

The New York Landmarks Conservancy
Lucy G. Moses Preservation Awards
Submittal



The MacIntyre Building
874 Broadway
New York, New York

Facade Restoration and Roof Replacement

SUPERSTRUCTURES
+ **ENGINEERS**
ARCHITECTS

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History Unfolding:

The MacIntyre Building is Readied for Its Next 100 Years

The MacIntyre Building on Broadway at 18th Street is one of many handsome buildings in midtown Manhattan's Ladies Mile Historic District, but like many others its facade had been allowed to deteriorate until its recent exterior renovation.

Built in 1890-1892 for pharmacist Ewen McIntyre, the building was designed by prominent architect R. H. Robertson in a highly individual version of the Romanesque Revival style. For reasons undocumented, the building's name somehow acquired an extra "a," as evidenced by "MacIntyre Building" spelled out in Roman tile mosaic on the floor of the elevator lobby. The ground level was first occupied by the Sherman Bank which opened in 1892 and was described as "one of the most elegant in the city." An oval skylight and decorative details from the banking room still survive. Originally the upper floors were occupied by office tenants -- the building is now a residential co-op retaining the street-level retail.

The MacIntyre's façade is a rich combination of brick, polished granite, marble panels, carved limestone, and terra cotta masonry, windows framed in cast iron and wood and a clay tile and copper roof. Because of its conspicuous corner site, accentuated by the diagonal of Broadway, the building is highly visible from several surrounding blocks. In fact, Montgomery Schuyler (1843-1914), the founder of *Architectural Record*, once described it as "a building which every New Yorker knows by sight." The New York City Landmarks Preservation Commission's designation report states that "The MacIntyre Building is one of the most distinctive and distinguished in the neighborhood, notable for its siting, its "artistic" composition, the variety of its historic ornamental motifs, and the quality of its craftsmanship."

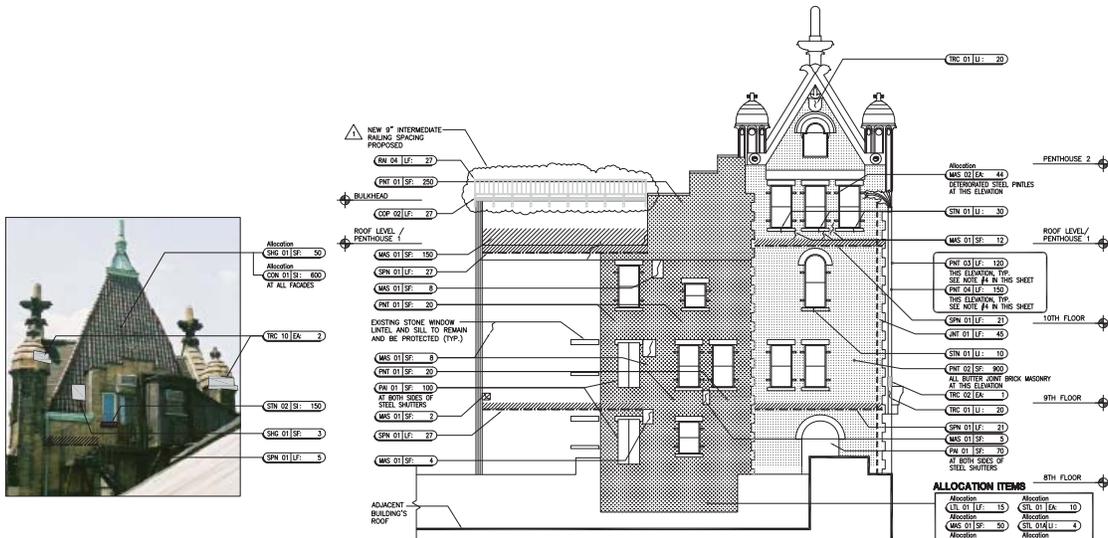
The MacIntyre Building Corp., SUPERSTRUCTURES, Skyline Restoration, Cumberland USA, and the other project participants worked closely with the LPC to assure that the restoration was appropriate to the building and the Ladies Mile Historic District.

In 2008, while the building was wrapped in scaffolding and scrim, the *New York Times* featured an article on the exterior restoration process and hailed the building as "...an exuberant architectural gateway between Union Square and the grand emporiums of the Ladies' Mile..."

With the completion of the exterior renovation in 2009, the luster of this gateway has been renewed and its intriguing design and historical import may once again be appreciated. The history of The MacIntyre Building may now be appended with the details of the collaborative process that has preserved this fine building for future generations of architectural admirers.



THE McINTYRE BUILDING.
BROADWAY, NORTHEAST CORNER OF 18TH STREET.



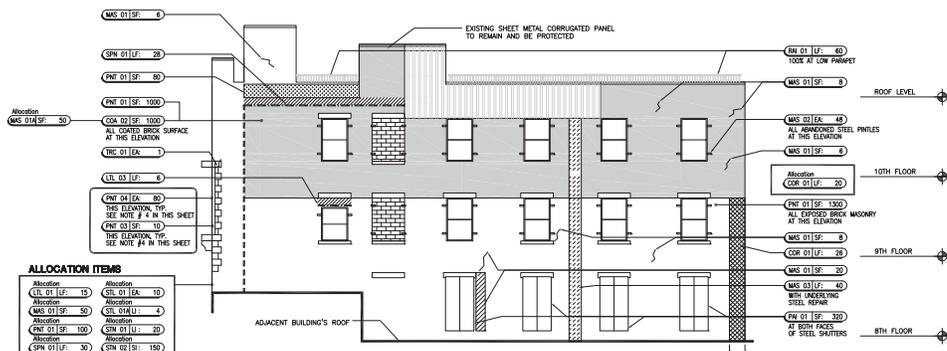
ELEVATION 04A

SCALE: 1/8" = 1'-0"

ELEVATION 04

North Elevation

SCALE: 1/8" = 1'-0"



ELEVATION 05

SCALE: 1/8" = 1'-0"

WORK NOTES:

1. REFER TO ADDITIONAL ELEVATION DRAWINGS FOR EXTENT OF RESTORATION AT OTHER LOCATIONS. COORDINATE AS REQUIRED.
2. ALLOCATION ITEMS SHOWN ON EACH ELEVATION APPLY TO THE ENTIRE FACADE OF EACH ELEVATION. ANY ADDITIONAL ALLOCATIONS IDENTIFIED BY THE CONTRACTOR ARE TO BE APPROVED BY THE ARCHITECT.
3. HAVE O/C APPLY SEALANT AT ALL EXISTING SKYJOINTS AT STONE AND TERRA COTTA TYP. AS PER DETAIL JNT 01.
4. HAVE O/C AND REPORT ALL REMAINING EXISTING STONE AND TERRA COTTA JOINTS AS PER DETAIL PNT 03 & 04 TYP. UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS.

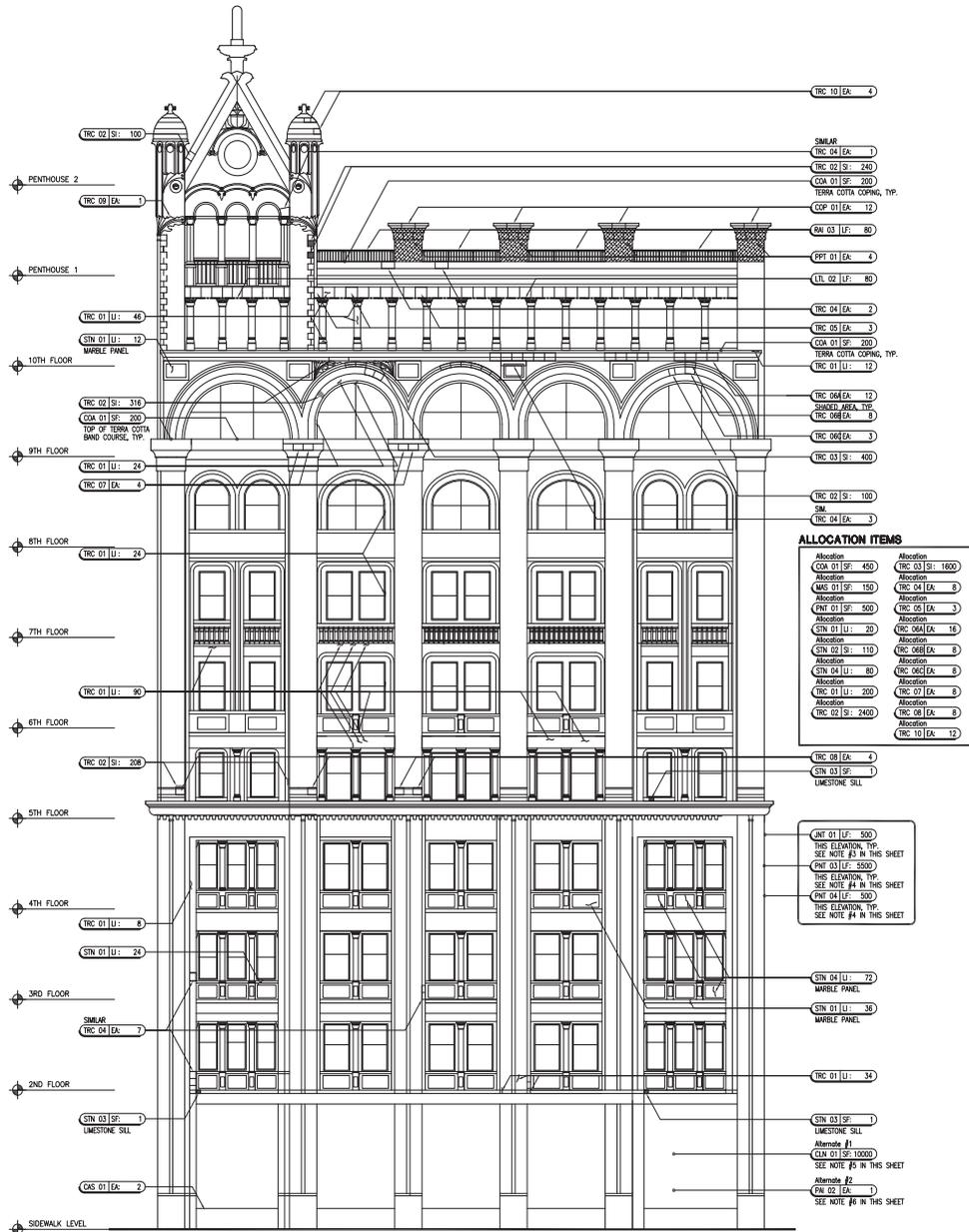
LEGEND:

ID CODE	NAME / DESCRIPTION	KEY
CAS 01	CAST IRON PANEL REPLACEMENT	[Symbol]
COA 01	TERRA COTTA COATING	[Symbol]
COA 02	BRICK MASONRY COATING	[Symbol]
COP 01	COPING REPLACEMENT AT BRICK PARAPET PIER	[Symbol]
COP 02	COPING INSTALLATION: GRAVEL STOP	[Symbol]
COR 01	BRICK CORNER RECONSTRUCTION	[Symbol]
JNT 01	SEALANT JOINT RECONSTRUCTION	[Symbol]
LTL 01	STONE LINTEL RESTORATION	[Symbol]
LTL 02	TERRA COTTA LINTEL RESTORATION	[Symbol]
LTL 03	STEEL LINTEL REPLACEMENT	[Symbol]
MAS 01	BRICK REPLACEMENT	[Symbol]
MAS 02	BRICK REPLACEMENT W/ COLUMNS REPAIR	[Symbol]
MAS 03	BRICK REPLACEMENT W/ COLUMNS REPAIR	[Symbol]
PAI 01	SCRAPING AND PAINTING: STEEL SHUTTERS	[Symbol]
PAI 02	SCRAPING AND PAINTING: CAST IRON ELEMENTS	[Symbol]
PNT 01	BRICK REPOINTING	[Symbol]
PNT 02	BRICK REPOINTING AT BUTTER JOINT	[Symbol]
PNT 03	POINTING: TERRA COTTA	[Symbol]
PNT 04	POINTING: STONE	[Symbol]
PPF 01	PARAPET PIER RECONSTRUCTION	[Symbol]
RAI 01	RAILING INSTALLATION 02 & 03	[Symbol]
SHG 01	TERRA COTTA TILE ROOF RESTORATION	[Symbol]
SIL 01	STONE SILL PATCH REPAIR	[Symbol]
STN 01	STONE CRACK REPAIR	[Symbol]
STN 02	STONE SPALL REPAIR	[Symbol]
SPN 01	SPANDREL REPAIR	[Symbol]
TRC 01	TERRA COTTA CRACK REPAIR	[Symbol]
TRC 02	TERRA COTTA SPALL & CR	[Symbol]
TRC 04	TERRA COTTA UNIT REPLACEMENT	[Symbol]

Modern Methods for Historic Preservation

The project benefited from SUPERSTRUCTURES' proprietary software-based methodology that is unique in the restoration field. The initial investigation and conditions was conducted with Toughbook™ computers on site. The size, location, and description of each and every defect was noted with a "smart tag". The smart tag is not just a graphic device but a software link to a spreadsheet database, which contains cost information, repair details and enables tracking of work completion during construction administration. This level of accuracy benefited the Owner by providing a very accurate cost estimate.

Contractor bids came in as estimated and even with Owner-requested change orders the project was completed within 10% of the construction estimate.



ELEVATION 01

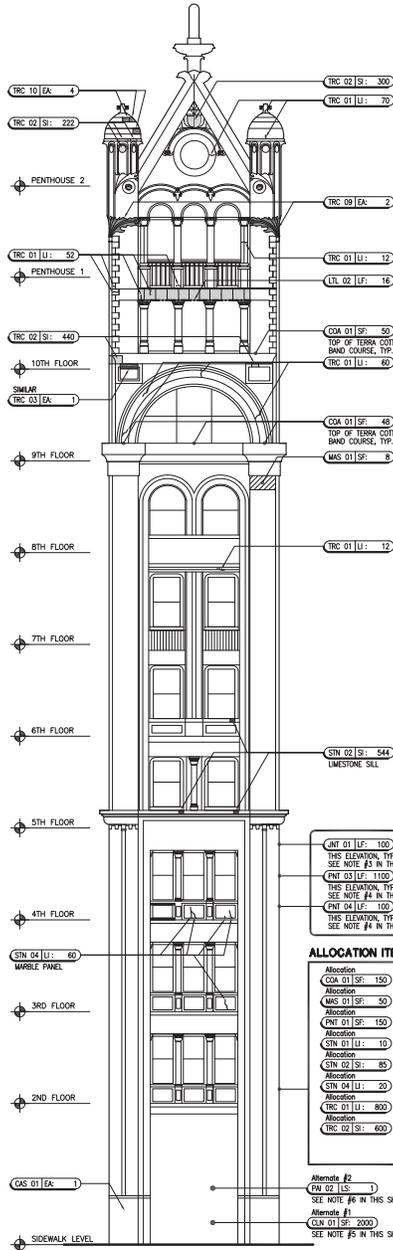
SCALE: 1/8" = 1'-0"

LEGEND:

ID CODE	NAME / DESCRIPTION	KEY	ID CODE	NAME / DESCRIPTION	KEY	ID CODE	NAME / DESCRIPTION	KEY
CAS 01	CAST IRON PANEL REPLACEMENT	[Symbol]	LTL 03	STEEL LINTEL REPLACEMENT	[Symbol]	PPT 01	PARAPET PIER RECONSTRUCTION	[Symbol]
COA 01	TERRA COTTA COATING	[Symbol]	MAS 01	BRICK REPLACEMENT	[Symbol]	RAI 01	RAILING INSTALLATION 02 & 03	[Symbol]
COA 02	BRICK MASONRY COATING	[Symbol]	MAS 02	BRICK REPLACEMENT W/ COLUMN REPAIR	[Symbol]	SHG 01	TERRA COTTA TILE ROOF RESTORATION	[Symbol]
COP 01	COPING REPLACEMENT AT BRICK PARAPET PIER	[Symbol]	PAI 01	SCRAPING AND PAINTING: STEEL SHUTTERS	[Symbol]	SIL 01	STONE SILL PATCH REPAIR	[Symbol]
COP 02	COPING STONE INSTALLATION: CAST STONE	[Symbol]	SPN 01	SCRAPING AND PAINTING: CAST IRON ELEMENTS	[Symbol]	STN 01	STONE CRACK REPAIR	[Symbol]
COR 01	BRICK CORNER RECONSTRUCTION	[Symbol]	PNT 01	BRICK REPOINTING	[Symbol]	STN 02	STONE SPALL REPAIR	[Symbol]
JNT 01	SEALANT JOINT REPLACEMENT	[Symbol]	PNT 02	BRICK REPOINTING AT BUTTER JOINT	[Symbol]	SPN 02	SPANDREL REPAIR	[Symbol]
LTL 01	STONE LINTEL RESTORATION	[Symbol]	PNT 03	POINTING: TERRA COTTA	[Symbol]	TRC 01	TERRA COTTA CRACK REPAIR	[Symbol]
LTL 02	TERRA COTTA LINTEL RESTORATION	[Symbol]	PNT 04	POINTING: STONE	[Symbol]	TRC 02	TERRA COTTA SPALL REPAIR	[Symbol]
						TRC 03	TERRA COTTA SPALL REPAIR & 03	[Symbol]
						TRC 04	TERRA COTTA UNIT REPLACEMENT	[Symbol]

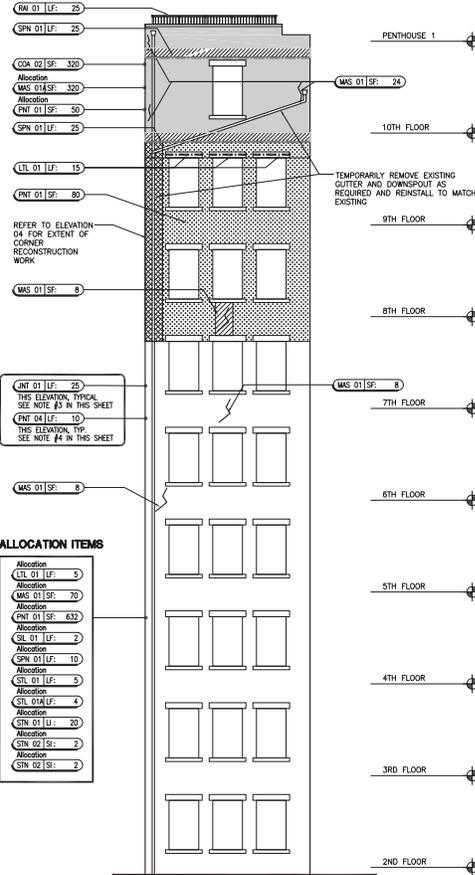
WORK NOTES:

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- ALLOCATION ITEMS SHOWN ON EACH ELEVATION APPLY TO THE ENTIRE FACADE. ANY ADDITIONAL ALLOCATIONS IDENTIFIED BY THE CONTRACTOR ARE TO BE APPROVED BY THE ARCHITECT.
- RAKE OUT, APPLY SEALANT AT ALL EXISTING SKYJOINTS AT STONE AND TERRA COTTA, BAND COURSE, SILLS, ETC. TYP. AS PER DETAIL INT 01.
- RAKE OUT AND REPOINT ALL REMAINING EXISTING STONE AND TERRA COTTA JOINTS AS PER DETAIL PNT 03 & 04, TYP. UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS.
- CLEAN ALL MASONRY AT STREET FACADES IN ACCORDANCE WITH SPECIFICATION (ALTERNATE).
- SCRAPE, PRIME AND PAINT CAST IRON FRAMES AND DECORATIVE ELEMENTS AT STOREFRONT AS SPECIFIED IN 05010 (ALTERNATE).



ELEVATION 02

SCALE: 1/8" = 1'-0"



ELEVATION 03

SCALE: 1/8" = 1'-0"

LEGEND:

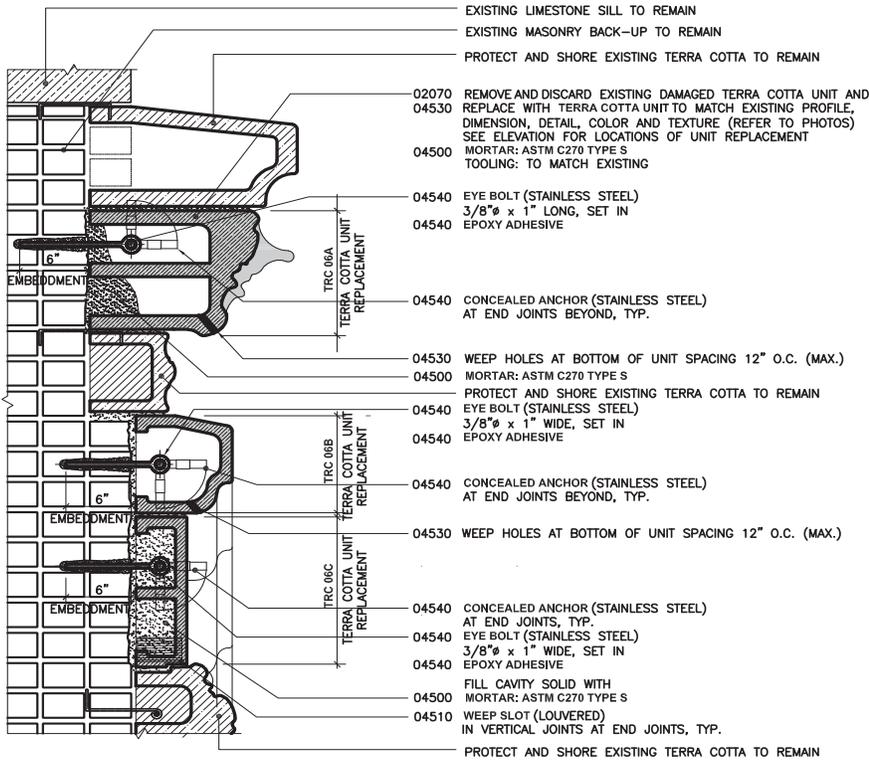
ID CODE	NAME / DESCRIPTION	KEY
CAS 01	CAST IRON PANEL REPLACEMENT	[Symbol]
COA 01	TERRA COTTA COATING	[Symbol]
COA 02	BRICK MASONRY COATING	[Symbol]
COP 01	COPING REPLACEMENT AT BRICK PARAPET PIER	[Symbol]
COP 02	COPING INSTALLATION: GRANITE STOP	[Symbol]
COR 01	BRICK CORNER RECONSTRUCTION	[Symbol]
JNT 01	SEALANT JOINT REPLACEMENT	[Symbol]
LTL 01	STONE LINTEL RESTORATION	[Symbol]
LTL 02	TERRA COTTA LINTEL RESTORATION	[Symbol]

ID CODE	NAME / DESCRIPTION	KEY
LTL 03	STEEL LINTEL REPLACEMENT	[Symbol]
MAS 01, 01A, 02	BRICK REPLACEMENT	[Symbol]
MAS 03	BRICK REPLACEMENT W/ COLUMN REPAIR	[Symbol]
PAI 01	SCRAPING AND PAINTING: CAST IRON ELEMENTS	[Symbol]
PAI 02	SCRAPING AND PAINTING: STEEL SHUTTERS	[Symbol]
PNT 01	BRICK REPOINTING	[Symbol]
PNT 02	BRICK REPOINTING AT BUTTER JOINT	[Symbol]
PNT 03	POINTING: TERRA COTTA	[Symbol]
PNT 04	POINTING: STONE	[Symbol]

ID CODE	NAME / DESCRIPTION	KEY
PPT 01	PARAPET PIER RECONSTRUCTION	[Symbol]
RAI 01, 02, 03 & 04	RAILING INSTALLATION	[Symbol]
SNG 01	TERRA COTTA TILE ROOF	[Symbol]
SIL 01	STONE SILL PATCH REPAIR	[Symbol]
STN 01	STONE CRACK REPAIR	[Symbol]
STN 02	STONE SPALL REPAIR	[Symbol]
SPN 01	SPANDREL REPAIR	[Symbol]
TRC 01	TERRA COTTA CRACK REPAIR	[Symbol]
TRC 02 & 03	TERRA COTTA SPALL REPAIR	[Symbol]
TRC 04 TO 10	TERRA COTTA UNIT REPLACEMENT	[Symbol]

WORK NOTES:

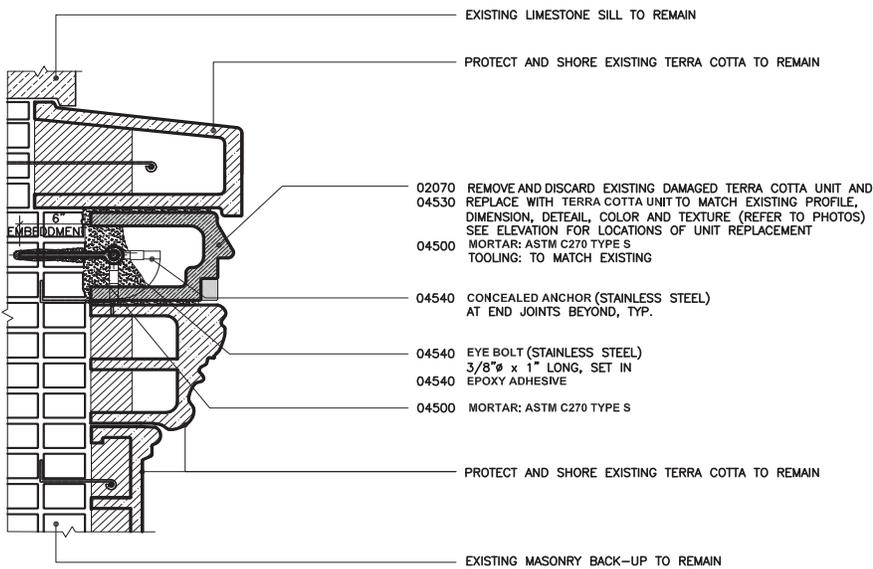
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- RAKE OUT AND REPOINT ALL REMAINING EXISTING STONE AND TERRA COTTA JOINTS AS PER DETAIL JNT 03 & 04, TYP. UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS.
- CLEAN ALL MASONRY AT STREET FACADES IN ACCORDANCE WITH SPECIFICATION.
- SCORE, PRIME AND PAINT CAST IRON FRAMES AND DECORATIVE ELEMENTS AT STOREFRONT AS SPECIFIED IN 05010.



TRC 06A, 06B & 06C

TERRA COTTA UNIT REPLACEMENT : E. 18TH STREET 10TH FLOOR LEVEL

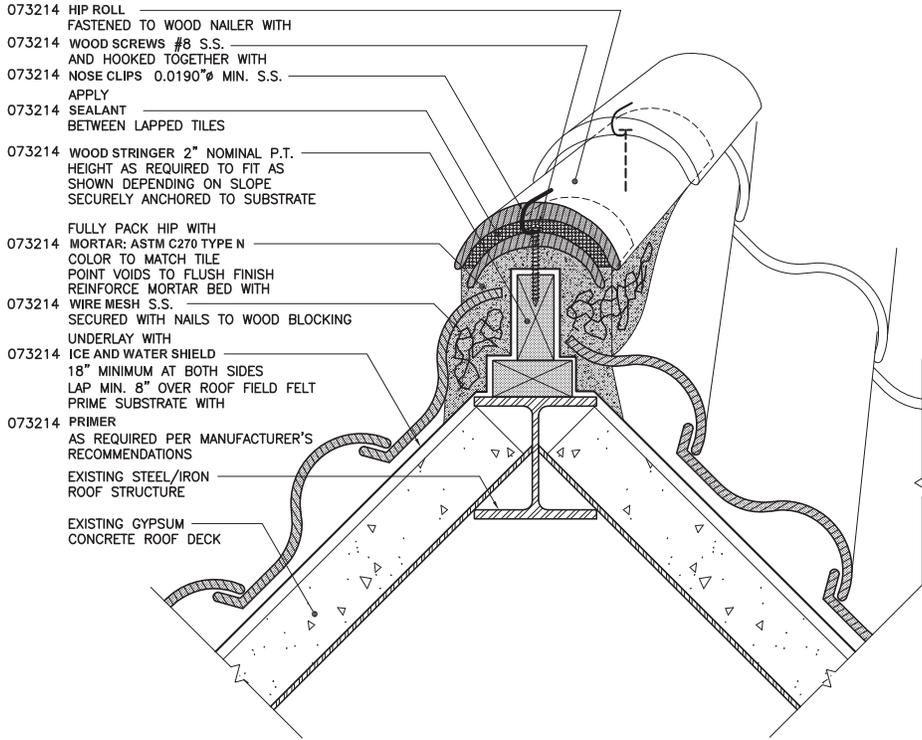
SCALE: 1 1/2" = 1'-0"



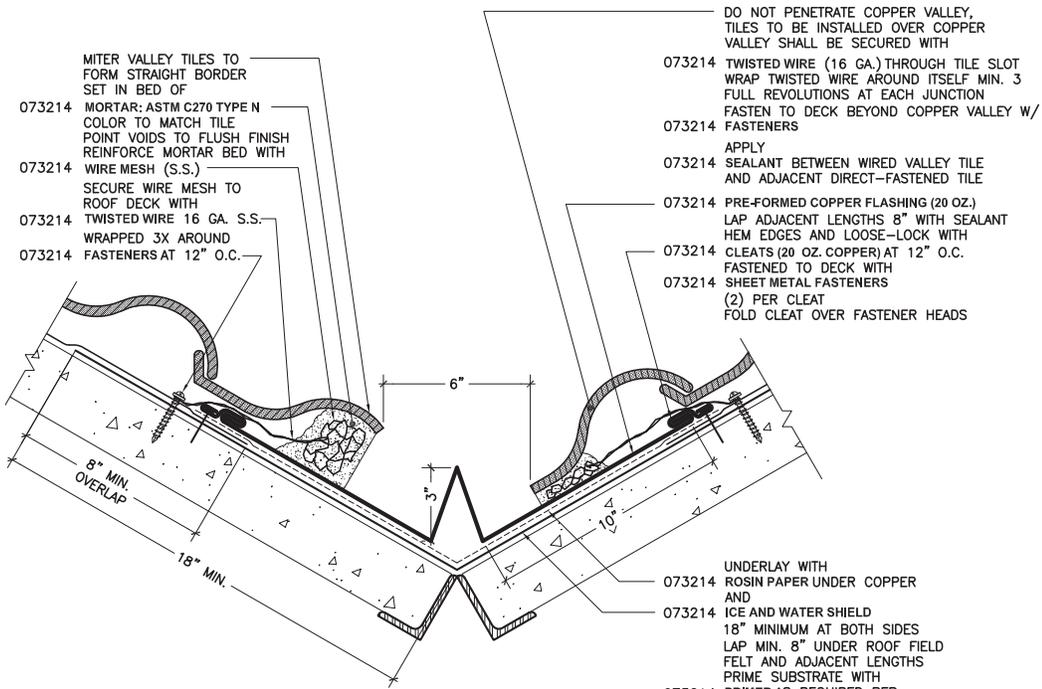
TRC 07

TERRA COTTA UNIT REPLACEMENT - DENTIL, E. 18TH STREET 9TH FLOOR LEVEL

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



SECTION B-B: HIP



SECTION D-D: VALLEY

The Roof

The tower is one of the most distinctive elements of the building's architecture. The Spanish-style clay tile roof was severely deteriorated and had clearly reached the end of its life span. In keeping with the Owner's budget, a facsimile tile of formed metal was originally considered. The Landmark's Preservation Commission staff took an interest in the roof and suggested the roof design might be approved, and the delay and expense of a full Commission hearing avoided, if the clay terra cotta roof was replaced in kind.

Below, top: Roof tile, before. Below, bottom: Pull test in progress. At right: Roof tile, after.



Custom-manufactured tile was deemed impractical for the project given the small size of the roof and the short construction schedule. Therefore all 15 domestic manufacturers of this type of tile were contacted in order to find the closest matching tile. The tile manufacturer Ludowici supplied a tile with the closest profile, only millimeters larger than the original, with the size difference not perceptible from the street. The new tiles' glaze closely replicated the mottled, almost smoky, finish of the aged tiles being replaced.

The roof tiles sit on the original gypsum concrete roof deck. This substrate is softer than materials used today, so pull tests were conducted for five different types of fasteners to determine which would work most effectively for this particular application.

The Roof - continued

The copper spire, like many components of the building, was showing its age. The original fabric was retained where possible; elsewhere, new copper was “stitched” in. Due to the difficulty of accessing the spire, a copper patina-colored waterproofing coating was applied to minimize the possibility of future leakage. Copper was also used as roof flashing, gutter and downspouts.

Below, top: Copper spire, before. Below, bottom: Copper flashing being applied. Right, top and bottom: New copper installation in progress.



Masonry

The MacIntyre's Building exterior masonry work includes blocks, panels, polished columns and carved ornament in terra cotta, limestone, bluestone, granite and marble. Each material presented a variety of conditions. During conditions assessment, each defect was specified individually. Repair methods included pinning, patching, crack injections and replacement in kind. Whenever possible the original building materials were conserved in situ.

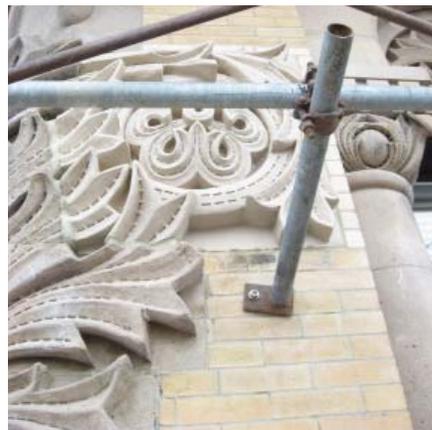
At right: Finial, before. Below, top: finial restoration in progress. Below, bottom: new cast elements. Right, bottom: Finial after.



Masonry - continued

In instances where stonework had deteriorated beyond repair, molds were made and new cast stone was put in place.

Below, top: Stone balustrade, before. Below, bottom: Balustrade restoration in progress. Right top: Balustrade, after. Bottom: Ornamental cast stone installation in progress.



Facade Cleaning

The building was completely cleaned. Under the direction of Joan Berkowitz, SUPERSTRUCTURES' Director of Conservation, conservators conducted tests on each type of material and monitored the execution. In one instance it was determined through absorption testing that some terra cotta had been partially de-glazed, so a special coating was specified that will preserve and protect the porous material from the elements.

Below, top: Limestone, being cleaned. At right: Limestone, after cleaning. Below, bottom: sample brick masonry labeled with applicant mason's tag.



Brick Masonry

The MacIntyre Building's bricks were laid with a butter joint, the re-pointing of which can test the skills of today's masons. SUPERSTRUCTURES' specifications required that each mason, prior to working on the building, submit a mock-up of a sample panel for review and approval. Only four individual masons met the quality test and were permitted to perform the re-pointing work on the building.

Finishing Touches

At projects' end, the sidewalk bridge was removed and finishing touches were completed. For example, ornamental grates were fabricated to replace those that were missing.

Below, top: Ornamental stone, before cleaning. At right: Stone, after cleaning. Below, bottom: ornamental grate missing. Right, below: Ornamental grate replacement.



An Architectural Treasure Restored

Below, top: The MacIntyre Building before exterior renovation. Below, bottom and at right: After restoration.



Today the MacIntyre Building houses 18 owner-occupied units. Some of the residents are the original “pioneers” of what has become a vibrant mixed-use neighborhood. Because the cost of renovation was spread over a small number of units, budgeting was a major consideration and it is a credit to the tenants that they made the investment and endured the inconvenience necessary to complete the project of preserving this landmark building.