMATION SHALL BE DONE AT THEIR OWN RISK AND SHALL BE REMOVED AND REINSTALLED TO THE SPECIFICATIONS OF THE CONSULTANT AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES AS REQUIRED TO ALLOW PROPER EXECUTION OF WORK IN THESE AREAS.
- CONTRACTOR SHALL REFER TO PROJECT MANUAL FOR ADDITIONAL PROJECT REQUIREMENTS AND CONDITIONS.
- MEANS AND METHODS OF CONSTRUCTION, COMPLIANCE WITH OSHA AND OTHER SAFETY LAWS AND REGULATIONS ARE THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR, HIS SUBCONTRACTOR(S), SUPPLIERS, CONSULTANTS AND SERVANTS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. BRING TO THE ATTENTION OF THE OWNER/CONSULTANT ANY UNEXPECTED EXISTING CONDITIONS UNCOVERED DURING THE PROJECT. NO WORK SHALL COMMENCE UNTIL THE CONDITIONS IN QUESTION ARE REVIEWED, EVALUATED, APPROVED & DIRECTED BY THE OWNER AND CONSULTANT.
- EXISTING CONDITIONS DEPICTED ARE BASED ON AVAILABLE DOCUMENTS AND SITE OBSERVATIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL CONDITIONS AND PROVIDING CONSTRUCTION CONTROLS.

**BUILDING CODE ANALYSIS:**

- WORK SHALL CONFORM TO MASS STATE BUILDING CODE 9th EDITION.
- MASS CODE AMENDMENT TO IBC 2015, CHAPTER 34 EXISTING STRUCTURES IS DELETED AND IEBC 2015 WITH THE MASSACHUSETTS AMENDMENTS SHALL GOVERN.
- IEBC 2015, CHAPTER 1: SCOPE AND ADMINISTRATION
- 101.2 SCOPE: THE PROVISIONS OF THE INTERNATIONAL EXISTING BUILDING CODE SHALL APPLY TO THE REPAIR, ALTERATION, CHANGE OF OCCUPANCY, ADDITION AND RELOCATION OF EXISTING BUILDINGS.
- IEBC 2015: TYPE V CONSTRUCTION.
- 106.2.3 MEANS OF EGRESS: THERE IS NO CHANGE TO THE EXISTING MEANS OF EGRESS.
- CHAPTER 5 CLASSIFICATION OF WORK
- SECTION 502: REPAIRS
- 502.1 SCOPE: REPAIRS, AS DEFINED IN CHAPTER 2, "REPAIRS: THE RECONSTRUCTION OR RENEWAL OF ANY PART OF AN EXISTING BUILDING FOR THE PURPOSE OF ITS MAINTENANCE OR TO CORRECT DAMAGE," INCLUDE THE PATCHING OR RESTORATION OR REPLACEMENT OF DAMAGED MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES FOR THE PURPOSE OF MAINTAINING SUCH COMPONENTS IN GOOD OR SOUND CONDITION WITH RESPECT TO EXISTING LOADS OR PERFORMANCE REQUIREMENTS.
- 502.2 APPLICATION: REPAIRS SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 5.
- 502.3 RELATED WORK: WORK ON NON-DAMAGED COMPONENTS THAT IS NECESSARY FOR THE REQUIRED REPAIR OF DAMAGED COMPONENTS SHALL BE CONSIDERED PART OF THE REPAIR AND SHALL NOT BE SUBJECT TO THE PROVISIONS OF CHAPTER 7, 8, 9, 10 OR 11.
- THE SCOPE OF WORK INCLUDES: RE-ROOFING - THE REMOVAL AND REPLACEMENT OF ASPHALT ROOFING SYSTEM; REPLACE EPDM ROOFING SYSTEM WITH EPDM AND TPO ROOFING SYSTEMS, FLASHING/FASCIA, BALCONY AND SIDING REPAIRS.
- CHAPTER 6: REPAIRS
- SECTION 601.1 SCOPE: REPAIRS AS DESCRIBED IN SECTION 502 SHALL COMPLY WITH THE REQUIREMENTS OF THIS CHAPTER.
- SECTION 602.1 EXISTING MATERIALS: MATERIALS ALREADY IN USE IN A BUILDING IN COMPLIANCE WITH REQUIREMENTS OR APPROVALS IN EFFECT AT THE TIME OF THEIR ERECTION OR INSTALLATION SHALL BE PERMITTED TO REMAIN IN USE UNLESS DETERMINED BY THE CODE OFFICIAL TO BE DANGEROUS TO LIFE, HEALTH OR SAFETY. ....
- SECTION 602.2 NEW REPLACEMENT MATERIALS: EXCEPT AS OTHERWISE REQUIRED OR PERMITTED BY THIS CODE, MATERIALS PERMITTED BY THE APPLICABLE CODE FOR NEW CONSTRUCTION SHALL BE USED, LIKE MATERIALS SHALL BE PERMITTED FOR REPAIRS AND ALTERATIONS. ....
- SECTION 603 FIRE PROTECTION: NO CHANGE
- SECTION 604 MEANS OF EGRESS: NO CHANGE
- SECTION 605 ACCESSIBILITY: NO CHANGE
- SECTION 606 STRUCTURAL: NO CHANGE
- SECTION 607 ELECTRICAL: NO CHANGES
- SECTION 608 MECHANICAL: NO CHANGES
- SECTION 609 PLUMBING: NO CHANGES
- IBC SECTION 1507.2.2 SLOPE: ASPHALT SHINGLES SHALL ONLY BE USED ON ROOF SLOPES OF TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (17-PERCENT SLOPE) OR GREATER. FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (17-PERCENT SLOPE) UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33-PERCENT SLOPE), DOUBLE UNDERLAYMENT APPLICATION IS REQUIRED IN ACCORDANCE WITH SECTION 1507.2.8.
- IBC SECTION 1507.2.8.2 ICE BARRIER: IN AREAS WHERE THERE HAS BEEN A HISTORY OF ICE FORMING ALONG THE EAVES CAUSING A BACKUP OF WATER, AN ICE BARRIER THAT CONSISTS OF AT LEAST TWO LAYERS OF UNDERLAYMENT CEMENTED TOGETHER OR OF A SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET SHALL BE USED IN LIEU OF NORMAL UNDERLAYMENT AND EXTEND FROM THE LOWEST EDGES OF ALL ROOF SURFACES TO A POINT AT LEAST 24 INCHES (610 MM) INSIDE THE EXTERIOR WALL LINE OF THE BUILDING. NOTE THAT THIS PROJECT WILL HAVE THE ENTIRE SHINGLE ROOF AREA COVERED WITH ICE & WATER SHIELD UNDERLAYMENT.
- 2015 IECC (INTERNATIONAL ENERGY CONSERVATION CODE):
- 22.1. TABLE C402.1.3, DESCRIPTIVE CODE REQUIREMENTS: CLIMATE ZONE 5, INSULATION ENTIRELY ABOVE ROOF DECK, R-30 or REQUIRED.
- 22.2. 780 CVM 115.AA STRETCH ENERGY CODE COMPLIANCE: MATCHES IECC 2015 REQUIREMENTS SHOWN ABOVE.

**SUMMARY OF WORK:**

- BALCONY:**
- AT THE MAIN BALCONY FACING THE CHARLES RIVER, REMOVE AND DISPOSE OF THE EXISTING WOOD DECKING, EPDM ROOFING, EDGE METAL FLASHING AND PLYWOOD SHEATHING THAT COMPRISE THE ROOF ASSEMBLY. REMOVE AND DISPOSE OF THE POSTS. REMOVE AND SALVAGE THE "OAR" BALUSTERS FOR REINSTALLATION. SEE THE DRAWINGS FOR THE FULL EXTENT OF DEMOLITION WORK. INSTALL NEW PLYWOOD SHEATHING TO MATCH EXISTING, AND SECURE TO THE EXISTING STRUCTURE TO MEET FM 1-29. APPLY NEW FULLY ADHERED 72 MIL. EPDM MEMBRANE ONTO SHEATHING, PROVIDING TERMINATION AT SHINGLED ROOF AND ADJACENT WALL AREAS PER MANUFACTURER'S GUIDELINES. EXTERIOR DOORS ARE NOT TO BE REMOVED - EXISTING EPDM BELOW DOORS TO REMAIN, TIE NEW EPDM INTO EXISTING EPDM BELOW DOORS.
  - INSTALL NEW ZTCC ROOF EDGE METAL AT EDGE OF EPDM ROOF. FLASH NEW RAILING POSTS WITH ZTCC FLASHING BOOTHS AND EPDM FLASHING AS NEEDED TO MEET MANUFACTURER'S REQUIREMENTS.
  - INSTALL NEW FT TAPERED WOOD MAILERS TO MATCH EXISTING WITH NEW DECKING. PROVIDE NEW CEDAR POSTS AND RAILING CAPS. INSTALL REPAIRED AND REFINISHED "OAR" BALUSTERS. REPLACE BALUSTERS IN KIND AS NEEDED, SEE SPECIFICATION FOR ALLOWANCES.
- PAINT ALL NEW WOOD COMPONENTS TO MATCH EXISTING. PAINT ANY SIDING OR TRIM MODIFIED AS A RESULT OF THIS WORK TO MATCH EXISTING.
- NOTE: FOLLOWING ALL BALCONY WORK, EXISTING DOOR CLEARANCE AT DECKS TO BE MAINTAINED WITH NEWLY INSTALLED DECK AND ROOF WORK IN THESE AREAS**
- RE-ROOFING:**
- REMOVE AND DISPOSE OF EXISTING ASPHALT SHINGLED ROOFS AND ASSOCIATED BUILDING PAPER. ANY EXISTING ICE & WATER SHIELD DISCOVERED IS TO REMAIN. EXISTING COPPER ROOF EDGE METAL TO REMAIN. CARE SHOULD BE TAKEN DURING DEMOLITION TO AVOID DAMAGE TO EXISTING COPPER FLASHING SYSTEMS.
  - SECURE EXISTING WOOD SHEATHING TO ROOF FRAMING IN ACCORDANCE WITH FM GLOBAL 1-29 AND 1-9 REQUIREMENTS.
  - INSTALL NEW ICE & WATER SHIELD TO COVER THE ENTIRE ROOF. INSTALL NEW MIAMI-DADE APPROVED ASPHALT SHINGLES ON NEW ICE & WATER SHIELD / EXISTING WOOD SHEATHING. ALL SHINGLED ROOFING TO MEET FM GLOBAL WIND UPLIFT REQUIREMENTS.
  - IN AREAS OF STEP FLASHING AT DORMER AND TOWER CONDITIONS, REMOVE SIDING AS REQUIRED TO FACILITATE ROOFING WORK. REPLACE WITH NEW SIDING AND PAINT TO MATCH EXISTING. INSTALL NEW COPPER STEP FLASHING.
- REMOVE AND DISPOSE OF EXISTING MECHANICALLY FASTENED EPDM ROOFING ASSEMBLY, 3" RIGID INSULATION AND LOOSE-LAID VAPOR BARRIER. EXISTING COPPER, EDGE METAL AND FLASHINGS TO REMAIN. CARE TO BE TAKEN DURING DEMOLITION TO NOT DAMAGE THESE ITEMS.
- SECURE EXISTING TONGUE AND GROOVE DECK TO STRUCTURE TO MEET FM 1-29 AND 1-9 REQUIREMENTS.
- NOTE: UNDERSIDE OF T&G IS EXPOSED ON THE INTERIOR, AND EXTRA CARE SHOULD BE TAKEN IN INSTALLATION OF FASTENERS TO ENSURE THESE DO NOT PROTRUDE THROUGH T&G DECK, INTERIOR FACE.**
- PER FM GLOBAL REQUIREMENTS, FASTENER FULL TESTS TO BE PERFORMED AT BEGINNING OF PROJECT IN ACCORDANCE WITH FM 1-29.
- MECHANICALLY FASTEN THE BASE 1/2" DENSDECK TO THE EXISTING T&G WOOD DECK. APPLY SELF-ADHERED VAPOR RETARDER TO DENSDECK. MECHANICALLY FASTEN R-30 RIGID INSULATION, PER NEU STANDARDS. FULLY ADHERE 1/2" DENSDECK COVER BOARD TO THE INSULATION, ADHERE 80 MIL TPO ROOFING MEMBRANE.
  - ALL WORK TO MEET FM GLOBAL WIND UPLIFT REQUIREMENTS. INSTALL NEW TPO ROOF TO MEET FM 1-28 CRITERIA, BASED ON WIND SPEED OF 100 MPH, GROUND ROUGHNESS COEFFICIENT OF C, BUILDING IMPORTANCE FACTOR OF 1.15. PERIMETER TO BE 4 FT AND CORNERS SHOULD BE 4 FT X 4 FT.
  - EXISTING SKYLIGHTS TO BE SELECTIVELY REMOVED AND RE-INSTALLED. SKYLIGHTS ARE NEW - PROTECT FROM DAMAGE DURING ROOFING WORK.
- AT CHIMNEYS, REMOVE EXISTING T&G SIDING AND FELT PAPER. REPAIR SUBSTRATE SHEATHING AS NEEDED.
- APPLY ICE AND WATER SHIELD TO EXISTING SHEATHING AND INSTALL BORAL TRUDEXTERIOR SIDING AND TRIM IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. APPEARANCE OF TRIM AND SIDING TO REFLECT EXISTING AS CLOSELY AS POSSIBLE. PAINT TO MATCH EXISTING. EXISTING COPPER CAPS TO REMAIN.
  - AT CHIMNEY CAPS, REPLACE EXISTING SEALANTS AS NOTED.
  - EXISTING COPPER FINIALS TO BE SELECTIVELY REMOVED/REINSTALLED WITH CARE TO FACILITATE SHINGLED ROOF REPLACEMENT.
  - REMOVE AND STORE EXISTING SIGNAGE OVER MAIN ENTRY DOOR. REINSTALL SIGNAGE UPON COMPLETION OF WORK.
  - REPLACE FASCIA BOARDS IN LOCATIONS INDICATED. INSTALL NEW FASCIA BOARDS AND PAINT TO MATCH EXISTING.

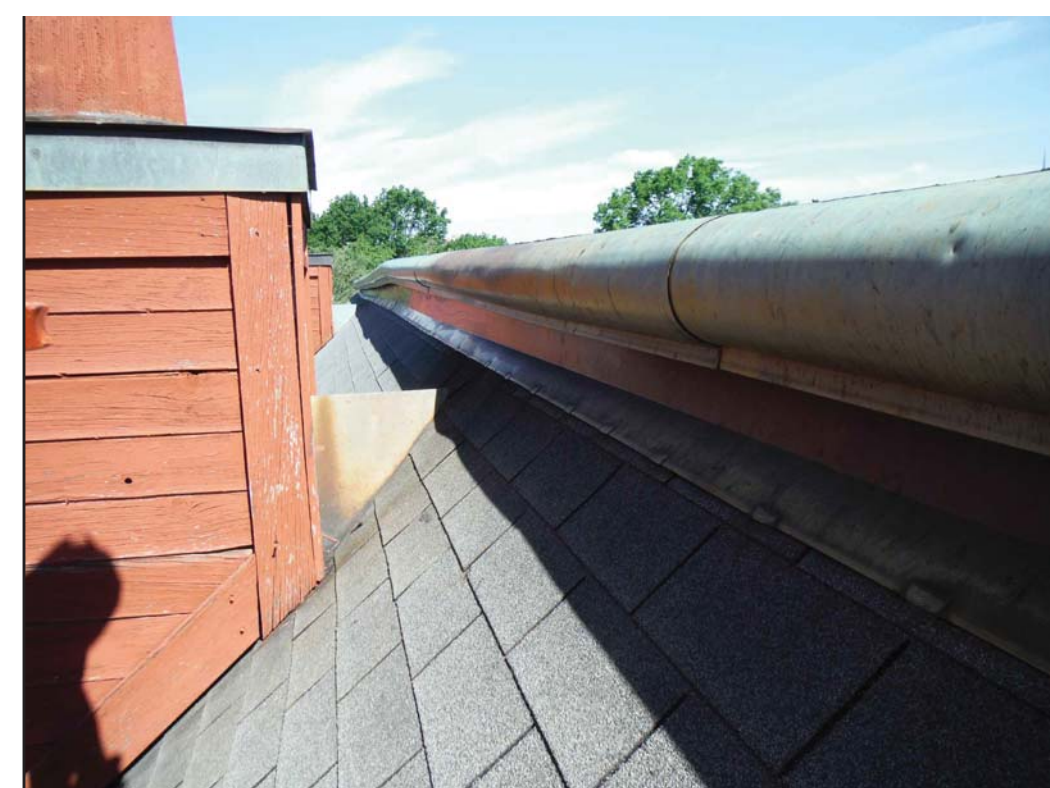


NOT TO SCALE IMAGE FROM BING

**NORTHEASTERN UNIVERSITY - HENDERSON BOAT HOUSE**  
SOLDIERS FIELD ROAD, ALLSTON, MA  
**ROOF REPLACEMENT**

**DRAWING LIST**

- ARCHITECTURAL:  
 CS COVER SHEET  
 A100 ROOF PLAN  
 A200 ROOF DETAILS  
 A201 BALCONY DETAILS



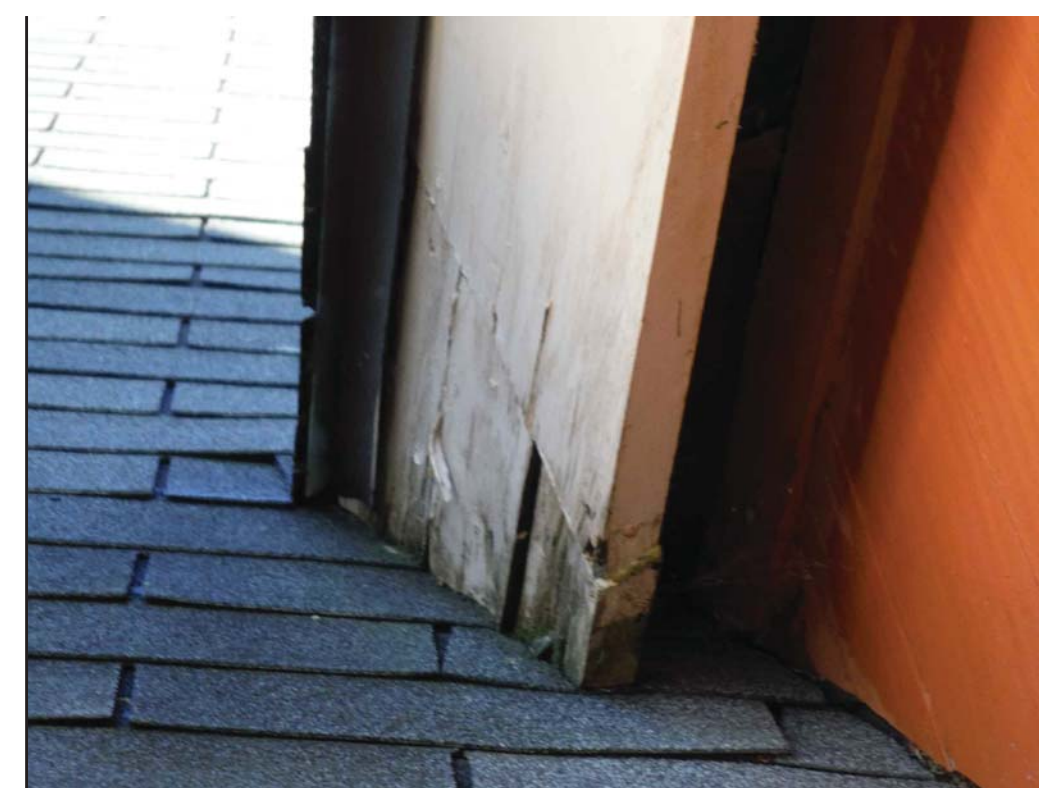
VIEW OF FLAT ROOF EDGE AND COPPER CRICKET



VIEW OF ROOF EDGE AT WOOD DECK ON NORTH ELEVATION



VIEW OF BACK SIDE OF SOUTH FACADE AND ASPHALT ROOF



VIEW OF FASCIA AND ASPHALT ROOF INTERSECTION



VIEW OF EXISTING WOOD DECK



NORTH ELEVATION ALONG CHARLES RIVER

**12** EXISTING CONDITIONS - PHOTO 12  
SCALE: NOT TO SCALE

**11** EXISTING CONDITIONS - PHOTO 11  
SCALE: NOT TO SCALE

**10** EXISTING CONDITIONS - PHOTO 10  
SCALE: NOT TO SCALE

**9** EXISTING CONDITIONS - PHOTO 9  
SCALE: NOT TO SCALE

**8** EXISTING CONDITIONS - PHOTO 8  
SCALE: NOT TO SCALE

**7** EXISTING CONDITIONS - PHOTO 7  
SCALE: NOT TO SCALE



VIEW OF WEST CHIMNEY WITH WOOD CLADDING



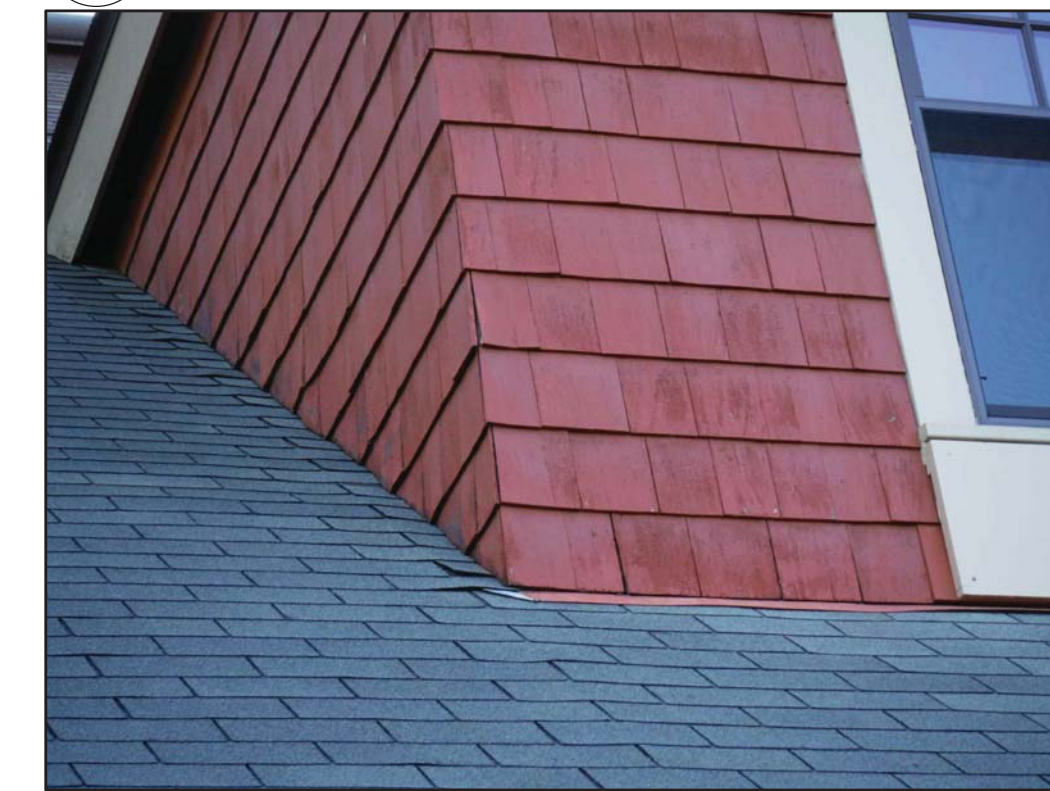
VIEW OF EXISTING EPDM FLAT ROOF



VIEW OF DORMERS OF EAST ROOF WITH COPPER CLADDING



SIGN AT FLASHING ON SOUTH ELEVATION



ASPHALT ROOF/DORMER INTERSECTION ON SOUTH ELEVATION



SOUTH ELEVATION ALONG SOLDIERS FIELD ROAD

**6** EXISTING CONDITIONS - PHOTO 6  
SCALE: NOT TO SCALE

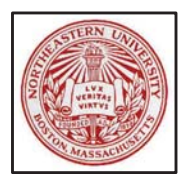
**5** EXISTING CONDITIONS - PHOTO 5  
SCALE: NOT TO SCALE

**4** EXISTING CONDITIONS - PHOTO 4  
SCALE: NOT TO SCALE


**3** EXISTING CONDITIONS - PHOTO 3  
SCALE: NOT TO SCALE

**2** EXISTING CONDITIONS - PHOTO 2  
SCALE: NOT TO SCALE

**1** EXISTING CONDITIONS - PHOTO 1  
SCALE: NOT TO SCALE



Northeastern University  
140 Cullins Hall  
360 Huntington Avenue  
Boston, MA 02115  
617-373-7611

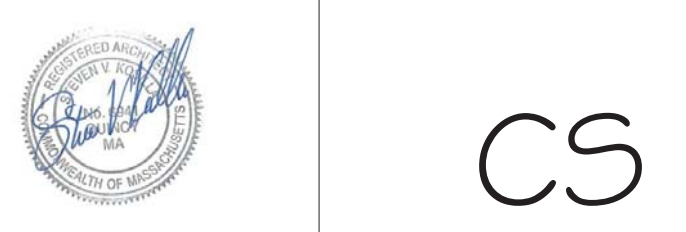


**BUILDING ENCLOSURE ASSOCIATES LLC**

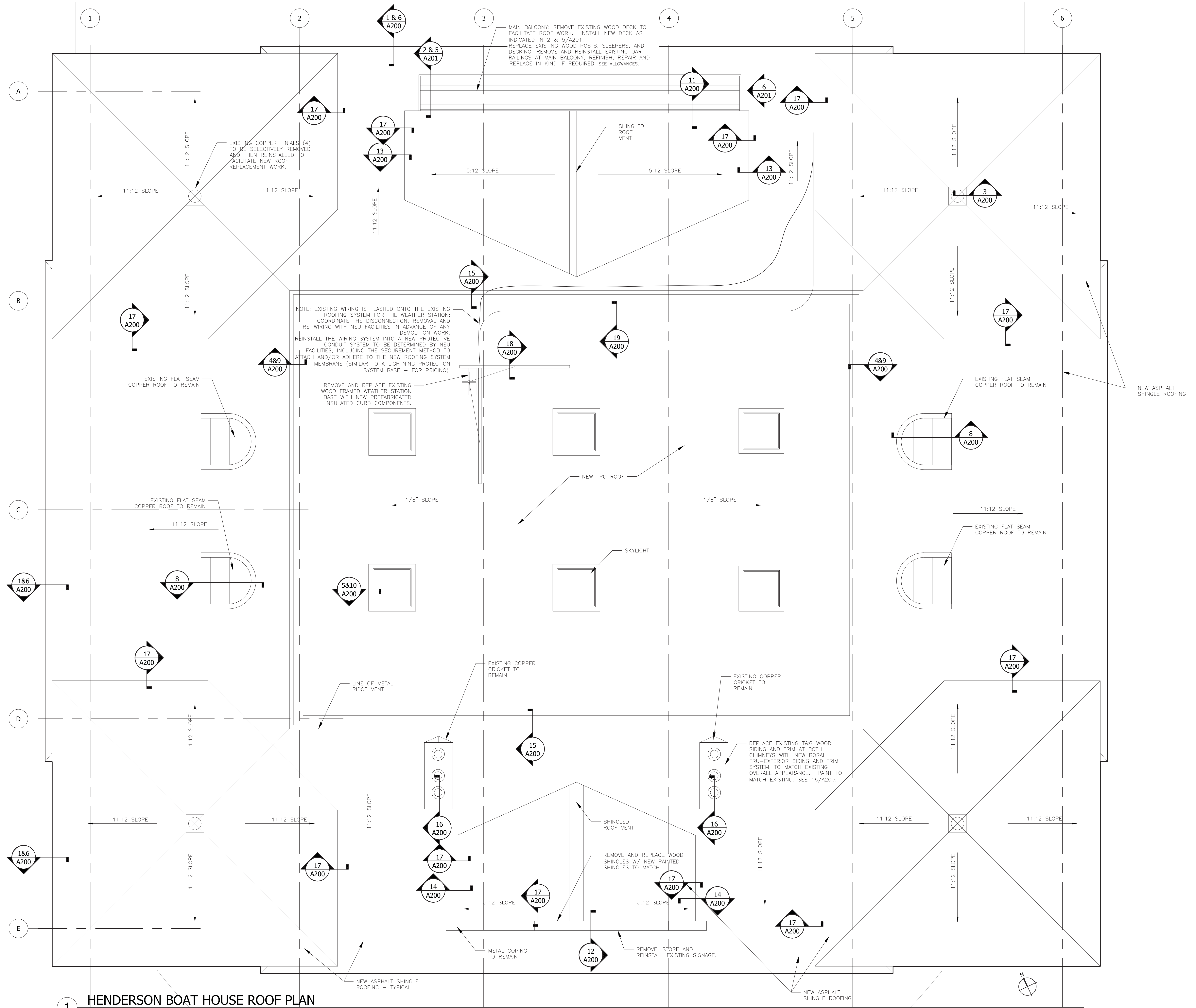
Charlestown Navy Yard  
31 Fifth Street  
Boston, Massachusetts 02129  
617-520-9555

**NORTHEASTERN UNIVERSITY - HENDERSON BOAT HOUSE**  
**ROOF REPLACEMENT**  
**COVER SHEET**

		Date Issued: 2018-01-02									
		Project Number: 31722									
		Drawing Scale: AS NOTED									
		Drawn By: -									
		Checked By: -									
		Approved by: -									
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No	Date	Description									







1 HENDERSON BOAT HOUSE ROOF PLAN

SCALE: 1/4"=1'-0"

NORTHEASTERN UNIVERSITY - HENDERSON BOAT HOUSE  
 ROOF REPLACEMENT  
 ROOF PLAN

No	Date	Description
1	2018-01-08	BID SET
2	2018-01-02	PERMIT

Date Issued:	2018-01-02
Project Number:	31722
Drawing Scale:	AS NOTED
Drawn By:	-
Checked By:	-
Approved by:	-



Northeastern University  
 140 Cullinane Hall  
 360 Huntington Avenue  
 Boston, MA 02115  
 617-373-7611



**BUILDING ENCLOSURE**  
 ASSOCIATES LLC

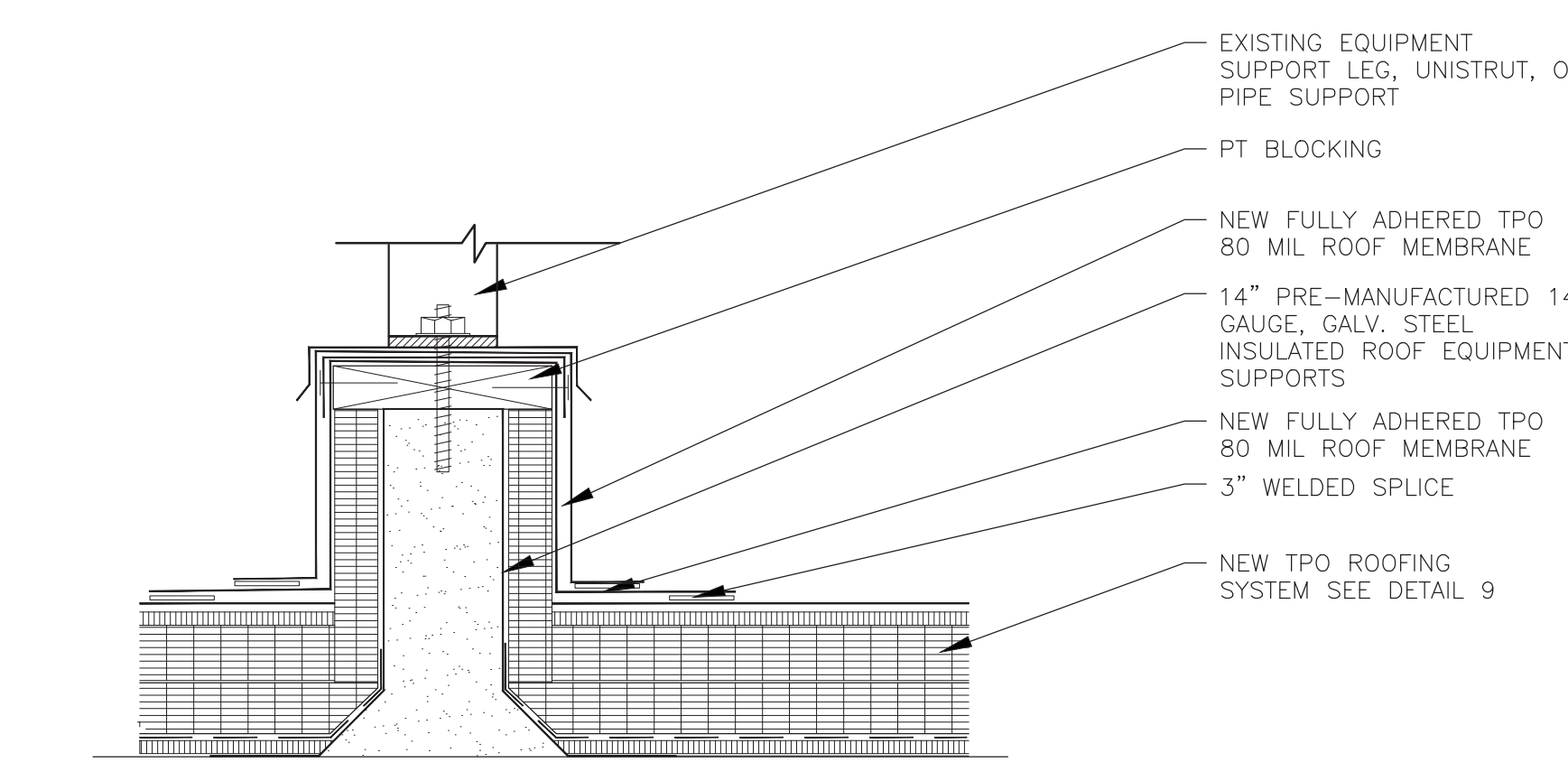
Charlestown Navy Yard  
 31 Fifth Street  
 Boston, Massachusetts 02129  
 617-520-9555



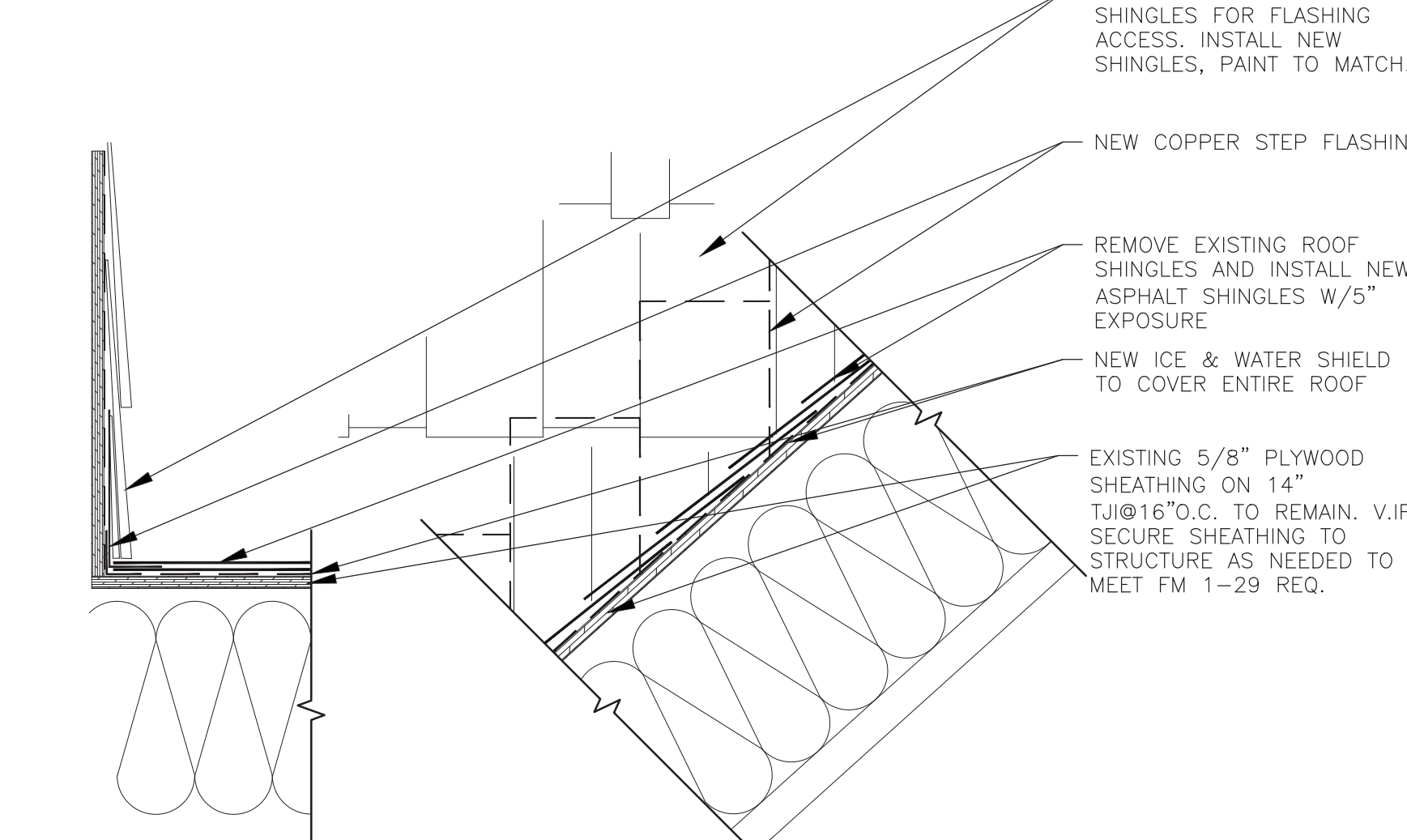
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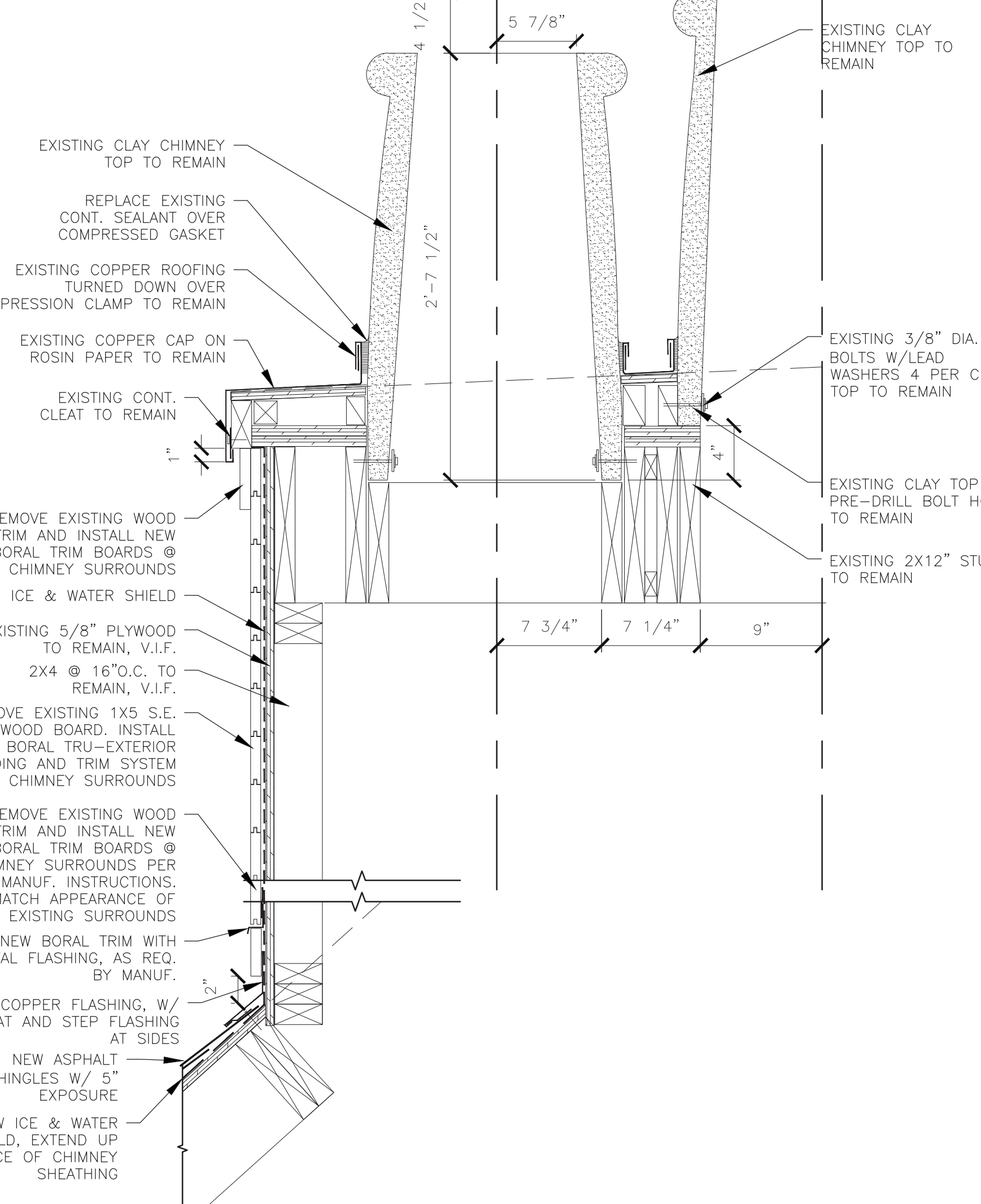
**19 ROOF DETAIL @ CABLE /CONDUIT HOLDER**  
NOT TO SCALE



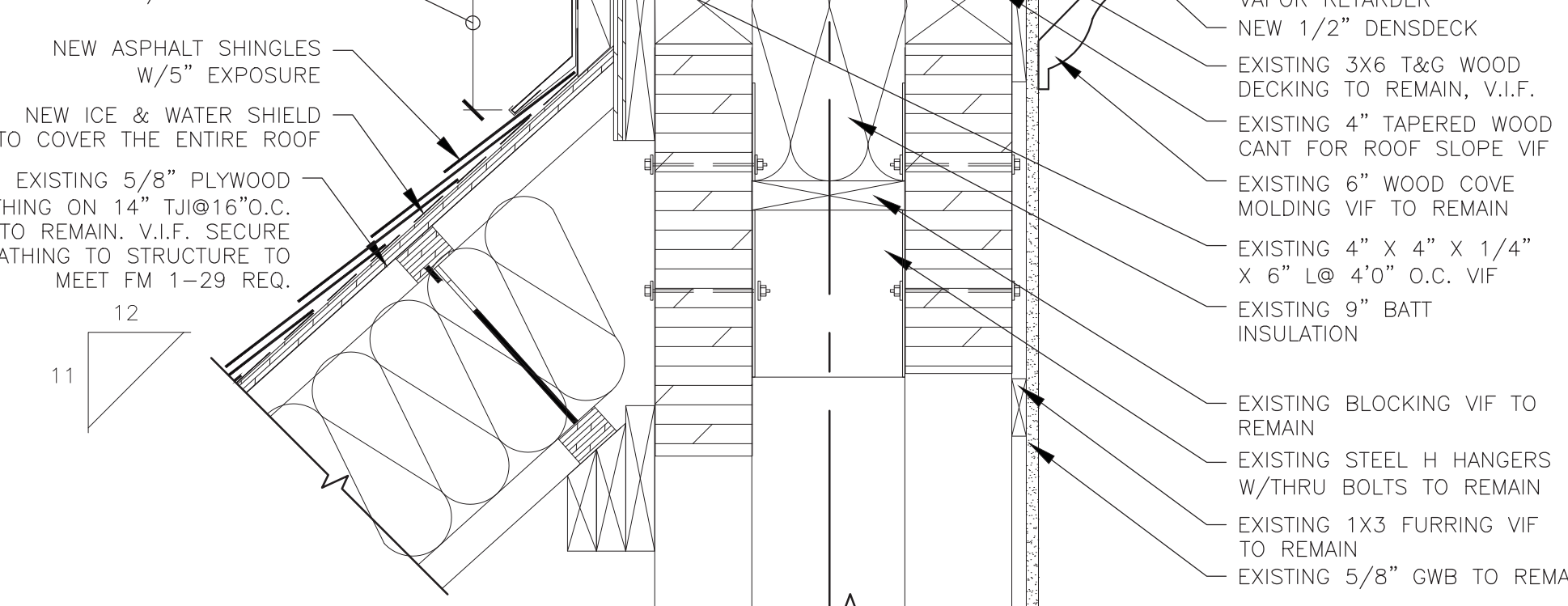
**18 NEW SLEEPER DETAIL**  
NOT TO SCALE



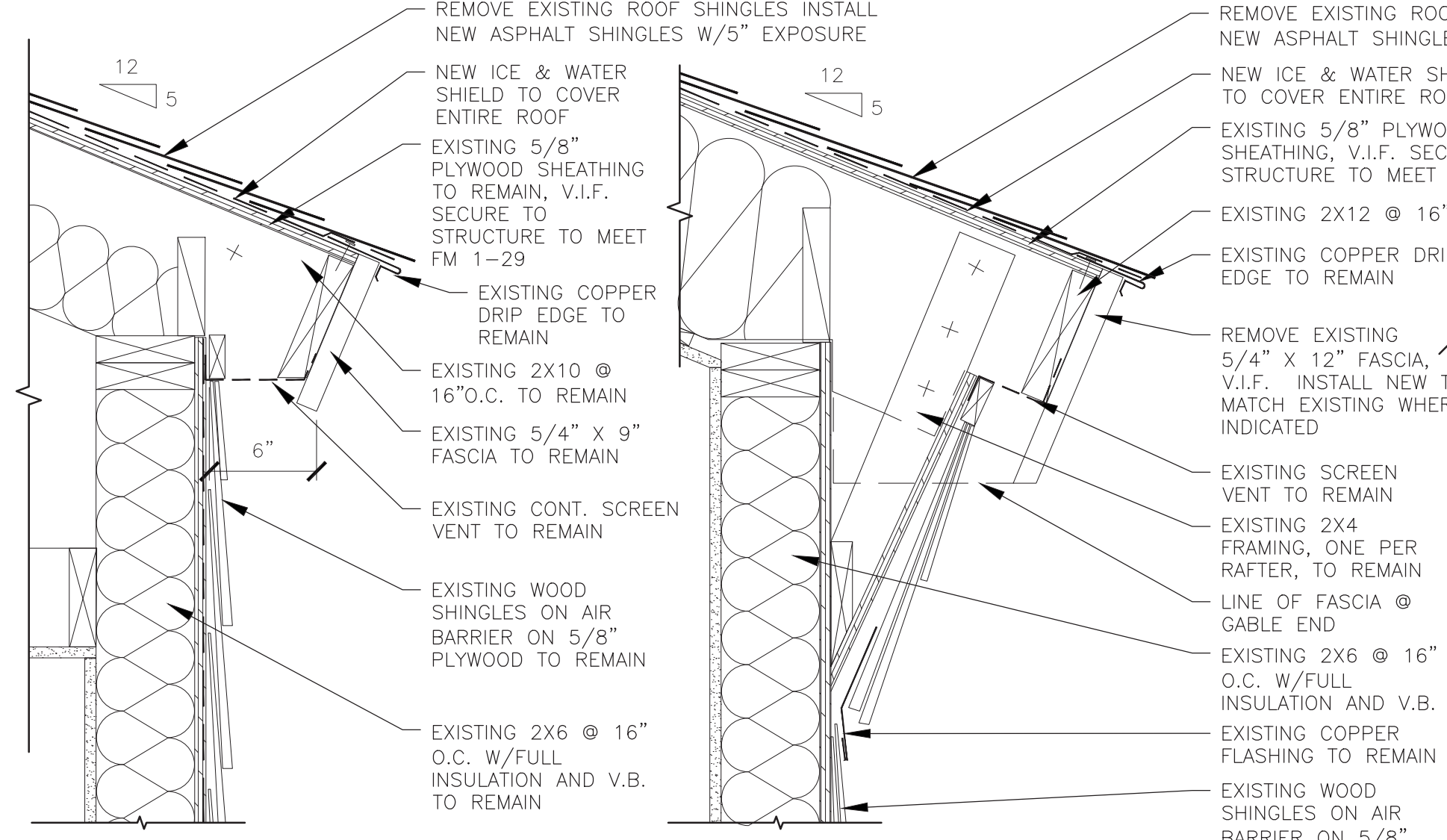
**17 DETAIL @ STEP FLASHING**  
SCALE: 1 1/2"=1'-0"



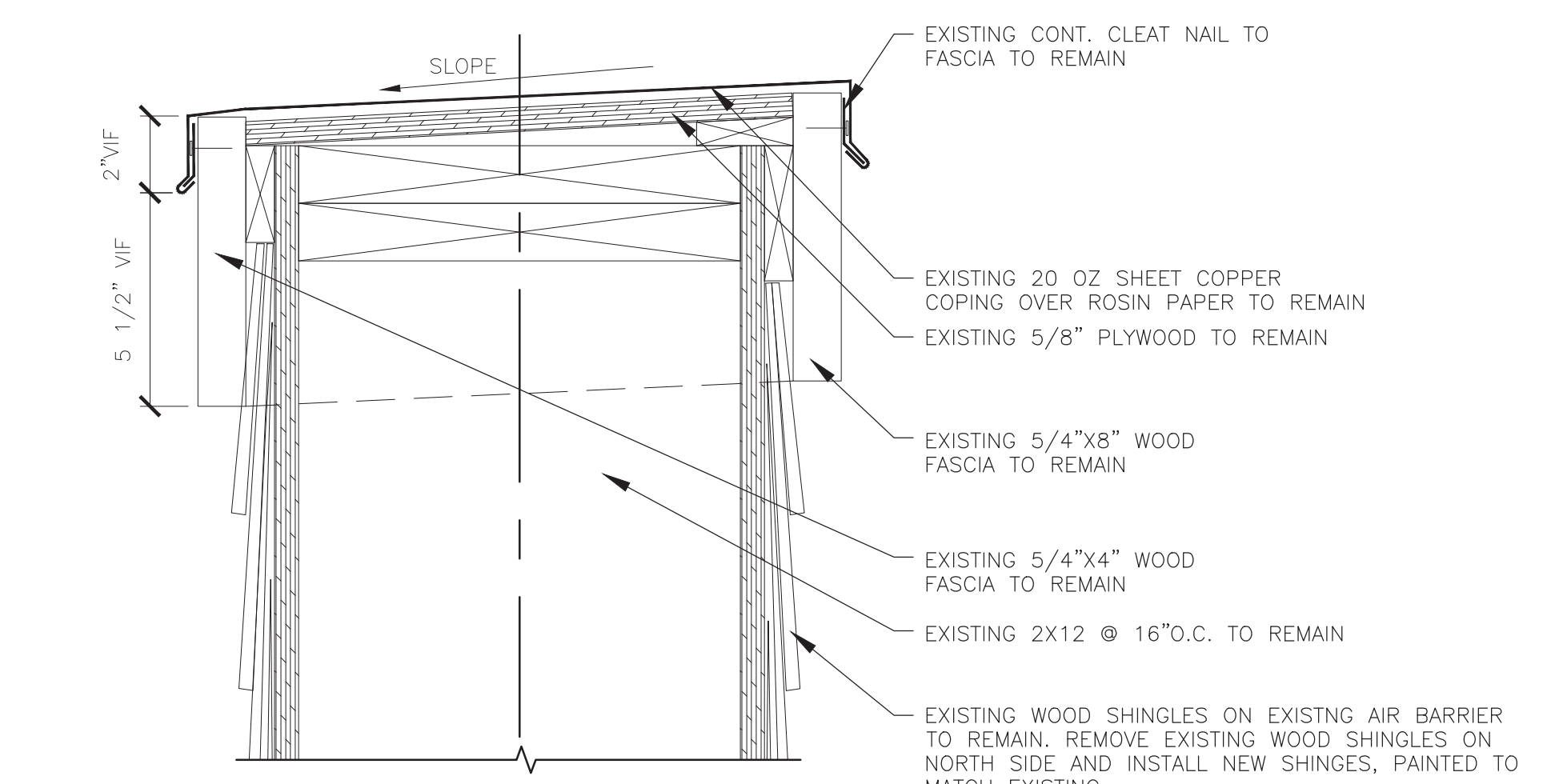
**16 DETAIL @ CHIMNEY TOPS - EXISTING/DEMO**  
SCALE: 1 1/2"=1'-0"



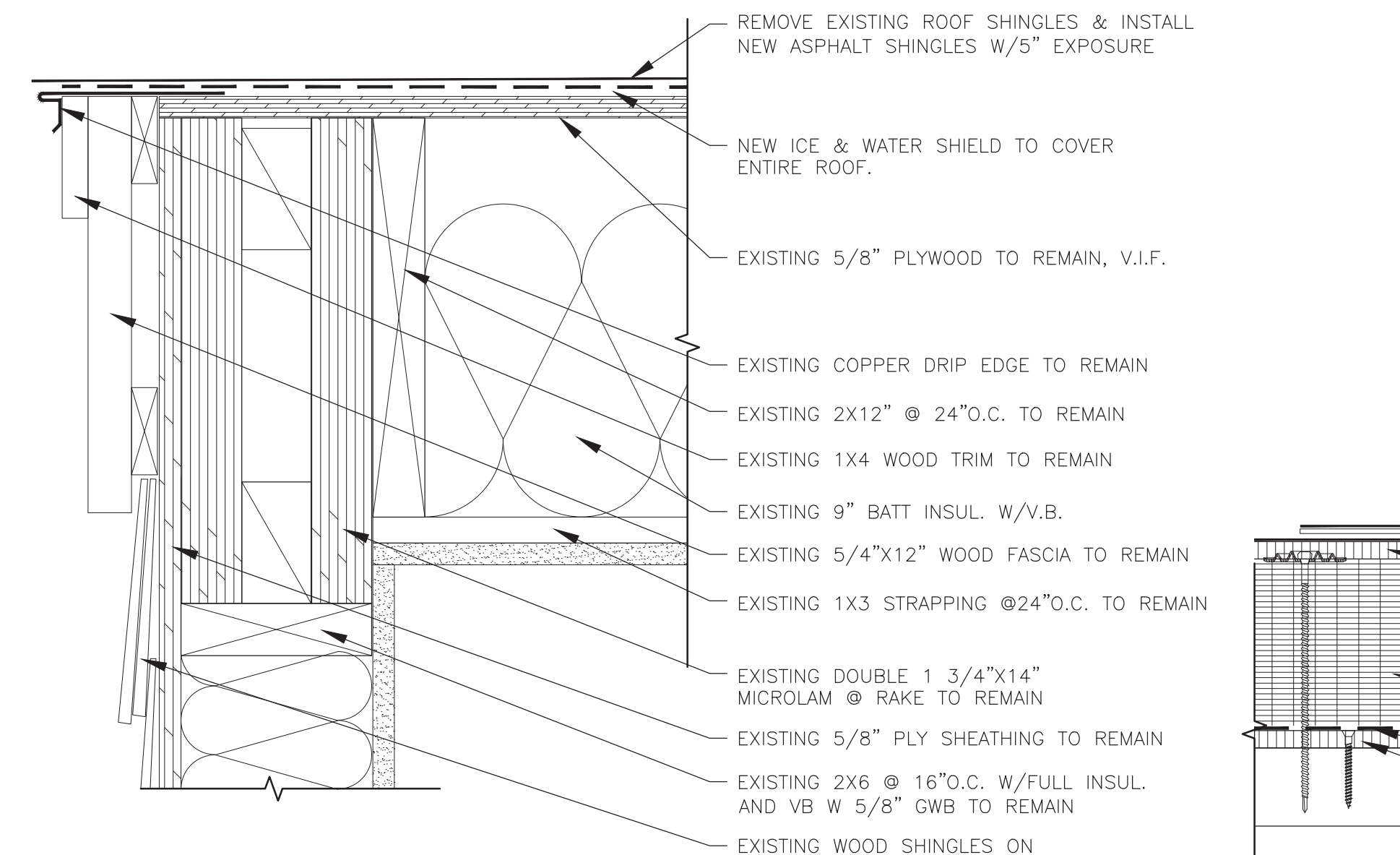
**15 ROOF EDGE DETAIL @ HIGH POINT - NEW**  
SCALE: 1 1/2"=1'-0"



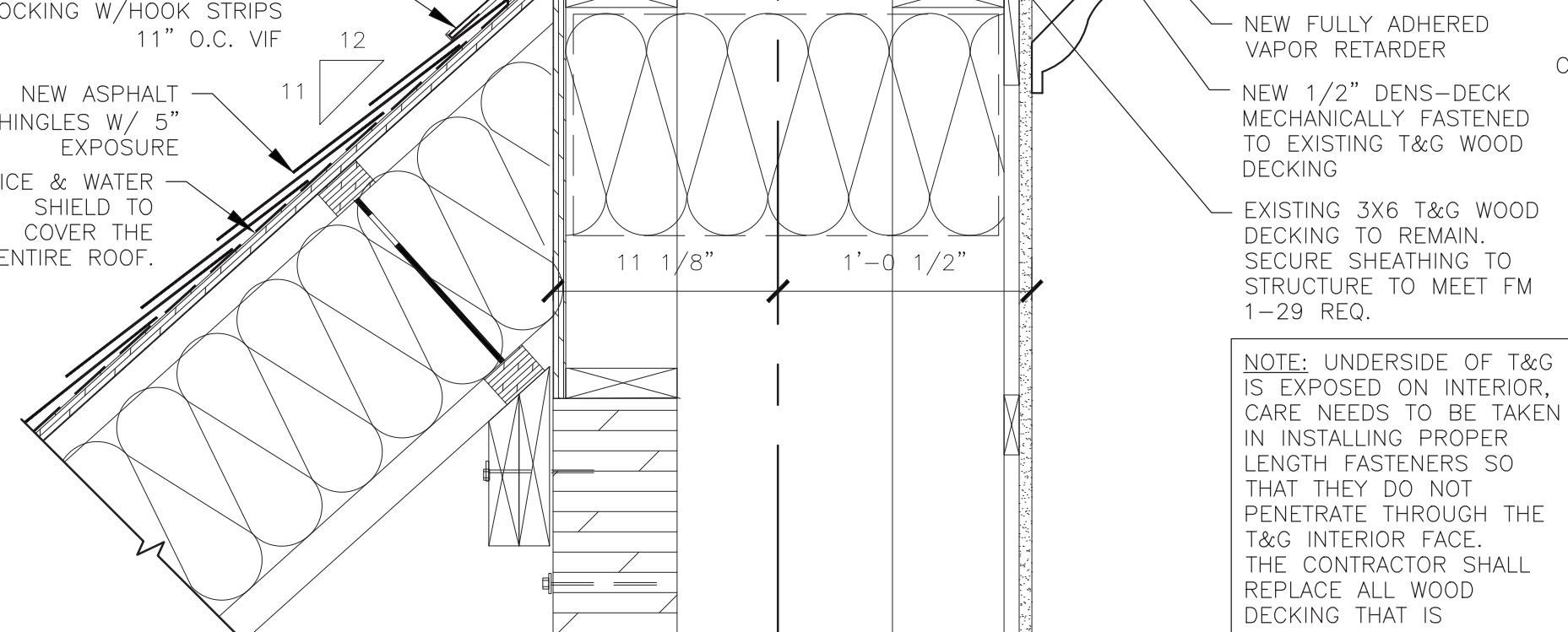
**14 ROOF EDGE DETAIL @ ROADSIDE**  
SCALE: 1 1/2"=1'-0"



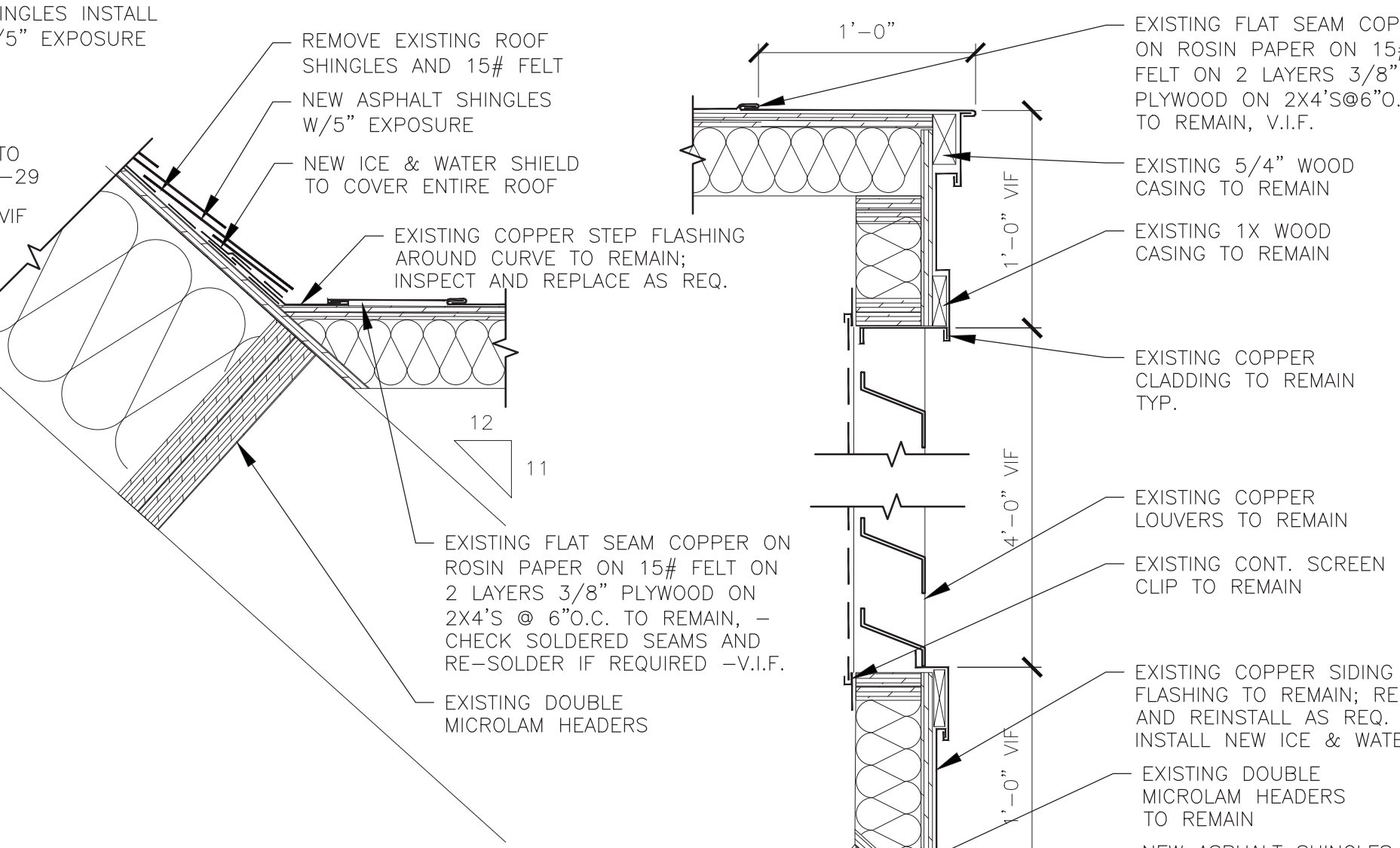
**12 PARAPET WALL @ ROADSIDE DORMER**  
SCALE: 3"=1'-0"



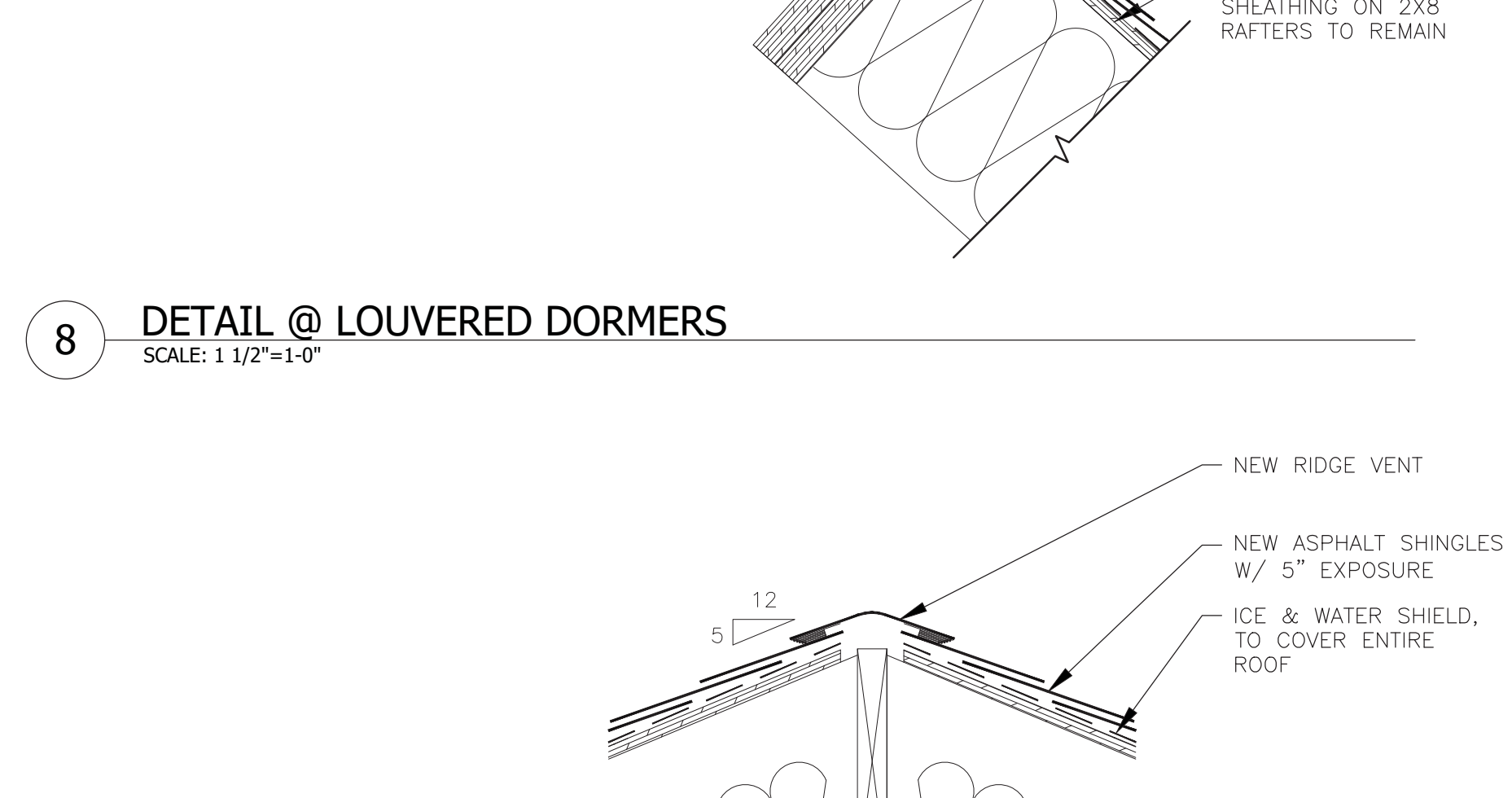
**11 RAKE EDGE @ RIVERSIDE DORMER**  
SCALE: 3"=1'-0"



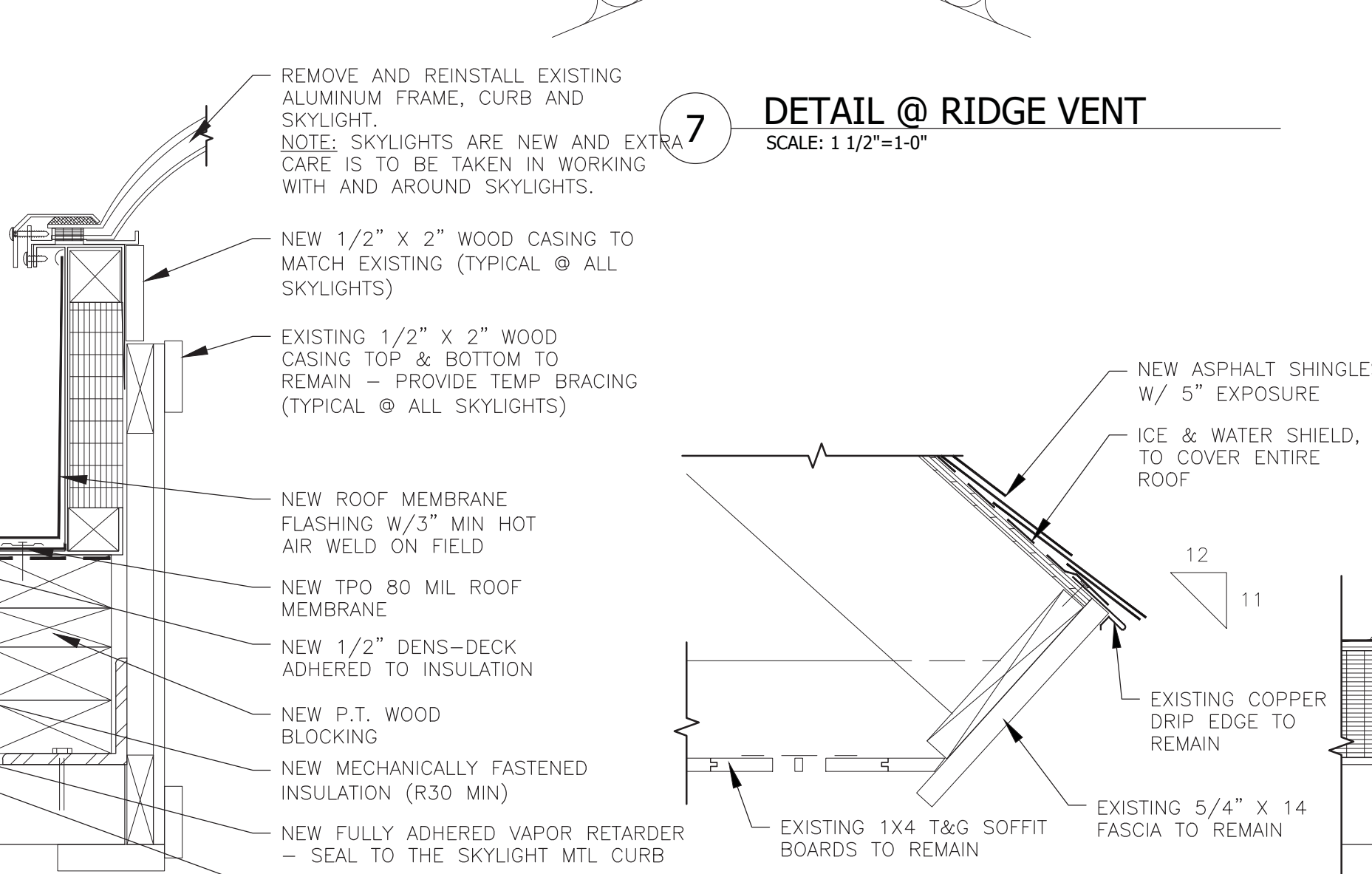
**9 ROOF EDGE DETAIL @ LOW POINT - NEW**  
SCALE: 1 1/2"=1'-0"



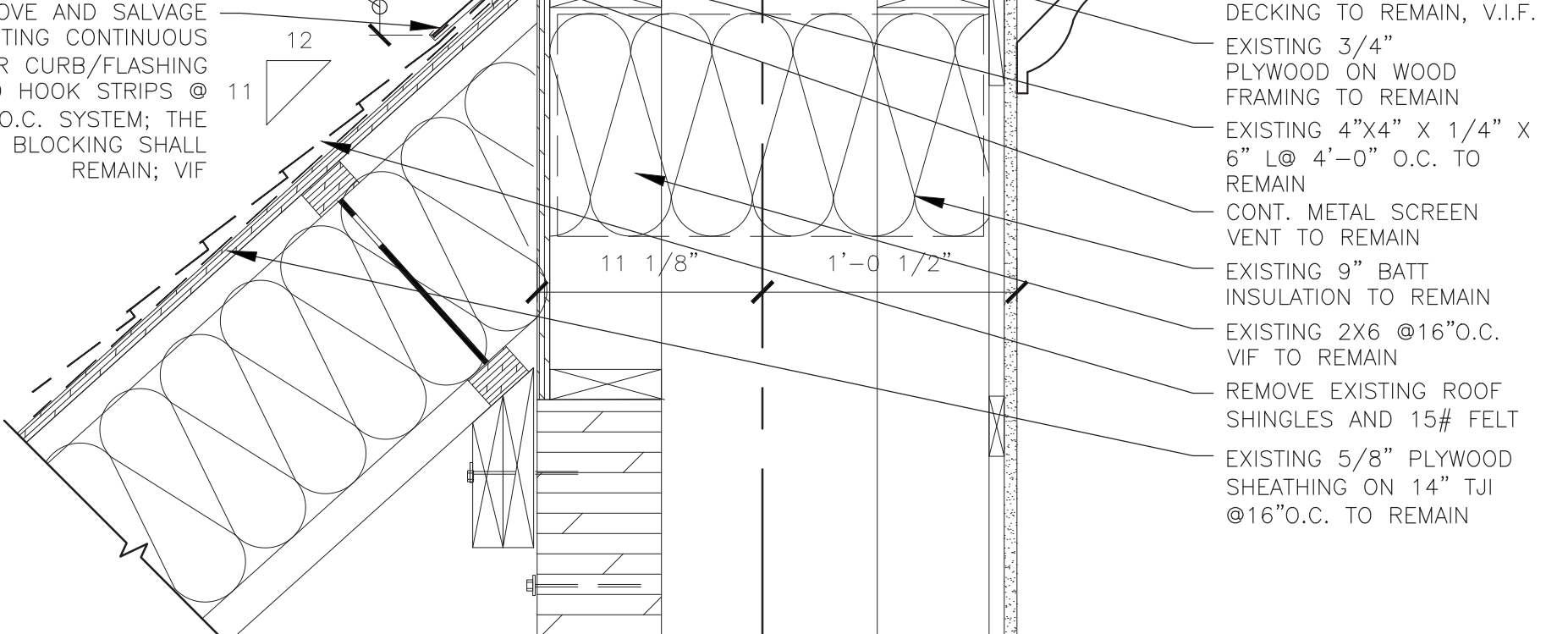
**8 DETAIL @ LOUVERED DORMERS**  
SCALE: 1 1/2"=1'-0"



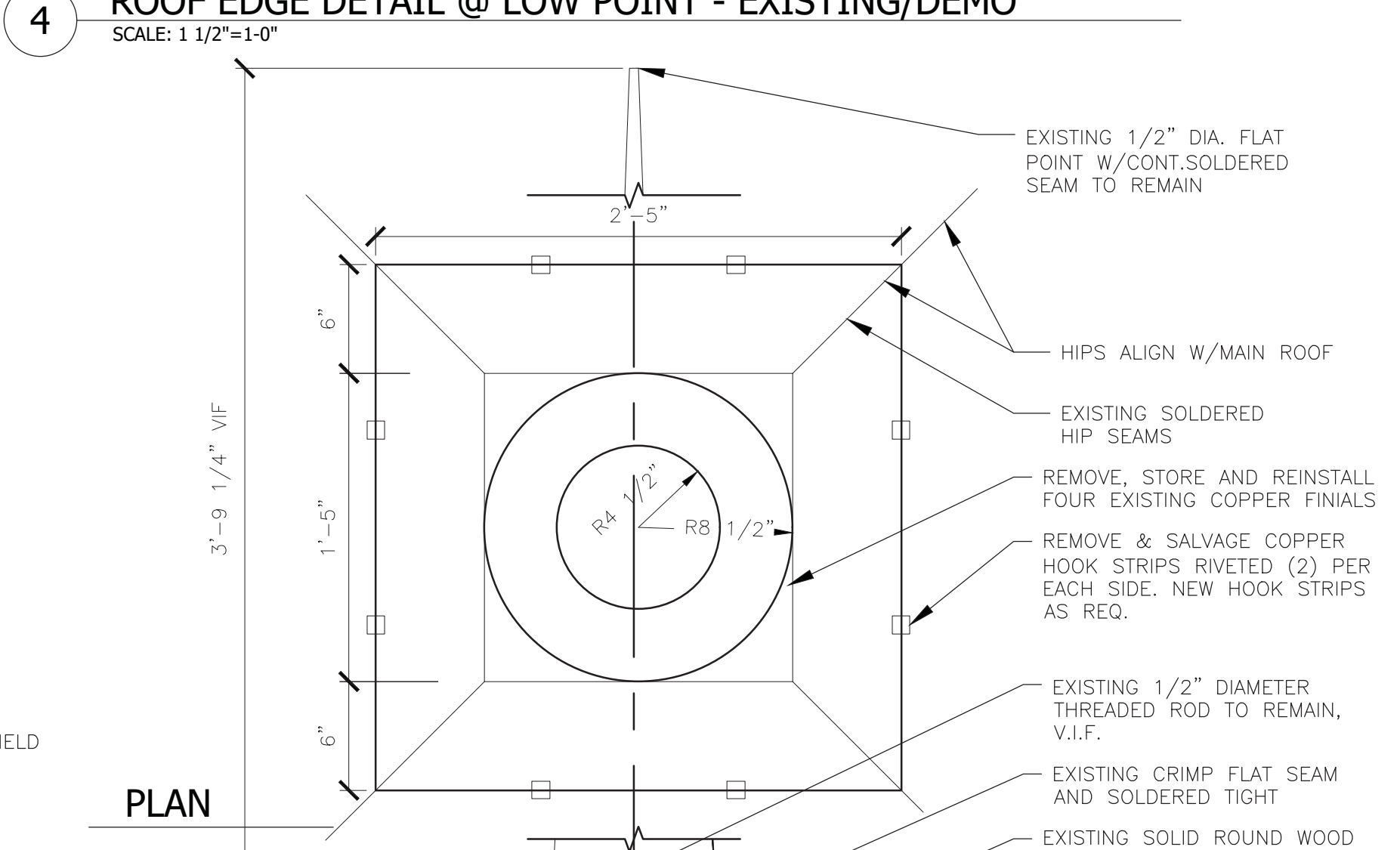
**7 DETAIL @ RIDGE VENT**  
SCALE: 1 1/2"=1'-0"



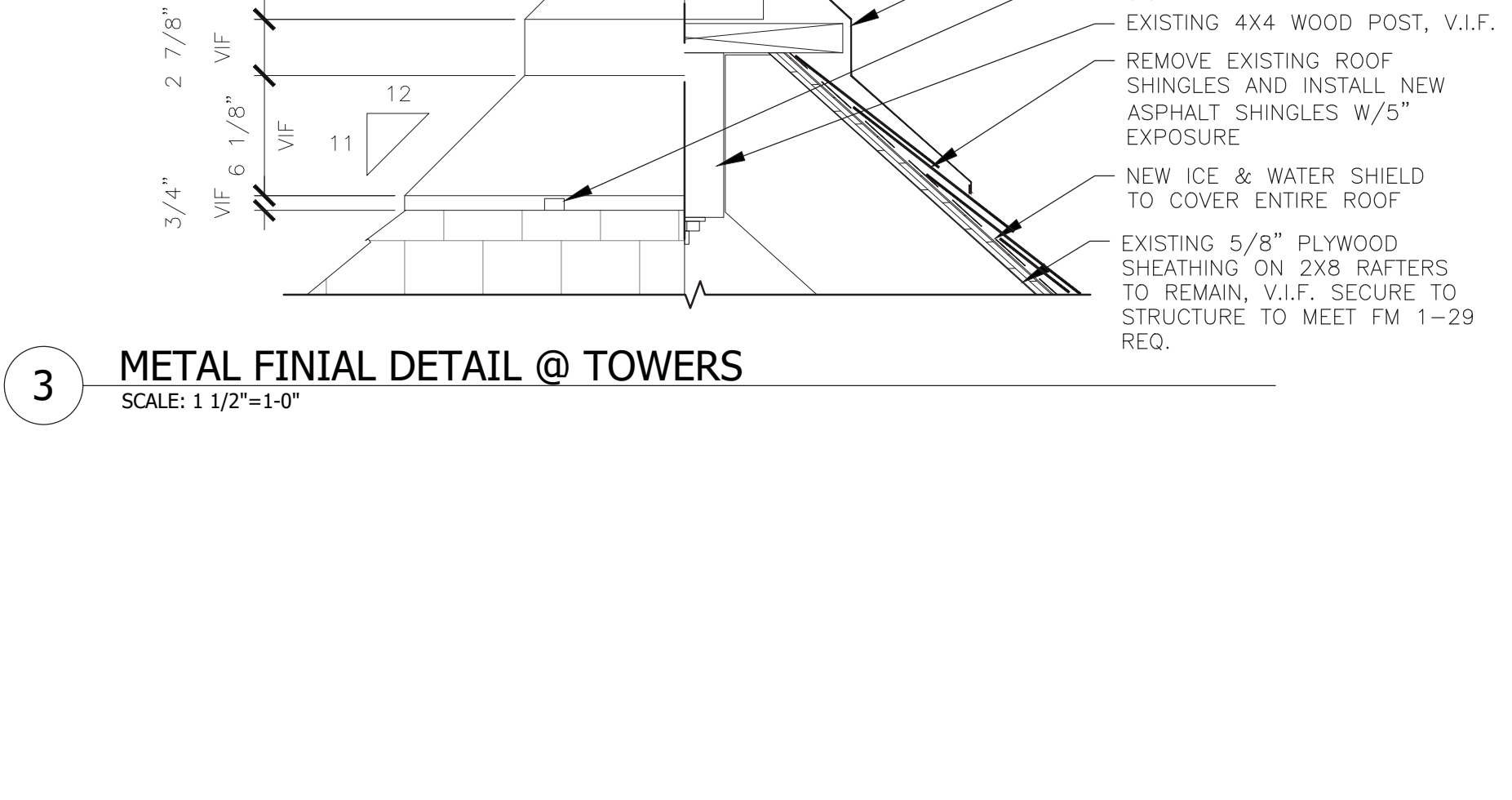
**10 SKYLIGHT CURB-NEW CONSTRUCTION**  
SCALE: 3"=1'-0"



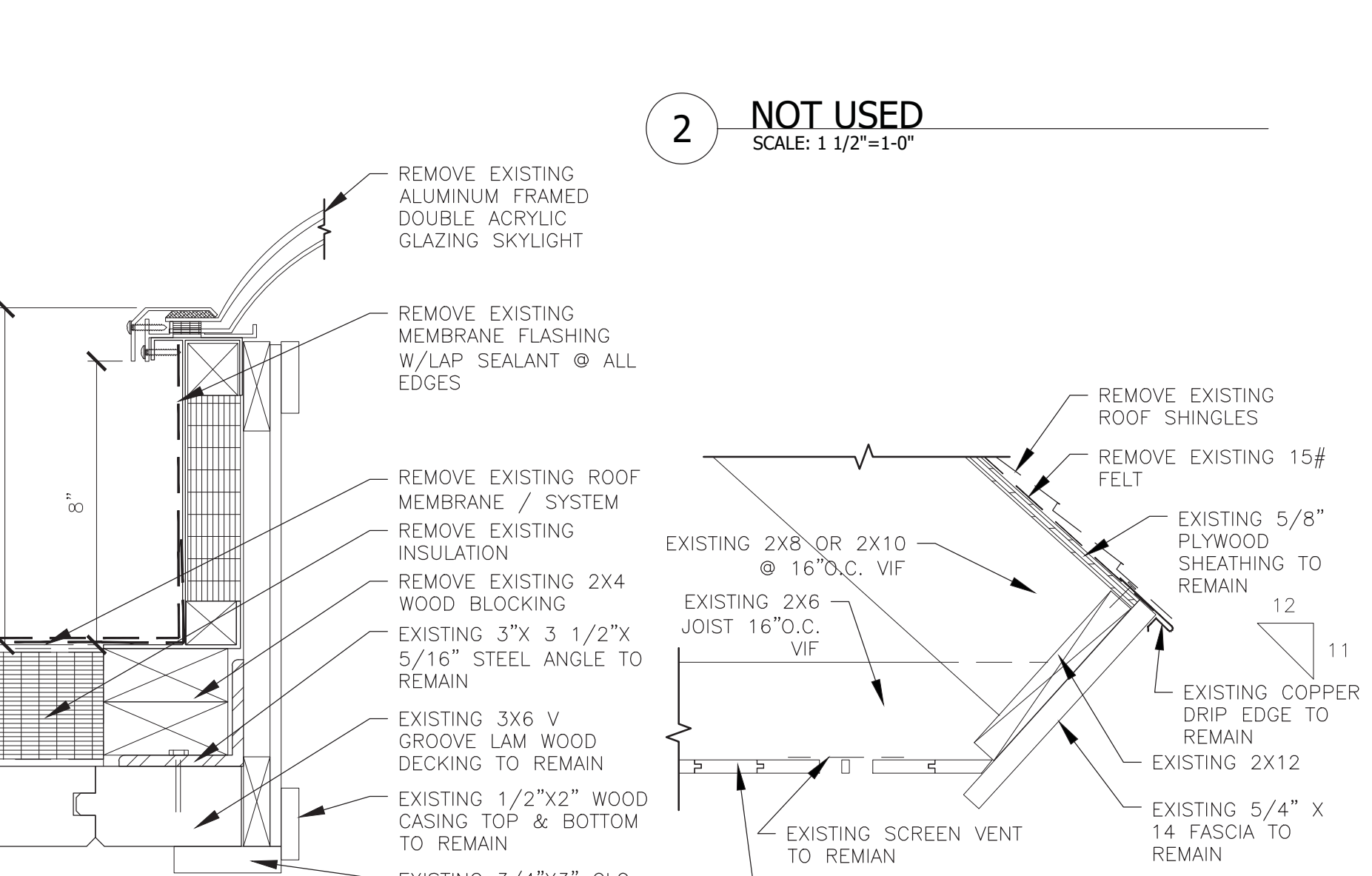
**4 ROOF EDGE DETAIL @ LOW POINT - EXISTING/DEMO**  
SCALE: 1 1/2"=1'-0"



**3 METAL FINIAL DETAIL @ TOWERS**  
SCALE: 1 1/2"=1'-0"



**1 SOFFIT EDGE DETAIL - EXISTING**  
SCALE: 1 1/2"=1'-0"



**5 SKYLIGHT CURB DETAIL-EXISTING**  
SCALE: 3"=1'-0"

**2 NOT USED**  
SCALE: 1 1/2"=1'-0"

**6 SOFFIT EDGE DETAIL - NEW CONSTRUCTION**  
SCALE: 1 1/2"=1'-0"

**1 SOFFIT EDGE DETAIL - EXISTING**  
SCALE: 1 1/2"=1'-0"

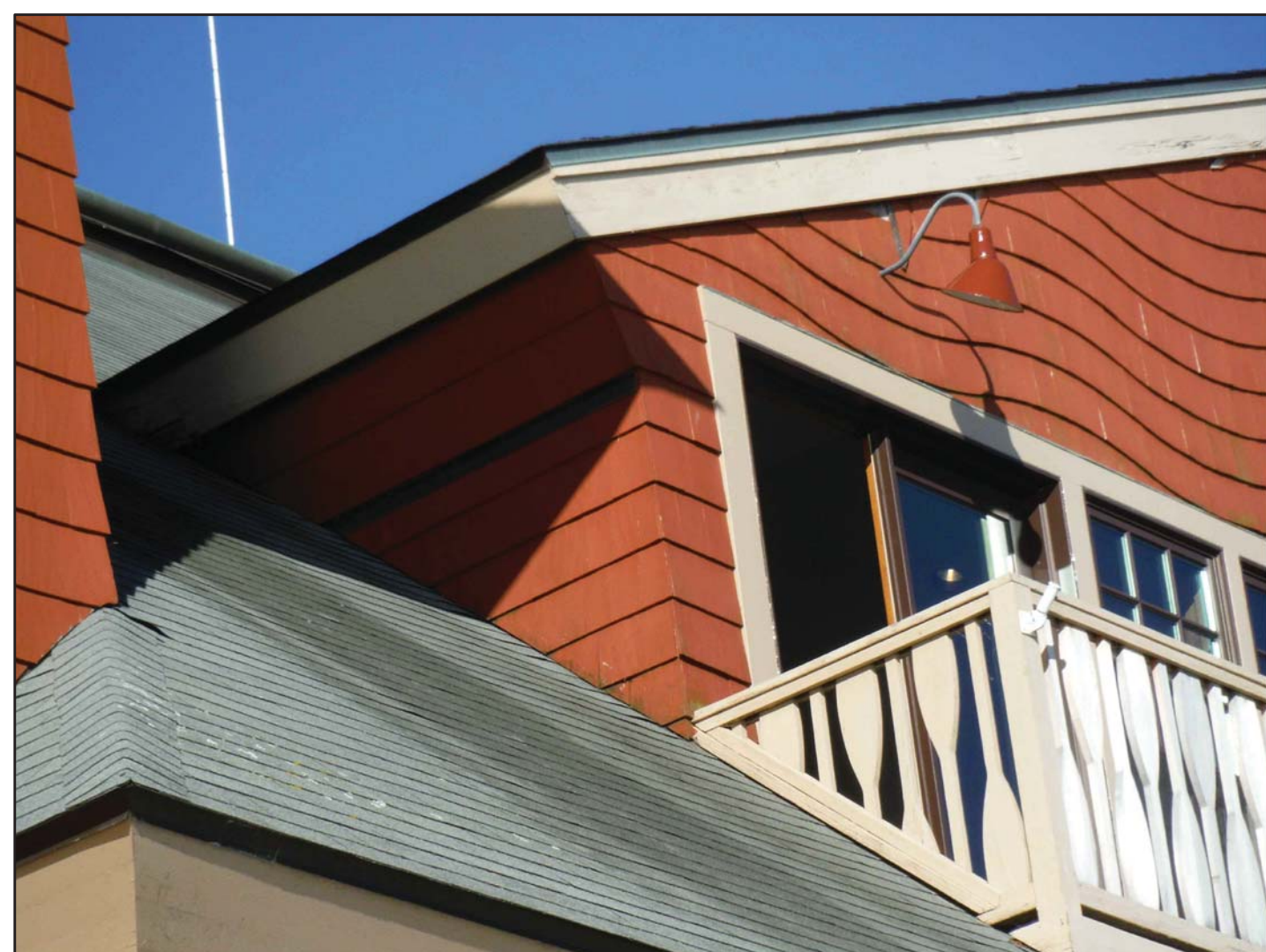




**A PHOTO A - PARTIAL NORTH ELEVATION**  
NOT TO SCALE



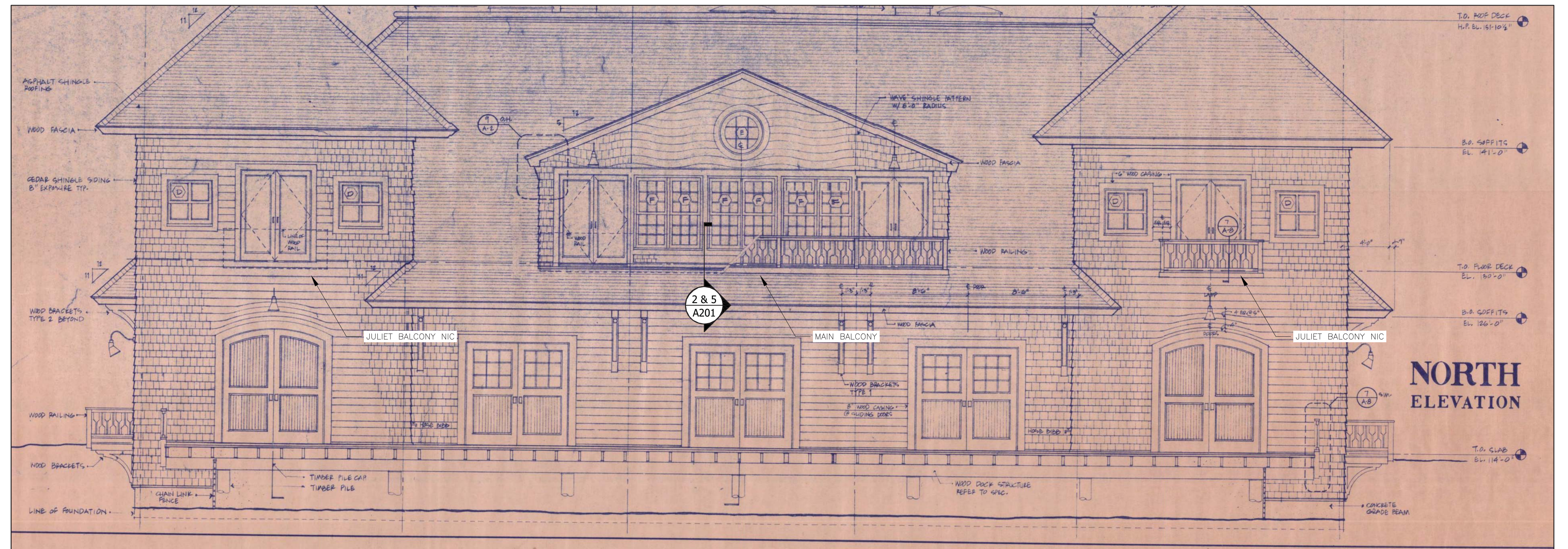
**B PHOTO B - JULIET BALCONY**  
NOT TO SCALE



**C PHOTO C - BALCONY**  
NOT TO SCALE

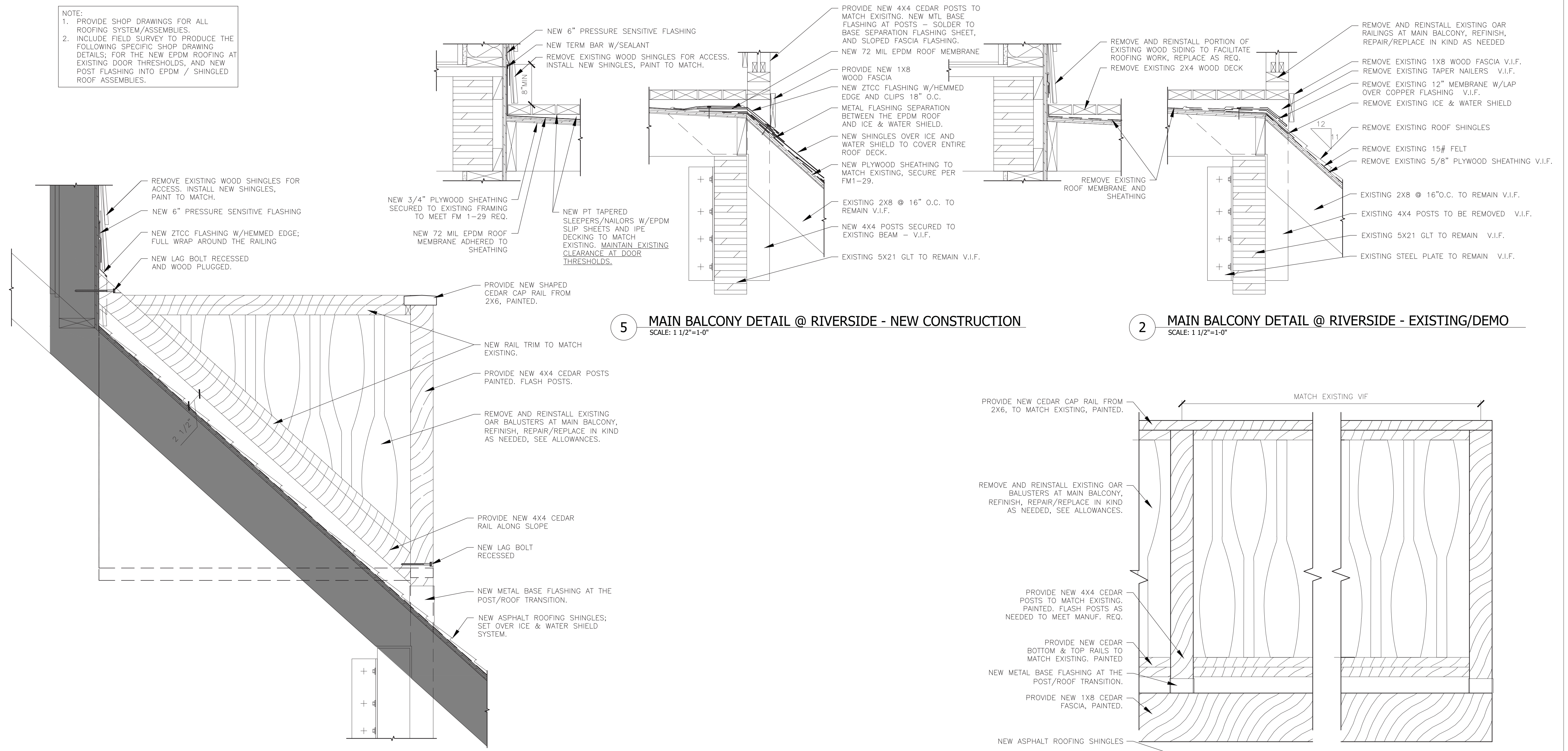


**D PHOTO D - EXISTING RAMP RAILINGS**  
NOT TO SCALE



**3 NORTH ELEVATION**  
NOT TO SCALE

NOTE:  
1. PROVIDE SHOP DRAWINGS FOR ALL ROOFING SYSTEM/ASSEMBLIES.  
2. INCLUDE FIELD SURVEY TO PRODUCE THE FOLLOWING SPECIFIC SHOP DRAWING DETAILS; FOR THE NEW EPDM ROOFING AT EXISTING DOOR THRESHOLDS, AND NEW POST FLASHING INTO EPDM / SHINGLED ROOF ASSEMBLIES.



**5 MAIN BALCONY DETAIL @ RIVERSIDE - NEW CONSTRUCTION**  
SCALE: 1 1/2"=1'-0"

**2 MAIN BALCONY DETAIL @ RIVERSIDE - EXISTING/DEMO**  
SCALE: 1 1/2"=1'-0"

**6 NEW RAILING MAIN BALCONY END ELEVATION**  
SCALE: 1 1/2"=1'-0"

**4 NOT USED**  
SCALE: 1 1/2"=1'-0"

**1 NEW RAILING ELEVATION**  
SCALE: 1 1/2"=1'-0"

