National Park Service
U.S. Department of the Interior

Vanderbilt Mansion National Historic Site
Hyde Park, New York

Vanderbilt Mansion National Historic Site Historic Structure Report

Volume VII: Appendix F - Record of Treatment Documents
Rehabilitate Failed Vanderbilt Mansion Roof: PMIS 14806

October 2018

(Cover) The west portico during restoration. JGWA, 2015.

VANDERBILT MANSION NATIONAL HISTORIC SITE

HISTORIC STRUCTURE REPORT

VOLUME VII

APPENDIX F - RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF
PMIS 14806

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The architects thank the many National Park Service representatives from the

ROOSEVELT-VANDERBILT NATIONAL HISTORIC SITES

and the

NORTHEAST REGIONAL OFFICE

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APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

PMIS Statement

Project Identification - PMIS 014806	
Project Title: Rehabilitate Failed Vanderbilt Mansion Roof	**Project Total Cost:** $1,976,987.27
Park/Unit: Vanderbilt Mansion National Historic Site	**Region:** Northeast
States: NY	**Congressional District:** NY20
Old Package Number: VAMAP99380005	**Reference Number:** VAMAP99380005
Project Type: Facility , Historic	**Financial System Package Number:** VAMA 014806
Contact Person: Henry Van Brookhoven	**Contact Phone:** 845-229-1524

Project Status - PMIS 014806	
Date Created: 06/26/98	**Review Status:** WASO-Reviewed on 03/06/2006
Date of Last Update: 02/02/07	**Updated By:** Henry Vanbrookhoven (Hvbvama)

Project Narratives - PMIS 014806

Description

This project involves the replacement of the failed 110-year old, 10,500 square foot, copper on masonry Vanderbilt Mansion roof. The work includes replacement of the copper roof, associated drains, counterflashing and flashing, and the failed mortar seals at the main girder support pockets, parapet, transverse and perimeter joints of the masonry roof deck.

API 85 FCI before: .105, after project: .092 Note that the Vanderbilt Mansion is a single asset with a very high CRV. As such, rehabilitation of the roof does not result in especially dramatic reduction in the FCI.

Justifications

The Vanderbilt Mansion is the primary historic structure of the Park and contains extremely ornate decorative finishes and collections. The Mansion was constructed in 1897 in the Beaux Arts style by renowned American architects McKim, Mead and White. The Mansion's original 10,500 sf copper roof began to sprout leaks in the 1980's. A secondary mastic/membrane roof was installed as a temporary measure in 1986 and has been aggressively maintained by the Park for the past two decades. In the past year, interior leaks have appeared in the third floor servant's wing, guest quarters, and Mr. and Mrs. Vanderbilt's bedroom as a result of failure of the vertical wall flashing and masonry surfaces. The rapidly growing leak area now threatens the Mansion's second-floor exhibit areas. Recent investigations by Park staff and independent A&E concluded that given the age of the original roofing materials and the temporary repairs, continued spot repairs of the roof are no longer feasible and ongoing damage of the roof deck structural system and interior finishes will accelerate. Additionally, new masonry wall failures, associated with exfoliating of components of the roof framing system, were identified. These failures have increased the potential for water infiltration directly into the wall masonry and are indicative of wider exterior and interior damage.

The roof is beyond any reasonable lifespan. The current estimate for the project is far beyond available Park operating funds, exceeds customary Repair-Rehab cost limits. This project is necessary to stop these damaging leaks and renew the service life of this key historic structure.

Measurable Results

A roof in good condition, protecting the primary resource of the park. The damage from water infiltration at this point will be stopped, protecting the priceless collections and decor.

DOI Categories of Facilities Maintenance and Construction Needs - PMIS 014806

Project Score/Ranking — FY08 and later: 700

Project Score/Ranking — FY07 and prior: NA

Deferred Maintenance Needs — FY08 and later

Critical Health and Safety Deferred Maintenance Need	0%
Critical Resource Protection Deferred Maintenance Need	100%
Critical Mission Deferred Maintenance Need	0%
Other Deferred Maintenance Need	0%

Capital Improvement Needs — FY08 and later

Critical Health and Safety Capital Improvement Need	0%
Critical Resource Protection Capital Improvement Need	0%
Energy Policy, High Performance Sustainable Building Capital Improvement Need	0%
Code Compliance Capital Improvement Need	0%
Other Capital Improvement Need	0%

Project Activities, Assets, Emphasis Areas and GPRA Goals - PMIS 014806

Activities

- Reconstruction

Assets [Primary - Buildings]

- Building
- Historic Structure

Emphasis Areas

- Deferred Maintenance

GPRA Goals and Percent Values

- LCS listed Historic Structures, 100%

Project Prioritization Information - PMIS 014806

Unit Priority: 44 **IN FY** 2007

Unit Priority Band: MEDIUM

Project Funding Component - PMIS 14806A

Funding Component Title: Rehabilitate Failed Vanderbilt Mansion Roof

Funding Component Request Amount: $1,976,987.27

Funding Component Reference Number (Multi-purpose):	**Funding Component Type:** Non-recurring , Deferred
Funding Component Description: Repair 10,500 sf copper roof constructed in 1897 to stem water infiltration which has already destroyed historic fabric and continues to threaten structure, finishes, collections and exhibits of this key character-defining resource of the Park.	
Initial Planned FY: 2003	**Requested Funding FY:** 2008
Review Status: WASO-reviewed on 03/06/2006	**Funded Amount:**
Date of Park Submission: 01/28/2005	**Submitted By:** Beth Lowthian (Blowth3)
Upper-level Review Status:	**Fee-demo Submission Number:**
Formulated FY: 2009	**Funded FY:**
Formulated Program: 5 Year Plan	**Funded PWE Accounts:**
Formulated Funding Source: Line Item Construction	**Funded Funding Source:**

Component Cost Estimates	**Related Parent FMSS Work Order Number:** 263177
Estimated By: A/E - Eyp	**Date of Estimate:** 01/26/2006
Estimate in 2006 **dollars**	**Class of Estimate:** D

Item	Description	Qty	Unit	Unit Cost	Item Cost
Scaffold System	Install scaffolding to access the perimeter of the roof deck, building is approximately 50‘ wide X 200‘ long X 68‘ high.	1	Each	$57,790.00	$57,790.00
Demolition	Demolition of approximately 10,500sf each of 1 membrane, 2 asphalt and 1 copper roof, 1000+lf of flashing, 1000+lf of counterflashing and over eight built-in drains. Dust control, removal of rubbish and temporary roof/drain system.	1	Lump	$187,734.00	$187,734.00
New copper roof and flashing	Approximately 10,500sf of deck insulation and capped seam	1	Lump	$663,828.00	$663,828.00

	copper roof deck, 2000 lf of flashing and counterflashing; and eight built in copper drains.				
Repointing/recaulking roof area	Repointing approximately 6000 lf of mortar joints around and transverse of the roof deck perimeter and recaulking approximately 6000lf of transverse roof deck area joints.	1	Lump	$62,260.00	$62,260.00
General Conditions - 15%		1	Lump	$153,024.00	$153,024.00
Overhead and Profit - 20%		1	Lump	$204,032.00	$204,032.00
Roof Framing Repairs		1	Lump	$48,550.00	$48,550.00
Design Contingency @ 11%		1	Lump	$112,218.00	$112,218.00
				Net Construction Estimate	**$1,489,436.00**

Escalation Adjustments

Item	Description	Item Cost
Escalation 4% per year		$185,976.94
	Net Construction Estimate (Escalated)	**$1,675,412.94**

Grossing Adjustments

Item	Description	Item Cost
Grossing for Construction Management 8%		$134,033.03
Grossing for Contingency Reserve 10%		$167,541.29
	Component Funding Request (gross construction)	**$1,976,987.27**

Eligible Funding Sources and Funding Priorities

Funding Source	Unit Priority at Formulation	Regional Priority	National Priority	Year Unit-Prioritized
Cultural Cyclic Maintenance	47			2006
Line Item Construction	47			2006
Repair / Rehabilitation	47			2006

Line Item Construction CBA Factors - PMIS 14806A [Total Importance of Advantages: 800] [Advantage to Cost Ratio: 4.04656121988]

API value [1 - 100]: *85*
Current Average FCI value of all assets: *0.105*
Projected Average FCI value of all assets: *0.092*
Current Annual Operating Cost: *0*
Projected Annual Operating Cost: *0*

Factor: Provide Safe Visits and Working Conditions
[Importance of Advantage score: 0]

Description of Current Conditions/Deficiencies

1. What basic facilities and services (such as comfort stations, shelter, orientation/safety information, and safe access) are currently available in the park and/or sub-area affected by the project?

This project involves the core historic structure; which is, the primary visitor destination of the park.

2. What is the existing situation with respect to public health, safety, and welfare, especially for park visitors? How many visitors or other members of the public are affected by the existing situation? What would be the result for park visitors and other members of the public if this project were not completed?

All 380,000 visitors per year are affected by the project. If the project is not carried out soon, the roof leaks will cause extensive damage to the primary visitor exhibit areas.

3. What are the specific risks to the public health and/or safety? What is the probability, immediacy, and/or timeframe associated with these risks? What would result if the risk were not eliminated? How serious and extensive would the effects be?

There is little direct risk to public safety. Primary risk is to cultural resource.

4. What basic administrative facilities (such as restrooms, shelter, efficient workspace, and safe access) are currently available in the park and/or sub-area affected by the project?

Portions of the structure are used as offices and support areas.

5. What is the existing situation with respect to employee health, safety, and welfare? How many employees are affected by the existing situation? What would be the result for them if this project were not funded?

There are no immediate problems with employee health and safety. Currently, staff need to enter areas filled with unanalyzed dust and mold to empty catch basins and some threat of falling ceiling material in the third floor. The continuing failure of the roof system would potentially expose the curatorial and interpretive staff of the park to hazardous dust and mold from deteriorated portions of the interior.

6. What are the specific risks to employee health and/or safety? What are the probability, immediacy, and/or timeframe associated with these risks? What would result if the risks were not eliminated? How serious and extensive would the effects be?

See above.

7. Upon what information or authority have these predictions been made?

The Park Facility Manager and independent report from A&E, Einhorn, Prescott and Yaffee.

8. What citations, court orders or other legal direction has the park received based on violation of regulations, codes or other legal standards of health, safety?

N/A

Project advantages in protecting public health, safety, and welfare

9. How will the proposed project provide basic visitor facilities and services and/or allow the park to meet established standards of health, safety, and welfare? How many visitors or other members of the public would be effected?

The project will permit the Park to continue to provide visitor services at the core historic structure of the Park.

10. What alternatives have been considered to address these issues without construction (such as closing a given park area), outside the park, or through a non-NPS source (such as another public agency or commercial facility)?

There are no alternatives to preservation of our core resource other than transfer to ownership or abandonment.

Project advantages in protecting employee health, safety, and welfare

11. How will the proposed project provide basic administrative facilities and/or allow the park to meet established standards of health, safety, and welfare? How many employees would be effected?

See above.

12. What alternatives have been considered to provide comparable facilities and services without construction, outside the park, or through a non-NPS source (such as rental housing or another public agency or commercial facility)?

There are no alternatives.

Factor: Protect Natural and Cultural Resources
[Importance of Advantage Score: 800]

Description of Resources

13. What is (are) the nature, extent, quantity, and complexity of the resource(s) (e.g., specific species, watershed, ecosystem, archeological resources, cultural landscape, historic structures, museum objects, ethnographic resources, etc.)?

The Vanderbilt Mansion is the core historic structure of the Vanderbilt Mansion National Historic Site.

The Mansion contains extremely ornate finishes, furnishings, collections and exhibits.

14. What is the significance (local, state, regional, national) of the resource(s), including any special designation(s) (e.g., wilderness, World Heritage site, National Natural Landmark, Biosphere Reserve, federally listed threatened or endangered species, National Historic Landmark, listed on National Register of Historic Places, etc.)?

The Vanderbilt Mansion is of national significance and is listed on the National Register.

15. How is (are) the resource(s) comparable to others in the region or National Park System either ecologically or in cultural associations?

This resource is unique in the National Park Service inventory.

16. What policy or legal mandates or park goals for resources management are related to the resource(s)?

NPS 28, Vanderbilt Mansion Master and Management Plans.

Project advantages in preventing the loss of resources (e.g., stabilization)

17. What is the specific threat to the resource(s)?

The 109+ year old roof is leaking and in need of replacement. Water intrusion has already caused extensive 3rd floor ceiling and wall damage (including damage to silk wallpaper) and threatens exhibits housed on the 2nd floor.

18. What will result if the threat is not eliminated?

Water infiltration is causing extensive, and in some cases irreparable, damage to the structure, collections and fragile historic decor. Current damage to decor exceeds the estimated cost of a new roof deck.

19. What is the immediacy or timeframe of the threat?

Present and ongoing. Sudden failure of the masonry joints around the roof deck and supporting girders in 2005, have increased infiltration; and therefore, potential damage, fivefold.

20. What is the probability that the resource(s) will be lost?

Certain without critical roof repair.

21. Upon what information or authority have these predictions been made?

The Park facility manager, NER-BCB and A&E (EYP).

22. How will the proposed project reduce or eliminate the threat?

A new roof will eliminate the damaging water infiltration into the building and eliminate threat to decor, furnishings, objects, collections and exhibits.

Project Advantages in maintaining or improving the condition of resources

23. What is the current condition of the resource(s)?

Fair condition (overall condition of Mansion - single asset). Roof (109+ years) is beyond any reasonable lifespan (poor condition).

24 How will the proposed project affect the condition of the resource(s) (e.g., species or ecosystem restoration, disturbed land restoration and revegetation, preservation of an archeological resource, rehabilitation or restoration of a historic structure, or conservation of a museum object -- including preventative conservation provided by a museum collection storage facility)?

It will stop most of the infiltration that is currently the chief source of damage to the structure.

Factor: Improve Visitor Enjoyment Through Better Service and Educational and Recreational Opportunities
[Importance of Advantage Score: 0]

Description of Current Visitor Experience

25. What is (are) the nature, extent, and complexity of the current visitor (e.g., park and/or subarea visitation -- annual total as well as average peak-season day, type and nature of access to park and/or subarea, available park facilities and services, available educational and recreational opportunities, type and nature of visitor activities, availability of alternative facilities and services outside the park, etc.)?

Annual visitation to the park is approximately 380,000 with a peak daytime average around 1,200.

26. What is the current situation regarding visitor facilities (e.g. condition and functional adequacy, current use vs. capacity, long-term sustainability of use, etc.)?

The resource is in fair condition but currently functionally adequate. Long term sustainability is not possible without a tight roof.

27. What is the current situation regarding visitor experience(s) of the park and/or subarea affected by the project (e.g., available services and opportunities vs. park goals, visitor satisfaction with services and opportunities, etc.)?

Visitors have commented upon and question the internal condition as a result of leaks.

28. What is the significance of the visitor experience? How does it compare to others in the region or national park service?

The experience is unique in the National Park Service.

29. How is visitor use expected to change without the project (e.g., projected visitation, new use trends or activities, etc.)? Upon what information or authority have these predictions been made?

There will probably be reduced access in areas where water infiltration causes active loss of interior structure or significant dust and mold problems.

30.What policies, legal mandates, and/or park goals for visitor enjoyment are related to the proposal (e.g., approved plans, agreements with other entities, environmental deficiencies, code violations, regulatory actions, court orders, etc.)?

N/A

Project advantages in improving visitor services and educational and recreational opportunities

31. How will the proposed project change the condition of facilities and/or the visitor experience(s) of the park and/or subarea -- upon completion and in the future (e.g., the type, quality, and availability of services or educational/recreational opportunities; current and projected visitation -- capacity, use patterns, and activities; deficiencies

or visitor satisfaction; access to the park or subarea; services and facilities outside the park; etc.)?

It will allow us to continue to support the current level of visitor access and experience.

32. How many visitors will be affected by these changes?

Approximately 380,000 per year.

Factor: Improve The Efficiency, Reliability And Sustainability Of Park Operations
[Importance of Advantage Score: 0]

Description of Current Conditions

33. What is the nature, extent, and complexity of the current park and/or subarea operation affected by the project (e.g., new area or established park, existing facilities and services, budget and staffing, locational factors such as remoteness or proximity to alternative facilities and services, etc.)?

This project involves the roof of the core historic structure of the park.

34. What is the existing situation for park and/or subarea operations and facilities (e.g., costs, staffing, energy use, functional adequacy, environmental deficiencies, long-term maintainability and/or sustainability of operations, etc.)?

The failing roof has been responsible for internal damage and environmental deficiencies; and, long-term sustainability is problematic if this need is not addressed.

35. How are park operations expected to change without the project (e.g., new operating methods or practices, projected budget and staffing, etc.)? Upon what information or authority have these predictions been made?

Previously answered.

36. What policies, legal mandates, or park goals for park operations are related to the project (e.g., approved plans, agreements with other entities, environmental deficiencies, code violations, regulatory actions, court orders, etc.)?

This building and collections is the focus and core mission of the park.

Project advantages in improving operational efficiency, reliability, and sustainability

37. How will the proposed project change park and/or subarea operations and facilities -- upon completion and in the future (e.g., costs, staffing, energy use, the quality and availability of services, environmental effects, maintainability, sustainability, etc.). How much will operational costs and staffing be reduced or increased with the project completed?

N/A

38. What alternatives have been considered to provide comparable facilities and services without construction, outside the park, or through a non-NPS source (such as another public agency or commercial facility)?

The alternatives are transfer or abandonment.

Factor: Provide Cost-effective, Environmentally Responsible, and otherwise Beneficial Development for the National Park System
[Importance of Advantage Score: 0]

Other project advantages provided to the National Park System

39.What other benefits or advantages to the park, the national park system, or other entities, not addressed in the responses above, would result from completion of the proposed project?

N/A

40. How would the project provide continuity with or help obtain maximum benefit from previous line-item construction projects or other capital investments?

N/A

41. How would the project improve long-term institutional capability to accomplish the park or NPS mission?

It would ensure sustainable operations in the core structure of the park.

42. How would the project demonstrate extraordinary organizational leadership or demonstrate innovative approaches that promote conservation and preservation values within and/or beyond the national park system?

N/A

43. How would the project improve park and/or NPS organizational credibility by fulfilling legal mandates, agreements, or other commitments?

N/A

44. What benefits or advantages would the project provide to partners, neighbors, communities, or other entities that are not described above?

Closure of the structure would probably reduce area tourism and have a significant impact on the regional economy as the Vanderbilt Mansion draws two thirds of the total visitation to the National Park Service sites in the area.

Cyclic Maintenance Eligibility Requirements and Scoring Criteria - PMIS 14806A

Cumulative Ranking Score: 45	**FCI Value: 0.105**	**API Value: 100**
1. CONDITION	The project is not viable without substantial rehabilitation.	
2. OPERATIONS	Provides service for 7+ years before the cycle has to be repeated. (Examples: painting, reroof, chip seals, crack seals).	
3. PROTECTION OF INVESTMENT	The project provides cyclic maintenance that protects a major system/component (feature) of the asset (Examples: roofing, chip seal).	
4. SAFETY	The project includes no safety component (Example: roofing, painting where no lead was ever present).	
5. PARTNERSHIPS/MATCHING FUNDS	No matching funds, or commitment of other funds available.	

Component Completion Report

Component Start Date:	**Component Completion Date:**
Completion Report Date:	**Created By:**
Change in Condition:	**Report Last Updated By:**
As Built Drawing or Report Number:	**As Built Drawing or Report Title:**
Location of Original As Built Drawing or Report:	**As Built Drawing or Report Author:**
Superintendent Approval Date:	**Superintendent Certification:**
Brief Quantified Description of Final Product/Outcome:	

APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

Project Agreement
May 2008
VAMA 14806A - Replace Failed Vanderbilt Mansion Roof

PROJECT AGREEMENT

United States Department of the Interior / National Park Service / Denver Service Center
12795 West Alameda Parkway / P.O. Box 25287 / DSC-DC / Denver, Colorado 80225-0287

May 2008

Vanderbilt Mansion National Historic Site
Hyde Park, NY

VAMA 14806A - Replace Failed Vanderbilt Mansion Roof

This is a Project Agreement between Vanderbilt Mansion National Historic Site (VAMA), the Denver Service Center (DSC), and the Northeast Region (NER) of the National Park Service. This document describes the specific project requirements to be fulfilled and the duties to be performed by all parties to produce or supply the products and services as recommended and approved below.

Recommended:

_____

Sarah Olson, Superintendent, Vanderbilt Mansion National Historic Site **Date**

_____

Dan Tower, DSC Project Manager **Date**

Approved:

_____

Bob McIntosh, Associate Regional Director, Northeast Region **Date**

PROJECT PURPOSE AND BACKGROUND

The Vanderbilt Mansion is the primary historic structure of the Park and contains extremely ornate decorative finishes and collections. The Mansion was constructed in 1897 in the Beaux Arts style by renowned American architects McKim, Mead and White. The Mansion's original 10,500 square foot copper roof began to sprout leaks in the 1960's. A secondary mastic/membrane roof was installed as a temporary measure in 1986 and has been aggressively maintained by the Park for the past two decades.

In the past year, interior leaks have appeared in the third floor servant's wing, guest quarters, and Mr. and Mrs. Vanderbilt's bedroom as a result of failure of the vertical wall flashing and masonry joints. The rapidly growing leak area now threatens the Mansion's second-floor exhibit areas. Recent investigations by Park staff and independent A&E concluded that given the age of the original roofing materials and the temporary repairs, continued spot repairs of the roof are no longer feasible and ongoing damage of the roof deck structural system and interior finishes will accelerate. Additionally, new masonry wall failures, associated with exfoliating of components of the roof framing system, failure of the masonry joints in the roof parapet, parapet ledge and balustrade, as well as failure of the bedding, flashing and caps of the many skylights were identified. These failures have increased the potential for water infiltration directly into the wall masonry and are indicative of wider exterior and interior damage.

The roof is beyond any reasonable lifespan. The current estimate for the project is far beyond available Park operating funds, exceeds customary Repair-Rehab cost limits. This project is necessary to stop these damaging leaks and renew the service life of this key historic structure.

This project involves the replacement of the failed 110-year old, 10,500 square foot, copper on masonry Vanderbilt Mansion roof. The work includes replacement of the copper roof, associated drains, counter flashing and flashing, and the failed mortar seals at the main girder support pockets, parapet, and transverse and perimeter joints of the masonry roof deck and rehabilitating the leaking areas of the chimneys and skylights.

Design Services

Predesign – The Pre-Design Report was completed April 10, 2007. The report describes project objectives related to the pre-design document. These objectives include a condition assessment of the roof and related structures, the effort required to rehabilitate the roof, conceptual design, an order of magnitude cost (Class C) cost estimate, key issues, and how to proceed with the project. As preparation for the pre-design document, the A/E performed an on-site inspection

Schematic Report – The Schematic Report was completed April 19, 2007. The report includes an introduction, architectural discussion, project costs, and exhibits. The introduction discusses project scope and objectives. The architecture discussion addresses applicable codes, code analysis, the program description, materials analysis, architectural features, a statement of historical significance, an environmental screening form, and a value analysis. Project Costs include Class C estimates for three alternatives, cost comparability summary and analysis, and a Scope and Cost Validation report. The exhibits include various building plans and elevations.

Design Development/Construction Documents – Presently, the project is slated for a 2009 award. The Denver Service Center will be responsible for administering the design services for this project. Design Development/Construction Documents are scheduled for completion by June, 2008. The design will focus on removing and replacing the existing copper roof system, repair/rehabilitation of the roof skylights, and

addressing re-pointing needs of the attic level masonry system. This will include all roofing, flashing, sealants, and masonry repair required to stop inflow of water into the building at the roof level.

ROLES AND RESPONSIBILITIES

Compliance – The Park shall be responsible for final compliance documentation and approvals. ESF and final compliance documents are currently complete and entered into PEPC.

Pre-Design – All pre-design activities have been completed.

Schematic Design – DSC will be responsible for schematic design tasks and deliverables, including Scope and Cost Validation Report, Conceptual Design, and preparation of Schematic Design alternatives, Value Analysis, development of Schematic Design Preferred Alternative, preparation of Class B Construction Cost Estimates, Final Schematic Design deliverables, and preparation of Development Advisory Board (DAB) submittal documents. This work will be carried out through an A/E contract. All schematic design was completed in November, 2008.

Design Development/Construction Documents – DSC will be responsible for design development and construction documents through use of an A/E contract. This work is anticipated to be conducted in FY2008.

PROJECT SCHEDULE

Phase/Task	***ECD***
Planning	
Kick-off/Scoping Meeting	February 2007
Compliance/Section 106 complete	May 2008
Predesign and supplemental services contracts (award)	July 2007
Project Agreement (revised)	May 2008
Schematic Design Task Order (award)	March 2007
Final Schematic Design deliverables	November 2007
Development Advisory Board (DAB) review	November 2007
DD/CD's Award	May 2008
Final Construction Documents	November 2008
Construction (FY2010)	
Award Construction Contract	FY2009
Substantial Construction Completion	FY2009
Construction Contract Closeout	FY2009

PROJECT FUNDING

This project is a FY10 project in the NPS 5-year Line Item Construction program with gross construction funding of $2,509,000. Available net construction funding is approximately $2,126,000 of this budget.

This project will be completed under the guidelines established within the NAPA report for NPS line item construction work. A breakdown of the project budget is as follows:

Net construction in FY06 dollars	$ 2,126,000
Construction Management (8% of net)	$ 170,000
Construction Contingencies (10% of net)	$ 213,000
GROSS CONSTRUCTION BUDGET	**$2,509,000**

Pre-Design and Schematic Design (5% of net, maximum)	$ 49,700
Supplemental Services (2% of net, maximum)	$ 21,440
Design (10% of net, maximum)	$ 125,000
PLANNING BUDGET	**$ 196,140**
TOTAL PROJECT BUDGET	**$2,705,140**

PROJECT TEAM MEMBERS AND COMMUNICATIONS

The core team for this project will include key decision makers from the Park, the Northeast Region, and the Denver Service Center. These parties will influence the project from inception to completion and have the authority to approve all project schedules and products. The core team will be comprised of the Park's Superintendent and designated park representatives, the Northeast Region's LIC Program Manager, and the DSC Project Manager. Primary project communication shall be between these team members, and day-to-day communications shall be between the park's designated representative and the DSC project manager. Communications with public entities shall be the responsibility of the park superintendent or his designated representative.

Carol Kohan, Assistant Superintendent, ROVA
Henry Van Brookhoven, Facility Manager, ROVA
Dave Hayes, Natural Resource Manager/Compliance Coordinator, ROVA

Bob Holzheimer, NER LIC Program Manager

Dan Tower, Project Manager, DSC
Elaine Carr, Project Specialist, DSC
Randy Copeland, Branch Chief, DSC
Greg Cody, Cultural Resource Specialist, DSC
Janet Morris, Contracting Officer, DSC Contracts
Albert O'Mara, Contracts Specialist, DSC Contracts

PRODUCT WARRANTY

Project participants are committed to completing all work outlined in the project agreement within the established schedule and budget as updated and amended. Participants warrant the legal sufficiency and technical adequacy of the portions of the work for which they are responsible. DSC will also help resolve any problems related to the products and services provided through this project. Problems arising from errors and/or omissions will be resolved in a timely manner and to the full satisfaction of Vanderbilt mansion National Historic Site.

PROJECT AGREEMENT AMENDMENT PROCESS

Any party to this agreement, subject to concurrence by all parties, may amend this project agreement. Circumstances that would result in an amendment to this project agreement include changes in scope, schedule, products, funding, responsibilities, or key team members.

Amendments should be in the form of written documentation, and distributed to all key parties of this agreement and core team members via standard correspondence or electronic mail. The documentation shall identify the requester, the reason for the amendment request, and the proposed change in products, schedule, costs or funding for the project.

APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

Capital Asset Plan and Business Case
February 12, 2009

PART I: CAPITAL ASSET PLAN AND BUSINESS CASE (All Assets)

Date of this Submission	February 12, 2009
Agency	Department of the Interior
Bureau	National Park Service
Location in Budget	Line Item Construction
Account Title	VAMA 14806A
Program Activity	Construction
Name of Project	Vanderbilt Mansion National Historic Site – Replace Failed Vanderbilt Mansion Roof
Investment Initiation Date	February 12, 2007
Investment Planned Completion Date	September 30, 2009

This Investment is: Initial Concept ____ Planning ____ Full Acquisition __X__

Investment /useful segment is funded:	Incrementally		Fully	
Was this Investment approved by OMB for previous Year Budget Cycle?	Yes	X	No	
Did the Executive/Investment Review Committee approve funding for this Investment this year?	Yes	X	No	
Did the CFO review the cost goal? **Initials: ____**	Yes	X	No	
Did the Procurement Executive review the acquisition strategy? **Initials: ____**	Yes	X	No	
Did the Investment Manager identified in Section 1.d. review?	Yes		No	
Is this investment included in your agency's annual performance plan or multiple agencies annual performance plans?.	Yes	X	No	
Does the investment support homeland security?	Yes		No	X
If this investment supports homeland security, indicate by corresponding number which homeland security mission area(s) this project supports? 1 – Intelligence and Warning; 2 – Border and Transportation Security; 3 – Defending Against Catastrophic Threats; 4 – Protecting Critical Infrastructure and Key Assets; 5 – Emergency Preparedness and Response; or 6 – Other	Yes		No	
Is this project information technology? (See Section 53 for definition)	Yes		No	X

Fill out this spending plan carefully. It must agree with the original baseline. If you later propose changes to the original baseline, then AFTER OMB approval (30 days after submission to OMB unless otherwise notified) you should update your spending plan. Do not update it until you have obtained approval.

Please combine construction contingency money with construction money.

Be sure that you total this chart both horizontally and vertically. Your budget authority must equal your planned expenditures in the vertical TOTAL column. Planned expenditures may be spread over more than one year.

The Budget Authority must correspond with the "green book" in year and amount. If the planned amount changes with the passage of a new budget, then you will need to propose a new baseline and, after approval, update this spending plan.

SUMMARY OF SPENDING FOR PROJECT STAGES
(In Millions)
(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)

	2004 and Earlier	2005	2006	2007	2008	2009	2010	2011 & Beyond	Total
Planning (Pre-design):									
Budget Authority	**0**	**0**	**0**	**.108**					**.108**
Planned Expenditure	**0**	**0**	**0**	**.052**					**.052**
Planning (Design):									
Budget Authority	**0**	**0**	**0**		**.216**				**.216**
Planned Expenditure	**0**	**0**	**0**		**.150**				**.150**
Acquisition (Construction & contingency):									
Budget Authority	**0**	**0**	**0**			**2.374**			**2.374**
Planned expenditure	**0**	**0**	**0**			**2.374**			**2.374**
Acquisition (Construction management):									
Budget Authority	**0**	**0**	**0**			**.173**			**.173**
Planned Expenditure	**0**	**0**	**0**			**.173**			**.173**
Total, Sum of All Stages:									
Budget Authority	**0**	**0**	**0**	**.108**	**.216**	**2.547**			**2.871**
Planned Expenditure	**0**	**0**	**0**	**.052**	**.150**	**2.547**			**2.749**
Maintenance:	**This project will have no effect on maintenance costs**								
Budget Authority									**0**
Planned Expenditure									**0**
Government FTE Costs									

Note: Government FTE Costs shall include government personnel considered direct and indirect labor in support of this investment. This includes the investment management IPT (Integrated Project Team) and any other government effort (e.g., programming effort for the part of the overall investment, development effort) that contributes to the success of the investment. The costs include the salaries plus the fringe benefit rate of 32.8%. Agencies should reflect estimates of anyone spending more than 50% of their time supporting an IT investment, and should at a minimum include FTE estimates of anyone spending more than 50% of their time supporting this investment. Persons working on more than one investment, whose contributions over all investments would exceed 50% of their overall time, should have their specific time allocated to each investment.

I. A. Project Description

1. Provide a brief description of this project and its status through your capital planning and investment control (CPIC) or capital programming "control" review for the current cycle.

The existing Vanderbilt Mansion roof is over 100 years old with several remedial repair layers over the original copper batten roof system. The roof includes the original gutter system, which appears to have adequate capacity to accommodate the average storm events in the area. However, the age and condition of the roofing system is such that heavy evidence of water infiltration can be seen throughout the facility. Furthermore, the low slope, coupled with the design flaws of the roofing system in conjunction with the many skylight penetrations, has created additional leak problems.

Furthermore, the installation of layers of roofing insulation prevent the melting of snow during the winter, accumulating snow load through the season and creating areas of ice buildup which is further deteriorating the roof through freeze/thaw cycles.

The National Park Service currently operates this site through stop-gap water collection within the building. However, evidence of water infiltration has been observed as far into the mansion as the second floor, threatening second floor exhibit areas.

This project would replace the failed copper roof and associated drainage system at the Vanderbilt Mansion, Hyde Park, New York. The primary work elements of this project include demolition of the existing roof coverings, re-pointing of existing mortar joints on the stone parapets and chimneys, installation of a new modified bitumen roof system as well as construction of new crickets at skylights and flue penetrations, re-flashing chimneys and parapet walls; and, replacement of boots at vent penetrations. Additionally, the existing skylights will be rehabilitated.

This project has been approved for funding for fiscal year 2009. Currently, the design development and schematic design has been completed and approved by DAB. Design Development and Construction Document preparation will begin in the spring of 2008.

2. What assumptions are made about this project and why?

- The condition of the existing roof structural system is unknown. During Design Development, this will be evaluated to determine if upgrades/repairs will be necessary.
- The condition of the internal roof drainage system is unknown and will be evaluated. However, it does not appear that there are any problems associated with it.
- A portion of the south parapet wall has been displaced. During design it will be evaluated to determine whether the displacement is due to water infiltration in which case a repair will be designed.

3. Provide any other supporting information derived from research, interviews, and other documentation.

The SHPO has been informed that the existing copper roof will be replaced with a modified bitumen roof. The SHPO, as well as the DAB, has given approval for this approach. The NPS also met on site with a representative of Revere Copper to discuss the feasibility of replacement of the copper roof with a new copper roof. While the representative and design team felt that a new copper roof was possible, there would be great difficulty and expense in detailing such a roof to prevent leakage.

I. B. Justification (All Assets)

1. How does this investment support your agency's mission and strategic goals and objectives?

- Protect Cultural Resources

This project is strictly a resource protection project. The Vanderbilt Mansion is a significant historic structure. It also houses significant historic artifacts. The intrusion of water into the building due to the failed roofing system poses a clear, visible threat to the structure and its artifacts. Evidence of water damage is wide spread. If the roof, which is many years beyond its expected design life, is not replaced, damage will accelerate.

2. How does it support the strategic goals from the President's Management Agenda?

- This project will be a collaborative effort between Roosevelt – Vanderbilt National Historic Sites, The Denver Service Center, The North East Regional office, and the State Historic Preservation Office. Specifically, there are historic preservation questions related to replacement in kind versus replacement with a best design alternative. To resolve this issue, collaboration between all parties must be undertaken.
- The project preliminary design will be undertaken using the services of a prime contracting A/E firm. This IDIQ firm will subcontract all design services to an architectural firm with proven experience in historic preservation and roofing projects. Special care will be taken to select a construction Contractor with proven ability. Also, it is critical that the NPS selects a construction management firm and personnel with knowledge directly related to roofing projects.
- To the greatest extent possible, this project will be managed and contracted using electronic correspondence and technology. This includes contracting services, correspondence, and project meetings.

3. Are there any alternative sources in the public or private sectors that could perform this function? N/A

4. If so, explain why your agency did not select one of these alternatives. N/A

5. Who are the customers for this project?

- The customer for this project is the National Park Service and Roosevelt-Vanderbilt National Historic Sites (ROVA). ROVA has the responsibility of preserving and maintaining the Vanderbilt Mansion and the cultural resources which it contains. The park is very supportive of this project. They will be involved in review and decisions made during the design and construction of this project. After completion, it will be incumbent on the park to maintain the new roof. However, this project will greatly reduce maintenance requirements on the building.

6. Who are the stakeholders of this project?

Stakeholders for this project include:

- The National Park Service, including Roosevelt-Vanderbilt National Historic Sites, The Northeast Regional Office Assistant Director of Cultural Resources, and the Denver Service Center.
- The State Historic Preservation Office for the State of New York.

These are the only entities that could have a positive or negative impact on the project.

7. If this is a multi-agency initiative, identify the agencies and organizations affected by this initiative. N/A

7a. If this is a multi-agency initiative, discuss the partnering strategies you are implementing with the participating agencies and organizations. N/A

8. How will this investment reduce costs or improve efficiencies?

- This project will stop ongoing water damage to the building interior, thus reducing future repair costs. It will also ensure the safety of the cultural resources in the building which are not replaceable.

9. List all other assets that interface with this asset.

- The only assets that interface with this project are the interior building finishes and artifacts contained in the building which are subject to water damage caused by leakage through the roof and masonry joints.

I. C. Performance Goals and Measures (All Assets)

In order to successfully address this area of the business case, performance goals must be provided for the agency, linked to the annual performance plan, and for the investment discuss the agency mission and strategic goals, and provide performance measures. These goals need to map in the Agency's strategic goals and objectives the gap that this project is designed to fill. They are the internal and external performance benefits this project is expected to deliver to the agency (e.g., improve efficiency by 60%, increase citizen participation by 300% a year to achieve an overall citizen participation rate of 75% by FY 2___, etc.). The goals must be clearly measurable project outcomes, and if applicable, project outputs. They do not include completion date of the module or project, or general goals, such as significant, better, improved that do not have a quantitative or qualitative measure.

Agencies must use Table 1 below for reporting performance goals and measures for existing investments that were initiated prior to FY 2005. The table can be extended to include measures for years beyond FY 2004.

Table 1

Fiscal Year	DOI Strategic Goal(s) Supported	Existing Baseline	Planned Performance Improvement Goal	Actual Performance Improvement Results	Planned Performance Metric	Actual Performance Metric Results
2009	Ia5, Protect, Restore, and Maintain Cultural Resources – Historic Structures	Roof and masonry joint leaks are damaging the resource	To completely stop water infiltration through roof and masonry joints		100% of water infiltration is stopped	
	Ia6, Protect, Restore, and Maintain	Roof and masonry joint leaks	To completely stop water infiltration		100% of water infiltration is	

	Cultural Resources – Museum Collections	are threatening the resource	through roof and masonry joints		stopped	
	Ib2 C – Update Historic Structure Information	Historic drawings	Produce HABS level drawings of existing roof		The existing copper roof system is accurately documented	
	IIIa2 – Properties Protected	Roof and masonry joint leaks are threatening the resource	Stopping water infiltration will protect the resource		Water damage to the resource is completely eliminated	

I. D. Project Management [All Assets]

The OMB Circular A-11, Part 7, Capital Programming Guide, and the OPM Project Management Guidance "Interpretive Guidance for Project Manager Positions," discuss project management structures, responsibilities, and qualifications that contribute to successful achievement of cost, schedule, and performance goals.

1. Is there an investment manager assigned to the project? If so, what is his/her name? Dan Tower, P.E., PMP, Project Manager, Denver Service Center — Yes X No

1a. Identify the members, roles, qualifications and contact information of the in-house and contract investment managers for this project
Dan Tower is a registered professional engineer with a specialization in structural engineering. He has over 20 years experience in NPS design and construction projects. He will provide overall management and coordination of all aspects and all phases of this project with emphasis on budget, schedule, and scope. He will provide general oversight of the various contracted services (design, construction, construction management, compliance). dan_tower@nps.gov , (303) 969-2553

2. Is there a contracting officer assigned to the project? If so, what is his/her name? — Yes X No
Janet Morris, janet_morris@nps.gov , (303) 969-2118

3. Is there an Integrated Project Team? — Yes X No

3. A. If so, list the skill set represented.

Elaine Carr – NPS Project Specialist – Denver Service Center - Will provide technical oversight over the A/E design firm, the construction contractor, and the construction management firm. Registered professional architect with over 30 years experience in both the public and private sector in project design and construction, specializing in architecture and historic architecture.
Albert Omara – NPS Contract Specialist – Denver Service Center - Will provide day-to-day management of the various contracts associated with this project, including design, compliance, construction, and construction management. Has over 22 years experience in Government contracting in with both the National Park Service, the Department of Defense, and the U.S. Fish and Wildlife Service.
Janet Morris – Contracting Officer – Denver Service Center - Legally authorized authority to sign for and obligate the Government. Has 33 years of experience in Government contracting and currently has a Level III warrant with a $100,000,000 limit.
Henry Van Brookhoven – Facilities Manager – Roosevelt Vanderbilt National Historic Sites - Acts as the park representative for all technical aspects of the project and will provide local coordination with the State of New York regulatory offices. Has over 30 years experience in the park maintenance and curatorial management. He take the lead on SHPO and other compliance duties.

4. Is there a sponsor/owner? **Park superintendent/ Roosevelt-Vanderbilt National Historic Sites** Yes X No

4. A. If so, identify the sponsor/owner by name and title and provide contact information	Sarah Olson, (845) 221-9115

I.E. Alternatives Analysis [All Assets]

In order to successfully address this area of the business case, you must include three viable alternatives that were compared consistently, identify the alternative chosen, and provide and reasons for your choice. Agency must identify all viable alternatives and then select and report details on the top three viable alternatives. Use OMB Circular A-94 for all capital investments for the criteria to be used for Benefit/Cost analysis. Agency must include the minimum criteria to be applied in considering whether to undertake a particular investment, including criteria related to the quantitatively expressed projected net, risk-adjusted return on investment, and specific quantitative and qualitative criteria for comparing and prioritizing alternative investments.

1. Describe the alternative solutions you considered for accomplishing the agency strategic goals that this project was expected to address. Describe the results of the feasibility/performance/benefits analysis. Provide comparisons of the returns (financial and other) for each alternative.

   This project is primarily a roof replacement project. The existing historical copper standing seam roof essentially failed soon after installation. Because of the copper roof's historic significance, the value analysis had to give strong consideration to replacement in kind. However developing an alternative that would provide lasting protection to the building using good architectural practices was the most important factor in

the selection of a preferred alternative. There were several alternatives which were evaluated, however the 3 that were considered will be described here.

Alternative 1 – Modified Bituminous Roof
Modified bituminous roofing is a time tested roofing system that has been used historically in low slope applications with multiple penetrations. The maintenance of this roof is relatively easy and repairs can be readily made. However, the recurring maintenance of a roof of this type tends to be higher than that of a metal roof. It is a relatively heavy roof although that is not a concern on this building. This type of roof can be walked on but walkway pads are available for heavy traffic areas. The roof can be covered with a light colored granular material to minimize damaging heat build up and keep the building cooler in the summer. The roof finish is not as historically consistent but will be seen only by maintenance crews.

Alternative 2 – Single Ply Membrane Roof System
Single membrane roofs have become more reliable over their history and can be easily tailored to penetrations in the roof. They are also relatively easy to repair and maintain. They are relatively light in comparison to modified bitumen or metal roofing although that is not important with this building. These roofs can be ballasted or un-ballasted. These roofing systems have become more reliable over time and are widely used. They can be light in color to minimize damaging heat build up and keep the building cooler in the summer. The roof finish is not as historically consistent but is available in a similar color and is seen only by maintenance crews. This type of roof must be well specified.

Alternative 3 – Metal Roofing – Copper Batten Seam Roof and Ice and Water Shield
Metal roofing (copper batten seam) is an attractive, aesthetically pleasing roof consistent with the original intent of the building. Metal roofs have a history of low maintenance and high performance although not necessarily in this near flat configuration. It meets all of the criteria except the 20 year weather tight warranty, although longevity of the roof may be more important. It is an excellent material although it is expensive. The original roof was/is a copper batten roof. Copper develops a patina that prevents corrosion of the roof. The roof surface is not seen by visitors. Expansion joints are needed with close enough spacing to prevent the roof from pulling itself apart causing roof leakage. Repair of a metal roof is difficult, although copper is easier to repair than other metals. The existing roof will have to be removed down to the concrete deck per the IBC. This is consistent with all of the alternatives.

1. A. Discuss the market research that was conducted to identify innovative solutions for this project (e.g., used an RFI to obtain four different solutions to evaluate, held open meetings with contractors to discuss project scope, etc.). Also describe what data was used to make estimates such as past or current contract prices for similar work, contractor provided estimates from RFIs or meetings, general market publications, etc.

The only extensive market research that was done was in regards to the standing seam copper roof alternative. The NPS consulted with Revere Copper to discuss the feasibility of replacing the copper roof in kind. The representative from Revere Copper met with NPS and the A/E architect on site to discuss the roof replacement.

2. Summarize the results of your life-cycle cost analysis performed for each investment and the underlying assumptions.

The only factor considered in the life cycle cost analysis was the replacement costs of the roofing system based on a 100 year life cycle. All other elements, such as maintenance, were considered to be identical. The dollar amounts shown below are strictly for the roof replacement. All other aspects of the project such

as skylight repair, structural repair, and masonry repair will be the same for all alternatives. Therefore, their effect on each alternative would be identical.

Cost Elements	Alternative 1	Alternative 2	Alternative 3
Element 1: Initial construction cost	**$49,660**	**$69,100**	**$388,030**
Total Live Cycle Cost	**$81,955**	**$114,129**	**$453,915**

3. Which alternative was chosen and why?

Alternative 1, Modified Bituminous Roof, was the preferred alternative. This alternative was selected over the Copper Batten Seam Roof due to two major factors. First, it is much less expensive. Second, it is much more conducive to the existing flat roof than copper would be. Not only was copper more expensive, but the design problems incurred in order to make such a roof effective were prohibitive. Both the Government and the SHPO were able to accept not replacing the historic copper roof in kind because the roof is hidden from view and would, therefore, not detract from the visual appearance of the historic building.

3. A. Are there any quantitative benefits that will be achieved through this investment (e.g., systems savings, cost avoidance, stakeholder benefits, etc)? Not Applicable

4 What is the date of your value analysis? The initial VA was done on May 14, 2007 and was revised on October 1, 2007.

I. F. Risk Inventory and Assessment (All Assets)

In order to successfully address this issue on the business case and capital asset plan, you must have performed a Risk Assessment at initial concept, included the mandatory risk elements defined below and demonstrate active management of the risk throughout the life-cycle of the investment.

For all investments, you must discuss each of the following risks and discuss your plans, with milestones and completion dates, to eliminate, mitigate, or manage the risk. If there is no risk to the investment achieving its goals from a risk category, say this. If there are other risks identified, include them. Risk assessments should be performed at the initial concept stage and then monitored and controlled throughout the life-cycle of the investment, and should include risk information from all stakeholders. Risk assessments for all investments must include 1) schedule, 2) initial costs, 3) life-cycle costs), 4) technical obsolescence, 5) feasibility, 6) reliability of systems, 7) dependencies and interoperability between this investment and others, 8) surety (asset protection) considerations, 9) risk of creating a monopoly for future procurements, 10) capability of agency to manage the investment, and 11) overall risk of project failure.

Date Identified	Area of Risk	Description	Probability of Occurrence	Strategy for Mitigation	Current Status as of the date of this exhibit
3-17-08	Schedule	Construction must be done during a mild weather period.	Low	Allow good lead time for contracting this	**This project remains on schedule**

		This means the construction period is limited to summer months		project	
3-17-08	Initial Costs	For a roofing project, this one is somewhat complex. Construction methods are difficult to predict. Initial costs are somewhat difficult to predict	Moderate	As many options as possible will be developed which are outside of strictly roofing the building. These include skylight repair and masonry repointing	**Estimates to date indicate that the roof replacement cost may be higher than initially estimated**
3-17-08	Life-Cycle costs	The only factors are initial cost and replacement	Low	N/A	
3-17-08	Technical obsolescence	The technology is proven.	Low	N/A	N/A
3-17-08	Feasibility	This is a re-roofing project. It is extremely feasible	Low	Good design	Nothing has been
3-17-08	Reliability of systems	The selected alternative, Modified Bituminous Roof, is extremely reliable but requires skilled installation	Moderate	During the roof installation, the NPS will have full time inspection. NPS will seek an inspector highly knowledgeable in roofing construction	
3-17-08	Dependencies and interoperability between this investment and others	None	N/A	N/A	
3-17-08	Surety (asset protection) considerations	The Contractor will be licensed and bonded. There will be some risk to the building interior	Low	Adequate precautions can be taken during construction to mitigate leakage. Sky light repair	

		during the time the roofing is stripped. Sky light repair has the highest risk of damage to the building interior.		will require some protection to the building interior. This will be the Contractor's responsibility	
3-17-08	Risk of creating a monopoly for future procurements	There are many manufacturers of this type of roofing system	Low	No proprietary systems will be designed or specified	
3-17-08	Capability of Agency to manage the investment	The roof will require minimal maintenance	Low	Periodic maintenance to remove debris (leaves)	
3-17-08	Overall risk of project failure	Continued leakage after completion would constitute a failure. There are many roof penetrations which could be problematic.	Moderate	The roof system will have a twenty year warranty. NPS will carefully inspect construction to insure that the warranty will be enforceable.	
3-17-08	Organizational and change Management	A change in organization could potentially require a re-assessment of alternatives	Low	The project is critical. The preferred alternative has been approved by DAB and the SHPO. It is unlikely that a new administration would require a re-assessment.	

1. What is the date of your risk management plan? 3-17-08

I. G. Acquisition Strategy (Coordinate this with your Bureau Procurement Executive

In order to adequately address this area of the business case and capital asset plan you must employ a strong acquisition strategy that mitigates risk to the federal government, such as using performance based contracts (design build) and statements of work (SOWs). If you are not using performance based contracts and statements of work, your acquisition strategy should clearly define the risks that prompted use of other than performance based contracts and SOWs. Finally, your implementation of the Acquisition Strategy must be clearly defined.

1. Will you use a single contract or several contracts to accomplish this project?

The design phases will be done with a series of single contracts, including:

- Preliminary Design/Schematic Design
- Design Development/Construction Documents

Construction will be performed under one contract.

1. A. What is the type of contract/task order if a single contract is used?
   - Preliminary Design/Schematic Design was done under a firm fixed price task order using an existing NPS Indefinite Quantity Professional Services contract.
   - Design Development/Construction Documents will be done under a firm fixed price task order using an existing NPS Indefinite Quantity Professional Services contract.
   - The construction contract will be a firm fixed price for construction.

1. B. If multiple contract/task orders will be used, discuss the type, how they relate to each other to reach the project outcomes, and how much each contributes to the achievement of the project cost, schedule and performance goals. Also discuss the contract/task order solicitation or contract provisions that allow the contractor to provide innovative, transformational solutions
   Not Applicable

2. For other than firm-fixed price, performance-based contracts, define the risk not sufficiently mitigated in the risk mitigation plan for the contract/task order that requires the Government to assume the risk of contract achievement of cost, schedule and performance goals. Explain the amount of risk the government will assume.
   Not Applicable

3. Will you use financial incentives to motivate contractor performance (e.g. incentive fee, award fee, etc.)?
   There will be no incentive clauses in any contract.

4. Discuss the competition process used for each contract/task order, including the use of RFP's, schedules, or other multiple agency contracts, etc.
   In accordance with the Brooks Act (40 U.S.C. 541, et seq.), Indefinite Quantity Contract with Architectural-Engineering (A/E) contractor:
   a. The Government Board evaluates each potential A/E contractor in terms of its professional qualifications, specialized experience, technical competence, capacity to accomplish the work, past performance on contracts, location in general geographical area.
   b. The Government Board prepares a selection report recommending the firm that is considered to be the most highly qualified A/E contractor.
   c. The selection authority reviews the recommendations of the evaluation board and with the advice of the board makes the A/E selection.
   d. The contracting officer carries out negotiation procedures with the A/E until a mutually satisfactory contract is negotiated.
      Competitive Negotiation Contract:
   e. Preparation of Request for Proposals (RFP) – RFP describes the requirements of the Government clearly, accurately, and completely. The RFP includes all documents furnished to prospective Offerors.
   f. Publicizing the Request for Proposals – RFPs are publicized through distribution to prospective Offerors by posting in public places and other such locations as may be appropriate (i.e. FedBizOps). Publicity occurs for a specific number of days before the opening of offers.
   g. Submission of Offers – Offers submitted to be opened at the time and place stated in the solicitation.
   h. Evaluation of Offers – Offers are evaluated.

i. Contract award – After offers are evaluated and negotiations completed, award is made with reasonable promptness to that responsible Offeror whose offer, conforming to the Request for Proposals, is most advantageous to the Government.

5. Will you use commercially available or COTS products for this investment?
Materials of construction to be used on this project will be standard generic and manufactured products will be selected to allow for standard off the shelf multiple "or equal" brand names.

5. A. To what extent will these items be modified to meet the unique requirements of this investment?
Not Applicable

5. B. What prevented the use of COTS without modification?
Not Applicable

6. What is the date of your acquisition plan? **March 17, 2008**

I. H. Project and Funding Plan

In order to successfully address this section of the business case, you must demonstrate use of an Earned Value Management System (EVMS) that meets ANSI/EIA Standard 748 for those parts of the investment that require development efforts (e.g., prototypes and testing in the planning phase and development efforts in the acquisition phase) and show how close the investment is to meeting the approved cost, schedule and performance goals. Information on EVMS is available at http://www.acq.osd.mil/pm.

I.H.1. Description of performance-based management system (PBMS):
Explain the methodology used by the agency to analyze and use the earned value performance data to manage performance. Describe the process you used to verify that the contractor's project management system follows the ANSI/EIA Standard 748-A. EVMS must be used on the system improvement aspects of the contract and operational analysis on the operations aspects. Using information consistent with the work breakdown structure (WBS), provide the information requested in all parts of this section.

Project Management will be accomplished as follows:
NPS has an automated Project Management System based on MicroSoft Project. This will:

- Report key milestone schedules and project progress for planning, design and construction.
- Import data from the Federal Finance System (FFS) to track cost data.
- Allow project managers to document and track interdependencies between tasks, costs, time and resources both within a single project and between projects requiring the same resources.
- Support integrating and aggregating data; scheduling status of reports; developing a historical database of cost and schedule information for a variety of project types; and producing reports and charts necessary for making project and resource management decisions.
- Allow Project Managers to establish cost and schedule baseline goals and milestones and track deviation (variance) from those goals.
- Record project milestones based on quarterly financial and monthly project status reports, which indicate the project schedule and budget.
- Combine information from progress reports from contractors, architects and engineers (who perform construction management on behalf of NPS) in providing the basis for measurement and

monitoring of earned value during the life of the project.

I.H.2. Original baseline (OMB-approved at project outset):

What are the cost and schedule goals for this phase or segment/module of the project (e.g., what are the major project milestones or events; when will each occur; and what is the estimated cost to accomplish each one)? Also identify the funding agency for each milestone or event if this is a multi-agency project. If this is a multi-agency project or one of the President's E-Gov initiatives, use the detailed project plan with milestones on the critical path to identify agency funding for each module or milestone. (This baseline must be included in all subsequent reports, even when there are OMB-approved baseline changes shown in I.H.3).

Cost and Schedule Goals: Original Baseline for a Phase/Segment/Module of Project Date:					
Description of Milestone	Schedule			Planned Cost (Millions)	Funding Agency
	Start Date	End Date	Duration (in days)		
1.Preliminary Design	**02/6/07**	**11/16/07**	**284**	**$.052**	**NPS**
2.Final Design	**04/14/08**	**10/11/08**	**181**	**$.150**	**NPS**
3.Construction	**04/09**	**10/09**	**180**	**$2.374**	**NPS**
4.Construction Management	**04/09**	**10/09**	**194**	**$.173**	**NPS**
Completion date: October 3, 2009				**$2.749**	

I.H.3. Proposed baseline/current baseline (applicable *only* if OMB approved the changes):

Identify in this section a proposed change to the original or current baseline or an OMB-approved baseline change. What are the new cost and schedule goals for the project (e.g., what are the major project milestones or events; when will each occur; and what is the estimated cost to accomplish each one)? Also identify the funding agency for each milestone or event if this is a multi-agency project. If this is a new project in the FY 2005 budget year, this section will be blank for your initial submission.

FILL IN THE TITLE BLOCK. Is this a proposed baseline change? Or is it CURRENT, in other words, has it been approved by OMB in a previous submission? (If you do not hear otherwise, assume the proposed baseline has been approved 30 days after submission to OMB.)

If the baseline below is CURRENT, then you calculate variances against it. If it is PROPOSED, then calculate variances against the ORIGINAL baseline or CURRENT baseline (from last submission), whichever is most recent.

If changes to the ORIGINAL baseline were PROPOSED in a previous submission, then you will have a new CURRENT baseline. If the CURRENT baseline produces variances of 5% or more, you may want to again PROPOSE a new baseline. In that case, you will have shown (for 30 days) a total of THREE baselines: ORIGINAL (of course), CURRENT, and PROPOSED. Then after the 30 days, you may eliminate the old CURRENT baseline, rename the PROPOSED baseline as CURRENT, and then you may adjust your spending plan to reflect the new baseline once it is approved.

Cost and Schedule Goals: Proposed_____ or Current (OMB-Approved)_____ Baseline for a Phase/Segment/Module of Project Date:					
Description of Milestone	Schedule			Planned Cost	Funding Agency
	Start Date	End Date	Duration (in days)		
1.					
2.					
3.					
4.					
5.					
Completion date:				**Total cost estimate at completion:**	

I.H.4 Actual performance and variance from OMB-approved baseline (original or current):

This section is always filled in to reflect current status of the project. It compares the OMB approved baseline and actual results for this phase, segment, or module of the project. Show for each major project the milestones or events you planned (scheduled) to accomplish and the cost and what work was actually done and the cost. If this is a new project in the FY 2005 budget year, this section will be blank for your initial submission. OMB may ask for the latest information during the budget review process.

This is just a record of achievements . . . Fill in the "Actual Outcome" section upon completion of a milestone or phase, rather than putting percentages in along the way.

Comparison of OMB-Approved Baseline and Actual Outcome for Phase/Segment/Module of a Project Date:									
Description of Milestone	OMB-Approved Baseline					Actual Outcome			
	Schedule			Planned Cost	Funding Agency	Schedule		Percent Complete	Actual Cost
	Start Date	End Date	Duration (in days)			Start Date	End Date		
1.Preliminary Design	**02/6/07**	**11/16/07**	**284**	**$.052**	**NPS**				
2.Final Design	**04/14/08**	**11/27/09**	**181**	**$.162**	**NPS**				
3.Construction	**05/09**	**10/09**	**180**	**$2.374**	**NPS**				

Comparison of OMB-Approved Baseline and Actual Outcome for Phase/Segment/Module of a Project Date:									
Description of Milestone	OMB-Approved Baseline					Actual Outcome			
	Schedule					Schedule			
	Start Date	End Date	Duration (in days)	Planned Cost	Funding Agency	Start Date	End Date	Percent Complete	Actual Cost
4.Construction Management	**04/09**	**10/09**	**194**	**$.173**	**NPS**				
Completion date: October 3, 2009						**$2.761**			
Total cost: OMB-approved baseline:						**Estimate at completion:**			

1. G.4 (B) Provide the following project summary information from your EVMS software: As of: 02/12/09

1. G.4(C) Show the budgeted (planned) cost of work scheduled (BCWS): $ 2.761

1. G.4 (D) Show budgeted (planned) cost of work performed (BCWP): $ 0.053

1. G.4 (E) Show the actual cost of work performed (ACWP): $ 0.053

1. G.4 (F) Provide a cost curve graph plotting BCWS, BCWP and ACWP on a monthly basis from inception of this phase or segment/module through the latest report. In addition, plot the ACWP curve to the estimated cost at completion (EAC) value, and provide the following EVMS variance analysis.

At this early stage, less than 2% of projected project spending has occurred. Graphs and Earned Value Data will be developed as the project progresses.

1. G.4.1 If cost and/or schedule variance are a negative 5 percent or more at the time of this report or EAC is projected to be 5 percent or more, explain the reason(s) for the variance(s): N/A

1. G.4.1.a Provide performance variance. Explain whether, based on work accomplished to date, you still expect to achieve your performance goals. If not, explain the reasons for the variance. For steady state projects, in addition to a discussion on whether or not the system is meeting the program objectives, discuss whether the needs of the owners and users are still being met.

1. G.4.1.b For projects using EVMS, discuss the contractor, government, and at least the two EAC index formulas in I.H.4.B, current estimates at completion. Explain the differences and the IPT's selected EAC for budgeting purposes.

1. G.4.1.c Discuss the corrective actions that will be taken to correct the variances, the risk associated with the actions, and how close the planned actions will bring the project to the original baseline. Define proposed baseline changes, if necessary.

1. G.4.1.d If the project cost, schedule or performance variances are 10% or greater, has the Agency Head concurred in the need to continue the program at the new baseline? Yes____ No____

SCHEDULE OF VALUES

INVOICE NO. :

Schedule of Values

CONTRACT NO.		AMOUNT	CALENDAR DAYS	STARTING DATE	COMPLETION DATE
1443C2011090266		**$1,515,144.20**	**210**	**7/28/2009**	**2/19/2010**

PROJECT	PERFORMANCE PERIOD	FROM	To
Repair Failed Roof to Vanderbilt Mansion			

LOCATION	CONTRACTOR'S NAME & ADDRESS
Vanderbilt Mansion National Historic Site, VAMA	**Kalimex Incorporated, 1300 Stagecoach Road, Ocean View, NJ 08230**

DESCRIPTION		SCHEDULE				SCHEDULE OF PAYMENTS						
ITEM NUMBER	CATEGORY OF WORK ITEM	QUANTITY	UNIT	TOTAL VALUE	TOTAL % OF WORK	PREVIOUS COMPLETED	PREVIOUS % OF WORK	CURRENT COMPLETED	CURRENT % OF WORK	COMPLETED TO DATE	% OF WORK TO DATE	STORED MATERIALS
0	Bond	1	LS	$ 25,485.00	100%	$ -	0%	$ -	0%	$ -	0%	**$ -**
1a	Mobilization	1	LS	$ 64,745.00	100%	$ -	0%	$ -	0%	$ -	0%	
1b	Roof Replacement	82.7	SQ	$ 337,364.00	100%	$ -	0%	$ -	0%	$ -	0%	
1c	Scaffolding Erection	1	LS	$ 32,840.00	100%	$ -	0%	$ -	0%	$ -	0%	
1d	Demolition	82.7	SQ	$ 51,677.00	100%	$ -	0%	$ -	0%	$ -	0%	
1e	ACM Testing	1	LS	$ 7,505.00	100%	$ -	0%	$ -	0%	$ -	0%	
1f	Structural Inspection	1	LS	$ 8,540.00	100%	$ -	0%	$ -	0%	$ -	0%	
1g	Temporary Roof	82.7	SQ	$ 78,027.00	100%	$ -	0%	$ -	0%	$ -	0%	
1h	Roof Drains	8	EA	$ 52,678.00	100%	$ -	0%	$ -	0%	$ -	0%	
1i	Lightning Protection (Disassembly)	1	LS	$ 17,003.00	100%	$ -	0%	$ -	0%	$ -	0%	
1j	Sheet Metal Flashings		LF	$ 62,621.00	100%	$ -	0%	$ -	0%	$ -	0%	
1k	Landscaping	1	LS	$ 3,516.00	100%	$ -	0%	$ -	0%	$ -	0%	
1l	Lightning Protection (Reassembly)	1	LS	$ 7,454.00	100%	$ -	0%	$ -	0%	$ -	0%	
1m	Scaffolding Removal	1	LS	$ 17,084.00	100%	$ -	0%	$ -	0%	$ -	0%	
3a	Concrete Deck Replacement 0'-15'	15	SF	$ 13,374.00	100%	$ -	0%	$ -	0%	$ -	0%	
4a	Interior Skylight Protection	10	EA	$ 16,349.00	100%	$ -	0%	$ -	0%	$ -	0%	
4b	Skylight Removal	10	EA	$ 13,892.00	100%	$ -	0%	$ -	0%	$ -	0%	
4c	Skylight Repair (Octagonal and Louver	1	EA	$ 141,186.00	100%	$ -	0%	$ -	0%	$ -	0%	
4d	Skylight Repair (Small)	9	EA	$ 146,841.00	100%	$ -	0%	$ -	0%	$ -	0%	
5	Masonry Repairs	2535	LF	$ 151,071.00	100%	$ -	0%	$ -	0%	$ -	0%	
6	Asbestos Abatement	8546	SF	$ 140,939.00	100%	$ -	0%	$ -	0%	$ -	0%	
7	Asbestos Abatement - Bid Option #1	190	SF	$ 10,048.00	100%	$ -	0%	$ -	0%	$ -	0%	
8	Asbestos Abatement - Bid Option #2	1122	LF	$ 50,238.00	100%	$ -	0%	$ -	0%	$ -	0%	
9	Asbestos Abatement - Bid Option #3	1200	LF	$ 33,846.00	100%	$ -	0%	$ -	0%	$ -	0%	
10	Asbestos Abatement - Bid Option #4	18.4	SF	$ 2,821.00	100%	$ -	0%	$ -	0%	$ -	0%	
11	Punchlist/Closeout	1	LS	$ 28,000.00	100%	$ -	0%	$ -	0%	$ -	0%	
SUBTOTAL				$ 1,515,144.00	100%	$ -	0%	$ -	0%	**$ -**	0%	
Following items used for **CHANGE ORDERS, CONTRACT MODIFICATIONS AND CHANGE ORDERS**												
1				$ -	100%	$ -	0%	$ -	0%	$ -	0%	
2				$ -	100%	$ -	0%	$ -	0%	$ -	0%	
3				$ -	100%	$ -	0%	$ -	0%	$ -	0%	
4				$ -	100%	$ -	0%	$ -	0%	$ -	0%	
				$ -	100%	$ -	0%	$ -	0%	$ -	0%	
GRAND TOTAL				**$ 1,515,144.00**	100%	$ -	0%	**$ -**	0%	**$ -**	0%	**$ -**

CONTRACTOR'S SIGNATURE	DATE	CONTRACTING OFFICER'S APPROVAL	DATE

Replace Failed Vanderbilt Mansion Roof
VAMA 14806

Contact	Title/Role	Office Phone	Fax	Cell Phone	E-mail address
Kalimex Inc.					
1300 Stagecoach Rd. Ocean View, NJ 08230	Contractor				
Kevin O'Brien	Vice President	(609) 390-7500		(609) 517-5679	kobrien@kalimex.com
Bill Long	Superintendent				blong@kalimex.com
HDR, Inc.					
Greg Martinez	Project Manager	(303) 318-6283		(303) 946-7132	Gregory.martinez@hdrinc.com
Jeff Lenz	Structural Engineer	(402) 399-1310			Jeffrey.lenz@hdrinc.com
John Milner Architects, Inc.					
104 Lakeview Dr. Chadds Ford, PA 19317	Architect				
Barry Seiler	Architect	(610) 388-0111	(610) 388-0119		bseiler@johnmilnerarch.com
Chris Carter	Senior Associate	(610) 388-0111			ccarter@johnmilnerarch.com
PBS&J					
4601 DTC Blvd. Ste 700 Denver, CO 80237	Construction Management				
Doug Gallaher	Project Inspector	(501) 802-0200		(501) 802-0200	dpgallaher@pbsj.com
Gary Self	Project Manager	(720) 475-7142	(303) 843-9212	(303) 907-8187	grself@pbsj.com
National Park Service					
National Park Service Denver Service Center 12795 W. Alameda Parkway Denver, CO 80225-0287	Denver Service Center - NPS				

Contact	Title/Role	Office Phone	Fax	Cell Phone	E-mail address
Dan Tower, PE	Project Manager, COR	(303) 969-2553	(303) 987-5131	(720) 878-5799	Dan_Tower@nps.gov
Elaine Carr	Project Specialist	(303) 969-2490	(303) 987-5102		Elaine_carr@nps.gov
Al O'Mara	Contracting Officer	(303) 969-2056	(303) 987-6646		Albert_omara@nps.gov
Mary Robinson	Contract Specialist	(303) 969-2640	(303) 987-5094		Mary_Robinson@contractor.nps.gov
Roosevelt/Vanderbilt NHS 4097 Albany Post Road Hyde Park, NY 12538	ROVA NHS - NPS				
Henry Van Brookhoven	Facility Manager	(845) 229-1524	(845) 229-5209		Henry_van_brookhoven@nps.gov
Robert Nokes	Mason	(845) 229-9115	(845) 229-0739	(845) 489-8374	Robert_nokes@nps.gov

APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

Contact List
August 20, 2009

Replace Failed Vanderbilt Mansion Roof
VAMA 14806

Contact	Title/Role	Office Phone	Fax	Cell Phone	E-mail address
Kalimex Inc.					
1300 Stagecoach Rd. Ocean View, NJ 08230	Contractor				
Kevin O'Brien	Vice President	(609) 390-7500		(609) 517-5679	kobrien@kalimex.com
Bill Long	Superintendent				blong@kalimex.com
HDR, Inc.					
Greg Martinez	Project Manager	(303) 318-6283		(303) 946-7132	Gregory.martinez@hdrinc.com
Jeff Lenz	Structural Engineer	(402) 399-1310			Jeffrey.lenz@hdrinc.com
John Milner Architects, Inc.					
104 Lakeview Dr. Chadds Ford, PA 19317	Architect				
Barry Seiler	Architect	(610) 388-0111	(610) 388-0119		bseiler@johnmilnerarch.com
Chris Carter	Senior Associate	(610) 388-0111			ccarter@johnmilnerarch.com
PBS&J					
4601 DTC Blvd. Ste 700 Denver, CO 80237	Construction Management				
Doug Gallaher	Project Inspector	(501) 802-0200		(501) 802-0200	dpgallaher@pbsj.com
Gary Self	Project Manager	(720) 475-7142	(303) 843-9212	(303) 907-8187	grself@pbsj.com
National Park Service					
National Park Service Denver Service Center 12795 W. Alameda Parkway Denver, CO 80225-0287	Denver Service Center - NPS				

Contact	Title/Role	Office Phone	Fax	Cell Phone	E-mail address
Dan Tower, PE	Project Manager, COR	(303) 969-2553	(303) 987-5131	(720) 878-5799	Dan_Tower@nps.gov
Elaine Carr	Project Specialist	(303) 969-2490	(303) 987-5102		Elaine_carr@nps.gov
Al O'Mara	Contracting Officer	(303) 969-2056	(303) 987-6646		Albert_omara@nps.gov
Mary Robinson	Contract Specialist	(303) 969-2640	(303) 987-5094		Mary_Robinson@contractor.nps.gov
Roosevelt/Vanderbilt NHS 4097 Albany Post Road Hyde Park, NY 12538	ROVA NHS - NPS				
Henry Van Brookhoven	Facility Manager	(845) 229-1524	(845) 229-5209		Henry_van_brookhoven@nps.gov
Robert Nokes	Mason	(845) 229-9115	(845) 229-0739	(845) 489-8374	Robert_nokes@nps.gov

APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

RFP #1: Replace Damaged Historic Skylight Cast Panels
September 3, 2009

RFP #2: Chimney Caps and Roof Structural Shoring
December 1, 2009

RFP #3: Replacement of Portico Roofs
December 9, 2009

United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
D5217 (DSC-DC)
1443C2011090266
VAMA 014806

September 3, 2009

Kevin M. O'Brien
Kalimex Incorporated
1300 Stagecoach Road
Ocean View, NJ 08230

Dear Mr. O'Brien:

Reference: Vanderbilt Mansion National Historic Site, Duchess County, New York, Contract No. 1443C201190266, Replace Failed Vanderbilt Mansion Roof, VAMA 014806

Subject: Request for Price Proposal for Modification Work, **RFP #1** – Replace damaged historic skylight cast glass panels.

Due to differing site conditions, it is necessary to replace 4 broken historic skylight cast glass panels. The broken panels were hidden beneath a ¼" overlay of glazing and were not discovered until the skylight was disassembled.

Pursuant to contract clause entitled "Changes," FAR 52.243-04, of the above referenced contract, you are requested to submit a quotation for the following work:

Provide the following:
4 new cast glass panels, to replace the broken historic cast glass panels, which were removed from the main octagonal skylight in the roof. Replacement panels shall be "wavy" glass similar to style of the original historic cast glass panels, from an approved manufacturer of custom, historic reproduction glazing.

(Note: 6 cracked, fissured and chipped panels will be re-installed, in accordance with the Park's request. Also, protect the 4 broken historic cast glass panels that are removed until they are delivered to Vanderbilt NHS. Time and place of delivery to be determined by the Contracting Officer.)

Provide Cast Glass Panels in accordance with Section 08810, Glazing. Submit glass manufacturer's product data and shop drawings and 3 sample pieces of glass, approximately 1 foot square. Provide an identification number and dimensions for each replacement cast glass panel. Verify all dimensions of existing glass before fabrication. Label each panel. Submit warranty in accordance with paragraph 1.6. of the specification.

The proposal must be in detail with itemized lists of equipment, materials, labor, overhead, profit, and bond markup per item. Each item must be listed at its estimated cost to you. . Labor must be itemized by craft and hourly rate paid. If the cost of fringe benefits is not itemized, it is assumed that there is none,

or that it is included in the hourly rate shown. Requests for additional time for completion must be justified.

Please submit your proposals within 10 calendar days of receipt of this letter.

Sincerely,

Elaine Carr, Architect, LEED AP
Contracting Officer's Representative

cc:
DSC-DC Dan Tower
DSC-CS Mary Robinson
DSC-CO Albert J. O'Mara

United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
D5217 (DSC-DC)
1443C2011090266
VAMA 014806

December 1, 2009

Kevin M. O'Brien
Kalimex Incorporated
1300 Stagecoach Road
Ocean View, NJ 08230

Dear Mr. O'Brien:

Reference: Vanderbilt Mansion National Historic Site, Duchess County, New York, Contract No. 1443C201190266, Replace Failed Vanderbilt Mansion Roof, VAMA 014806

Subject: Request for Price Proposal for Modification Work, **RFP #2** – Chimney Caps and Roof Structural Shoring

Due to differing site conditions, it is necessary address the following to items: Item 1 - replace 9 copper chimney caps and Item 2 - install structural shoring to specified areas of the roof.

Pursuant to contract clause entitled "Changes," FAR 52.243-04, of the above referenced contract, you are requested to submit a quotation for the following work:

ITEM 1: Chimney Caps - Provide all labor, materials, equipment, insurance, and bonds to provide nine (9) lead-coated copper chimney caps. To each chimney shall be applied a continuous lead-coated copper mounting cleat to the entire perimeter of the chimney cap, mounted to the tip horizontal surface with plastic masonry anchors and 1¼" threaded brass masonry screws at 12" O.C. Any pre-existing mounting holes shall be utilized where possible. The lead-coated copper chimney cap shall "clip" onto the formed drip edge of the continuous cleat below it, and have a 1½ " wide vertical profile, as to minimize the aesthetic impact to the original historic fabric. All edges and joints shall be soldered. A lead-coated copper flue cap shall then be provided, seated above the chimney flues, with a flange on the horizontal face of the chimney cap. The flue cap shall be continually soldered to the chimney cap, around the perimeter of the flange. All fasteners shall be hidden. The supply, set up and tear down of scaffolding will need to be performed at eight (8) of the nine (9) chimneys.

Drawings: No Drawings provided
Specifications: No Changes

ITEM 2: Roof Structural Shoring - As described in the attached drawings provide all required labor, materials and equipment to provide structural shoring to the underside of the existing roof deck as shown in the attached drawings. Work shall include but is not limited to preparing the concrete deck and existing structural members to receive new light gage steel studs to be attached as shown. Retain and protect

existing structural members and the concrete roof deck. Contractor shall provide a plan to access the attic with all materials prior to the start of work.

Drawings: See attached
Specifications: No Changes

The proposal must be in detail with itemized lists of equipment, materials, labor, overhead, profit, and bond markup per item. Each item must be listed at its estimated cost to you. Labor must be itemized by craft and hourly rate paid. If the cost of fringe benefits is not itemized, it is assumed that there is none, or that it is included in the hourly rate shown. Requests for additional time for completion must be justified.

Please submit your proposals within 10 calendar days of receipt of this letter.

Sincerely,

Cherie Shepherd
Contracting Officer's Representative

cc:
DSC-DC Dan Tower
DSC-CS Mary Robinson
DSC-CO Albert J. O'Mara

United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
D5217 (DSC-DC)
1443C2011090266
VAMA 014806

December 9, 2009

Kevin M. O'Brien
Kalimex Incorporated
1300 Stagecoach Road
Ocean View, NJ 08230

Dear Mr. O'Brien:

Reference: Vanderbilt Mansion National Historic Site, Duchess County, New York, Contract No. 1443C201190266, Replace Failed Vanderbilt Mansion Roof, VAMA 014806

Subject: Request for Price Proposal for Modification Work, **RFP #3** – Replacement of Portico Roofs

Pursuant to contract clause entitled "Changes," FAR 52.243-04, of the above referenced contract, you are requested to submit a quotation for the following work:

ITEM 1: Replacement of Roofing on Portico Roofs - Provide all labor, materials, equipment, insurance and bonds to replace the existing roofing on the north, south, east, and west portico roofs with a similar system. Coordinate with the appropriate Park personnel on the requirements for these roofs. This roof shall have a similar warranty as the main roof replacement system.

The price proposal should clearly separate each of the four roofs, however, assume, for this proposal, that all roofs will be completed under this modification for the purposes of calculating field overhead and general conditions.

Drawings: No Drawings provided
Specifications: No Changes

The proposal must be in detail with itemized lists of equipment, materials, labor, overhead, profit, and bond markup per item. Each item must be listed at its estimated cost to you. Labor must be itemized by craft and hourly rate paid. If the cost of fringe benefits is not itemized, it is assumed that there is none, or that it is included in the hourly rate shown. Requests for additional time for completion must be justified.

Please submit your proposals within 10 calendar days of receipt of this letter.

Sincerely,

Cherie Shepherd
Contracting Officer's Representative

cc:
DSC-DC Dan Tower
DSC-CS Mary Robinson
DSC-CO Albert J. O'Mara

United States Department of the Interior

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:
D5217 (DSC-DC)
1443C2011090266
VAMA 014806

May 6, 2010

Kevin M. O'Brien
Kalimex Incorporated
1300 Stagecoach Road
Ocean View, NJ 08230

Dear Mr. O'Brien:

Reference: Vanderbilt Mansion National Historic Site, Duchess County, New York, Contract No. 1443C201190266, Replace Failed Vanderbilt Mansion Roof, VAMA 014806

Subject: Request for Price Proposal for Modification Work, **RFP #4** – Drain Repair West Portico

Pursuant to contract clause entitled "Changes," FAR 52.243-04, of the above referenced contract, you are requested to submit a quotation for the following work:

ITEM 1: Repair Leaking Drains on West Portico Roof - Provide all labor, materials, equipment, insurance and bonds to repair the south and north drains on the west portico roof. Provide all available options for the repair of the drains.

The price proposal should clearly separate each of the available options.

Drawings: No Drawings provided
Specifications: No Changes

The proposal must be in detail with itemized lists of equipment, materials, labor, overhead, profit, and bond markup per item. Each item must be listed at its estimated cost to you. Labor must be itemized by craft and hourly rate paid. If the cost of fringe benefits is not itemized, it is assumed that there is none, or that it is included in the hourly rate shown. Requests for additional time for completion must be justified.

Please submit your proposals within 10 calendar days of receipt of this letter.

Sincerely,

Cherie Shepherd /s/
Contracting Officer's Representative

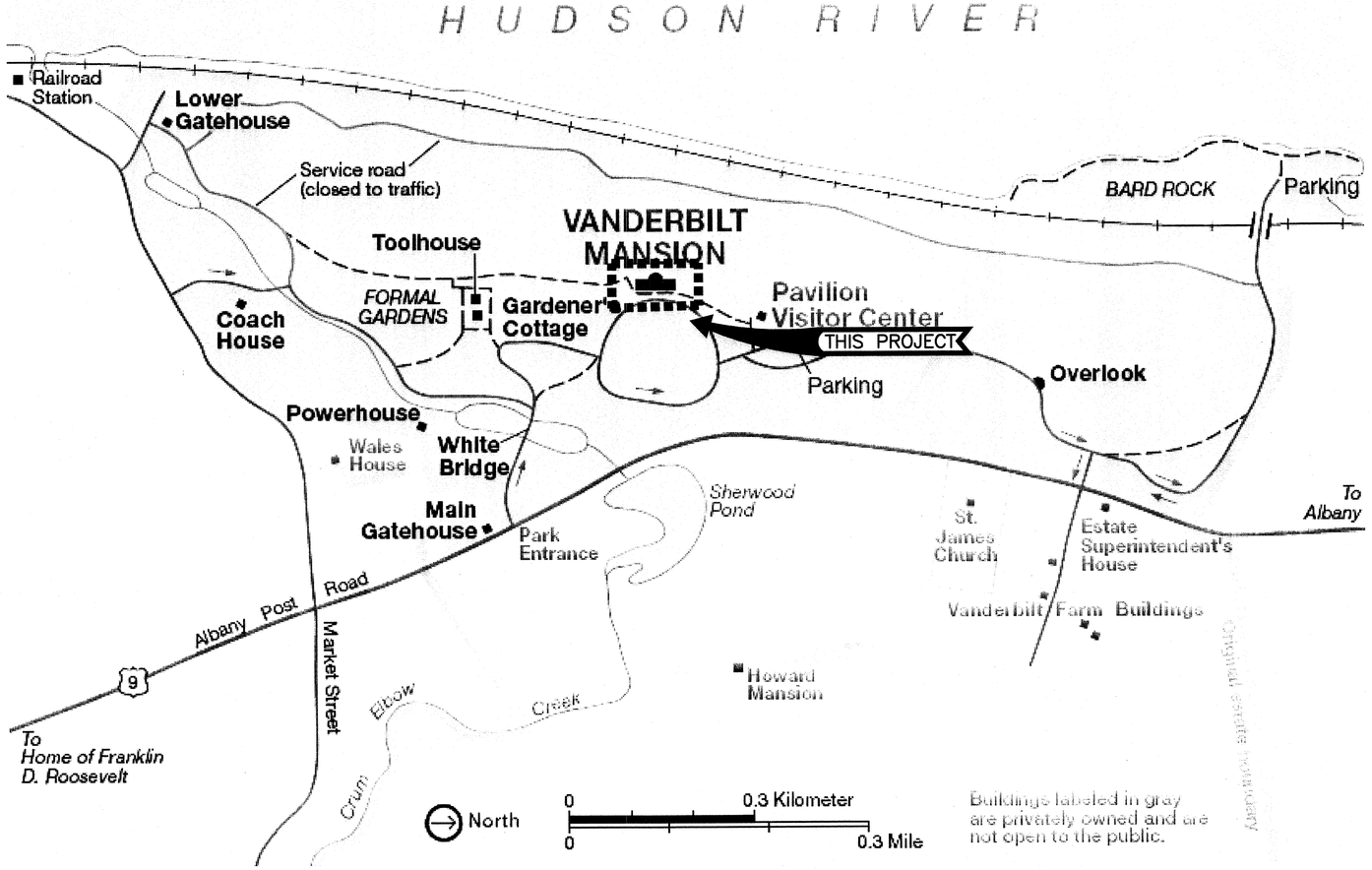
cc:
DSC-DC Dan Tower
DSC-CS Mary Robinson
DSC-CO Albert J. O'Mara

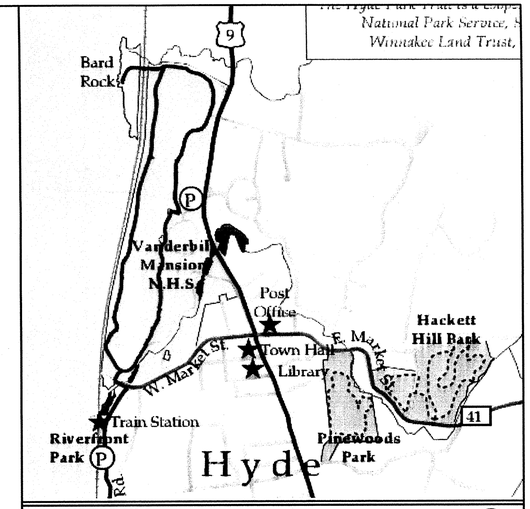
APPENDIX F

RECORD OF TREATMENT DOCUMENTS

REHABILITATE FAILED VANDERBILT MANSION ROOF: PMIS 14806

As-Built Drawings





INDEX

VANDERBILT MANSION NATIONAL HISTORIC SITE

1443C2011090266
VAMA 014806

CONTRACTOR:
KALIMEX, INC.
1300 STAGECOACH ROAD
OCEAN VIEW, NJ 08230

CONSTRUCTION MANAGEMENT:
DOUGLAS GALLAHER – PBS & J

PROJECT MANAGEMENT:
DAN TOWER – DENVER SERVICE CENTER, NATIONAL PARK SERVICE

BASIC DATA:

Mark	Sheet	REVISION	Date	Initial
A	ALL	AS-CONSTRUCTED DRAWINGS	10/10	HDR

QUALITY DESIGN CERTIFICATION
☒ Prepared in Accordance with Design Development (Title I) 382/25,004 (Drawing No.)
OR
☐ Variance from Design Development (Title I) Approved by Superintendent on ____ (Date)
OR
☐ Construction Drawing Not Preceded by Design Development (Title I)
DAN TOWER (Project Manager) ____ (Date)

AS-CONSTRUCTED DRAWINGS

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF DRAWING
REHABILITATE FAILED VANDERBILT MANSION ROOF

LOCATION WITHIN PARK
VANDERBILT MANSION
NAME OF PARK
VANDERBILT MANSION NATIONAL HISTORIC SITE
REGION: NORTHEAST | COUNTY: DUTCHESS | STATE: NEW YORK

DRAWING NO. 382 25004A
PKG. NO. VAMA 014 806
SHEET 1 OF 15

2/2/11 10:36 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\GEN\01-VAMACOV.DWG

VANDERBILT MANSION ROOF
HYDE PARK, NY

EXISTING ROOF CONDITIONS

EXISTING ROOF IS A BITUMINOUS COATED, COPPER BATTEN SEAM ROOF OVER EARLY CAST-IN-PLACE REINFORCED CONCRETE. THE STRUCTURAL ROOF IS SLOPED TO ACHIEVE MAIN ROOF SLOPES. DECK ENGAGES TOP FLANGES OF STEEL I-BEAMS BEARING ON PERIMETER & INTERIOR MASONRY WALLS.

ASBESTOS ABATEMENT

REFER TO SPECIFICATIONS SECTION TITLED ASBESTOS ABATEMENT PROCEDURES FOR REQUIREMENTS NECESSARY FOR REMOVAL OF ASBESTOS CONTAINING MATERIALS PRIOR TO ROOF REPLACEMENT AND SKYLIGHT RESTORATION.

DEMOLITION SCOPE

REFER TO SPECIFICATION SECTION 02226 – MINOR DEMOLITION FOR HISTORIC FABRIC, FOR WORK DESCRIBED IN FOLLOWING NOTES.

1. ROOFING
REMOVE ALL EXISTING ROOFING LAYERS, TAPERED NONCEMENTITIOUS MATERIAL & RELATED FLASHING TO FACE OF EXISTING CONCRETE DECK, CONCRETE CURBS, MASONRY PARAPET WALLS & CHIMNEYS. CAREFULLY REMOVE WOOD BATTENS TO MINIMIZE DAMAGE TO CONCRETE DECK. COUNTER FLASHING INTEGRAL TO SKYLIGHT UNITS TO REMAIN.

2. ROOF DRAINS
REMOVE AND DISPOSE OF EXISTING COPPER SHEET METAL DRAINS AND THEIR TIE-IN COMPONENTS TO DRAIN LINES. CAST IRON DRAIN LINES TO REMAIN. ALL COMPONENTS ACCESSIBLE FROM ATTIC SPACE.

3. CONCRETE
REMOVE AND DISPOSE OF SELECT PORTIONS OF REINFORCED CONCRETE ROOF DECK, AS INDICATED ON STRUCTURAL SHEETS. NO FLAME CUTTING, VIBRATING EQUIPMENT, OR EXPLOSIVES WILL BE PERMITTED. DO NOT USE POWER DRIVEN IMPACT TOOLS. DO NOT USE HEAVY HAND IMPACT TOOLS. REMOVE CONCRETE IN SMALL SECTIONS.

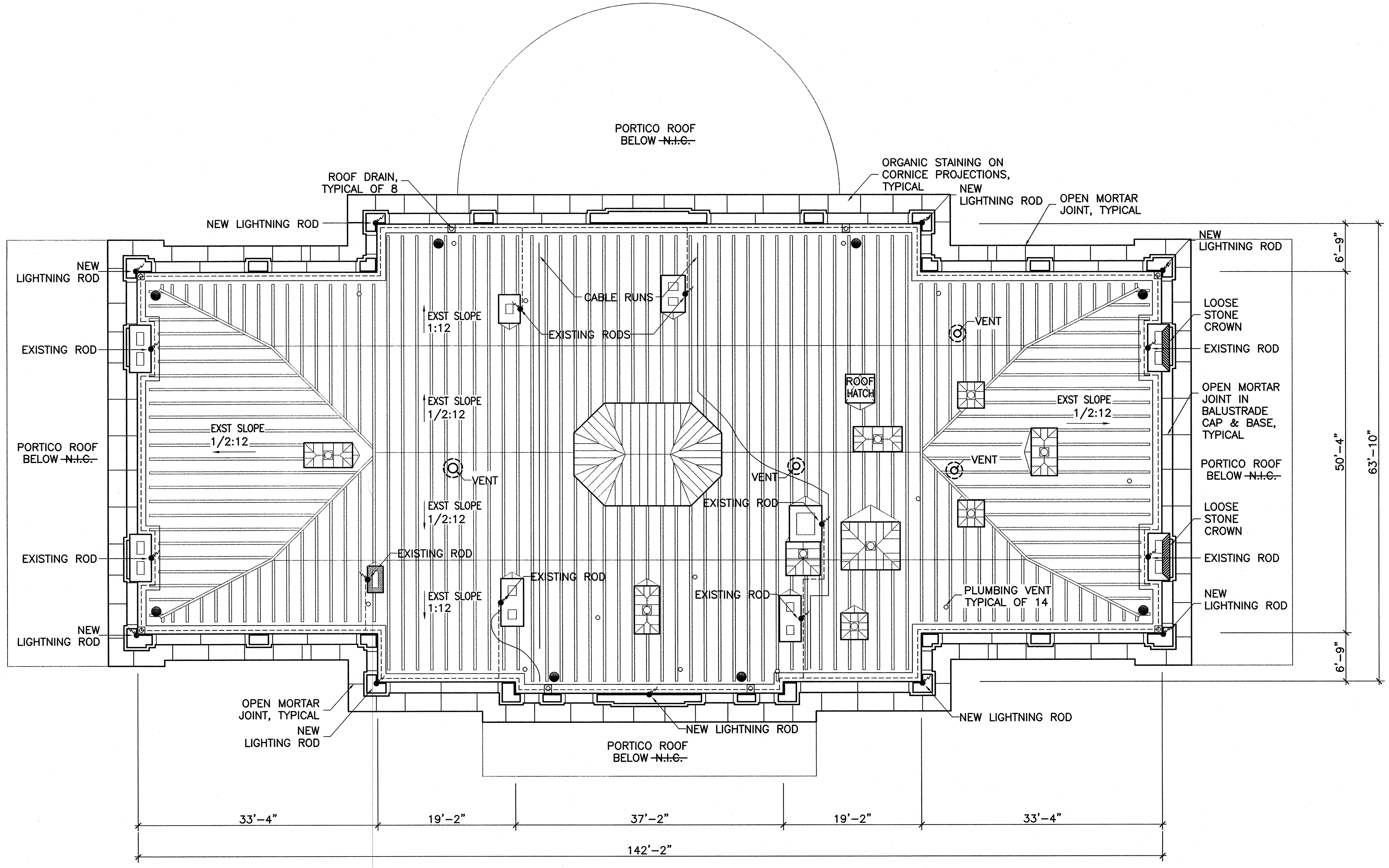
4. SKYLIGHTS
REFER TO NOTES ON SHEET A5.1.

5. LIGHTNING PROTECTION
CONTRACTOR SHALL ENGAGE THE SERVICES OF AN LPI CERTIFIED LIGHTNING PROTECTION INSTALLER FOR DISASSEMBLY & SALVAGING OF THOSE COMPONENTS OF THE EXISTING LIGHTNING PROTECTION SYSTEM INTERFERING WITH ROOFING WORK & DRAIN INSTALLATION.

6. ASBESTOS ABATEMENT
THE BLACK MASTIC, ABOVE THE ROOFING COUNTER FLASHING, WAS FOUND, THRU TESTING, TO CONTAIN ASBESTOS. THIS WAS ABATED: TOTAL –578 LF.

7. PORTICO ROOFS
ALL EXISTING ROOFING AND FLASHING WERE REMOVED AND REPLACED WITH GARLAND ROOFING MATERIALS. NEW COPPER DRAIN PANS AND FLASHINGS WERE INSTALLED. THE DRAIN PANS ON THE NORTH, SOUTH AND EAST PORTICO ROOFS WERE CONNECTED TO THE EXISTING 2-INCH COPPER PIPING. THE WEST PORTICO DRAINS HAD 2-INCH CORRUGATED PIPE REMOVED AND THE EXISTING 3-INCH AND 4-INCH PIPE WERE RE-LINED. ALL ROOFS WERE COATED WITH WHITE KNIGHT PLUS (A GARLAND PRODUCT). MASONRY JOINTS ON THE PARAPET WALLS WERE RAKED OUT AND RE-POINTED. THE CAP STONE JOINTS WERE RAKED OUT, LEAD "T" AND "V" CAPS WERE INSTALLED, AND CAULKED. TOTAL – 1,487 LF.

8. LIGHTNING RODS
EXISTING LIGHTNING RODS WERE LEFT ON THE CHIMNEYS PER THE REQUEST OF THE NATIONAL PARK SERVICE (NPS). PER INSTRUCTIONS OF THE NPS, SECONDARY RODS WERE NOT INSTALLED. THE NATIONAL PARK SERVICE WAS INFORMED THIS SYSTEM WOUDL NOT BE UL CERTIFIED.



A / A0.1 DEMO/EXISTING CONDITION PLAN
LIGHTNING PROTECTION PLAN

LEGEND

- LIMESTONE CHIMNEY
- ATTIC VENTILATOR
- PLUMBING VENT
- BRICK CHIMNEY
- (#) NOTE REFERENCE
- SKYLIGHT
- LIGHTNING ROD
- LIGHTNING CONDUCTOR (EXPOSED)
- DRAIN
- NEW ROOF PENETRATIONS FOR LIGHTNING PROTECTION

8 0 8 16
SCALE OF FEET

DESIGNED: CHC, BES CADD: BES, CHC TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A0.1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF DEMO/EXISTING CONDITIONS PLAN VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 2 OF 15

2/2/11 10:46 MITRACY R17 P:\VAMA\014806\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\02-A0-1 DEMO PLAN.DWG XREFS: ..\BASES\VARFPLAN.DWG; ..\BASES\VANOTES.DWG

EXISTING ROOF CONDITIONS

ROOF DECK CONSISTS OF EARLY CAST-IN-PLACE REINFORCED CONCRETE WITH ASSUMED APPROXIMATELY 2" TOPPING OF LIGHTWEIGHT CINDER CONCRETE. THE STRUCTURAL ROOF IS SLOPED TO ACHIEVE MAIN ROOF SLOPES. IT IS ASSUMED THAT EXISTING DECK DOES NOT PROVIDE POSITIVE SLOPE TO DRAINS AT PERIMETER. DECK ENGAGES TOP FLANGES OF STEEL I-BEAMS BEARING ON PERIMETER & INTERIOR MASONRY WALLS.

ROOFING SCOPE

1. NEW MODIFIED BITUMEN ROOFING SYSTEM, GARLAND ROOF SYSTEM
   A. REMOVE ALL EXISTING ROOFING LAYERS, TAPERED NONCEMENTITIOUS MATERIAL & RELATED FLASHING TO FACE OF EXISTING CONCRETE DECK, CONCRETE CURBS, MASONRY PARAPET WALLS & CHIMNEYS. CAREFULLY REMOVE WOOD BATTENS TO MINIMIZE DAMAGE TO CONCRETE DECK. INSPECT CONCRETE & PATCH ALL SPALLS & CRACKS GREATER THAN 1/4" WIDE. (SEE STRUCTURAL SHEETS FOR ADDITIONAL REPAIRS TO CONCRETE SUBSTRATE). PREPARE CONCRETE DECK & MASONRY SURFACES FOR NEW FLASHING & ROOFING SYSTEMS.
   B. ADHESIVE APPLY TAPERED INSULATION MATERIAL TO ROOF DECK ONLY WHERE REQUIRED TO CREATE POSITIVE SLOPE TO ROOF DRAINS, & TO REPLACE MISSING CRICKETS (ASSUME 2 CRICKETS). PROVIDE 1/4" PER FT. MIN. POSITIVE SLOPE AWAY (PERPENDICULAR) FROM PARAPET WALLS, & 1/8" PER FT. MIN. POSITIVE SLOPE (PARALLEL TO THE WALLS) TO THE DRAINS. TOP OF INSULATION TO BE 13 MIN. BELOW EXISTING REGLET.
   C. ~~INSTALL NEW TORCH DOWN MODIFIED BITUMEN ROOFING SYSTEM OVER COVER BOARD OVER EXISTING CONCRETE DECK.~~
   - ~~PRIME CONCRETE DECK WITH BITUMINOUS BASED PRIMER.~~
   - ~~ADHESIVE APPLY COVER BOARD. OVER CONCRETE & TAPERED INSULATION.~~
   - ~~INSTALL TORCH GRADE VENTED (SEMI-ADHERED) BASE SHEET, TORCH GRADE FULLY ADHERED INTERMEDIATE SHEET, & TORCH GRADE FULLY ADHERED CAP SHEET.~~

   PROVIDE 18" MIN. WIDE STRIPS RUNNING DOWN EACH VALLEY, PRIOR TO 1ST PLY STARTING AT VALLEY. EACH SUBSEQUENT ROLL TO OVERLAP PREVIOUS ROLL. EACH STRIP TO BE LAID, ACCORDING TO SLOPE, TO PREVENT BACK WATER LAPS, PER MANUFACTURER'S INSTRUCTIONS.
   D. INSTALL NEW BASE FLASHINGS, AS INDICATED, AT SKYLIGHT CURBS, PARAPET WALLS, CHIMNEYS, ROOF DRAINS, & ALL ROOF PENETRATIONS.
   E. PROVIDE NEW COPPER COUNTERFLASHING AT SKYLIGHT CURBS, PARAPET WALLS, CHIMNEYS & OTHER LOCATIONS TO REPLACE ORIGINAL COUNTERFLASHING.
   F. INSTALL 2'-6" x 5'-0" TRAFFIC PROTECTION PANELS ADJACENT TO ROOF ACCESS, AS INDICATED (TYP. OF 3).
   NOTE: 3/4" PLYWOOD INSTALLED OVER ENTIRE CONCRETE ROOF DECK. SPACING 2'-0" ON CENTER AND EVERY 1'-0" ALONG EDGES. H CLIPS INSTALLED IN ALL JOINTS.

PLUMBING SCOPE

2. A. INSTALL NEW CAST IRON DRAINS IN EXISTING DRAIN LOCATIONS, INCORPORATING BEARING PANS & UNDER-DECK CLAMPS (TYP. OF 8). DO NOT REDUCE EXISTING DRAIN DIAMETERS. SEE STRUCTURAL FOR ADDED SUPPORT STEEL.
   B. INSTALL NEW THRU-DECK LEADERS, COUPLERS, & OTHER TIE-IN COMPONENTS TO EXISTING DRAIN PIPES BELOW.
   C. INSPECT DRAIN CONNECTIONS TO EXISTING DRAIN PIPES AT ATTIC LEVEL FOR WATER TIGHTNESS.

SKYLIGHTS REPAIR SCOPE

3. REFER TO NOTES ON SHEET A5.1.

MASONRY REPAIR SCOPE

ALL MASONRY WORK WILL BE PERFORMED FROM A HIGH-LIFT (NO SCAFFOLDING). PROTECT SURROUNDING LAWN & LANDSCAPING.

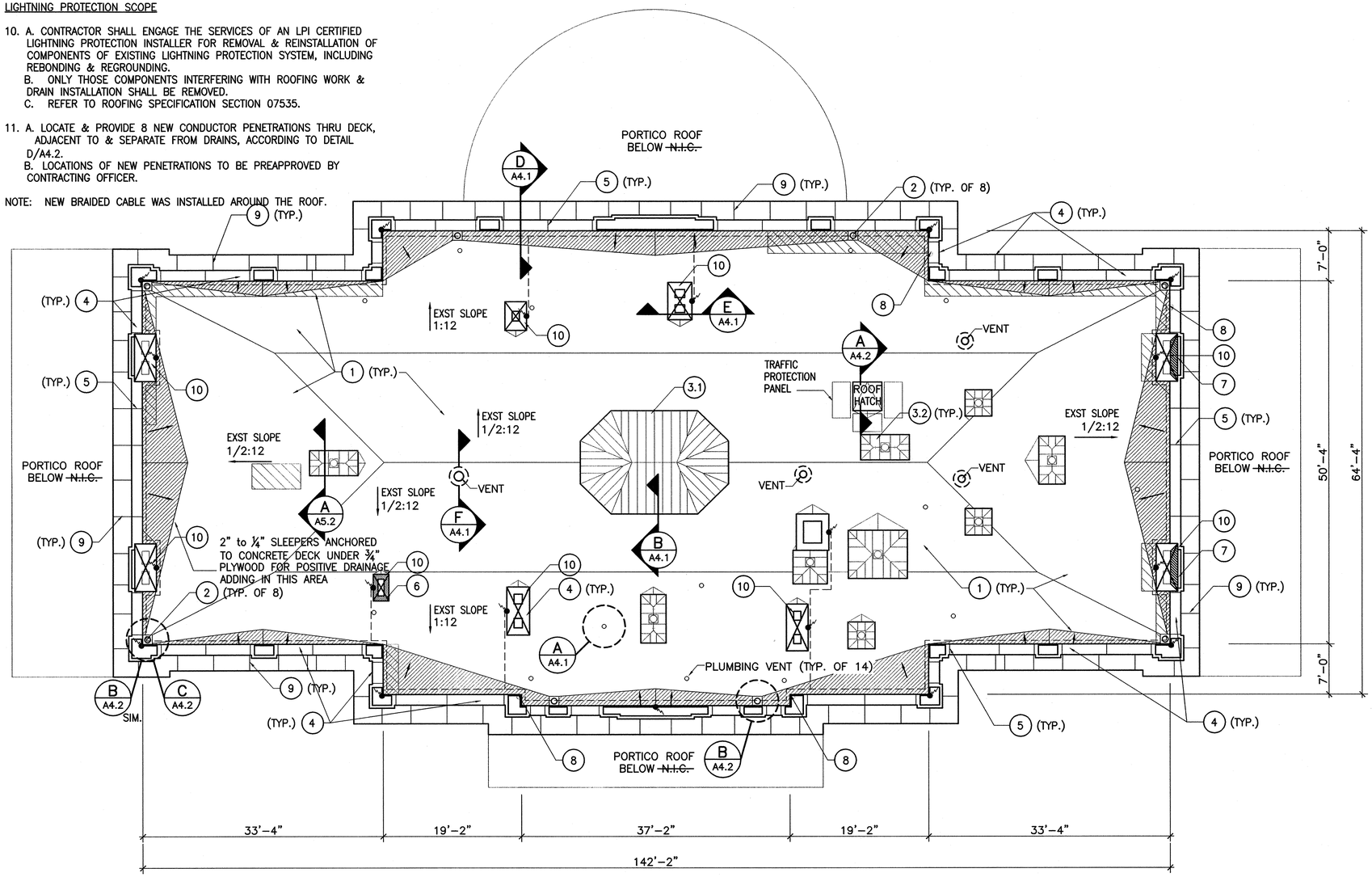
4. RAKE OUT DETERIORATED MORTAR JOINTS & REPOINT JOINTS AT LIMESTONE CORNICE, PARAPET WALLS, BALUSTRADE, & CHIMNEYS (SEE DETAIL A/A3.1). JOINTS REQUIRING REPOINTING ARE THOSE THAT ARE MISSING, LOOSE, OR WEATHERED TO THE DEGREE THAT THEY NO LONGER SHED WATER. ASSUME THE FOLLOWING QUANTITIES:
   25% OF LIMESTONE CORNICE (FACE & UNDERSIDE) – APPROX. 112 LF TOTAL REPOINTING.
   25% BASE OF BALUSTRADE & PARAPET WALL (HORIZ. JOINT) – APPROX. 217 LF TOTAL REPOINTING.
   25% BASE OF BALUSTRADE & PARAPET WALL (VERT. JOINT) – APPROX. 74 LF TOTAL REPOINTING.
   TOP/BOTTOM OF BALUSTERS – APPROX. 143 LOCATIONS @ 3 LF EACH.
   25% ABANDONED REGLET– APPROX. 104 LF TOTAL REPOINTING.
   LIMESTONE CHIMNEYS – 10 LOCATIONS @ 1 LF AT EACH CHIMNEY.
5. REMOVE 100% OF BUTYL SEALANT ON TOP OF BALUSTRADE. INSTALL BACKER-ROD, SEALANT & LEAD TEE-CAP AT ALL JOINTS (SEE DETAIL A/A3.1 & DETAIL B/A3.1). ASSUME 84 JOINTS @ 1.5 LF EACH.
6. RAKE & REPOINT 100% OF BRICK CHIMNEY & APPLY WATER REPELLANT TO ALL 4 SIDES. APPROX. 180 LF OF REPOINTING.
7. REMOVE & RESET LOOSE STONE CROWN.
8. INSTALL LIMESTONE DUTCHMAN PATCH AT PARAPET WALL. 4" X 2" X 8" PIECE AT 2 LOCATIONS & 2" X 2" X 2" PIECE AT 4 LOCATIONS.
9. RAKE OUT MORTAR JOINTS ON TOP OF CORNICE. INSTALL BACKER ROD, SEALANT & LEAD TEE-CAP AT ALL JOINTS (SEE DETAIL A/A3.1 & DETAIL B/A3.1). ASSUME 96 JOINTS @ 3 LF EACH.

LIGHTNING PROTECTION SCOPE

10. A. CONTRACTOR SHALL ENGAGE THE SERVICES OF AN LPI CERTIFIED LIGHTNING PROTECTION INSTALLER FOR REMOVAL & REINSTALLATION OF COMPONENTS OF EXISTING LIGHTNING PROTECTION SYSTEM, INCLUDING REBONDING & REGROUNDING.
    B. ONLY THOSE COMPONENTS INTERFERING WITH ROOFING WORK & DRAIN INSTALLATION SHALL BE REMOVED.
    C. REFER TO ROOFING SPECIFICATION SECTION 07535.

11. A. LOCATE & PROVIDE 8 NEW CONDUCTOR PENETRATIONS THRU DECK, ADJACENT TO & SEPARATE FROM DRAINS, ACCORDING TO DETAIL D/A4.2.
    B. LOCATIONS OF NEW PENETRATIONS TO BE PREAPPROVED BY CONTRACTING OFFICER.

NOTE: NEW BRAIDED CABLE WAS INSTALLED AROUND THE ROOF.



A/A1.1 ROOF PLAN

NOTE:

1. ONLY MEMBRANE ROOF, ASSOCIATED FLASHINGS, & DRAINS ARE NEW. ALL OTHER ELEMENTS SHOWN ARE EXISTING, INCLUDING INTERNAL LEADERS & LIGHTNING PROTECTION. SEE SKYLIGHT SHEETS FOR REPAIRS TO & REPLACEMENT COMPONENTS TO SKYLIGHTS. SEE STRUCTURAL SHEETS FOR SELECTIVE REPLACEMENT OF & REPAIRS TO CONCRETE ROOF STRUCTURE.

2. STRENGTH & INTEGRITY OF THE CONCRETE DECK HAS NOT BEEN TESTED. REFER TO SPECIFICATIONS & STRUCTURAL SHEETS FOR TESTING REQUIREMENTS PRIOR TO FULL COMMENCEMENT OF ROOF WORK.

NOTE: A TOTAL OF 4,607 LF OF JOINTS WERE RAKED OUT AND RE-POINTED, LEAD "T" CAP WAS INSTALLED ON TOP OF THE BALUSTRADE AND AT THE BASE STONE OF THE PARAPET ABOVE THE ROOF COUNTER-FLASHING.

NOTE: KALIMEX HAD CORE DRILLED THE EXISTING CONCRETE DECK AND HAD IT COMPRESSION TESTED. KALIMEX ALSO SUPPLIED A WRITTEN REPORT TO THE nps FROM AN INDEPENDENT ENGINEER (BETZWOOD ASSOCIATES), WHICH LISTED THEIR RECOMMENDATIONS ON THE CONCRETE DECK. NO CORRECTIVE ACTIONS WERE TAKEN, AS PER THE ENGINEER'S REPORT.

LEGEND

- LIMESTONE CHIMNEY
- ATTIC VENTILATOR
- PLUMBING VENT
- BRICK CHIMNEY
- (#) NOTE REFERENCE
- SKYLIGHT
- AREAS TO RECEIVE TAPERED INSULATION (ASSUMED STRUCTURAL DECK DOES NOT PROVIDE POSITIVE SLOPE TO DRAINS)
- LIGHTNING ROD
- LIGHTNING CONDUCTOR (EXPOSED)
- DRAIN
- AREAS PATCHED WITH SIKAQUICK 1000
- (10) CHIMNEYS CAPPED WITH LEAD LINED COPPER

8 0 8 16
SCALE OF FEET

DESIGNED: CHC, BES DRAWN: BES, CHC TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A1.1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF ROOF PLAN VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 3 OF 15

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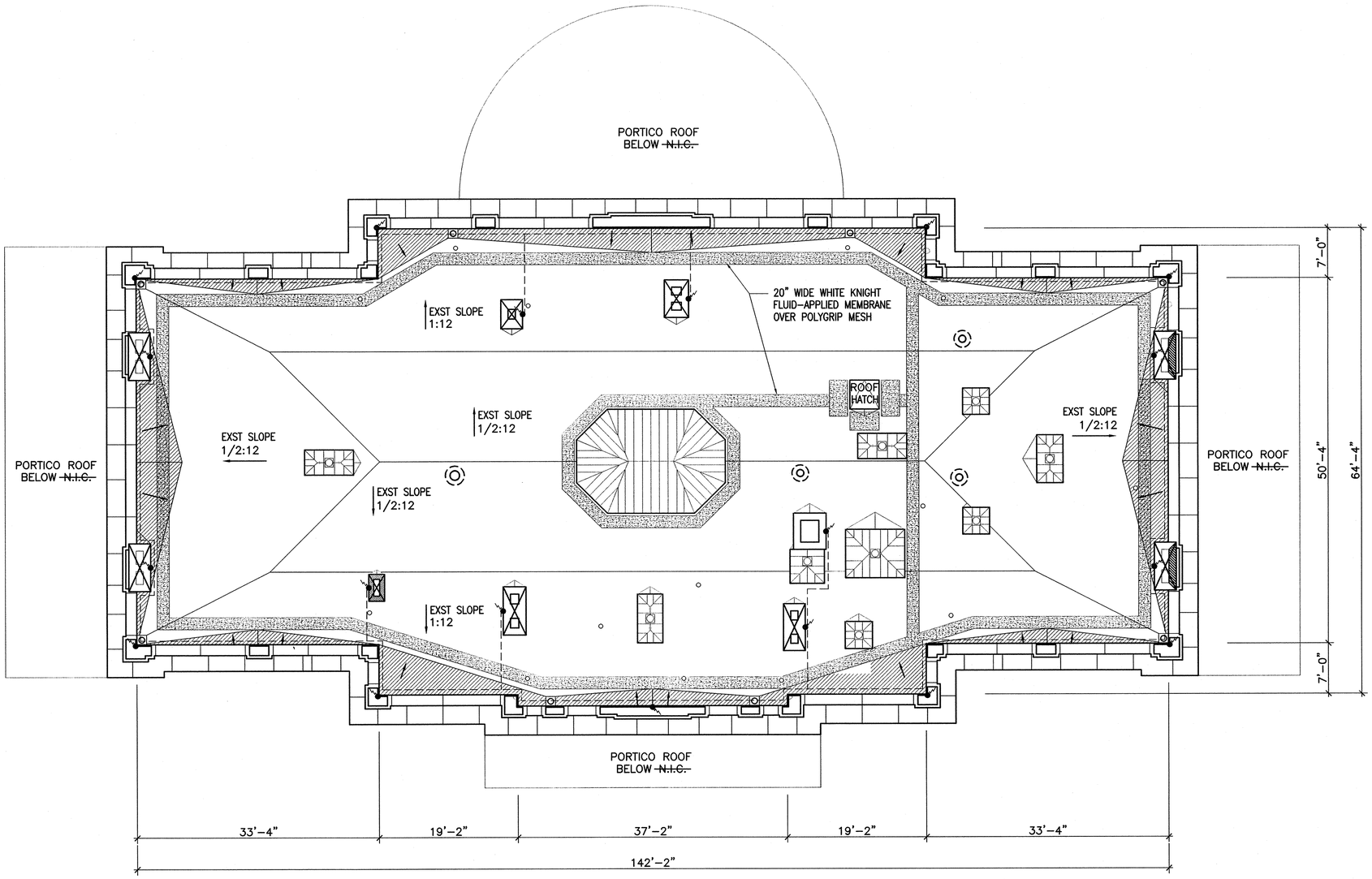

A / A1.2 TRAFFIC PROTECTION PLAN

LEGEND

- TRAFFIC GUARD TRAFFIC PROTECTION PAD
- WHITE KNIGHT FLUID-APPLIED MEMBRANE OVER POLYGRIP MESH

8 0 8 16
SCALE OF FEET

DESIGNED: CHC, BES CADD: BES, CHC TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A1.2	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF TRAFFIC PROTECTION PLAN VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 4 OF 15

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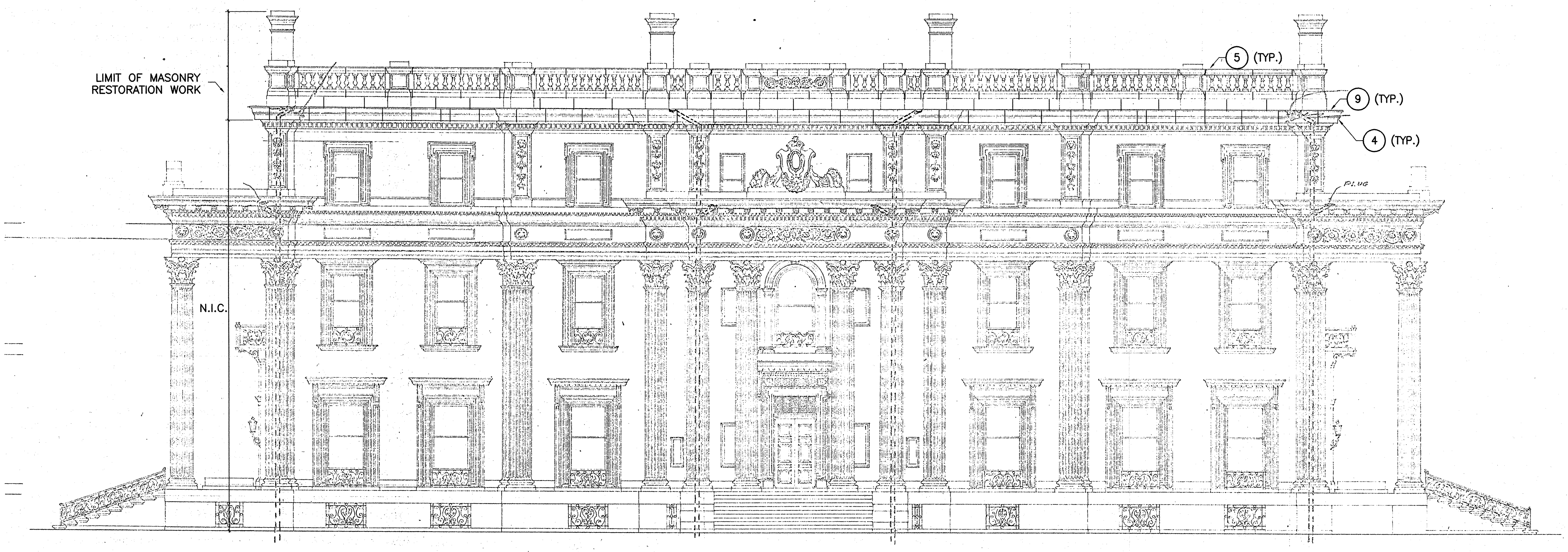
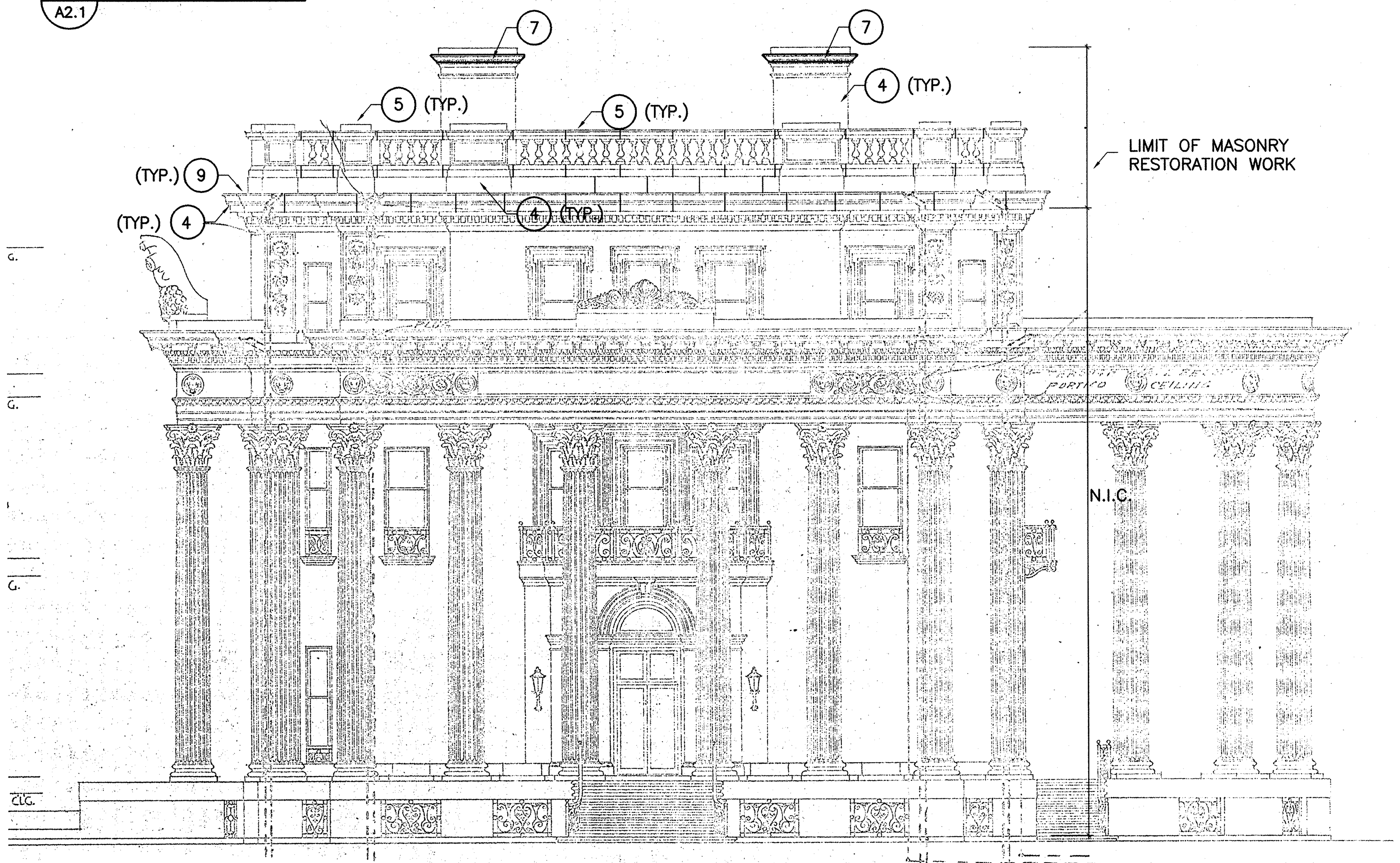


A/A2.1 EAST ELEVATION



B/A2.1 NORTH ELEVATION

KEY NUMBERS REFERENCE MASONRY REPAIR SCOPE NOTES ON SHEETS A1.1 & A3.1.

8 0 8 16
SCALE OF FEET

DESIGNED: CHC, BES	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 382 / 25004A
CADD: BES, CHC	A2.1	REHABILITATE FAILED VANDERBILT MANSION ROOF	PMIS/PKG NO. VAMA 14806
TECH. REVIEW: CHC		E&N ELEVATIONS	SHEET
DATE: APR 13, 2009		VANDERBILT MANSION NATIONAL HISTORIC SITE	5 OF 15

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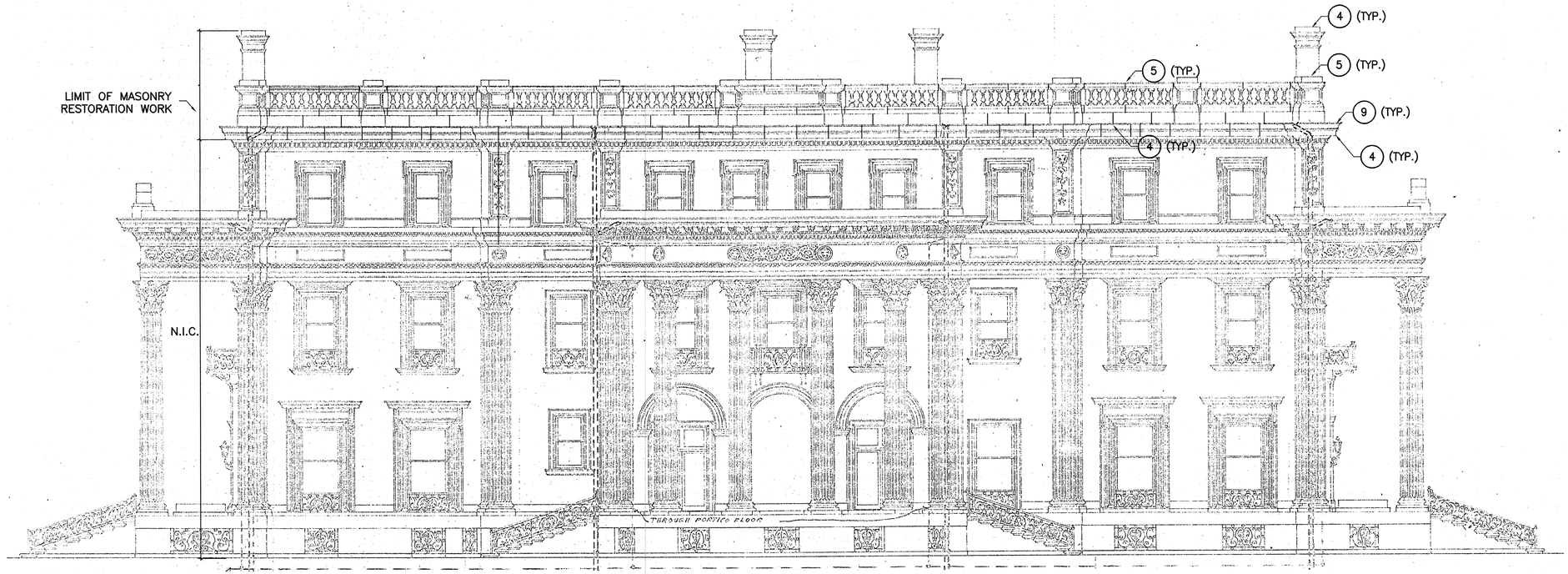
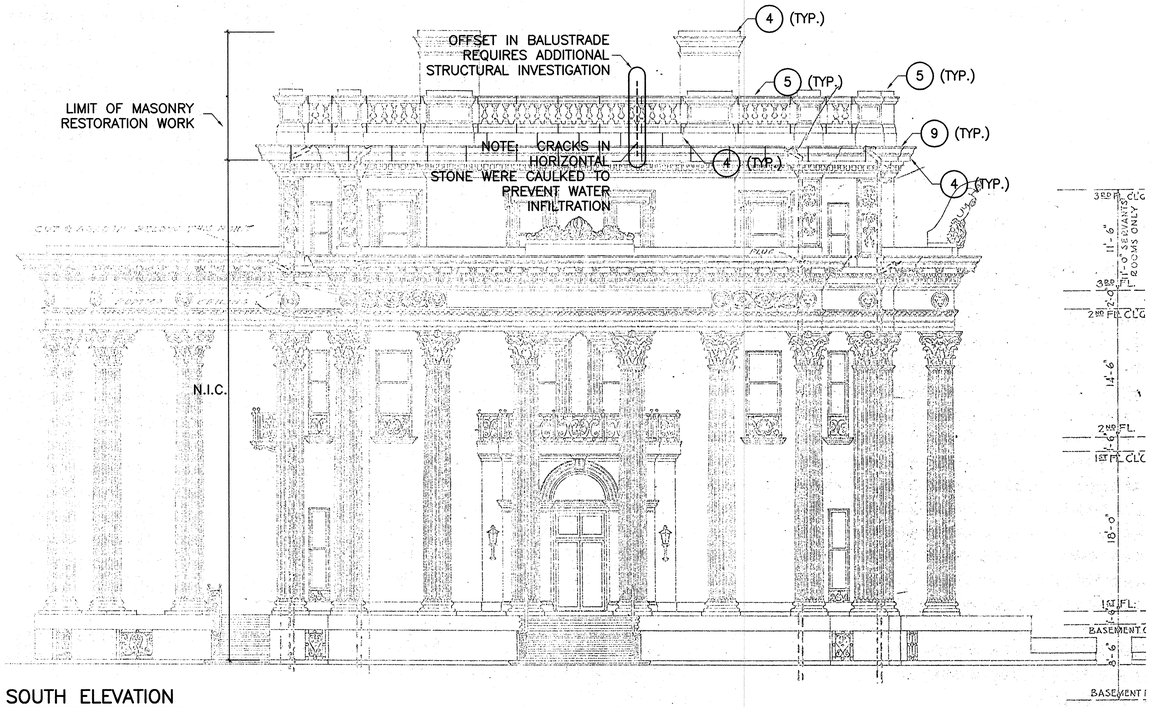


A A2.2 WEST ELEVATION



B A2.2 SOUTH ELEVATION

KEY NUMBERS REFERENCE MASONRY REPAIR SCOPE NOTES ON SHEETS A1.1 & A3.1.

8 0 8 16
SCALE OF FEET

DESIGNED: CHC, BES CADD: BES, CHC TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A2.2	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF W&S ELEVATIONS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 6 OF 15

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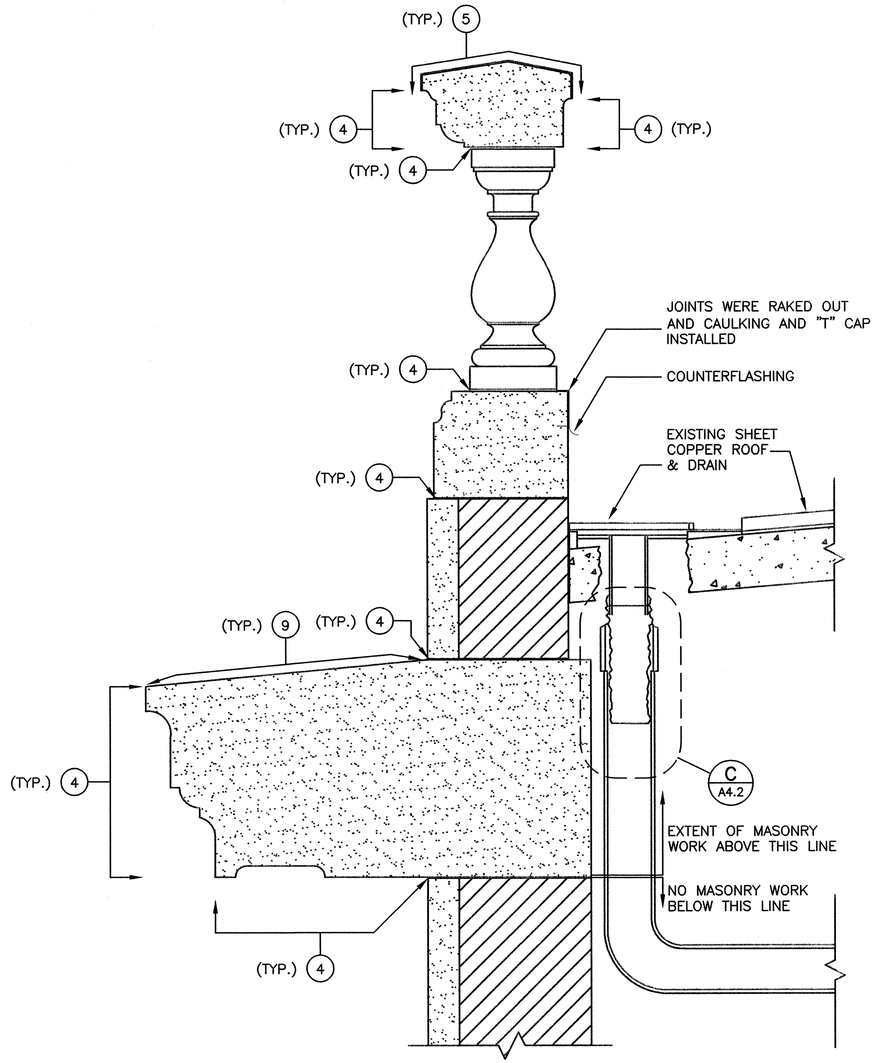
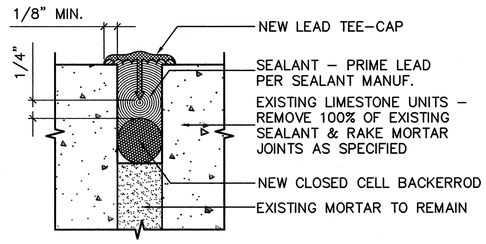


A A3.1 TYPICAL PARAPET SECTION – EXISTING CONDITIONS
SCALE A

SEE SHEET A4.2 FOR REPLACEMENT DRAIN AND ROOF TERMINATION AT PARAPET DETAILS.



B A3.1 LEAD TEE–CAP FLASHING DETAIL
SCALE B

MASONRY REPAIR SCOPE NOTES MATCH THE NOTES ON SHEET A1.1.

MASONRY REPAIR SCOPE

ALL MASONRY WORK WILL BE PERFORMED FROM A HIGH–LIFT (NO SCAFFOLDING). PROTECT SURROUNDING LAWN & LANDSCAPING.

4. RAKE OUT DETERIORATED MORTAR JOINTS & REPOINT JOINTS AT LIMESTONE CORNICE, PARAPET WALLS, BALUSTRADE, & CHIMNEYS (SEE DETAIL A/A3.1). JOINTS REQUIRING REPOINTING ARE THOSE THAT ARE MISSING, LOOSE, OR WEATHERED TO THE DEGREE THAT THEY NO LONGER SHED WATER. ASSUME THE FOLLOWING QUANTITIES:
   25% OF LIMESTONE CORNICE (FACE & UNDERSIDE) – APPROX. 112 LF TOTAL REPOINTING.
   25% BASE OF BALUSTRADE & PARAPET WALL (HORIZ. JOINT) – APPROX. 217 LF TOTAL REPOINTING.
   25% BASE OF BALUSTRADE & PARAPET WALL (VERT. JOINT) – APPROX. 74 LF TOTAL REPOINTING.
   TOP/BOTTOM OF BALUSTERS – APPROX. 143 LOCATIONS @ 3 LF EACH.
   25% ABANDONED REGLET– APPROX. 104 LF TOTAL REPOINTING.
   LIMESTONE CHIMNEYS – 10 LOCATIONS @ 1 LF AT EACH CHIMNEY.
5. REMOVE 100% OF BUTYL SEALANT ON TOP OF BALUSTRADE. INSTALL BACKER–ROD, SEALANT & LEAD TEE–CAP AT ALL JOINTS (SEE DETAIL A/A3.1 & DETAIL B/A3.1). ASSUME 84 JOINTS @ 1.5 LF EACH.
6. RAKE & REPOINT 100% OF BRICK CHIMNEY & APPLY WATER REPELLANT TO ALL 4 SIDES. APPROX. 180 LF OF REPOINTING.
7. REMOVE & RESET LOOSE STONE CROWN.
8. INSTALL LIMESTONE DUTCHMAN PATCH AT PARAPET WALL. 4" X 2" X 8" PIECE AT 2 LOCATIONS & 2" X 2" X 2" PIECE AT 4 LOCATIONS.
9. RAKE OUT MORTAR JOINTS ON TOP OF CORNICE. INSTALL BACKER ROD, SEALANT & LEAD TEE–CAP AT ALL JOINTS (SEE DETAIL A/A3.1 & DETAIL B/A3.1). ASSUME 96 JOINTS @ 3 LF EACH.

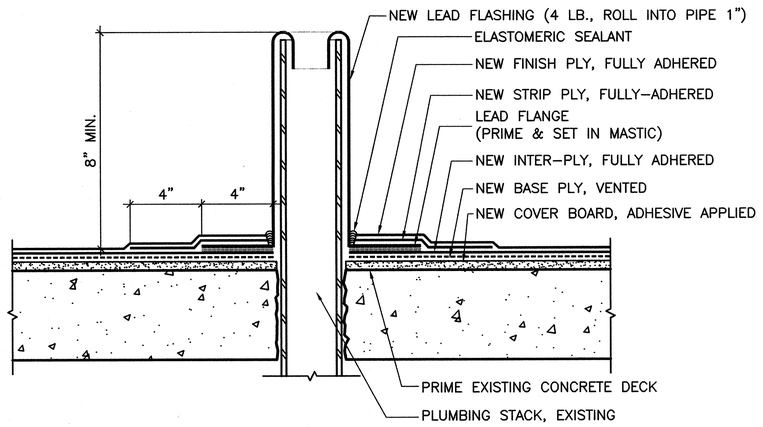
NOTE: A TOTAL OF 4,607 LF OF JOINT WERE RAKED OUT AND RE–POINTED.

SCALE (A) 12 6 0 12
SCALE OF INCHES

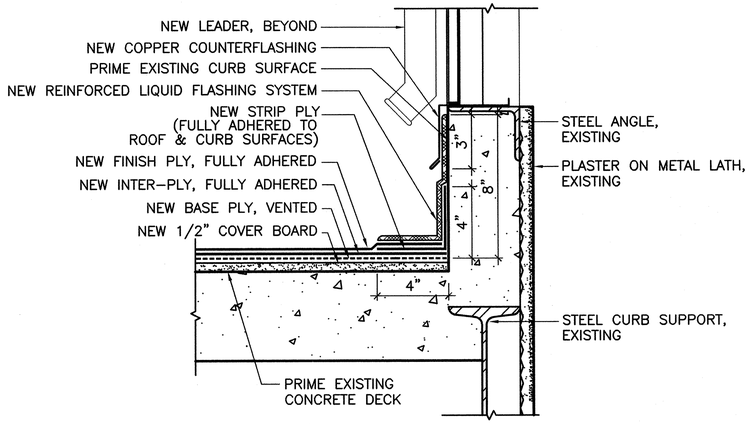
SCALE (B) 1 0 1 2
SCALE OF INCHES

DESIGNED: CHC, BES DRAWN: BES, CHC TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A3.1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF MASONRY REPAIR DETAILS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 7 OF 15

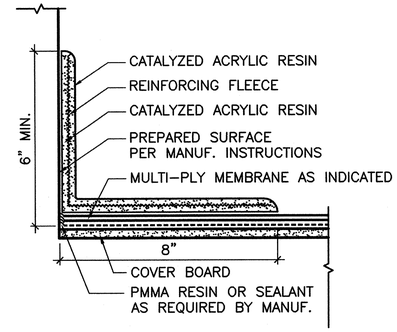
2/2/11 10:51 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\07-A3-1 MASONRY REPAIR DETAILS.DWG XREFS: ..\BASES\VAPAROTL.DWG; ..\BASES\VANOTES.DWG;



A A4.1 FLASHING DETAIL @ WASTE STACK/PLUMBING VENTS (TYP. of 14)
SCALE A

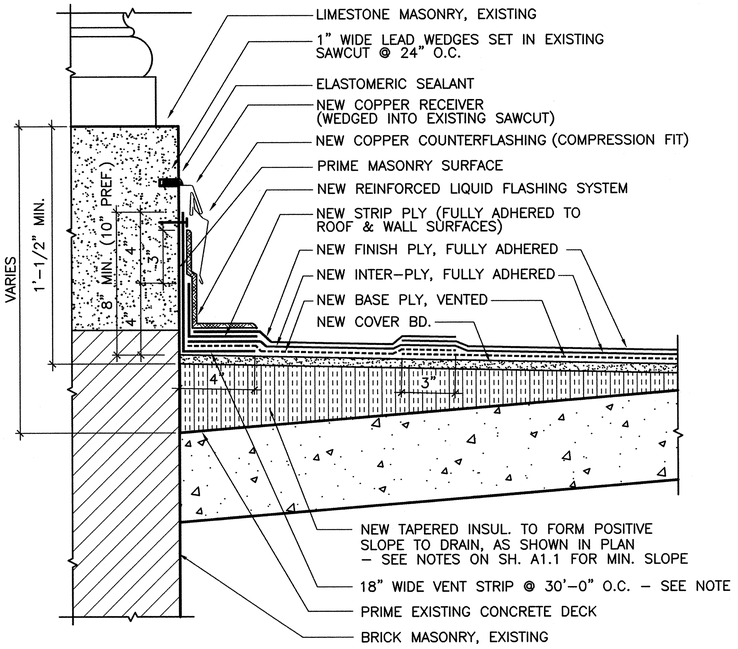


B A4.1 FLASHING DETAIL @ SKYLIGHT CURB, TYP.
SCALE A



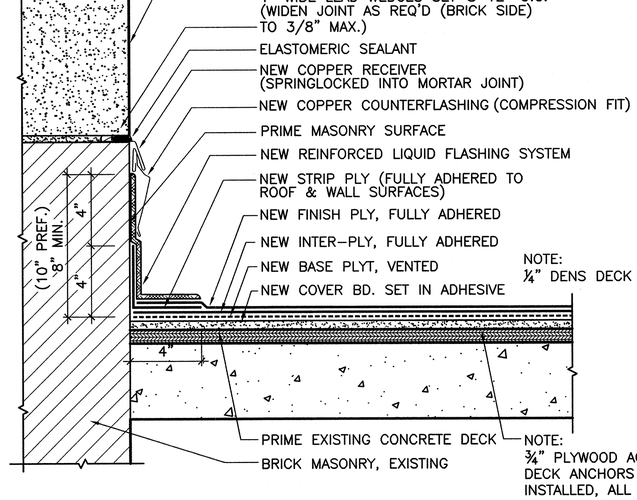
NOTE: APPLICATION OF LIQUID FLASHING SYSTEM REQUIRES STRICT ADHERENCE TO MANUFACTURER'S GUIDELINES FOR SUBSTRATE PREPARATION & REPAIR.

C A4.1 TYP. DETAIL of REINFORCED LIQUID FLASHING SYSTEM
N.T.S.

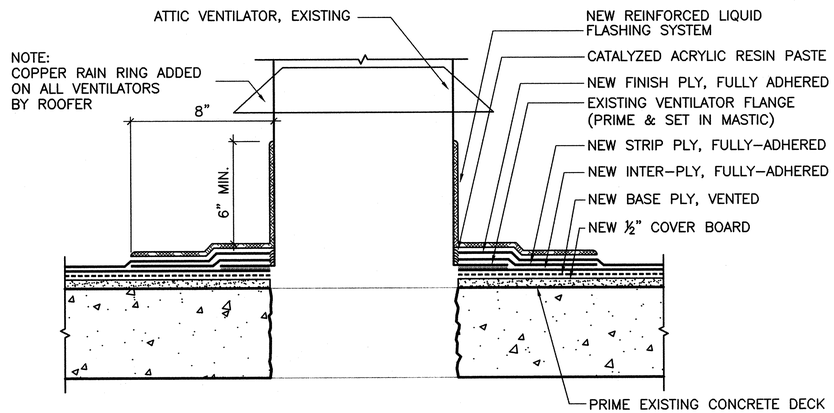


NOTE: VENT STRIP TO BE OF TOP–PLY MATERIAL APPLIED FINISH SIDE TO WALL IN FLASHING CEMENT. DISTRIBUTE FLASHING CEMENT IN THIN 3" WIDE BEAD ALONG VERT. EDGES & IN 3" DOLLOPS IN CENTER OF VENT STRIP. NAIL TOP EDGE OF VENT STRIP 9" O.C. VENT STRIP TO BE OPEN ALONG TOP EDGE – DO NOT SEAL TO PARAPET, TOP EDGE TO REMAIN CLEAR OF MEMBRANE FLASHING. FOLLOW MANUFACTURER'S RECOMMENDATION FOR INSTALLATION OF ALL VENTING COMPONENTS.

D A4.1 FLASHING DETAIL @ PARAPET, TYP.
SCALE A



E A4.1 FLASHING DETAIL @ LIMESTONE CHIMNEY, TYP.
(BRICK CHIMNEY SIMILAR)
SCALE A



F A4.1 FLASHING DETAIL @ VENTILATOR (TYP. of 4)
SCALE A

NOTE: 1. SOME PORTIONS OF THE EXISTING CONCRETE DECK ARE TO BE REPLACED. REFER TO STRUCTURAL SHEETS.

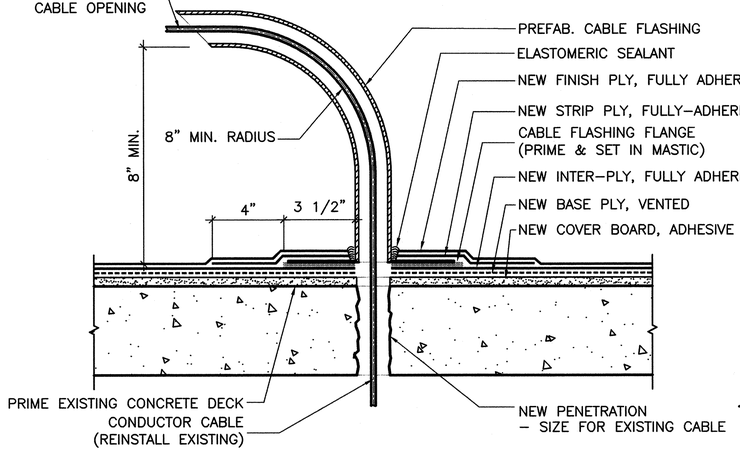
SCALE A 6 3 0 6
SCALE OF INCHES

DESIGNED: BES DRAWN: BES TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A4.1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF ROOF DETAILS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 8 OF 15

2/2/11 10:52 MTRACY R17 P:\VAMA\014806\A17.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\08-A4-1 ROOF DETAILS1.DWG; XREFS: ..\BASES\VARFDTLS.DWG;

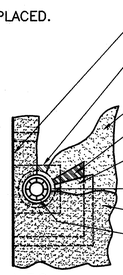
NOTE: SEALANT INSTALLED AROUND CABLE OPENING

NOTE: 1. SOME PORTIONS OF THE EXISTING CONCRETE DECK ARE TO BE REPLACED. REFER TO STRUCTURAL SHEETS.



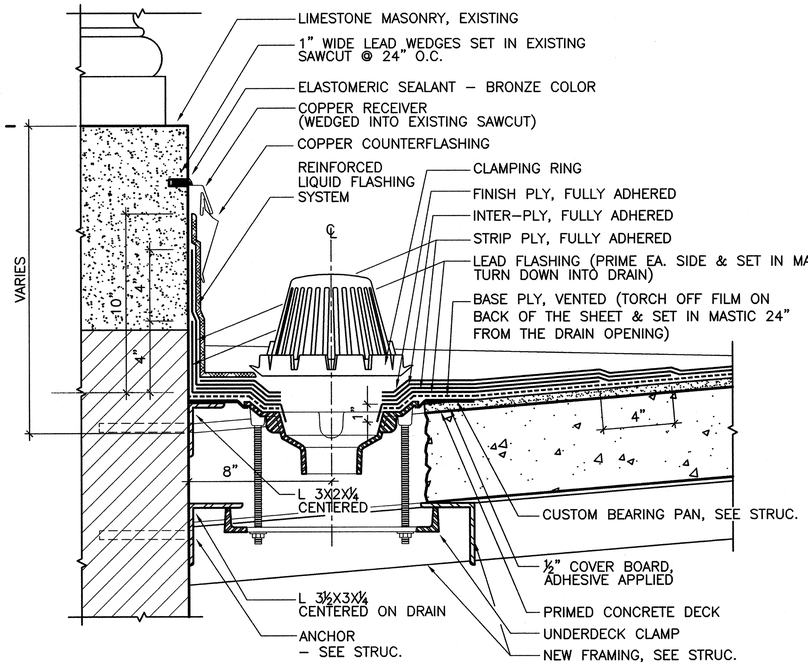
NOTE: ALLOW FOR 8" MIN. CABLE TURNING RADIUS
NEW PENETRATIONS TO BE 12" MIN. FROM WALL, 24" MIN. FROM CENTER OF DRAINS & 6" MIN. FROM STEEL BARS LOCATED IN THE CONCRETE ROOF SLAB

D / A4.2 FLASHING DETAIL @ LIGHTNING PROTECTION CABLE PENETRATION (TYP. OF 8)
SCALE A

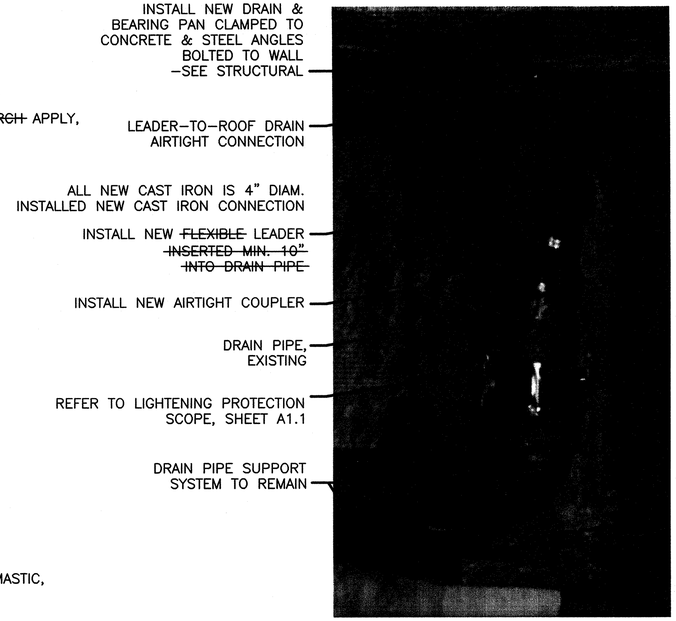


N.T.S.

PLAN VIEW



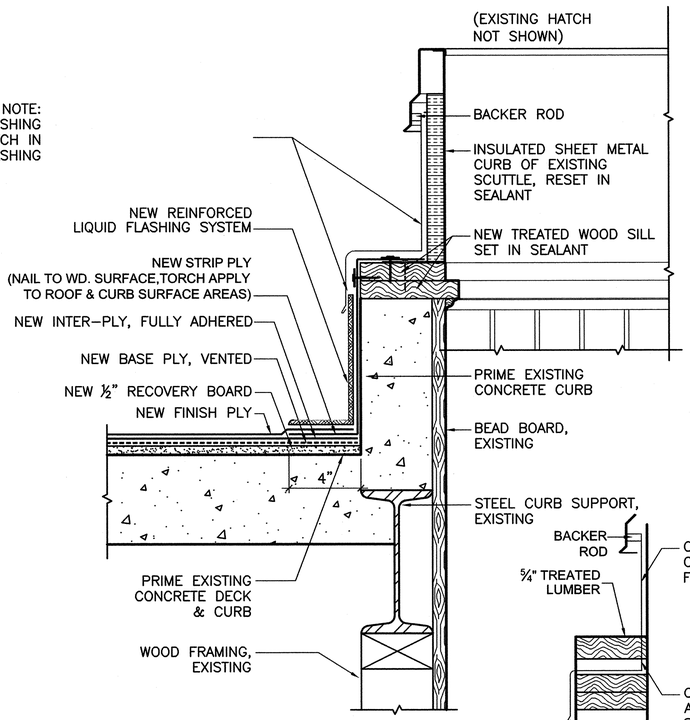
SECTION VIEW
(LEADER NOT SHOWN FOR CLARITY)



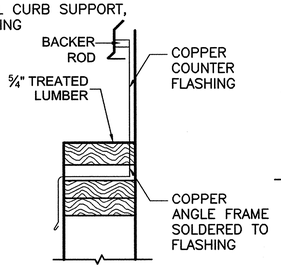
DO NOT REDUCE EXISTING DRAIN OR LEADER DIAMETERS.

E / A4.2 LEADER TIE–IN (EXISTING CONDITIONS), TYP.
N.T.S.

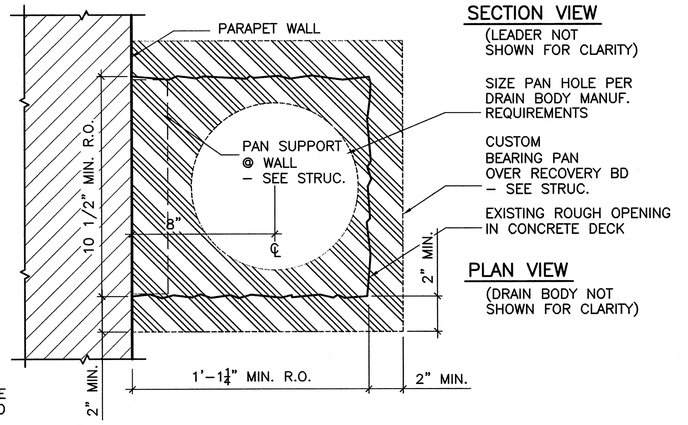
NOTE: ~~FLASHING~~ HATCH IN ~~FLASHING~~



A / A4.2 FLASHING DETAIL @ SCUTTLE
SCALE A

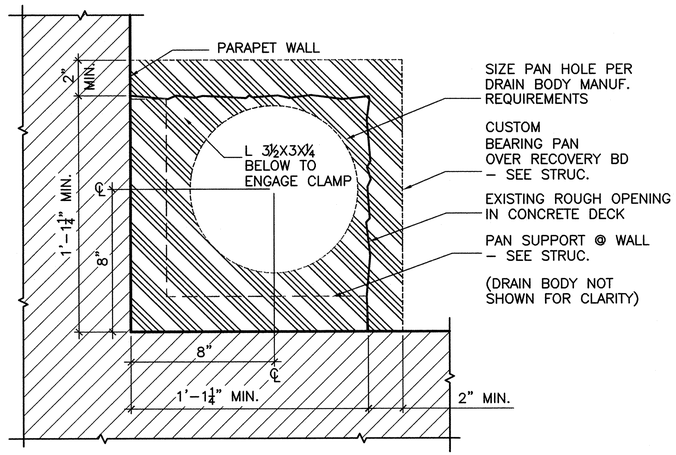


STEP DETAIL @ HATCH



PLAN VIEW
(DRAIN BODY NOT SHOWN FOR CLARITY)

B / A4.2 FLASHING DETAIL @ REPLACEMENT DRAIN, TYP
SCALE A (CORNER DRAIN FLASHING SIMILAR)



C / A4.2 CORNER DRAIN SUPPORT (TYP. OF 4)
SCALE A

SCALE Ⓐ 6 3 0 6
SCALE OF INCHES

DESIGNED: BES DRAWN: BES TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A4.2	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF ROOF DETAILS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 / 25004A PMIS/PKG NO. VAMA 14806 SHEET 9 OF 15

2/2/11 10:53 MTRACY R17 P:\VAMA\0146806A17.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\06-A4-2 ROOF DETAILS.DWG XREFS: ..\BASES\VABFDTLS.DWG

VANDERBILT MANSION ROOF
HYDE PARK, NY

SCOPE OF WORK – SKYLIGHTS

REFER TO SPECIFICATION SECTIONS 07600 – FLASHING & SHEET METAL, & 08810 – GLAZING, FOR WORK DESCRIBED IN FOLLOWING NOTES.

IN AREAS WHERE SKYLIGHT COMPONENTS ARE INDICATED FOR PARTIAL REPLACEMENT/REPAIR, IDENTIFY & QUANTIFY SUCH AREAS IN THE PRESENCE OF THE CONTRACTING OFFICER PRIOR TO COMMENCING REPAIR WORK.

3.1. CENTRAL OCTAGONAL SKYLIGHT

A. PROVIDE PROTECTION FROM FALLING DEBRIS OVER LEADED GLASS CEILING AT 3RD FLOOR LEVEL. SUBMIT PROTECTION PLAN FOR APPROVAL. IN–PLACE PROTECTION TO BE APPROVED BY CONTRACTING OFFICER PRIOR TO COMMENCEMENT OF GLASS REMOVAL, FRAME INSPECTION & REPAIR, OR RECLADDING.

B. IDENTIFY, MAP & RECORD ALL OF THE GLASS AND MUNTIN COVERS IN THE SKYLIGHT. CAREFULLY REMOVE THE GLASS & SALVAGE FOR REINSTALLATION IN ORIGINAL LOCATIONS & ORIENTATION. REMOVE ALL EXISTING SEALANT. RETAIN MUNTIN COVERS AS TEMPLATES FOR FABRICATING REPLACEMENT COVERS.

C. WITH CONTRACTING OFFICER PRESENT, INSPECT STEEL CORES IN–PLACE WITHIN JACK, HIP, AND RIDGE BARS FOR STRUCTURALLY WEAK SECTIONS, OR WHERE IRON JACKING IS PRESENT (ASSUME FULL REPLACEMENT OF THREE (3) STEEL CORES (~5%)). COAT UNCOVERED PORTIONS OF STEEL CORES WITH BITUMINOUS PAINT PRIOR TO RECLADDING. (SEE DETAILS B/A5.2 & C/A5.2 FOR LOCATIONS OF STEEL).

D. REPAIR MISSING OR BROKEN MUNTIN COVER HOLD–DOWN TABS. ASSUME 98 EACH (APPROX. 50%).

E. REMOVE FABRIC COVERINGS FROM JUNCTION OF GUTTERS WITH PERIMETER GLASS FRAME. INSPECT PERIMETER GLASS FRAME FOR DETERIORATION. ASSUME REPLACEMENT OF 30 LIN. FT. (50%) OF PERIMETER SHEET COPPER FRAME. RESTORE CONDENSATION WEEPS. REPLACE COPPER GUTTER TO MATCH EXISTING. REFER TO DETAIL D/A5.2. PROVIDE GUTTER REINFORCEMENT STRAPS AND REPLACE MISSING LEADERS AS INDICATED.

F. REMOVE OPERABLE SHEET COPPER LOUVRES, FABRICATE AND INSTALL NEW LOUVRES TO MATCH EXISTING (TYP. OF 8).

G. REMOVE AND REPLACE EXTERIOR SHEET COPPER CLADDING OF SKYLIGHT PERIMETER. INSTALL NEW SCREENING OVER NEW FIXED LOUVRES (TYP. OF 10). COAT UNCOVERED PORTIONS OF STRUCTURAL STEEL FRAME WITH BITUMINOUS PAINT PRIOR TO RECLADDING.

H. REINSTALL CAST GLASS PANELS IN THEIR ORIGINAL LOCATIONS AND ORIENTATIONS, BEDDED IN SEALANT. INSTALL NEW SHEET COPPER MUNTIN COVERS FABRICATED TO MATCH EXISTING. SEAL JOINTS OF MUNTIN COVERS WITH GLASS, AND AT TABBED HOLD–DOWNS.

3.2. RECTANGULAR SKYLIGHTS

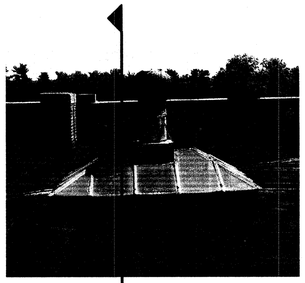
A. PROVIDE PROTECTION FROM FALLING DEBRIS BELOW SKYLIGHTS.

B. IDENTIFY, MAP & RECORD ALL SKYLIGHTS, INCLUDING GLASS AND MUNTIN COVERS IN EACH OF THE SKYLIGHTS, TYPICAL OF NINE. CAREFULLY REMOVE THE GLASS & SALVAGE FOR REINSTALLATION IN ORIGINAL LOCATIONS. RETAIN MUNTIN COVERS AS TEMPLATES FOR FABRICATING REPLACEMENT COVERS.

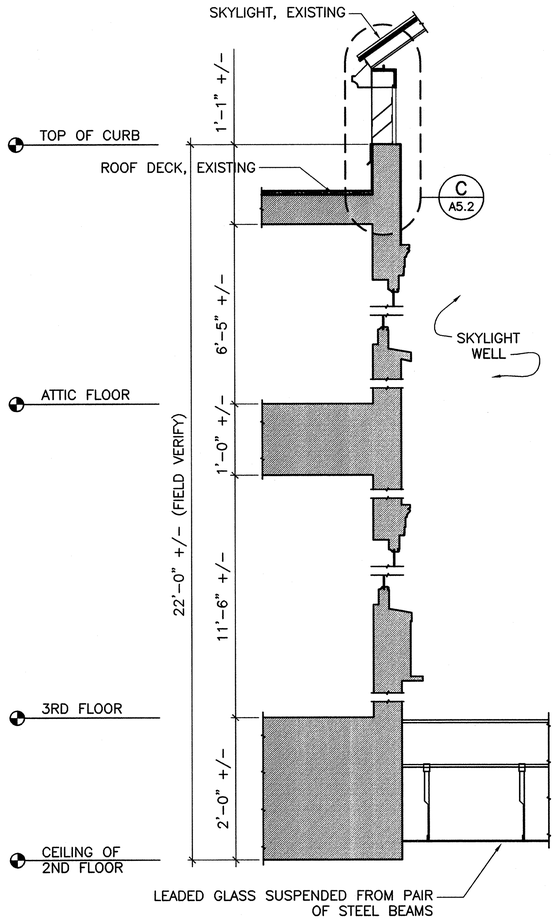
C. CAREFULLY REMOVE THE SKYLIGHT FRAME & WOOD PLATE FROM EXISTING CONCRETE CURB, SALVAGE FRAME FOR REINSTALLATION. REPAIR MISSING OR BROKEN HOLD–DOWN TABS – ASSUME TOTAL OF 90 EA. (APPROX. 50%). REPAIR DAMAGE TO THE SKYLIGHT FRAMES. (ASSUME FULL REPLACEMENT OF 50 LIN. FT. OF SHEET COPPER FRAME MATERIAL).

D. AFTER INSTALLATION OF THE NEW ROOF SYSTEM & BASE FLASHING, PROVIDE NEW PRESSURE TREATED WOOD PLATE ON EXISTING CONCRETE CURB & REINSTALL SKYLIGHT FRAME IN ITS ORIGINAL LOACATION AND ORIENTATION OVER NEW 20 oz. COPPER COUNTER FLASHING.

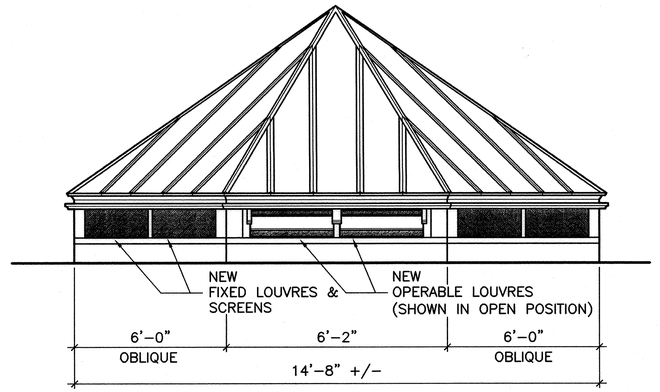
E. REINSTALL GLASS PANELS IN FRAMES IN THEIR ORIGINAL LOCATIONS & ORIENTATION, BEDDED IN SEALANT. INSTALL NEW SHEET COPPER MUNTIN COVERS FABRICATED TO MATCH EXISTING. SEAL JOINTS OF MUNTN COVERS WITH GLASS, AND AT TABBED HOLD–DOWNS.



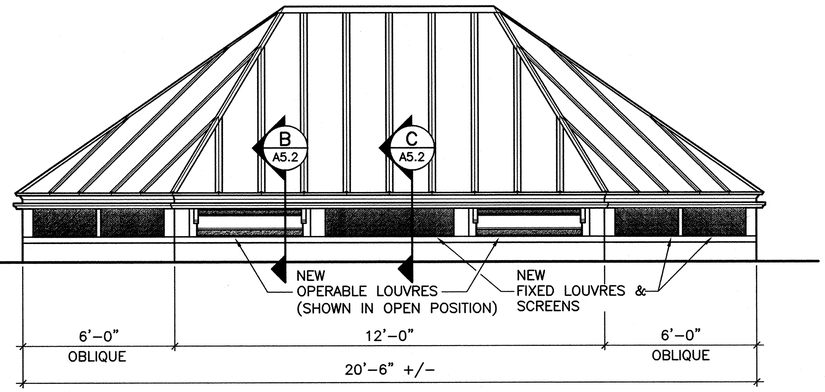
A A5.1 ELEVATION of RECTANGULAR SKYLIGHT, TYP.
N.T.S.



D A5.1 SECTION @ MAIN SKYLIGHT/LEADED GLASS CEILING
SCALE B



B A5.1 END ELEVATION of OCTAGONAL SKYLIGHT
SCALE A



C A5.1 LONG ELEVATION of OCTAGONAL SKYLIGHT
SCALE A

NOTES:

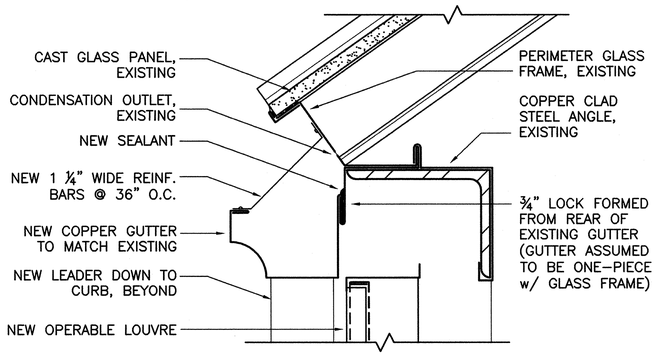
1. THE TWO (2) ORIGINAL DOWNSPOUTS WERE REPLACED AND A NEW ONE WAS ADDED IN THE NORTHWEST CORNER OF THE SKYLIGHT (THE LOWEST CORNER OF THE SKYLIGHT FRAMING).
2. THERE WERE FOUR (4) PANES OF GLASS THAT REPLACED THE PATCHED ORIGINALS. THE ORIGINAL GLASS WAS TURNED OVER TO THE NATIONAL PARK SERVICE. THE NEW GLASS IS LAMINATED GLASS.

SCALE (A) 2 0 2 4
SCALE OF FEET

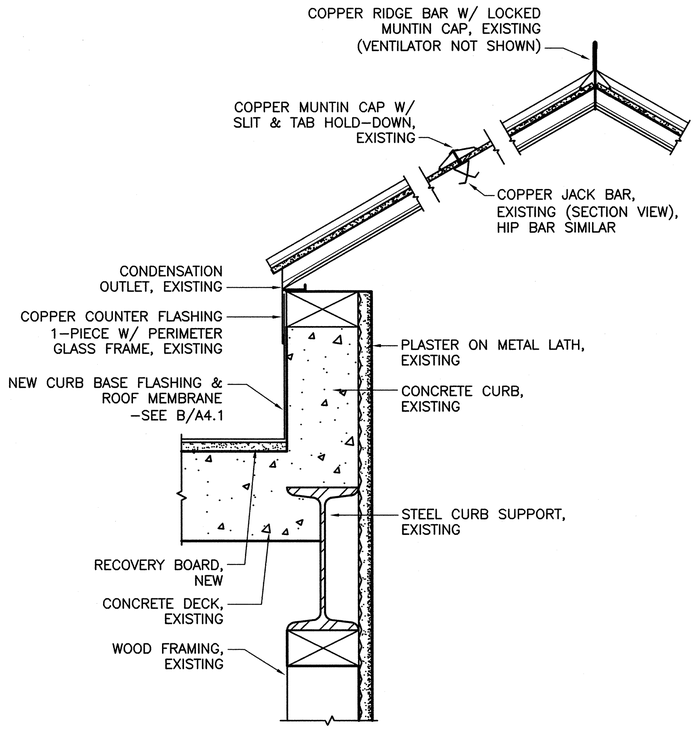
SCALE (B) 1 0 1 2
SCALE OF FEET

DESIGNED: CHC, BES ADD BES TECH. REVIEW: CHC DATE: APR 13, 2009	SUB SHEET NO. A5.1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF SKYLIGHT ELEVATIONS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 / 25004A PMIS/PKG NO. VAMA 14806 SHEET 10 OF 15

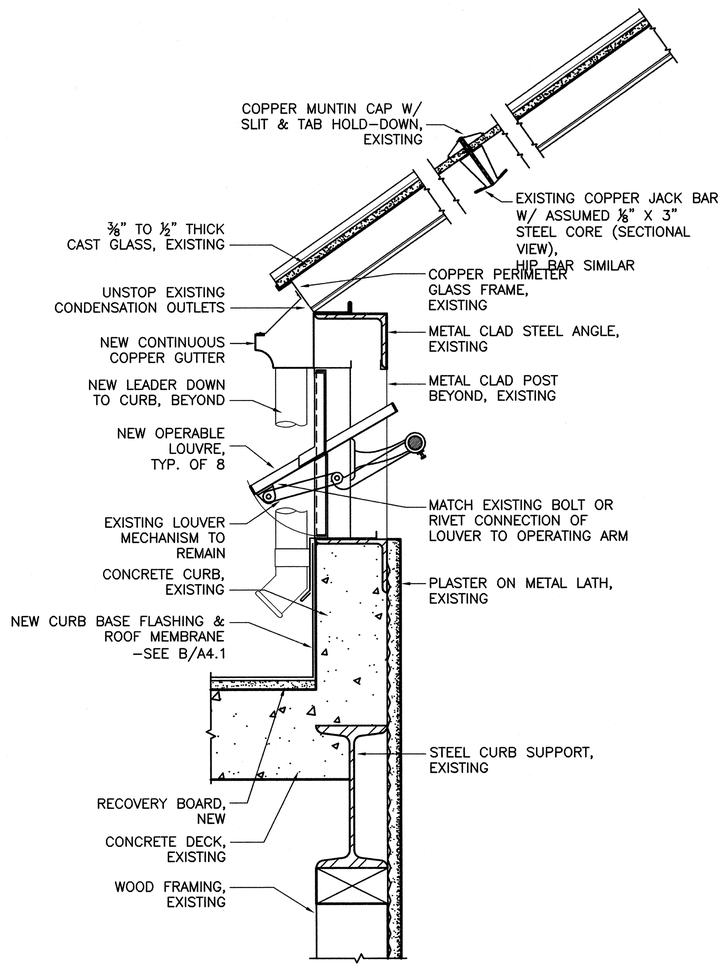
2/2/11 10:54 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\10-A5-1 SKYLIGHT ELEVS.DWG XREFS: ..\BASES\VASKYOTL.DWG;



D / A5.2 DETAIL of REPLACEMENT GUTTER
SCALE B

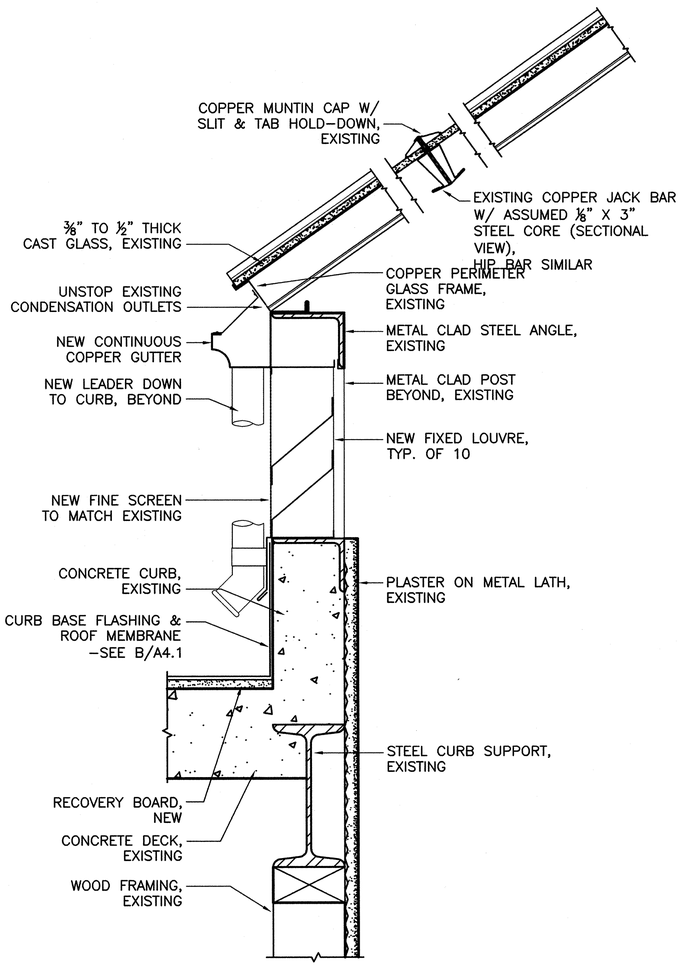


A / A5.2 SECTION THRU RECTANGULAR SKYLIGHT, TYP.
SCALE A



NOTE: ALL EXISTING ANGLES WERE PAINTED WITH RUST RESISTANT PRIMER AFTER THEY WERE CLEANED.

B / A5.2 SECTION THRU OCTAGONAL SKYLIGHT @ OPERABLE LOUVRE
SCALE A



C / A5.2 SECTION THRU OCTAGONAL SKYLIGHT @ FIXED LOUVRE
SCALE A

SCALE (A) 6 3 0 6
SCALE OF INCHES

SCALE (B) 2 0 2 4
SCALE OF INCHES

NOTE: SKYLIGHTS WERE NOT FULLY ACCESSIBLE DURING SURVEY. ACTUAL PROFILES & DETAILS MAY SLIGHTLY DIFFER FROM THOSE SHOWN.

PROVIDE PROTECTION FROM FALLING DEBRIS FOR STAINED GLASS 3RD FLOOR CEILING BELOW MAIN SKYLIGHT. SUBMIT PROTECTION PLAN FOR APPROVAL. IN–PLACE PROTECTION TO BE APPROVED BY CONTRACTING OFFICER PRIOR TO COMMENCEMENT OF GLASS REMOVAL, FRAME REPAIRS OR RECLADDING.

DESIGNED: CHC, BES	SUB SHEET NO.	TITLE OF SHEET: REHABILITATE FAILED VANDERBILT MANSION ROOF	DRAWING NO. 382 / 25004A
DRAWN: BES	A5.2	SKYLIGHT DETAILS	PMIS/PKG NO. VAMA 14806
TECH. REVIEW: CHC		VANDERBILT MANSION NATIONAL HISTORIC SITE	SHEET 11 OF 15
DATE: APR 13, 2009			

2/2/11 10:55 MTRACY R17 P:\VAMA\014806\A7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\ARCH\11-A5-2 SKYLIGHT DETAILS.DWG XREFS: ..\BASES\VASKYDTL.DWG;

STRUCTURAL NOTES

APPLICABLE CODES AND STANDARDS:
1. INTERNATIONAL BUILDING CODE 2006.
2. INTERNATIONAL EXISTING BUILDING CODE 2006
3. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7–05.

EXISTING CONDITIONS:
1. NOTIFY CONTRACTING OFFICER IMMEDIATELY IF EXISTING CONDITIONS DO NOT MATCH, OR SEEM IN CONFLICT WITH INFORMATION SHOWN ON THE DRAWINGS.

GENERAL NOTES:
1. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, NOT THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, BRACING, SHORING, FOR CONSTRUCTION LOADS AND EQUIPMENT, ETC. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS, SEQUENCES OF CONSTRUCTION, AND THE SAFETY PROGRAM. OBSERVATION VISITS TO THE SITE BY THE CONTRACTING OFFICER WILL NOT INVOLVE REVIEW OF THESE ITEMS.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, DRAWINGS FOR LOCATION AND SIZE OF OPENINGS, BLOCK OUTS, DIMENSIONS, ETC. NOT INDICATED ON THE STRUCTURAL DRAWINGS.
3. CONTRACTOR IS TO ESTABLISH AND VERIFY EMBEDS AND INSERTS FOR ITEMS TO BE INSTALLED BY OTHER TRADES PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND CONSTRUCTION.
4. CONSTRUCTION MATERIAL AND EQUIPMENT PLACED ON FRAMED CONSTRUCTION SHALL BE SUCH THAT THE LOAD DOES NOT EXCEED THE DESIGN LIVE LOAD OF THE CONSTRUCTIONS. PROVIDE SHORING OF CONSTRUCTIONS WHERE NECESSARY FOR THE LOADS. SHORING SHALL NOT BE SUPPORTED FROM THE ATTIC LEVEL.
5. DETAILS AND SECTIONS THAT ARE NOTED AS "TYP" ON DETAIL TITLES ARE TO BE APPLIED TO THE PROJECT CONSTRUCTION AS GENERAL CONSTRUCTION METHODS UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT CUT AT ALL LOCATIONS THEY OCCUR AND MAY BE NOT CUT AT ALL.

ROOF LIVE LOAD:
1. SNOW LOADS IN ACCORDANCE WITH THE BUILDING CODE LISTED ABOVE.
2. EXPOSURE FACTOR, Ce 1.0
3. SNOW LOAD IMPORTANCE FACTOR, Is 1.0
4. THERMAL FACTOR, Ct 1.1
5. GROUND SNOW LOAD, Pg 35 PSF
6. RAIN–ON–SNOW 0 PSF
7. FLAT ROOF SNOW LOAD, Pf 27 PSF

WIND LOADS:
1. WIND LOADS IN ACCORDANCE WITH THE BUILDING CODE LISTED ABOVE.
2. BASIC WIND SPEED (3 SECOND GUST): 90 MPH
3. EXPOSURE CATEGORY: C
4. IMPORTANCE FACTOR, Iw: 1.00
5. THE ROOFING SYSTEM ATTACHED TOP THE CONCRETE ROOF STRUCTURE SHALL BE DESIGNED TO RESIST 39 PSF UPLIFT 3 FEET ALONG THE PERIMETER OF THE ROOF; 59 PSF UPLIFT AT ALL PERIMETER CORNERS (3'X3'); 24 PSF UPLIFT EVERYWHERE ELSE.

SEISMIC LOADS:
1. SEISMIC LOADS IN ACCORDANCE WITH THE BUILDING CODE LISTED ABOVE
2. OCCUPANCY CATEGORY: II
3. SITE CLASS: D
4. SEISMIC DESIGN CATEGORY: B
5. IMPORTANCE FACTOR, Ie: 1.0
6. SPECTRAL RESPONSE ACCELERATION, SS: 0.332G
7. SPECTRAL RESPONSE ACCELERATION, S1: 0.067
8. R: 3
9. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

CONCRETE NOTES:
1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301 AND ACI 318.
2. REINFORCINC STEEL SHALL BE ASTM A615, GRADE 60. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A 706, GRADE 60.
3. CONCRETE COVER REQUIREMENTS FOR REINFORCEMENT UNLESS NOTED OTHERWISE ON THE DETAILS OR SECTIONS:
   #6 BARS AND LARGER 2"
   #5 BARS AND SMALLER 1–1/2"
4. REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318–05 AND THE REINFORCING SPLICE LENGTHS SCHEDULE ON THE DRAWINGS.
5. CAST–IN–PLACE CONCRETE:

LOCATION	28–DAY f'c	AIR	MAX W/C	MAX SLUMP
CONCRETE ROOF SLAB (LIGHT WEIGHT)	3500	6% +/–2%	0.5	4"

6. ALL REINFORCEMENT FOR CAST–IN–PLACE CONCRETE SHALL BE ACCURATELY PLACED, SUPPORTED, TIED AND SECURED INTO PLACE PRIOR TO PLACING CONCRETE.

MASONRY:
1. MASONRY WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 530.
2. THE MINIMUM 28–DAY COMPRESSIVE STRENGTH (f'c) OF MASONRY MORTAR SHALL BE 750 PSI.

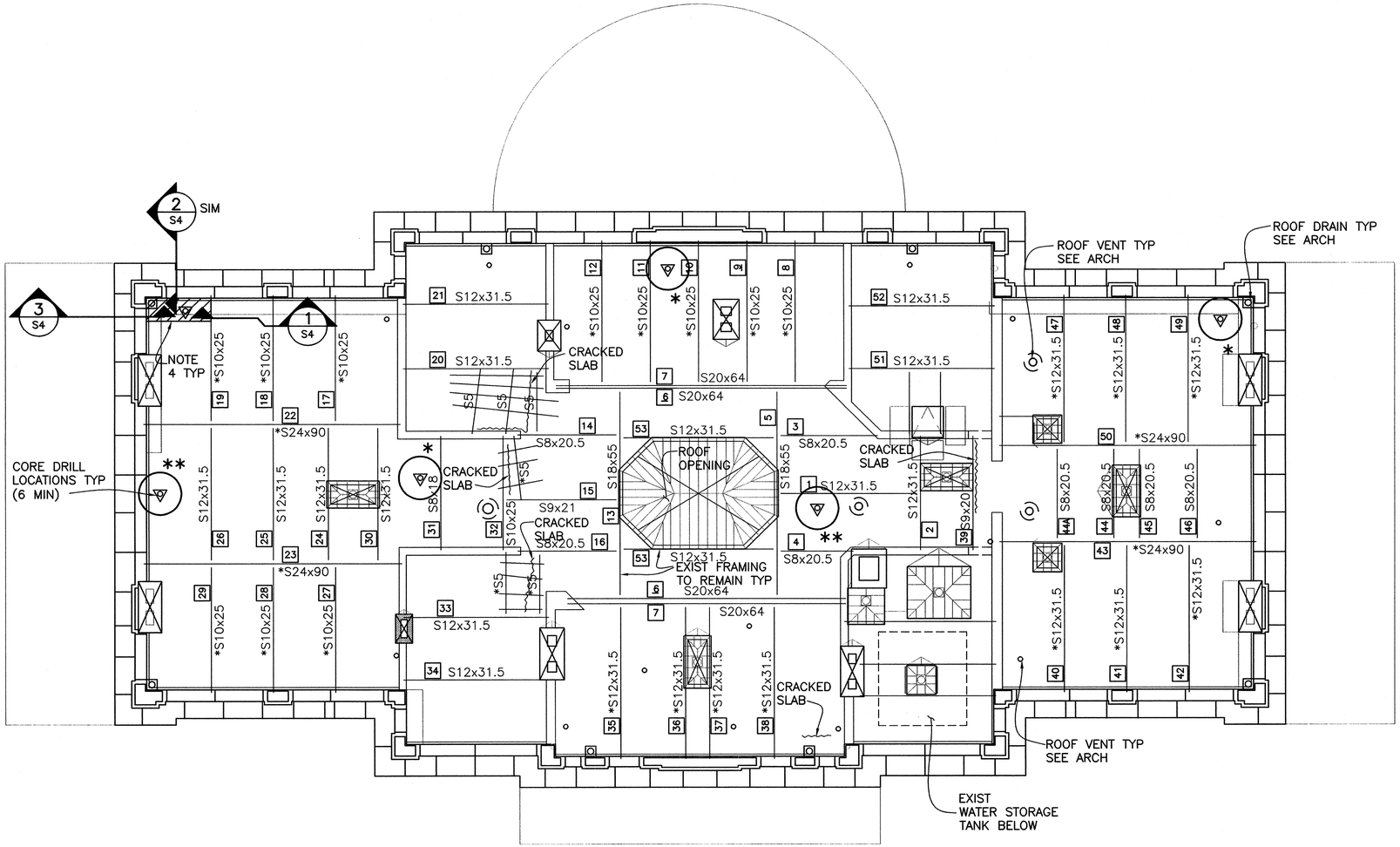
SCREW ANCHORS:
1. THE SCREW ANCHORS FOR THE PLYWOOD THAT WAS INSTALLED OVER THE CONCRETE DECK WERE TESTED FOR "PULL OUT" AND THE RESULTS EXCEEDED THE MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL STEEL:
1. STRUCTURAL STEEL DESIGN PROPERTIES:
   ANGLES, CHANNELS AND PLATES – ASTM A 36 FY = 36 KSI
   STEEL PIPE – ASTM A53, GRADE B FY = 35 KSI
   BOLTS – ASTM A325N
   COLD–FORMED HOLLOW STRUCTURAL SECTIONS–
   ASTM A 500, GRADE B FY = 46 KSI
2. ALL WELDS AND WELDING PROCEDURES SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PROVISIONS OF AISC AND AWS WELDING PROCEDURES AND CODES OUTLINED IN THE SPECIFICATION.
3. WHEN FILLET WELDS SIZES ARE NOT INDICATED, PROVIDE MINIMUM WELD SIZE IN ACCORDANCE WITH AISC SPECIFICATIONS, TABLE J2.4. OR 3/16", WHICHEVER IS GREATER.
4. ALL GROOVE WELDS INDICATED ON THE PLANS AND SECTIONS SHALL BE COMPLETE JOINT PENETRATION WELDS (CJP) UNLESS SPECIFICALLY INDICATED TO BE PARTIAL PENETRATION WELDS.
5. DIMENSIONS TO CENTERLINE OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNLESS NOTED OTHERWISE.

SPECIAL STRUCTURAL INSPECTIONS:
1. THE FOLLOWING SPECIAL STRUCTURAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE 2006 INTERNATIONAL BUILDING CODE AND THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY AND ACCOMMODATE THE APPLICABLE INSPECTOR DURING APPROPRIATE PHASES OF THE WORK AS REQUIRED BY EACH INSPECTION. SPECIAL STRUCTURAL INSPECTION SHALL BE PAID BY THE CONTRACTOR:
   CONCRETE, REINFORCING STEEL, AND BOLTS INSTALLED IN CONCRETE
   STEEL DECK WELDS, SCREWS, FASTENERS
   EXPANSION ANCHORS AND ADHESIVE BOLT/DOWEL/ROD INSTALLATION

DESIGNED: JHL CADD: JAS TECH. REVIEW: KAF DATE: APR 13, 2009	SUB SHEET NO. S1	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF STRUCTURAL NOTES VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 12 OF 15

2/2/11 10:44 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\STRUCT\12-VAMA-S1.DWG XREFS: ..\BASES\VAMA0701.DWG; ..\BASES\VAMA0708.DWG; ..\BASES\VAMA0716.DWG;



ROOF DEMOLITION PLAN

SCALE (A)

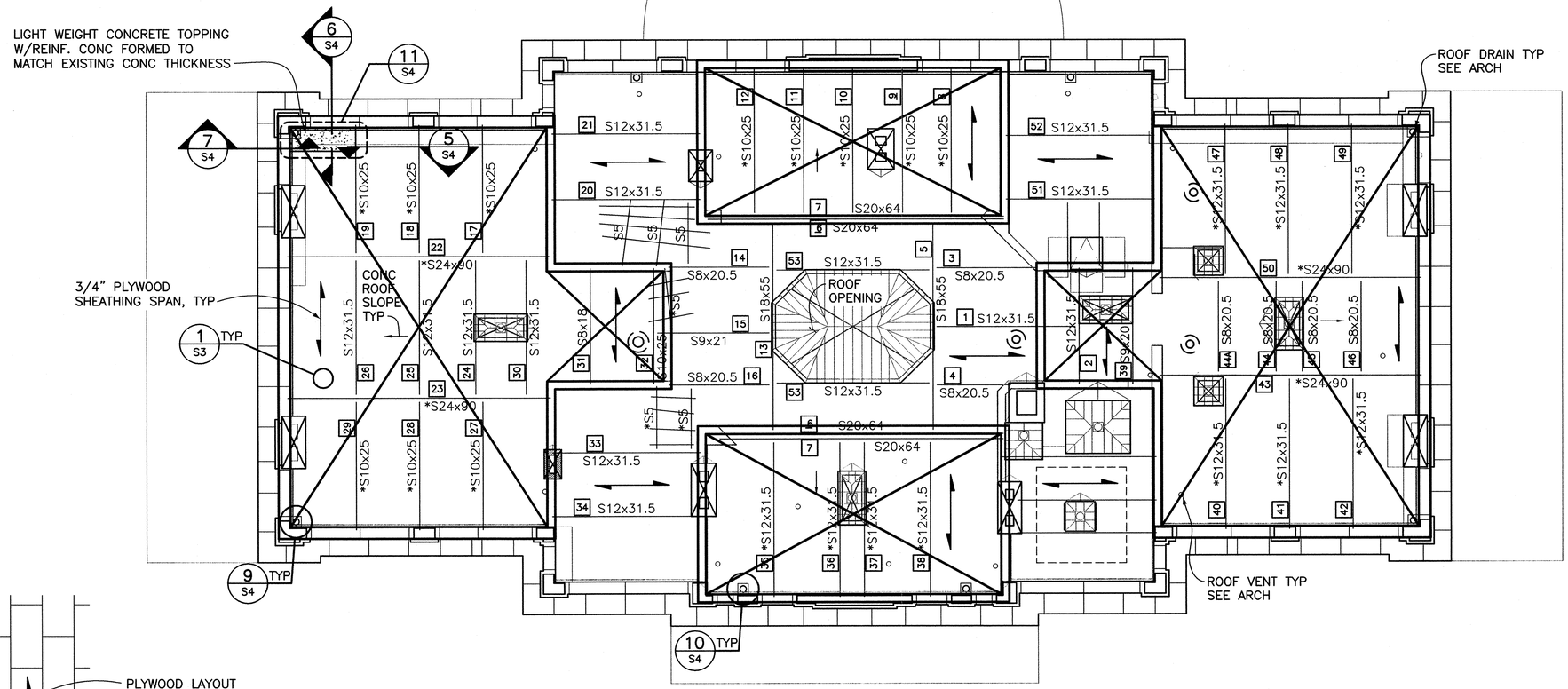
NOTES:

1. SEE SHEET S1 FOR STRUCTURAL NOTES
2. SEE ARCH PLANS FOR ADDITIONAL INFORMATION
3. TOP OF STEEL ELEVATIONS FOR THE EXISTING STEEL BEAMS ARE NOT INDICATED ON THE PLANS. BEAMS LABELED "*", SLOPE WITH THE ROOF SLOPE. ALL REMAINING BEAMS ARE LEVEL. BEAMS SPANNING PERPENDICULAR TO THE ROOF SLOPES ARE LEVEL, BUT THE TOP OF STEEL ELEVATIONS FOR EACH BEAM VARIES WITH THE ROOF SLOPE. SEE ARCH SHEETS FOR ADDITIONAL ROOF SLOPE/ CRICKET LOCATIONS.
4. DETERIORATED CONCRETE ROOF SLAB AREAS TO BE REMOVED AND REPLACED. THE APPROXIMATE CONCRETE AREA TO BE REMOVED AND REPLACED IS 30 SQUARE FEET. THIS NUMBER IS APPROXIMATE AND MAY INCREASE IF ADDITIONAL CONCRETE BREAKS OFF DURING REMOVAL OPERATIONS. THE COSTS FOR ADDITIONAL CONCRETE REMOVAL SHALL BE IDENTIFIED AS A UNIT PRICE IN THE SPECIFICATIONS.
5. AFTER THE ROOFING MATERIALS HAVE BEEN REMOVED, THE TOP SURFACE OF THE EXPOSED CONCRETE ROOF SLAB SHALL BE VISUALLY INSPECTED BY THE CONTRACTING OFFICER TO IDENTIFY ADDITIONAL AREAS OF DETERIORATED CONCRETE THAT NEEDS TO BE REMOVED AND REPLACED.
6. ALONG WITH THE VISUAL INSPECTION NOTED ABOVE THE CONTRACTOR SHALL HIRE AN INDEPENDENT TESTING LAB, APPROVED BY THE CONTRACTING OFFICER, TO PROVIDE NON-DESTRUCTIVE TESTING AND CORE TESTS OF THE CONCRETE SLAB. SEE SPECIFICATION SECTION 03006 CONCRETE TESTING AND EVALUATION-CONTRACTOR.
7. FILL CORE DRILL HOLES WITH NON-SHRINK GROUT AFTER CORE HAS BEEN TAKEN AND THE DEPTH HAS BEEN DETERMINED. AT LOCATIONS WHERE THE CONCRETE IS TO BE REMOVED, THE CORE HOLE DOES NOT REQUIRE FILLING, BUT SHALL BE COVERED AND SEALED UNTIL THE SLAB IS REMOVED.
8. ATTIC FLOOR AREA, BELOW THE ROOF FRAMING AREA, SHALL NOT BE USED AS A WORK PLATFORM OR FOR STAGING WORK. CONTRACTOR ACCESS TO THIS LEVEL SHALL BE APPROVED BY THE CONTRACTING OFFICER.
9. CONCRETE ROOF SLAB SECTIONS TO BE REMOVED SHALL NOT FREE FALL TO THE ATTIC FLOOR BELOW. THE CONTRACTOR'S METHODS FOR CONCRETE SLAB REMOVAL SHALL BE SUCH THAT THE REMOVED CONCRETE SECTIONS CAN BE EASILY HANDLED AND CONTAINED. THE ATTIC FLOOR SHALL ALSO BE PROTECTED TO PREVENT DAMAGE TO THE ATTIC FLOOR AND PLASTER CEILING BELOW. CONTRACTOR SHALL SUBMIT REMOVAL AND PROTECTION PLAN TO THE CONTRACTING OFFICER FOR APPROVAL.
10. * INDICATES DRILLED CORE THAT WAS NOT TESTED.
11. ** INDICATES DRILLED CORE THAT WAS TESTED.

SCALE (A) 8 0 8 16
SCALE OF FEET

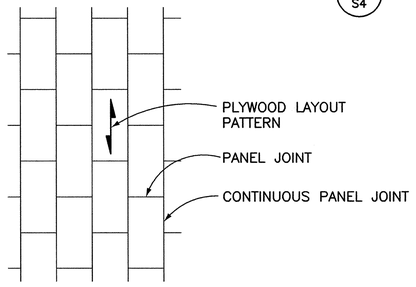
DESIGNED: JHL CADD: JAS TECH. REVIEW: KAF DATE: APR 13, 2009	SUB SHEET NO. S2	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF ROOF DEMOLITION PLAN VANDEBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 13 OF 15

2/2/11 10:43 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\STRUCT\13-VAMA-S2.DWG XREFS: ..\BASES\VAMASFPD-96.DWG; ..\BASES\VSRFFRM.DWG; ..\BASES\VARFPLAN.DWG;



ROOF FRAMING PLAN

SCALE (A)



NOTES:
1. PROVIDE T&G EDGES OR 2 PANEL CLIPS EACH SIDE.
2. PLYWOOD PLACED ON TOP OF EXISTING CONCRETE ROOF DECK.

1 S3 S3 PLYWOOD LAYOUT DETAIL

NO SCALE

NOTES:

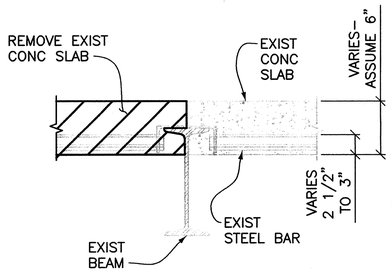
1. SEE SHEET S1 FOR STRUCTURAL NOTES
2. SEE ARCH PLANS FOR ADDITIONAL INFORMATION
3. TOP OF STEEL ELEVATIONS FOR THE EXISTING STEEL BEAMS ARE NOT INDICATED ON THE PLANS. BEAMS LABELED "*", SLOPE WITH THE ROOF SLOPE. ALL REMAINING BEAMS ARE LEVEL. BEAMS SPANNING PERPENDICULAR TO THE ROOF SLOPES ARE LEVEL, BUT THE TOP OF STEEL ELEVATIONS FOR EACH BEAM VARIES WITH THE ROOF SLOPE. SEE ARCH SHEETS FOR ADDITIONAL ROOF SLOPE/ CRICKET LOCATIONS.
4. ATTIC FLOOR AREA BELOW THE ROOF FRAMING LEVEL SHALL NOT BE USED AS A WORK PLATFORM OR FOR STAGING WORK. CONTRACTOR ACCESS TO THIS LEVEL SHALL BE APPROVED BY THE CONTRACTING OFFICER.
5. COPPER SCREENING WAS CUT AND PLACED OVER ALL EIGHT (8) MAIN ROOF DRAINS AND HELD IN PLACE WITH BRICKS, PER NATIONAL PARK SERVICE INSTRUCTIONS. THE NATIONAL PARK SERVICE SUPPLIED THE SCREENING AND THE BRICKS. THIS WAS DONE TO CATCH THE SMALL TREE DEBRIS.

SCALE (A) 8 0 8 16

SCALE OF FEET

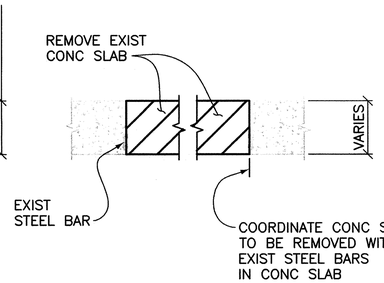
DESIGNED: JHL CADD: JAS TECH. REVIEW: KAF DATE: APR 13, 2009	SUB SHEET NO. S3	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF ROOF FRAMING PLAN VANDEBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 14 OF 15

2/2/11 10:43 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\STRUCT\14-VAMA-S3.DWG XREFS: ..\BASES\VAMASFP1-96.DWG; ..\BASES\VSNFFRM.DWG; ..\BASES\VSNFFRM.DWG; ..\BASES\VARFPLAN.DWG;



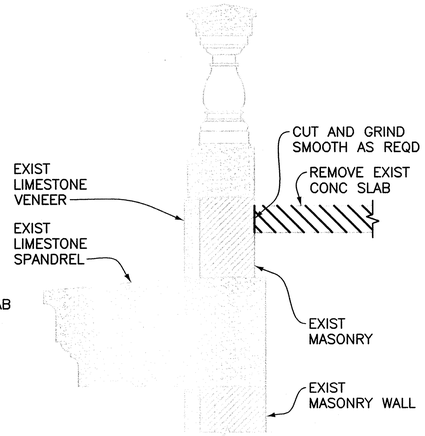
1 S4 SLAB REMOVAL DETAIL

NO SCALE



2 S4 SLAB REMOVAL DETAIL

NO SCALE



3 S4 SLAB REMOVAL DETAIL

NO SCALE

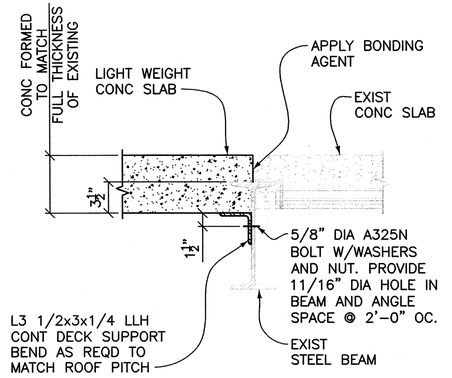
MINIMUM LAP SPLICE LENGTHS f'c = 3500		
BAR	LAPS FOR BARS	
	VERTICAL	OTHER
#3	1'–4"	1'–8"
#4	1'–9"	2'–3"
#5	2'–3"	3'–0"
#6	2'–7"	3'–4"
#7	4'–1"	5'–4"
#8	5'–4"	7'–0"
#9	6'–1"	7'–11"
#10	7'–0"	9'–0"
#11	7'–10"	10'–3"

NOTES:

1. ALL REBAR SPLICE LENGTHS SHALL BE AS SHOWN UNDER HEADING "VERTICAL" EXCEPT IF SPLICED BARS ARE HORIZONTAL BARS WITH 12" OR MORE CONCRETE BELOW, THEN SPLICE LENGTH SHALL BE AS SHOWN UNDER HEADING "OTHER".
2. ALL SPLICES SHALL BE CONTACT SPLICES AND WIRED TOGETHER.
3. NOT WELDED OR MECHANICAL SPLICES ARE PREMITTED UNLESS INDICATED OTHERWISE.
4. UNLESS SHOWN OTHERWISE, SPLICES FOR BOTTOM REINFORCING BARS IN BEAMS AND SLABS SHALL BE CENTERED OVER THE SUPPORTS. SPLICES FOR TOP REINFORCING BARS SHALL BE LOCATED AT CENTERLINE OF SPAN.

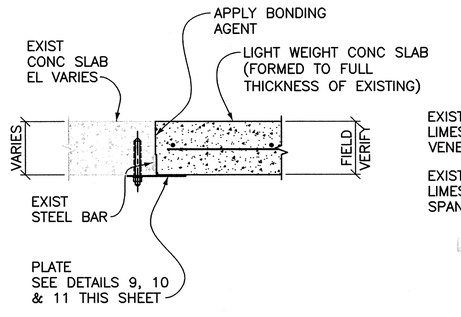
4 S4 CONCRETE REINFORCING LAP SPLICE

NO SCALE



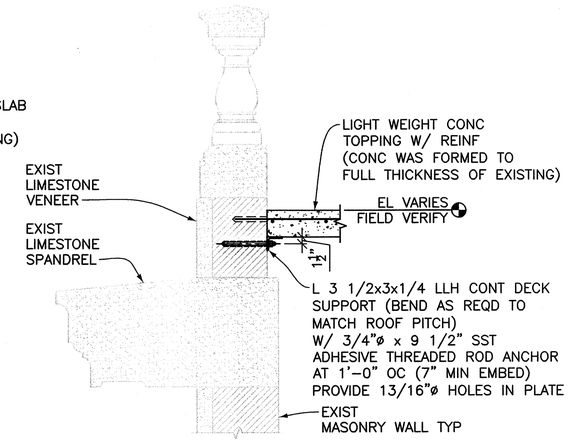
5 S4 SLAB REPLACEMENT DETAIL

NO SCALE



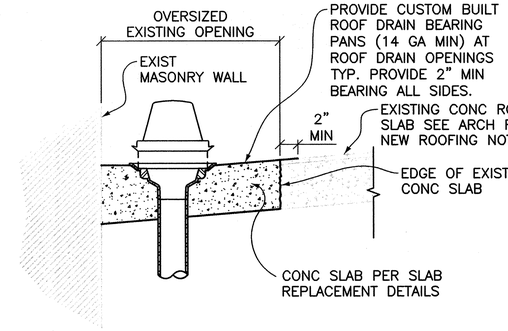
6 S4 SLAB REPLACEMENT DETAIL

NO SCALE



7 S4 SLAB REPLACEMENT DETAIL

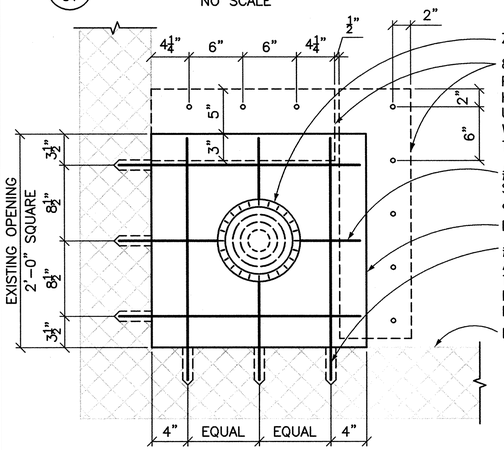
NO SCALE



NOTE:
SEE ARCH DRAWINGS FOR ADDITIONAL INFORMATION

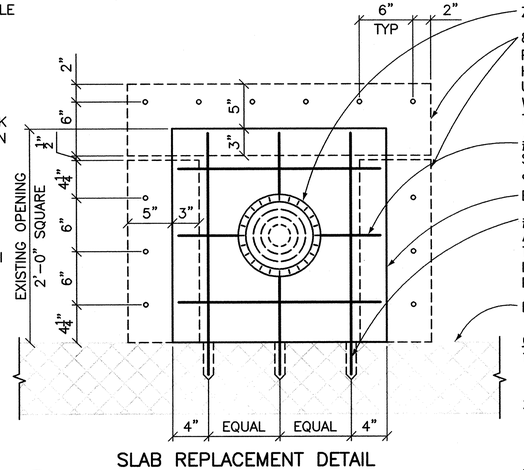
8 S4 ROOF DRAIN SUPPORT DETAIL

NO SCALE



9 S4 SLAB REPLACEMENT DETAIL @ CORNER ROOF DRAINS

NO SCALE

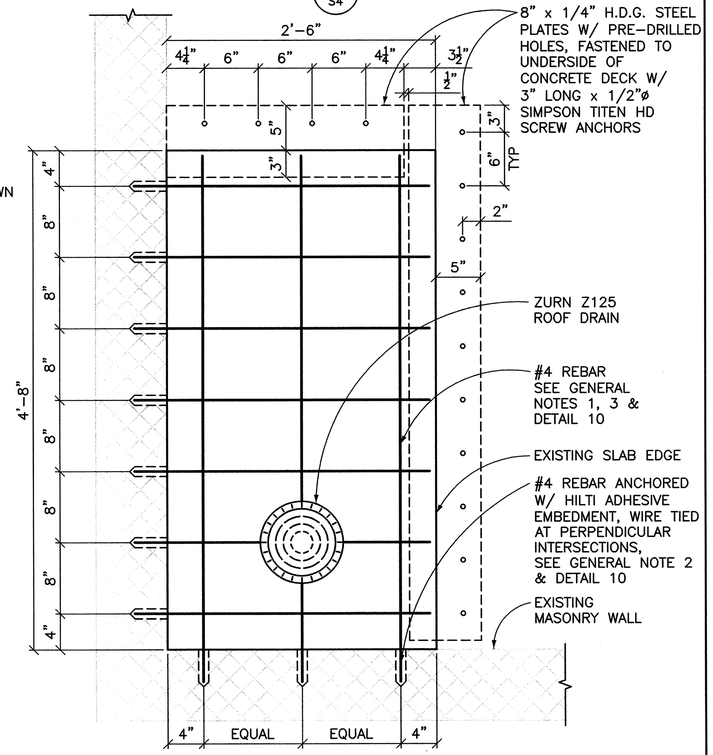


10 S4 SLAB REPLACEMENT DETAIL @ INTERMEDIATE ROOF DRAINS

NO SCALE

GENERAL NOTES:

1. INTEGRATE NEW REINFORCING BARS W/ EXISTING REINFORCING STEEL IF ENCOUNTERED. DO NOT CUT EXISTING REINFORCING.
2. REINFORCING BAR TO BE CHAIN–LIFTED ON ENDS AT EDGE OF NEW/EXIST CONCRETE DECK TO PROMOTE UNIFORM AND CONTINUOUS COVERAGE BY NEW CONCRETE DURING POUR.
3. ALL EXISTING REBAR WAS CLEANED & EPOXY COATED TO PREVENT ANY FURTHER DETERIORATION.



11 S4 SLAB REPLACEMENT DETAIL @ ROOF DRAIN

NO SCALE

DESIGNED: JHL CADD JAS TECH. REVIEW: KAF DATE: APR 13, 2009	SUB SHEET NO. S4	TITLE OF SHEET REHABILITATE FAILED VANDERBILT MANSION ROOF DETAILS VANDERBILT MANSION NATIONAL HISTORIC SITE	DRAWING NO. 382 25004A PMIS/PKG NO. VAMA 14806 SHEET 15 OF 15

2/2/11 10:42 MTRACY R17 P:\VAMA\014806A\7.0 CONSTRUCTION\CONSTRUCTION MANAGEMENT\CLOSE-OUT DOCUMENTS\AS CONSTRUCTED DRAWINGS\STRUCT\15-VAMA-S4.DWG XREFS: ..\BASES\VAMAOT01.DWG; ..\BASES\VAMAOT08.DWG; ..\BASES\VAMAOT16.DWG;

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under US administration.

VAMA 382/148537 **OCTOBER 2018**

Vanderbilt Mansion National Historic Site
Hyde Park, New York