

Dunn Warehouse Adaptive Reuse

Redevelopment Analysis and Master Plan



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Executive Summary

Location, Overview & History

Location

The Dunn Warehouse, sited at Broad and Water Street, is an important historical and architectural landmark on Hudson’s Waterfront. The building is located within close proximity to transportation hubs – adjacent to the Hudson Amtrak Station; entertainment venues – including Basilica Hudson; and housing, making it a desirable site for redevelopment. Currently used as storage, the former warehouse, constructed mainly of brick, is sited on 0.62 acres and occupies approximately 5,300 square feet.

The Dunn Warehouse is located directly across from Henry Hudson Riverfront Park. The park’s amenities include a pavilion for special events, public restrooms, boat docks and walking paths—all set against the historic landscape of the Hudson River. The park also shares the waterfront with a private boat club and a NYS State Boat Launch.



Overview and History

The City of Hudson, New York is located along the eastern banks of the Hudson River in Columbia County. In its early years, Hudson was a whaling, fishing, shipbuilding and mercantile town. It remained a shipping and manufacturing center into the 20th century, but began to decline, as did many post-industrial towns, in the 1960s and 1970s. Many remnant buildings that display

the architectural history from Hudson’s prosperous days, similar to the Dunn Warehouse, have begun to be reclaimed as part of a lively arts, music, market, and antiques scene and a second-home destination for many New York City dwellers.

The Dunn Warehouse site was previously home to a manufactured gas plant built in 1953, which



occupied 1.6 acres. The 1884 Sanborn maps show the property occupied by Hudson Gas Works, with adjacent coal and flour storage to the west, and a Foundry and Moulding operated by Hudson Stove Works to the northeast. The park area to the north was an oil storage facility. In 1889, the Sanborn maps indicate use of the site by Hudson Light and Power, with the flour storage and Stove Works remaining as adjacent users. In 1895, the



maps indicate that the flour storage transition to a machine shop, but other uses remain. As of 1903, the power company gas plant remained, but the Stove Works had closed, becoming Weaver Lumber and Building Materials yard by 1911. The Gas Works and Lumber Yard continued through the 1923 and 1949 maps, but the gas works had transitioned into storage by 1961.

Environmental Issues

As a result of its manufacturing history, the Dunn Warehouse site was considered a brownfield – home to coal tar, volatile organic compounds, and metals – and was remediated by then-owner Niagara Mohawk after the NYS Department of Environmental Conservation identified it as a source of recurring petroleum sheens on the water. Remediation included excavation of sediments, stockpiling of removals, trenching, and eventual removal of the stockpiles, followed by site restoration in the area of the waterfront park and the installation of monitoring wells along the railroad tracks. It is assumed that residual contamination still exists on the site.

Feasibility Findings and Recommendations

Because the Dunn Warehouse is isolated at present, limiting it to any one use is not advisable. A diversity of activities is recommended that would at once complement one another, serve as attractions that relate to a waterfront experience, and would not necessarily compete with nor duplicate the Warren Street experience. Furthermore, the two sections of the building lend themselves to a combination of scenarios 1 and 2. In the analysis of market, site, and building, cost, and management issues, the team found that the northern section would be most conducive to a mix of retail and food activities and the southern section would be optimal as a flexible office or public use space.

Of the three scenarios, the research and analysis found that scenario 1 or 2 are feasible for the site. Success of any scenario will depend upon:

- How well the space is designed to accommodate a flexible range of uses;
- How well the space is managed, including marketing, operations, maintenance and financial management;
- Accompanying the adaptive reuse of the building with streetscape, parking and park upgrades;
- Prioritizing improved accessibility to the site via foot and vehicle across the Ferry Street bridge and Broad Street railroad crossing.
- Supporting improved access to and from the water (e.g., docking and marina facilities; kayaking and other recreational small craft access); and
- Assuring well-managed programming (i.e., the uses) of the building and the adjacent park, including a well-publicized calendar of events coordinated with other entities in Hudson.

Retail and shopping would fit well with the northern section for a few reasons:

- The structure of the one-story space is **easily dividable** into three, with the partitions located directly under the trusses that divide the bays.



- The full-length openings **could serve as a row of storefronts**. Their size and repetition are **conducive to the shopping experience**.
- In urban design terms, this façade of the Warehouse could be oriented on **a side street that could eventually face another retail row to the north side** of the street. Retailers find that **this type of public space creates an “outdoor room” that helps retain activity** more than a single-sided street.

The retail and restaurant markets are successful in Hudson for a number of reasons:

- **Dense, mixed-use fabric:** The fabric of Warren Street is relatively dense, serves the mixed use residential and office market directly around it.
- **The Main Street “experience”:** People want to shop in unique places and have a memorable experience; otherwise, they can shop on line. The architecture of Warren Street has “very good bones”: the ensemble represents some of the best examples of urban architecture in the Hudson Valley, and because it has escaped demolition (for the most part), it keeps the pedestrian experience intact. Sensitivity to the historic fabric, maintaining a sense of scale and good design on the facades and in the storefronts and merchandising all contribute to this. Main streets where excessive demolition has occurred do not have sufficient adjacencies to offer a “Main Street” experience.
- **A regional shopping and dining destination:** Warren Street serves as a regional shopping and dining destination. To understand the extent of market supply and demand, a Drive Time map can be compared with Marketplace Profiles.¹ The weekend activity from New York City, which extends from Thursday through Tuesday, is a result of more flexible work arrangements for the “weekend-extendors” and telecommuters. Hudson’s draw as a popular tourism destination further expands the potential for the success of retail and dining in Hudson.

Broadly defined public spaces could also work for the Dunn Warehouse in combination with dining and shopping. The southern portion of the building is more suited as open office configurations or a public assembly space. **Option 1** (page 7) shows the space divided into a 2-story space totaling 5,000 square feet with the potential for flexible, sub-dividable office spaces. **Option 2** (page 7) shows open 2-story height space, with 3,200 square feet. In this second scenario, the construction costs would be lower without an elevator, stairs, or second floor structure. The income potential would also be lower. In both cases, the space – or portions of it – could serve as a multi-purpose space. This is recommended if it can be well-managed for rental uses, as it would maintain a degree of public access that could serve the goal of creating a destination space.

Some examples suggested for this space included an arts incubator facility, sloop club, museum, café/retail, farmers’ market, or a community space available for public meetings, rentals (e.g., for weddings and parties), and exhibitions. In the “benchmarking” section below, some examples are

¹ These are generated by ESRI, a Geographic Information Services mapping service that combines data from sources such as the U.S. Census and Bureau of Labor Statistics.



discussed with their associated general costs. The limitations of these uses will depend upon the project financing options available to the City of Hudson and the Hudson Development Corporation.

Sale of Building vs. City Ownership or Public-Private Partnership

It is strongly recommended that a certain conditions be attached to the sale of the building, if this option is chosen. To avoid the risk of inappropriate uses or delays in implementation, the sale should be conditioned upon specific qualifications that include financial and management capabilities, in addition to a successful track record and viable business plan for the building. The developer would be attracted by the availability of tax credits, but could not benefit from state historic preservation grants, increasing the overall cost of the project.

Historic Tax Credits

The Dunn Warehouse is a good example of the type of project that can benefit from the Historic Tax Credit (HTC) programs at the New York State and Federal levels at 20 percent each, amounting to 40 percent of the “Qualified Rehabilitation Expenditures” (QREs). To claim these credits, the building must be listed on state and federal registers and the work must be certified as conforming to the Secretary of the Interior’s Standards for Rehabilitation by the NY State Historic Preservation Officer (SHPO). The Hudson Development Corporation can utilize HTCs by creating a for-profit subsidiary to be the developer. This can help in raising funds from prospective donors and can be utilized as a match for New York State grant funds.

An important preliminary step that will determine the future range of options is to have the Dunn Warehouse designated on the State and National Registers of Historic Places so it can be properly preserved with the help of Historic Rehabilitation Tax Credits. This was initiated with assistance from William Krattinger of NY SHPO during the course of this project.

In order for the City to undertake the rehabilitation of the building using tax credits, it would need to bring an investor into the ownership structure of the building so that the investor can claim the credits (and other economic and tax benefits) in exchange for providing equity to the project.. This can help in raising funds from prospective donors and can be utilized as a match for New York State grant funds. Although it is unlikely that the City’s approximate \$2 to \$2.5 million investment (after tax credits and grants) would be recouped by a sale or by the costs of rehabilitation, options 1 and possibly 2 would generate a steadier cash flow. Additional incentives or conditions could be offered to attract investors and limit the risk of the building sitting vacant for an extended period of time.

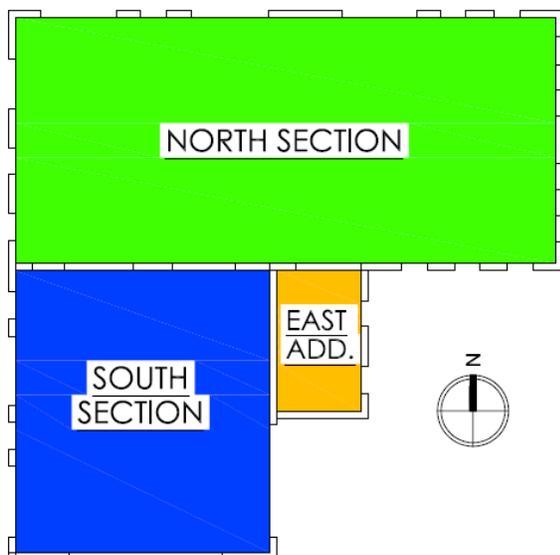
Returning the Dunn Warehouse to an active and vibrant role in the community is a natural next-step in reconnecting the Hudson River to community life albeit as a recreational and commercial district. The City has developed a wonderful Park directly across Water Street from the Dunn Warehouse which serves as both passive and active recreational activities. Directly to the north is an active marina. To the north east, immediately across the railroad tracks is the Amtrak Station, both an historic and 24/7 facility.

The purpose of the project as described in the Request for Professional Services from the City of Hudson is to: **[1]** Evaluate existing conditions within the Dunn Building, inclusive of all structural and building envelope elements; and, **[2]** Identify adaptive reuse possibilities for the structure. Extensive



on-site visual investigations and field measurements were conducted by the Study team. Numerous meetings were held with the City and adaptive re-use options reviewed. The team also conducted an economic feasibility study of various uses that can be supported by the community and also enhance the viability of the Hudson waterfront. Finally estimates of probable project costs were developed for each of the proposed options and include stabilization and preservation of the structure and envelope. Proposed site modifications were included in the estimate.

The Dunn Warehouse was constructed in three distinct components as illustrated below. The North section is a relatively low structure of brick and heavy timber construction. Wood trusses span north to south and support a gabled roof and monitor. There are no intermediate supports in the structure allowing for an open and flexible floor plan. The open truss work gives it a very interesting and human-scaled appearance. A small mezzanine located in the easternmost bays is dangerously deteriorated and should be removed.



The North section has a footprint of approximately 3,200 square feet of flexible space and can readily be developed as one leasable area or subdivided into several. The demising walls in a subdivision could follow the regularly spaced wood trusses.

The South section is one story with approximately 1,750 square feet. The floor to ceiling height is much greater than the north section and could accommodate the insertion of a second floor.

The East section is a single one-story space of approximately 325 square feet.

Two Design Options are presented in order to give the City flexibility in seeking a lessee or developer. It is the intent that the building be secured by the

City or the building is renovated to a level where only a fit-up is required by a lessee. Fit-up ready means the entire envelope (walls, windows and roof) be put into a pristine condition; new interior concrete floors installed and new power distributed to circuit panels, exterior wall insulation and finishes, and HVAC unit(s). Basic interior accommodations such as the common corridor, kitchen and restrooms would also be built at this time.

North Section

This section has the best configuration for retail and commercial use and is designed as such in **Options 1 and 2**. Access to the space(s) will be from the proposed east-to-west paved plaza described above. The interior is a perfect scale for commercial use with the bottom of the heavy timber trusses just ___ off of the floor. Entrances to the space(s) will be through the three large openings now filled with garage doors. The openings can be in-filled with glazed metal store front and door allowing natural light into the interior and affording good window display space. The interior



of each retail or commercial space will be lit artificially and through light coming in the large monitor running east to west. Each space can be constructed with an individual restroom or the occupants can take advantage of the common restrooms reached by a common corridor in the rear. Any of the proposed spaces can be fitted out as a café serving patrons on the interior and as weather permits outside on the plaza. An open food-prep area can be incorporated within the space. The quality of the proposed space(s) in the North Section can be intuited from the buildings existing conditions:

- Exposed heavy timber wood trusses dating from the mid-nineteenth century.
- A high monitor running along the peak of the building that will let generous amounts of daylight to flood the retail floor. Multiple studies have shown the natural light from skylights in retail settings increase purchasing.
- Ample visual access through the large available openings for storefronts.
- Large, well-proportioned window openings for additional natural or window treatments.

South Section

Soaring twenty four feet from the floor to the bottom of the iron trusses the South Section is capable of receiving a second floor. Proposed in **Option 1** an additional floor will add approximately 5,000 square feet of usable space. The new second floor will have a spectacular ceiling made up of the existing iron trusses and the north to south light monitor. The space can be used for open office configurations or as an assembly space. The first floor can be subdivided into small leasable offices for multiple tenants or a one tenant space. The floor can also serve as public/community use for meetings and such.

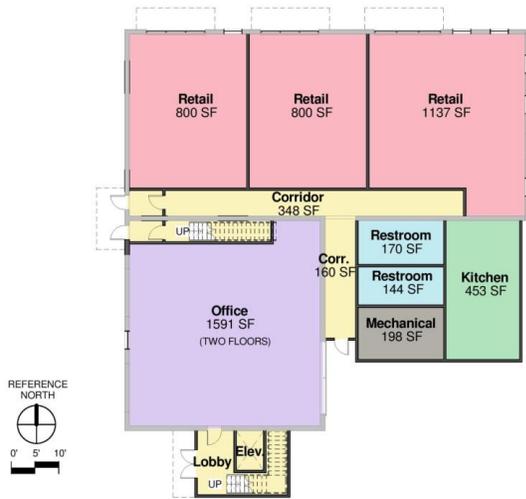
The addition of a second floor will present the opportunity to structurally support and visually enliven the south façade. A separate entrance to the south section is proposed through a glazed tower that will house an open stair and elevator. An additional stair is required as a second means of egress and will be located on the interior next to the north section. The south section will also have access to the common restrooms and kitchen.

In **Option 2**, the South Section interior is left in its full volume. This dramatic space can be used for mid-size gatherings, an art gallery and an intimate live performance venue. A new entry is proposed on the south wall and, as in Option 1 will add interest and structural stability.

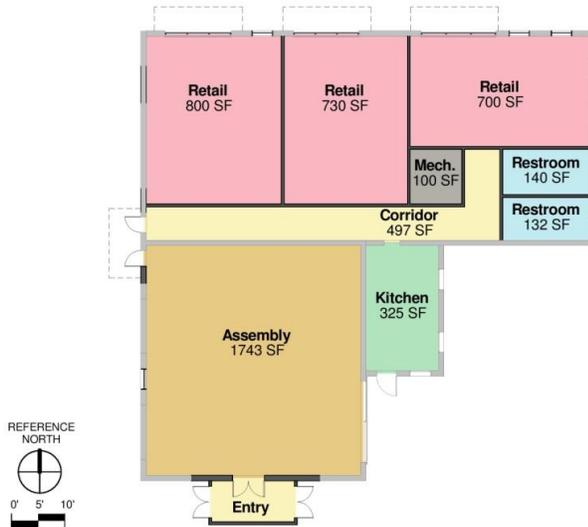
East Section

Option 1 proposes the removal of the 325 square foot east section to accommodate the men's and women's restrooms, a 450 square foot common kitchen and a mechanical room. The addition will allow for greater usable space within the existing building. **Option 2** leaves the original section and proposes converting it to a common kitchen. The common restrooms and mechanical space would be located in the southeast portion of the North Section. All would be accessible by a common corridor.





Option 1



Option 2





Site Concept

The Dunn Warehouse is located at the south east corner of Broad and Water Streets. Water Street runs roughly parallel to the Hudson River. Between Water Street and the Hudson is the City Waterfront Park. A long graveled lot runs to the north of the building. Having once been the location of a coal gasification plant the site has been remediated. However there are restrictions on construction. The goal of the design concept is to enhance the pedestrian environment and create an enjoyable place to visit, shop, and enjoy the waterfront park. The plan accomplishes this by:

- Introducing parking east of the Dunn adjacent to the railroad tracks.
- Create a paved plaza to the north of the Dunn serving the proposed commercial and retail store front.
- The plaza will accommodate tables for a café, outdoor stalls for a retail market and connect the proposed parking to Water Street.
- Employ traffic-calming strategies at the pedestrian crossing from the Dunn to the Park. Water Street will be narrowed at the crossing by removing the parking lanes and by pulling the curbs in and making it a shorter distance to cross. The paving used for the crossing will be an extension of the plaza referenced above.



- Relocate the historic cast iron jib crane from east of the tracks to the center of the 180 degree turn of the pedestrian paving just west of Water Street. See *Illustration at right*.
- The close proximity of Dunn to the railroad station presents an opportunity to attract the large influx of weekenders travelling to Hudson from New York City. Train users are now able to walk to the Dunn from the station; however, there is no clearly identified path and the pedestrian must walk through the station parking lot to the at grade track crossing and proceed on Broad Street. A wide paved path is proposed heading south on South Front Street to Broad Street and west on Broad Street.
- The renovation and repairs to the Ferry Street Bridge, north of the Dunn should also accommodate pedestrians who wish to visit the newly revitalized waterfront.



Future development is proposed north of the Dunn and generally adheres to the 1996 Vision Plan. All additional parking is proposed for the location immediately west of the rail right-of-way.



Existing Conditions

Please refer to *Appendix 1: Existing Conditions Maps* for the figures referenced below.

Visible in *Figure 1 – Site Map*, the Dunn warehouse building, sited at Broad and Water Streets, is located adjacent to the Hudson Amtrak Station, across the street from Henry Hudson Riverfront Park, and in close proximity to housing and shops, making it a desirable site for redevelopment.

Current Land Ownership

Figure 2 – Current Land Ownership shows that the Dunn Warehouse property is composed of two parcels, totaling 0.63 acres, owned by the City of Hudson. Adjacent parcels are owned by the City (the public park along the riverbank to the west, as well as the neighboring parcel to the north) and the railroad operated by Amtrak and CSX to the east.

Infrastructure

The Dunn Warehouse property includes typical utility easements, and has access to water and combined sewer. As shown in *Figure 3 – Infrastructure*, the water line runs along the center of Water Street and Broad Street; combined sewer is along Broad Street; and fire hydrants are located on southwest side of Broad Street and the north side of Water Street.

Transportation/Circulation Systems

By vehicle and foot, the site is only accessible via two routes: across the Ferry Street bridge and across the Amtrak railroad tracks. As shown in *Figure 4 – Transportation and Circulation Systems*, the Dunn Warehouse property is bordered to the southwest by Broad Street, to the West by Water Street, and to the east by railroad tracks used by CSX and Amtrak. Just to the north of the property is Ferry Street, which includes a bridge that provides primary access to the waterfront and Henry Hudson Riverfront Park adjacent to the site, across Water Street. There is little designated pedestrian access to the site itself, but sidewalks are present across Water Street, within the park. Pedestrians approaching the site from the Amtrak rail station must cross the railroad tracks, following Broad Street, where there are no sidewalks. A ferry serves the adjacent park, crossing the Hudson River to Athens.

Current Land and Water Uses

The Dunn Warehouse property is made up of two parcels. Visible in *Figure 5 – Current Land and Water Uses*, the main parcel is currently categorized as commercial use, as is the adjacent parcel to north, while the minor parcel is categorized as vacant residential. Adjacent uses include the Henry Hudson Riverfront Park (to the west and southwest), and Public Services to the east (transportation property for the railroad).

Historic and Archeological Resources

According to the New York State Cultural Resource Information System (CRIS) map, shown in *Figure 6 – Historic and Archeological Resources*, the Dunn property is not located within the Hudson Historic District, though it is just a few hundred feet outside the boundary. The property is neither listed nor eligible for National Register status; however, there are properties within ¼ mile that are. In the map



below, those points in pink represent locations which fall within a ¼-mile buffer surrounding the Dunn property. The large polygon bounded in black represents the City of Hudson Historic District, while the smaller polygon near the Hudson River represents the Promenade Hill Accessibility Project. The closest National Register Listed building is the Hudson Amtrak Station.

USGS Soil Resource Report

The USGS Soil Resource report classifies the soil type on the Dunn Warehouse property as UE – Udorthents, as depicted in *Figure 7 - Soils*. This soil is described as a loamy fill material with a 0-3% slope, where there is generally a depth of 36-72” to water table. The soil is classified as Hydrologic Soil Group A. Additionally, the BOA reports completed for the property describe Lacustrine deposits of sand, silt and clay with underlying Normanskill gray to black shale bedrock.

Topography and Hydrology

Site topography is generally level and sloping slightly from north to south. As demonstrated by *Figure 8 – Topography*, there are no streams or waterbodies on the site, but the Hudson River is just west of the site. Groundwater is generally present 3-4’ below surface, is tidally influenced, and mean water level is approximately 1’ above sea level.

Natural Resources

The site itself does not contain any streams or waterbodies, though the Hudson River is just to the northwest. The majority of the site is free from any significant vegetation. There were no NYS DEC wetlands or NWI wetlands in this area, according to online mapping services. According to the FEMA flood map, last revised in September 1989, and depicted in *Figure 9 – Natural Resources*, the site is within the 100-year floodplain, Zone AE. The FEMA maps show flood height at 12 feet.

View Corridors

There are significant, broad views from the property across Henry Hudson Riverfront Park and to the Hudson River itself, as shown in *Figure 10 – View Corridors*. As the site is adjacent to the Amtrak rail lines, there are prominent views to and from the station, as well as views to and from the train cars as they pass the site. At this time, views are primarily open toward the north, allowing views of the Ferry Street Bridge. To the southwest, what would be views of the Holcim cement property are screened by vegetation. To the southeast, views are industrial in nature, and Basilica Hudson - an arts, performance, production, and events space - can be seen.

Zoning and Other Applicable Designations

The Dunn Warehouse property falls within the City of Hudson’s Core Riverfront (C-R) zoning district, depicted in *Figure 11 – Zoning*, which intends to provide for: “a mixture of compatible uses at the riverfront; to provide access to the riverfront for water-dependent transportation and recreational uses and water-enhanced uses, such as restaurants and publicly-accessible walking and biking trails; to ensure that such uses are compatible; and to protect the visual, cultural, natural, ecological and historical resources of the City’s core riverfront area” (§ 325-17.1.). The property, as well as surrounding properties, is also within the *2011 Local Waterfront Revitalization Plan* (LWRP) boundary.

Off-street parking requirements for the site vary depending upon the use. The schematic designs provided in each scenario below meet the parking requirements by providing 64 spaces. The zoning



calls for at least 1 space for every 300 square feet of public space, 6 seats in a public space, or every three seats at an eating establishment.

The remainder of these zoning and parking requirements for the site are found in *Appendix 2: Core Riverfront (C-R) District Zoning and Parking Requirements*.

Analysis of Site Constraints, Needs, and Opportunities

Potential redevelopment of the Dunn Warehouse should capitalize on its location by complementing and enhancing the character of the riverfront; strengthening the sense of place by visually and physically connecting the building and public spaces with the Hudson River; and enlivening the waterfront with attractive uses.

Connections for pedestrians should be provided to the park, to adjacent properties that may house future development, along Broad Street, and across the at-grade railroad tracks to the Amtrak station. Care should be taken during future building and site development to avoid any contact with groundwater or subsurface soil contamination. Structural design should incorporate measures to address any possible health issues.

As shown in *Figure 12 - Analysis Diagram*, opportunities exist to create complementary mixed-use or commercial development on the properties to the north of the project. Streets through this area could be narrowed as a traffic-calming measure, and also to provide space for sidewalks and on-street parking areas.

Health Issues

- Measures are in place to prevent contact with subsurface soil contamination
- No contact with contaminated water (public water supply)
- VOC compounds in groundwater may move into soil vapor and into an overlying building
- “Currently there are no occupied buildings on the site. An evaluation of the potential for soil vapor intrusion to occur will be completed should the current use of the site change.”

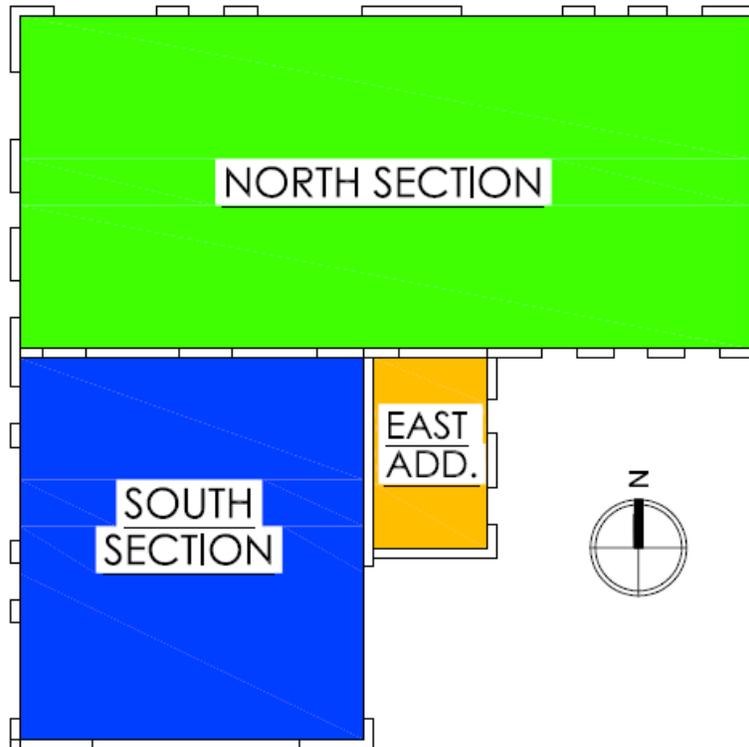
Structural Issues

The following building conditions report is excerpted from the Structural Assessment Report for the Dunn Warehouse compiled by Proper and O’Leary Engineering dpc of Valatie, New York dated May 2015. The Full report is located in *Appendix 3: Structural Assessment Report*.

EXISTING BUILDING COMPONENTS

The Dunn Warehouse is composed of three sections and has an overall footprint of approximately 5,500 sf. The northern section of the building is composed of timber roof framing and masonry exterior walls, and has a small mezzanine space located along the east side. The southern section is composed of steel trusses and masonry exterior walls. The east addition, which is assumed not to be part of the original building, has a steel framed concrete roof with masonry exterior walls.





BUILDING LAYOUT PLAN

Based on historic data, the building was originally constructed around mid-nineteenth century, which matches the materials that were utilized for its construction. Over the years major modifications of the building have been conducted and were evident during the site inspection. The most notable modification was the full replacement of the north wall of the northern section, which was replaced around 2004, during the site remediation project. The second modification pertains to the roof of the southern section, which was altered from a gable to a monitor roof style. This is evident by the change in masonry unit types along the original gable roof line and the use of built-up steel trusses for the roof, which places this modification around the early twentieth century. It is also anticipated that the eastern addition was added during this same time period due to its similar built up steel roof construction.

Based on the site assessment, a narrative summary of the structural components of the building is provided below. The description of each structural system is broken down per section described above.

Northern Building Section

1. Foundation

- Dirt floor on grade
- Cut granite stone foundation exposed at grade, stacked stone base anticipated.
- Cast-in-place concrete foundation along reconstructed northern wall.



2. Mezzanine Floor Framing

- Floor Joists: 2 ½" x 7 ½" @ 29"oc +/-
- 1x decking
- Built-up asphalt roof

3. Roof Framing

- Monitor Roof Style
- lower roof 6 on 12, upper roof ¼" on 12
- Timber Trusses, Queen-rod style, space @ 8'-0" oc
 - Bottom Chord: 7 ½"x 10 ½"
 - Top Chord: 8 ¼" x 10 ¼"
 - Web: 3 ½" x 7 ½"
 - Queen Rod: 1 1/8" diameter
- Upper Box Frame:
 - Side Posts: 5 ¾" sq.
 - Top Beam: 5 ½" x 8" to 6" Tapered
 - Knee Bends: 3 ½" x 5 ½"
 - Longitudinal Beam: 5 ½" x 8" (not fully determined – concealed)
- Timber Decking: 2x8 T&G
- Lower Roofing: Asphalt shingles w built up asphalt along sides
- Upper Roofing: Built-up asphalt with impregnated gravel surface.

4. Exterior Walls

- Triple wythe brick masonry, 12" +/-
- Lime based mortar original building, with cement mortar repointing in some areas.
- Cement mortar north wall reconstruction.

Northern Building Section

1. Foundation

- Dirt Floor at grade
- Cut granite stone foundation exposed at grade, stacked stone base anticipated.

2. Roof Framing (Not Accessible due to height)

- Monitor Style Roof
- Lower roof 8 on 12, Upper Roof 3 on 12 (approx.)
- Built Up Steel Roof Trusses, (2 total)
 - Bottom and Top Chords – Double Angles
 - Web members – Single Angles
 - Riveted connections
- C-channel purlins @ 4'-0" oc (approx.)
- 2x4 rafters, laid flat @ 2'-0" oc (approx.)



- Corrugated metal roofing

3. Exterior Walls

- Triple wythe brick masonry, 12" +/-
- Lime based mortar original building, with cement mortar repointing in some areas.

Eastern Addition

1. Foundation

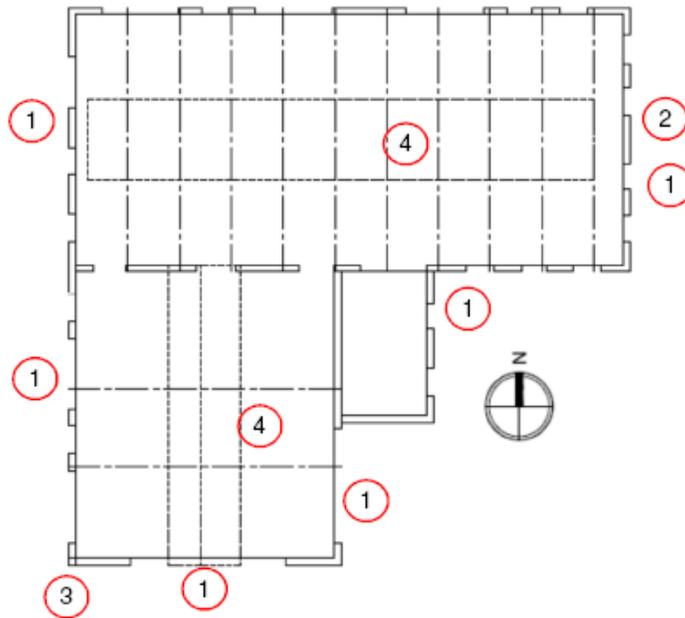
- Cast-in-place concrete foundation
- Concrete floor slab

2. Roof Framing

- Mono slope roof style
- Built up steel roof rafters, T-shaped with double angle top and center plate, space @ 30"oc +/-
- Concrete Decking, 4" +/- thickness
- Roll on asphalt roofing

3. Exterior Walls

- Triple wythe brick masonry, 12" +/-
- Cement/ lime based mortar



A. FOUNDATION



This report was prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.

1. Due to the flat nature of the site, grades along the building are not adequately pitched, which allows ponding of surface water near the building edge. It is recommended that the grades be revised along the building edge to promote positive drainage. Due to site constraints, this may require the installation of new stormwater drains along the perimeter that connect into the municipal system.

2. Juvenile trees and shrubs have grown up along the east side of the north section and are directly affecting the masonry walls and foundation in this area. It is recommended that the vegetation be removed and foundation adequately assessed below grade so that corrective action can be conducted. The exact scope is unknown, but will most likely consist of replacement of deteriorated units and repointing of mortar joints.

3. A large tree is located along the southwest corner of the building and its roots extend adjacent to the west side foundation wall. The roots have most likely affected the foundation in this area in that a significant number of cracks were observed in the masonry wall above. These cracks are most likely due to a number of factors, one of them being the root penetration of the foundation masonry joints.

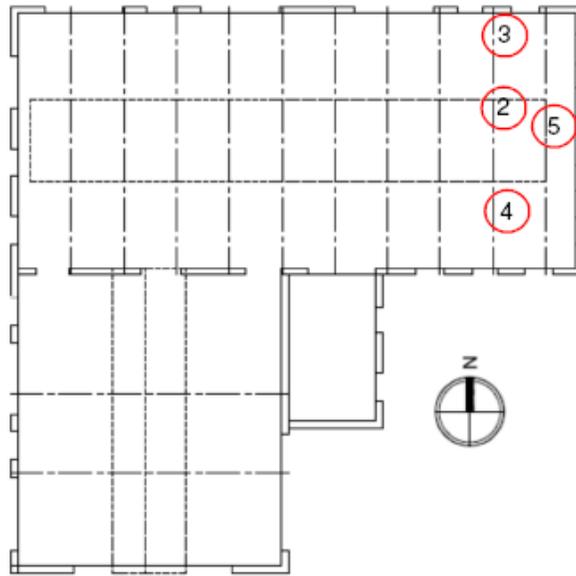
The most direct solution to resolve this issue would be removal of the tree. However, this action would need to be weighed against the tree's landscaping presence and how its removal will affect the site as a whole. It is recommended that a certified arborist assess the tree's condition to determine if the roots could be removed and/or altered from around the foundation so that in general, the structural composition of the building was found to be in fair condition. Major items of concern were observed and are indicated below in **bold text**. These items pertain to load bearing elements and may lead to life safety issues should corrective action not be taken.

The remaining items, which pertain to the majority of the items observed, are minor in scale. Nonetheless, all items mentioned below should be addressed during the renovation process to ensure the long term integrity of the structure. A structural photo summary of the items mentioned is included in Appendix A.

For the purpose of this report, NS refers to the northern section of the building, SS refers to the southern section, and EA refers to the eastern addition. Corrective work could be completed. Such corrective work is unknown, but will most likely consist of replacement of deteriorated stone units and repointing of mortar joints.

4. The floors of the building, excluding the west addition, were dirt. It is not known if this was always the case, or if they were removed during the site remediation project. It is recommended, at a minimum, that a 10 mil polyethylene vapor barrier be installed on the floors and covered with gravel material to prevent ground moisture from entering the interior space. It is most likely that the floors will have a concrete slab on grade, but it is not recommended that the slabs be installed until after the intended use has been determined.





B. MEZZANINE FRAMING

1. In general, the overall framing condition of the mezzanine was poor. A summary of the specific issues observed is provided below along with corrective steps that should be taken should the historic integrity of the space need to be maintained. If this is not the case, and the historical attributes that the mezzanine provides is determined not to be significant, it is recommended that the space either be eliminate, or demolished and reframed.

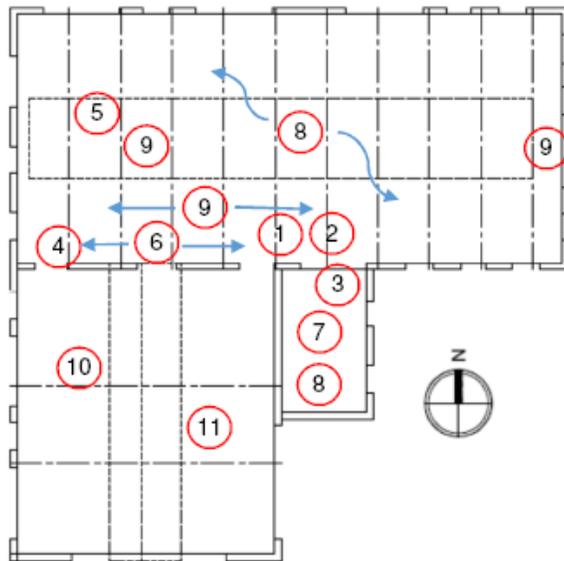
2. The floor of the mezzanine consist of 2x8 t&g planking. Due to roof leaks, the floor was deteriorated in this area. It is recommended that the flooring and associated affected floor joists be removed and fully replaced.

3. A portion of the floor was missing along the side walls. It is recommended that new flooring be added.

4. Fully deteriorated flooring was located in this area, again due to roof leaks. It is recommended that the flooring and associates affected joists be fully replaced.

5. The trim joists of the stairwell have begun to sag and are most likely inadequate in size. In addition, the mortise and tenon connection of the trim joists is a potential failure point. It is recommended that the trim joists either be sistered with new 2x members, or replaced with larger single members that match the age of the original construction.





C. ROOF FRAMING

1. The most significant issue with the roof pertains to the NS timber truss #6 in from the east wall. Significant deterioration was observed at its bearing point with the south masonry wall, which has been brought about due to roof leaks in the area. The extent of the decay is to the point where it is highly recommended that temporary shoring be placed below the bearing point prior, to the next winter season.

The initial part of the repair step will involve conducting a full engineering assessment of the affected truss in order to determine the extent of the decay. Once fully determined, a reinforcement plan can be developed to adequately address this issue. Based on past experience, this will most likely consist of replacing and/or reinforcing the bottom and top chord with steel members. The repair will also need to incorporate the replacement of the affected roof planking above, along with the roofing material to prevent further water infiltration.

2. Similar to the above issue, the NS timber truss # 5, from the east wall, has a similar deterioration issue at the bearing point with the south wall. The amount of decay did not appear to be as severe at that of truss #6, but should be fully assessed and corrective action taken, similar to that described above, if necessary.

3. A retrofit steel header was installed to allow access from the NS to the EA. The header consists of the two steel channels placed on either side of the wall that have been thru bolted, which allowed removal of the masonry below. It is located in the same area as truss #5 mentioned above and has significant amount of corrosion. It is recommended that the extent of the deterioration be fully assessed and corrective action taken, if necessary. Such action could involve installation of new steel members below, infilling the opening if it



is no longer needed, or placement of a center column to reduce the flexure stress imposed on the header.

4. Previous repair of the NS timber trusses was noted in these area. This was most likely conducted during the soil remediation project, during which the entire north wall of the NS was replaced.

5. Rotted top plate member of the upper roof was noted in this area along the roof hatch. It is recommended that the member be replaced along with the affected roof planking.

6. Another critical issue with the NS roof was the poor flashing condition at the roof junction with the SS and EA north walls. The slope of the gutter line is insufficient to promote proper drainage and the built-up asphalt flashing was observed to have numerous leaks. It is recommended that the trough gutter be reframed to create a constant pitch from the west wall to the east daylight point at a minimum slope of 1 on 12. The gutter should be constructed of a continuous roofing membrane, such as epdm or equal, and extend an adequate distance up the adjoining wall and gable roof to allow for snow build up. Due to the complexity of the gutter line at the transition with EA and the potential aesthetic effect of the reframed gutter trough, another option could be the installation of an internal drain.

7. The roof of the EA consists of a 4" concrete slab supported by built-up steel rafters. Cracks in the concrete slab were observed in numerous locations along with exposed and corroded steel reinforcement. With that said, no sign of weakness in the slab was observed when walking above. It is recommended that the location of the main cracks be documented and monitored for future movement.

8. The entire roofing material for the NS and EA was observed to be in poor condition and has active leaks that are affecting the structure below. It is recommended that the roofing material be fully replaced. Due to the age of the roofing, asbestos fibers may exist and should be determined and accounted for in the reconstruction costs.

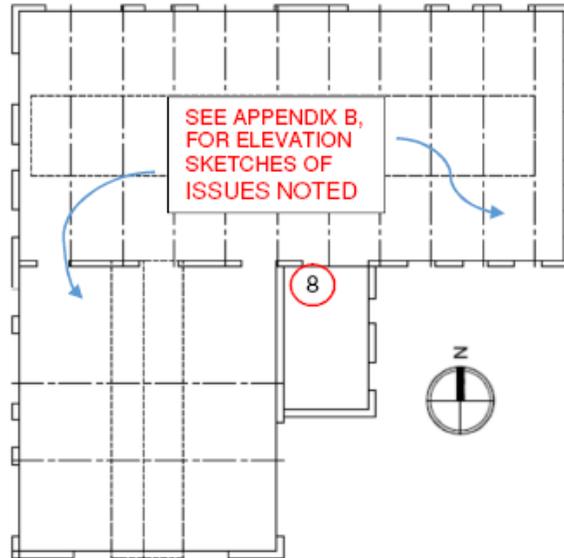
9. Various sections of the NS roof decking were observed to be soft and had active leaks below. It is anticipated that these sections of decking will need to be fully replaced during the reroofing process. The majority of the soft areas were located along the south side of the NS. For budgeting purposes, it is anticipated that 50% of roof deck will need to be replaced.

10. The condition of the SS roof trusses could not be fully conducted due to the restrictive height of the space. From what could be observed, no signs of material failure, such as warping or misalignment of truss members, were identified. However, surface rust did cover the majority of the roof's steel members and the possibility of cross-sectional loss due to corrosion cannot be ruled out. It is recommended that lift equipment be utilized to allow full assessment of the roof trusses to determine the basic member sizes, connection detailing, member cross-sectional lose, and the exposure of any heavily corroded area. Of particular concern would be the bearing points along the



east and west walls along with the connection the lateral bracing members into the south and north walls.

11. The roofing material of the SS consists of corrugated metal and was observed to be significantly rusted. It is recommended that the roofing be covered over or fully replaced with new metal roofing. The use of alternate roofing types may also be utilized, but an assessment of the roof framing should first be conducted to ensure that it will not induce an overstress condition.



D. EXTERIOR WALLS

1. The most significant issues with the building pertains to the condition of the masonry exterior and interior walls. Numerous factors have affected the condition of the masonry namely poor grading around the building, placement of masonry below grade, vegetative growth, water infiltration thru the roof, modification of the walls with varying strength materials, alteration of the walls with large steel headers, poor repointing methods, and inadequate lateral support. A summary of the specific issues observed with the walls is provided below. To further aid in the assessment process, cursory elevation sketches are included in Appendix B that have been marked up to show the problem areas, and the areas have been numbered to match that discussed below.

2. A common problem with a masonry building of this age is called dampness rising. In simple terms, dampness rising involves the transfer/rise of water through the masonry via capillary action when in contact with the ground or other water source. The water degrades the masonry assemblage over an extended period of time via the freeze thaw cycle. Signs of rising dampness were observed on all walls of the building.

The most expensive method utilized to correct this condition involves the injection of a liquid membrane at the foundation line to prevent the water from rising into the brick. A less expensive option, but not as full proof, would be to redirect the grade away from the building, along with installation of surface gutters at the building edge. The surface gutters would consist of gravel trenches lined with waterproof membranes that would extend a minimum of 3 ft from the building edge. A perforated drainage pipe would be placed within the gravel and directed towards the municipal system. Once a remedy has been determined to address the rising dampness, the affected / deteriorated masonry units should be removed and replace with like-kind units and all eroded mortar joints repointed.

3. Eroded mortar joints were observed on all four sides of the building. The eroded joints are most likely caused by the natural deterioration of the soft lime mortar overtime. It is recommended that the joints be raked and repointed. The repointing mortar should be a soft cement / lime base mix to match the original physical properties of the original mortar. Analysis of the existing mortar is recommended to ensure compatibility.

4. The NS east side parapet was found to be in poor condition to a point where it has begun to fail. It is recommended that the parapet be completely demolished and reconstructed. Of particular importance is the placement of continuous flashing below the top coping stones. In addition, it is important that the new masonry is properly tied back to the roof decking to restrict lateral movement. If determined to be in adequate condition, existing brick units should be salvaged and reused.

5. The NS west parapet was found to have similar issues as that of the east parapet. However, the extent of deterioration is not to the point of failure like the east. It is recommended that the damage



units be replaced and the entire parapet repointed. In addition, the coping stones should be removed and new flashing installed and integrated into the new roofing system.

6. The top of the wall / window arch of south side of NS was observed to be severely deteriorated. This is due to the roof drainage that is dumped from the trough gutter, discussed under Roof item #6. It is recommended that the wall be completely dismantled and reconstructed using like-kind materials.

7. Various sections of the wall were observed to have been repointed / patched using cement based mortar, in that the original construction is a softer lime mortar. These areas are easily identified by the white color of the repair mortar. The use of hard cement mortar is detrimental to a masonry building of this age, in that it restricts the expansion of the older / weaker brick units. Over time, this has led to fracturing of brick face, which has occurred in numerous locations. It is recommended that cement mortar be raked and repointed and the damaged units replaced.

8. The interior masonry wall of NS in the area of truss #6 mentioned above in item #1 of the roof section is severely deteriorated due to an active water leak. It is recommended that the truss be temporarily supported and the deteriorated masonry removed and reconstructed.

9. A significant amount of cracks have developed in the south wall of the SS. This wall has been significantly modified over the life span of the building. First, the wall height was increased to conform to the new monitor roof style. This was followed by the installation of the large overhead garage door. Cracks were observed on both sides of the door opening extending from the foundation to roof line. Crack monitors have been installed, by other, and do indicate movement. However, it is not known when the monitors were installed nor if they were installed starting at the zero position.

The cause of the cracks looks to be due to multiple factors. The first condition is the root penetration of the foundation, discussed in Foundation item #3. The second and third conditions look to be dissimilar masonry material types between the original building and the opening patch materials, and the general weathering of the masonry.

However, it is theorized that the most predominant issue as to why the cracks have developed is the overstressing of the masonry. Significant concentrated loads are imposed on the corners of the wall due to the large opening. If the foundation was not adjusted to account for this increase in loading, it is possible that the movement is due to settlement of the underlying footings. Additionally, the large opening requires the horizontal wind and seismic forces be directed to the corners of the wall further adding to the stress developed in these areas. This is of particular concern on the east side of the wall, where the window further reduces the masonry assemblage. It is recommended that the wall continue to be monitored along with the addition of plumb measurements to determine the vertical alignment.



Additionally, an excavation pit should be conducted along the edge of the wall to determine the foundation type and size. Once a full assessment of the wall has been conducted, corrective action should be taken to ensure it remains in a stable condition. For budgeting purposes, it is anticipated that corrective action will involve two main steps. The first step would involve installing (2) support columns below the large opening to reduce the concentrated loading imposed on the corners, assuming that the reduction in the opening is acceptable for the intended use. In addition, (4) vertical wind columns should be installed along the face of the wall to provide a direct means to resist horizontal loading.

The wind columns would extend from the foundation to the roof line. Once the wall has been stabilized, stitch reinforcement should be placed across the cracks, broken units replaced, and the entire crack repointed.

A cursory sketch of the proposed repairs is shown in Appendix B.

10. A crack in the face of the west wall of NS was observed extending up from the bottom chord of the truss. The crack was not of substantial size, but should be monitored for future movement.

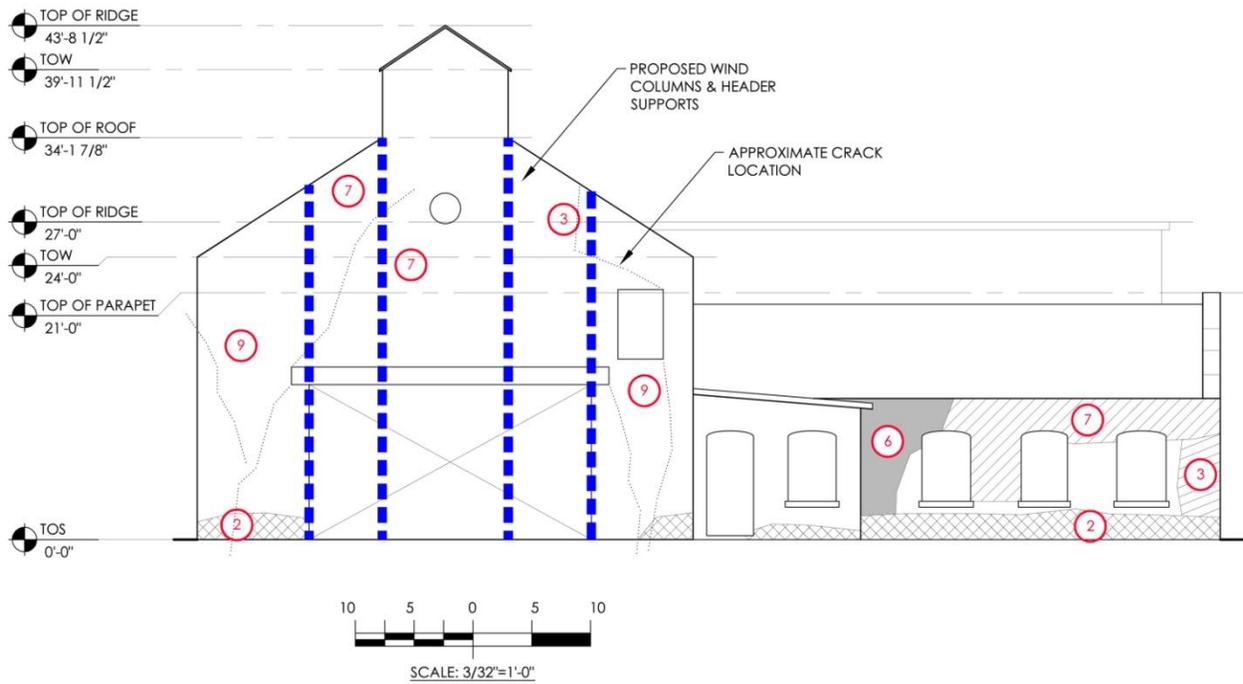
11. Vine growth was observed on two location of the exterior wall. It is recommended that all vines be removed and masonry repaired as necessary.

Due to the heavy growth on the east wall of NS, full review of masonry could not be conducted.

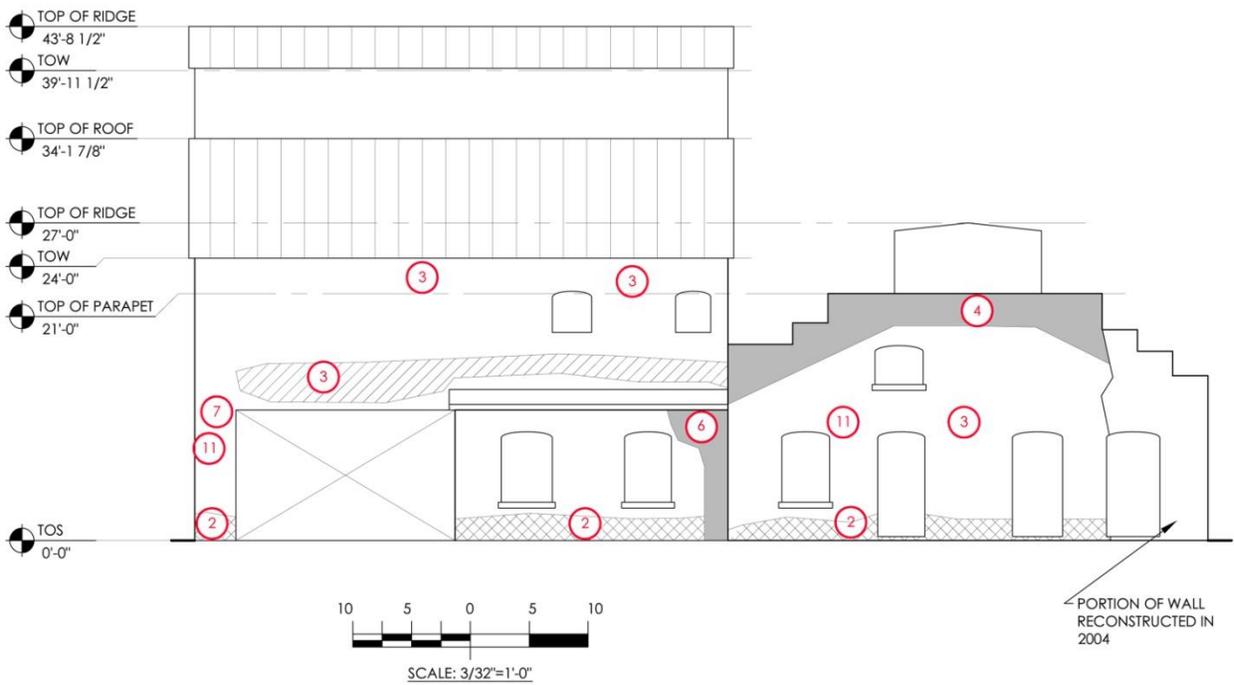


West Elevation





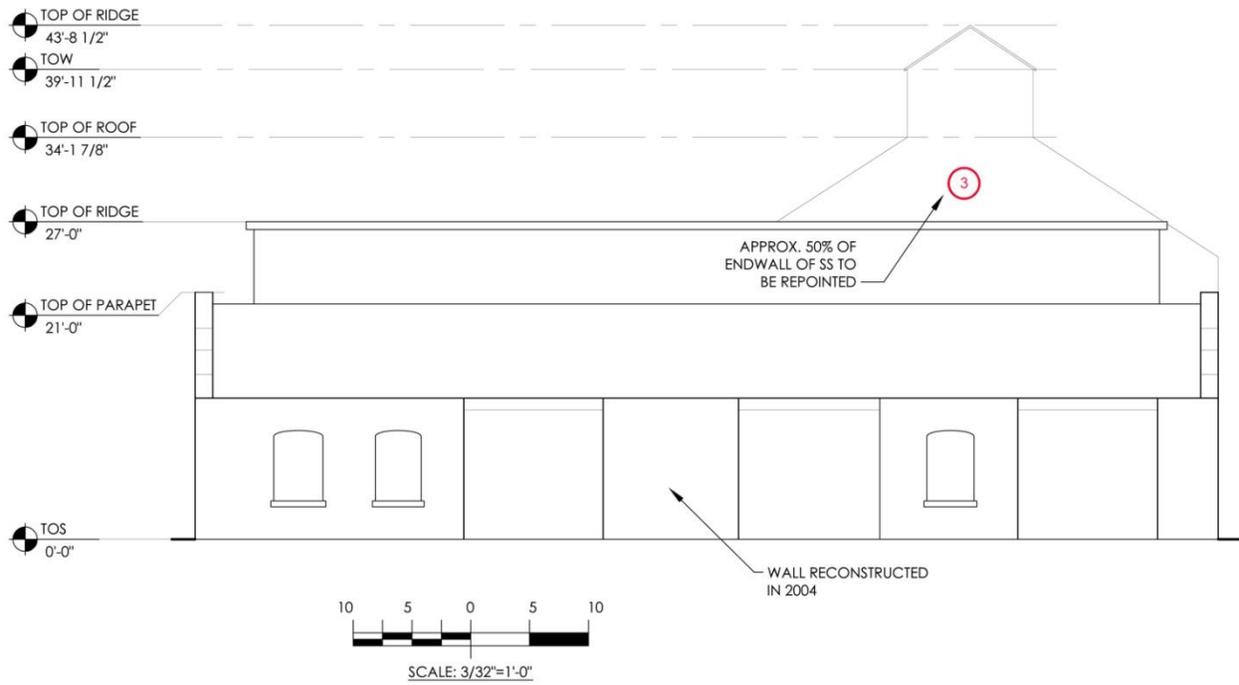
South Elevation



East Elevation



This report was prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.



North Elevation



This report was prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.

Planning Context for Site

Every plan for the past 20 years has shared the same vision for Hudson’s core waterfront district. The Vision Plan of 1996 undertaken by the Hudson Opera House provided a valuable long-range strategy for the waterfront, including recommendations to remove the tank farm and a “Master Plan” for retail and mixed-use development along Water Street in connection with improved access, parking, and parks. It identified the importance of uses that would support the waterfront as a destination for residents and visitors.

“Enhance the City’s quality of life as a place to live, work and recreate through revitalization of Hudson’s Core – Warren Street, Fourth Street, and the waterfront. Conserve historical and natural resources along the Hudson River waterfront and strengthen the link to Warren Street and the core of Hudson. Encourage compatible forms of economic development, including commercial development and tourism, which maintaining the overall historic character.”

The 1996 Vision Plan’s waterfront Master Plan is still valuable today, as it recognized the need for an armature of buildings, streetscape and public spaces at the scale of the historic city to generate the appropriate layout for redevelopment. Some aspects of urban design have evolved since then – such as the need for a more multi-modal streetscape – and are incorporated in the recommendations of this feasibility study.

The Vision Plan also contains valuable data about retail performance and commercial space vacancies that provided a baseline for future analysis. Because the real estate market is not in a major metropolitan area, there aren’t industry “metadata” collected about the overall market. The Vision Plan conducted an extensive field survey to calculate commercial space. The scope of this feasibility study doesn’t include such field work, so the Vision Plan’s information is useful for understanding the scale of commercial and retail activity.

At that time, it identified a total of 180,000 square feet of active commercial space in the study area, not including office space unless it was open to regular public usage, such as medical offices. Just over half that space was devoted to retail stores, 22 percent to restaurant/bar and grocery space, and about 47,000 square feet of services space. It also found that another 70,000 – over and above the 180,000 square feet – were either vacant or not utilized. It further recognized that these spaces should be specialized, and could not compete with regional mall spaces. While it noted the large number of antique stores, it determined that they were not “pushing out” other business. There was room for both. It also identified that Hudson’s downtown has an obvious “hole”: the lack of recreational attractions. Importantly, as a report based in the Four Point Strategy of the National Trust for Historic Preservation’s Main Street Approach, it recognized that communities depend heavily on their capabilities to “program” activities to create successful destinations. This continues to hold true and should be heeded in the strategy for the Dunn Warehouse.

The *Comprehensive Plan of 2002* (adopted in 2004) by Saratoga Associates supported the Vision Plan and highlighted the lack of adequate access to the waterfront. It further elaborated the vision: “In an effort to promote a mixed-use waterfront environment, the City should create a new zoning



district to be called the Urban Waterfront District (UWD). Permitted uses should be a variety of water-dependent and water-enhanced activities such as marinas, public boat launches, restaurants, parks and residential uses. Design standards, similar to those recommended for downtown, should also be developed and incorporated for this district.” It stressed the importance of furthering Local Waterfront Development Plan toward adoption made further recommendations for zoning, including the Core Riverfront (C-R) District, that were later implemented.

Hudson’s efforts to market the waterfront area should continue to emphasize a holistic approach.

The *2011 Local Waterfront Revitalization Plan (LWRP)* further envisions Water Street properties including historic Dunn Warehouse as “potential future water-enhanced uses such as an environmental education center, signature waterfront restaurant, tourist services, etc.” p. 82. It calls for the three-acre area between Water Street and the railroad to be “mixed commercial or tourist service uses, complementing the activities at the park as originally proposed in the Hudson Vision Plan (p. 134).” Recommended uses to consider included an inn, retail, restaurant, museum, or a farmer’s market.

Consistency with Existing Plans

The Design Options provided below are in keeping with all previously adopted plans, as described above. To reiterate, the intent of each plan for the past 20 years has been to increase access to and activity on the waterfront by encouraging mixed-use development that respects the historic fabric of Hudson and complements water-dependent uses, riverfront activities that will create a destination and vibrant public space for residents and tourists.

Other Site Considerations

The Dunn Building’s redevelopment is a very specific opportunity to provide a catalyst for other development on the waterfront. Any redevelopment should be mindful of the planning history, which forms the “legislative intent” for moving forward and the need to continue to implement development as part of the vision for the larger waterfront context. That context includes the following:

- Improvements to the streetscape, sidewalks, traffic flow and calming, and “wayfinding” to the waterfront via Broad Street and the Ferry Street Bridge, as well as the streetscape on Water Street.
- Consideration of the redevelopment of Kaz, L&B, R&S, and Saint Lawrence Cement sites as integral to and supportive of waterfront redevelopment and the economic development context of the growing entrepreneurial small and micro-business economy.
- Connections to the Henry Hudson Riverfront Park and water’s edge, including the potential for improved waterfront access, active recreation (e.g., kayaking, marina activities).
- Consideration of the Amtrak service and the direct role of its riders as a potential market for redevelopment.
- Further consideration of the leisure boating population and its potential market for redevelopment.



Economic and Market Analysis

Economy

As is common with urban areas in the Hudson Valley, the City of Hudson is distressed in comparison to the surrounding Columbia County. The loss of 350 jobs at Kaz Industries and 200 jobs at L&B Furniture in 2008 was a serious blow to the local economy. However, start-ups and entrepreneurs are finding a good match for their business models and living needs in Hudson: a dense, urban setting with relatively less expensive real estate than New York City and a direct connection via train. Etsy, the 10-year old Brooklyn-based company that provides an online platform and business support for craftspeople, reportedly chose Hudson for these reasons. The 300,000 square foot former L&B warehouse at 99 South Third Street (now being rebranded as Riverfront Industrial Park), has rented over two-thirds of the space to date. Flexible spaces as ranging from 1,000 to 40,000 are rented with heat and electricity included at a relatively competitive rate, attracting a range of companies, including several start-ups from New York City. Start-ups are the fastest-growing companies in the U.S., and this type of space offers the flexibility they need. The latest addition is one of just five medical marijuana facilities to be licensed in New York State, which plans to use 40,000 square feet and hire about 75 people.²

Demographics

“The relative youthfulness of a region’s population is in many ways an important precursor of future economic growth.”³ Like many upstate cities and counties, the City of Hudson has lost population: -11.6% since 2000.⁴ A large portion of this loss has been attributed to the closure of Kaz Industries, L&B Furniture, and the reduced population of the Hudson Correctional Facility.

The median age within the city in 2010 was 37.5 years, an increase from 36.6 years a decade earlier. However, **while the Hudson Valley and Columbia County are generally “graying,” Hudson is not aging as quickly as surrounding areas, and this trend is significant for the city’s future.** In the last decennial census, the Hudson lost more population over 65 than any other age group, decreasing by 295 (-24.6%) since 2000, whereas Columbia County added 1,110 people over 65 (+10.7%) in that same decade (US Census Data). In contrast, the decrease in young people is slower than most upstate areas, which have sustained significant losses in this age group. Within the working age population (18 – 64 year-olds), **the population is growing in 2 distinct groups: 25 to 34 year-olds and 55 to 64 year-olds.** This signals the attraction of Hudson for people in these life stages. For more on this, see the Market Segment discussion below and *Appendix 4: Marketplace Profiles*.

² The Good Green Group’s medical marijuana facility was supported by the Hudson Common Council on June 1, 2015, as reported in the Gossips of Rivertown blog, June 2, 2015: <http://gossipsofrivertown.blogspot.com/2015/06/medical-marijuana-and-hudson.html>.

³ McMahon, E.J. (2012), “The Graying of the Empire State,” *Research Bulletin*, No. 7.2, August 2012. Empire Center for New York State Policy.

⁴⁴ As the BOA study notes, “it is important to emphasize the one-third of this population decline is attributable to a decline in the Hudson Correctional Facility population.”



This is a “relative” success for Hudson, which is part of a general trend over the past two decades that has witnessed greater numbers of people choosing to move to denser, more “walkable” communities than any time since World War II. For more information, see the demographic tables and publications in *Appendix 4*.

Employment

The overall employment picture in Hudson is relatively positive compared with New York and the U.S. The reported unemployment rate for the full year of 2014 was 4.7% in Hudson, as compared with 6.1% in New York State and 6.3% nationally. In May and June of 2015, the unemployment rate in Columbia County dipped to 3.9, but has edge up again recently. Recent job growth was 1.43%, as compared with New York State (0.75%) national (1.18%) growth. Predictions of job growth based on migration patterns, economic growth and other factors over the next 10 years are also positive for Hudson, which is estimated at 38.2%, as compared with New York State (35.4%) and national (36.1%) growth. See *Appendix 5: Occupation and Industry Clusters, Columbia County 2012* for more data on employment.

Recent economic research indicates that micro-businesses and start-ups are responsible for the most job growth in the United States. Providing access to flexible work environments can be an important aspect of local economic development. The 2011 BOA Study for Hudson reported that the city has the highest self-employment rate in New York State (9.96%). “It is self-evident that the community has become a magnet for creative capital, entrepreneurial spirit, risk takers and non-traditional thinkers.”



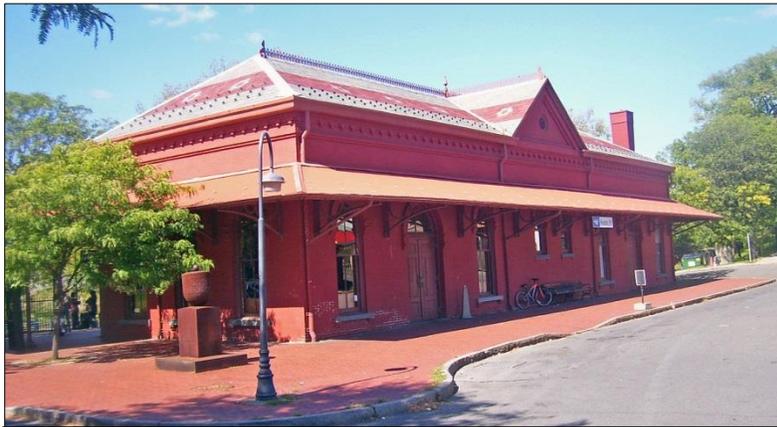
Feasibility and Cost-Benefit Analysis

Site Access Limitations

Access to the waterfront could pose some limitations to development and must be treated as the highest priority for redevelopment. By vehicle and foot, the site is only accessible via two routes: Broad Street at the Amtrak Railroad crossing and the Ferry Street Bridge, which was closed to vehicular traffic in 2014 by the City of Hudson due to its deteriorated condition. The bridge is in very poor condition and was rated a “3” in the 2014 biennial bridge inspection report.⁵ A preferred alternative (Alternative 1: Replace Superstructure on Alignment Maintaining Existing Vertical Clearance) was recommended with a total estimated cost of approximately \$1,830,000. Vehicular traffic to the waterfront is only adequate insofar as the Broad Street railroad crossing does not remain closed for any extended period of time, thereby cutting off the waterfront until the Ferry Street bridge can be repaired. Traffic count data only show the daily range of traffic for the entire commercial district of Hudson of 15,001-30,000 cars daily. See Appendix 6: Traffic Count Map.

The lack of comfortable, reliable crossings for pedestrians and vehicles also presents a perception of the waterfront as inaccessible. In addition to the repairs to the bridge, every effort should be made to improve “wayfinding” and the perception of safety and walkability to provide access the waterfront.

The site is also accessible by train and boat, which are also of potential importance for redevelopment. The location of the Amtrak station has been a significant factor in Hudson’s



Originally built in 1874, the Hudson train station is the oldest continuously operated station in New York State.

revitalization, with its direct connection to visitors and second home buyers from New York City. Ridership continually increases, with 187,776 per year, up 7.6% since 2013. Located about a 500-foot walk from the Dunn Warehouse, the 15,644 riders per month (3611 per week) could prove a significant market opportunity for the selected use.

Waterfront access to and via boat could serve as important market for the Dunn Warehouse. The Spirit

of the Hudson runs regular cruises from May through October operates the Athens-Hudson Ferry on Friday and Saturday evenings from 5pm-10:30pm.

⁵ Creighton Manning Engineering, LLP Ferry Street Bridge Engineering Assessment, <http://cityofhudson.org/content/Departments/View/8:field=documents;/content/Documents/File/2423.pdf>



Adaptive Reuse Scenarios Studied

For this study, the team was asked to consider three general adaptive reuse scenarios:

1. **Mixed-use retail and office space:** these would have flexibility to allow for a range of rental options.
2. **“Broadly defined” public space:** this could serve a public purpose. Some examples suggested included an arts incubator facility, sloop club, museum, café/retail, farmers’ market, community space.
3. **Hospitality use:** A hotel and/or full-service restaurant

Factors for Selecting a Scenario:

In addition to consistency with the community’s vision as articulated in adopted plans, adaptive reuses are determined by building and site characteristics, building structure, cost-effectiveness, indicators of market potential, and the primary goal of assuring that the Dunn Warehouse’s reuse will serve as a catalyst for further waterfront revitalization. Benchmarking, the identification of best practices and measures, was also conducted with a few comparable waterfront buildings and sites to highlight their relative success.

Site Characteristics

The Dunn Warehouse is served by infrastructure with adequate gas, electric, water and sewer available. The Wastewater Treatment Plant, located in the Northern Development Node, has undergone nearly \$10 million in improvements to address a NYS DEC Order on Consent and to improve capacity. Infrastructural concerns lie primarily with influx and infiltration and Combined Sewer Overflows (CSOs) in the storm water/wastewater collection system. Additionally, elements of the water distribution system are quite old and prone to failure.⁶

Market Conditions and Indicators

Market conditions and indicators were gathered based on a combination of interviews with local experts, site and community history and trends, and industry and demographic data. Sources consulted included the U.S. Census, ESRI Geographic Information Systems analytic data, real estate industry data, authoritative regional studies, and comparisons with similar properties for the purpose of “benchmarking” (i.e., identifying performance measures). Because Hudson is outside of a major metropolitan region where real estate industry data are aggregated to produce robust analytics, the data found are based only upon comparables and trends from recent sales.

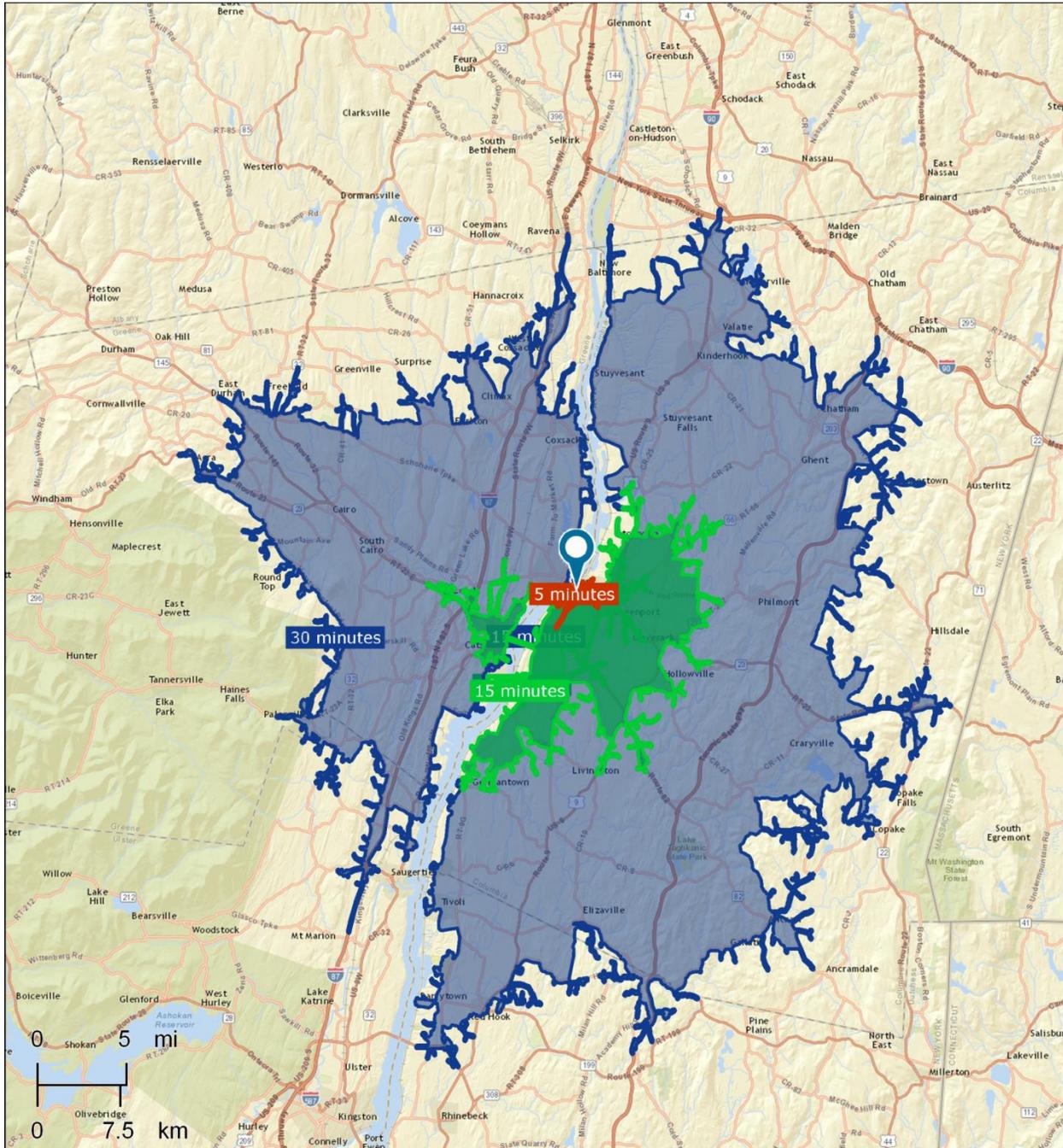
According to several interviewees active in Hudson real estate, at this time, the market is generally in a “tightening” phase of the economic cycle. The market is neither “flooding” nor “languishing.” As compared with the period following the Great Recession of 2008, when commercial properties took from 18-21 months to turn over, the cycle is quicker – especially on Warren Street. Some rental vacancies now exist on Warren Street, with some taking 6 months to a year, particularly in retail, as the current price point may be out of reach for many area retailers.

⁶ Draft Pre-Nomination Study. City of Hudson Riverfront BOA



Drive Time and Retail Market Analysis

The following map, also contained in Appendix XX, shows the areas surrounding the Dunn Warehouse by drive time. The areas contained within the bright red line are accessible within 5 minutes; those within the green line are accessible within 15 minutes, and within the blue line, 30 minutes. The drive times are averages and have been adjusted for congestion.



Marketplace Profiles

ESRI provides retail market data that shows the local and regional demand for goods and services that businesses currently capture and where potential opportunities exist for future business growth.



This report was prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.

These data for the City of Hudson are contained in *Appendix 4 – Marketplace Profiles*. The supply and demand of retail is shown for each category of store and a “leakage” and “surplus” factor is calculated. Leakage means that the local demand is being met by stores outside the geographic area, which could represent an opportunity. Surplus means that the retail stores in that sector are serving demand from outside the area, which means that stores are bringing sales in from outside the area. Both can be read positively as market opportunities to serve a local need and serve as a regional destination.

These estimates are created using data from the most recent Census of Retail Trade adjusted and supplemented with data from the Bureau of Labor Statistics and the Census Bureau’s estimates of employment. *For Hudson’s detailed Marketplace Profile data, see Appendix 4.*

According to the “drive time” data and the “leakage/surplus” factors and retail supply/demand and gap data for a 5-minute drive-time radius, Hudson has the greatest surplus of activity in furniture and home furnishings, miscellaneous retail stores (this includes florists, stationery, gifts, and used merchandise), and food services and drinking places. These are the most likely of tourism goods and services, confirming the common knowledge of Hudson as a shopping and dining destination. The surplus of retail and dining in Hudson does not mean it has reached a saturation point precisely because people head to Hudson from the region and beyond specifically for this experience.

Restaurant Market

Within 15 minutes from Hudson, there is still a surplus of the same dining and shopping goods and services, because Catskill provides many of these, as well. Additional surplus activities in this distance include building supplies, general merchandise, grocery stores, and gasoline stations, as many of these are located in the highway commercial zones outside of the central business districts. At a 30-minute distance from Dunn, there is very little surplus activity in the tourism shopping and dining activities, as the outlying parts of this trade area are closer to other major regional shopping and dining destinations, including Kingston, Rhinebeck, and the Albany metropolitan area.

Hospitality Market

The hotel market in Hudson is complex and has been, according to interviewees, a difficult market to develop. It is currently limited to small, boutique accommodations. The nearest larger facility has 74 rooms and is a two-star, conference facility. Hudson has become a wedding destination for people from New York City, but is complicated by the lack of a large facility in the city for large tours and wedding parties. Because Hudson is not along a major interstate and has a very weekend-oriented and seasonal tourism market, the average length-of-stay is between 1.6 and 1.8 days. To finance a larger hotel, the national chains typically look for a market where they can achieve 79 percent occupancy. A larger hotel requires a more robust, weekday market, which would include more business and lengthier tourism stays. If a hotel is sold out every Friday and Saturday of the year, as can happen in Hudson, it only reaches 28 percent occupancy. According to the Stay In Hudson hospitality association, there are 13 inns or bona fide bed and breakfast accommodations in Hudson, with a total of 89 beds. Including “Air BnB” rooms, there are approximately 200 total beds in Hudson. The former Warren Inn, a 1958 motel at 731 Warren Street, will open in September 2015 as the Rivertown Lodge, an upscale, contemporary hotel with 30 guest rooms.



Tourism Revenue

According to tourism studies for New York State, “Columbia County is the most dependent upon tourism of any county in New York State, with 7.2% of labor income generated by visitors.” Notwithstanding the goal of Dunn Warehouse as a ‘catalyst’ for further development, all three scenarios are possible. However, when considering the impact of a space that could draw more foot traffic and parks usage, particularly as part of a longer visit, the potential impact of scenarios 1 and 2 is greater.

Measuring the impact of new visitors (“net new⁷) is a complex undertaking and not within the scope of this study.⁸ A conservative estimate of 20,000 day net new visitors per year (55 per day/384 per week) to the building and waterfront park being aided by the adaptive reuse, the impact would be \$1,287,200 in the local economy, based on recent economic analyses by Camoin Associates for the Walkway Over the Hudson and Catskill Mountain Rail Trail, using a \$64.36 daily average expenditure.⁹

Benchmarking Similar Facilities

The “benchmarking” process is typically used in real estate and facilities planning as a means of measuring a building’s potential design or performance against an industry standard. Such comparative analyses tend to oversimplify. Conditions vary so greatly from context to context and community to community. Particularly with the adaptive reuse of historic structures, there are so many variables. Instead, a few similar examples of buildings of similar size, age and waterfront setting demonstrate some basic principles outlined below. In each case, there was significant public sector involvement. These buildings are typically more expensive to restore and represent – to the public – signs of revitalization that should remain accessible to the public.

In urban design, adjacency matters: how a building engages with public space, how it frames the street, the scale and pattern and location of its facades in relation to pedestrian travel patterns and visual access, how and where parking and services are provided, and how the landscape and circulation design relates to it. Each can affect the success of an urban space and structure. These have been considered in the proposed options below.

⁷ “Net new” visitors account for the change in final demand once you have eliminated and accounted for all other changes

⁸ “The Economic Impact of Tourism in New York State,” a survey commissioned by the state and prepared by the company Tourism Economics, analyzes 2009 data statewide with a focus on the Hudson Valley, made up of Columbia, Dutchess, Orange, Putnam, Rockland and Westchester counties. Although Westchester County attracts the bulk of visitor spending in the region (52 percent), Columbia County is the most dependent upon tourism to generate jobs and income. In Columbia County, 6.4 percent of all labor income was generated by visitors. The percentage in all the other counties was 4.5 percent or less. According to the study, in Columbia County, visitors spent nearly \$98 million in 2009. Labor income generated by tourism was more than \$45 million, resulting in 1,436 jobs and approximately \$12 million in state and local taxes. Tourists, overall, spent the bulk of their money on food and beverage and transportation.

⁹ Camoin Associates (2012), Walkway Over the Hudson Economic Update, Final Report, https://walkway.org/documents/275461/276105/FINAL-2011Economic_Impact_Analysis_Update-Walkway.pdf/d38f33f1-59e3-4df3-9a0b-e176058fa304, and Camoin Associates (2013) Catskill Mountain Rail Trail: Economic & Fiscal Impact Analysis, Commissioned by the New York – New Jersey Trail Conference, http://headwaterseconomics.org/wphw/wp-content/uploads/Trail_Study_17-catskill-mountain-rail-trail.pdf.





This building on Kingston's waterfront was converted from a former tugboat-building facility to a restaurant, the Steel House, in 2004. It is under new management as of 2015 as Ole Savannah. The public walkway is shown in the foreground.

The example of Ole Savannah in Kingston demonstrates this. The Kingston LWRP envisioned a walkway traversing between all waterfront buildings and the water's edge. At the time of this adaptive reuse, the owners sought a variance from the walkway and closed off the waterside patio for private use where the public walkway was intended. Because it sits apart from the rest of the waterfront's commercial area and is not in the midst of any public space, the building is isolated. It does not serve as an anchor, despite its proximity and attractive features. Its financial setbacks, including flooding (Irene 2011 and Sandy 2012) required wet floodproofing of the structure. It is now under new management and is experiencing more success, but the isolation and lack of pedestrian circulation space remain a handicap.



Hudson River Maritime Museum, Kingston

In contrast, Kingston's Hudson River Maritime Museum sits in the midst of public and pedestrian space. It has a remarkable collection of maritime artifact and displays and a dedicated board and staff. It operates on a seasonal basis, open from May to November, and its campus hosts the rowing and sailing clubs as well as the Clearwater Sloop, a new, flood-proofed barn for events in season and the sloop's repair crew in winter. There is a walkway, weekend trolley rides, and ample parking by the museum. A tourism welcome center is located right nearby and there are festivals nearly every weekend during the summer on the waterfront. Despite all of this, the museum operates on a relatively limited budget (\$344,525) and welcomes about 10,000 visitors a year. As this example demonstrates, the success of a museum and its adjacent urban public spaces also requires highly coordinated programming. These offerings don't automatically attract crowds and foot traffic. They rely on coordination among retail, restaurants, institutions, public spaces, and events to attract and engage users.





Long Dock, Beacon

Like the Dunn Building, the Long Dock Park and the River Center for arts and environmental-education activities (aka “the red barn”) is in an isolated location on the waterfront. Scenic Hudson renovated it with great care along with its 16-acre site including native plants and grasses and a kayak launch and storage facility at Beacon Point. Since 2011, the building has been used by the Mill Street loft for children’s art education program and numerous other groups on an ad hoc rental basis. Scenic Hudson manages the rentals and also uses it for its own exhibits and gatherings. The rentals of this space do not generate a profit for Scenic Hudson and are not at capacity, but instead represent a fulfillment of its mission to offer a place to convene and provide community gathering space. The kayak facility is very popular and the storage facility is available via lottery.¹⁰



Catskill Point, Catskill

Historic Catskill Point offers valuable comparison. The 3½ acre waterfront park, historic warehouse and smaller Freightmaster’s building are owned by Greene County and rented regularly for events for up to 600 people. Together with the adjacent plaza, the site can host events for up to 1,500 people. The County’s proposed 2016 budget to run the building is \$63,315, although some of the costs are shared with other departments and not fully reflected in this budget.

The building’s operation is successful and breaks even or exceeds costs, but does not represent a highly profitable endeavor. Nonetheless, benefits of this successful operation include its use for the Saturday farmers’ market and as a public amenity that supports tourism in Catskill and Greene County, which is the county’s largest sector.

¹⁰ Budget numbers were not available from Scenic Hudson for the operation of this facility.



Development Opportunities Assessment

The market data review discussed in the team's Powerpoint presentations, the summary above, and the appendices provides generalized answers to the question, "What are the highest and best uses of the Dunn Warehouse?" and serves to assess the market conditions required for economic feasibility.

The three potential concepts are evaluated in the Development Opportunities Assessment (below), which examined:

- Accessibility to target audience
- Whether use complements existing building attributes/capacity
- Potential for synergies with the adjacent Downtown Plaza
- Active usage - hours open to public and potential for foot traffic
- Diversity of use - that the use complements community character and activities
- Community support
- Public benefit
- Identified partnerships
- Market support/demand
- Economic feasibility and potential to be self-sustaining



Dunn Warehouse Development Opportunities Assessment

These comparisons are based on potential needs/outcomes of a completed project in each scenario.

Key

+	Positive
N	Neutral
-	Negative

Criteria/Description	Scenario 1: Mixed-use retail and office space	Scenario 2: Broadly defined public space	Scenario 3: Hospitality use or full-service dining
Locational Attributes: Regional & Downtown Context			
Waterfront location	+ Potential synergies with park, Amtrak, shopping district, recreational boating, and regional trail system under development.	+ Same as previous box. In both scenario 1 and 2, foot traffic generation would be likelier with mix of uses.	N More limited audience would benefit. Could be less of a “catalyst” for further development.
Accessibility (for target audiences)	+ Close to Amtrak and park. Improved wayfinding and possible increase of shuttle or addition of loop service would improve access.	+ See previous box.	+ See previous box and above.
Automobile Access (to the location; parking capacity vs need)	+ Reducing isolation of waterfront requires improvements to Ferry Street bridge and full build-out of recommended site plan.	+ See previous box.	+ See previous box and above.
Pedestrian/Bike Access	+ Safer access via Ferry Street bridge, Broad Street and Water Street requires pedestrian upgrades.	+ See previous box.	N See previous box and above.
Transit Access	N Amtrak access good. Local access requires more regular transit. Mixed use would have the greatest synergies with Amtrak.	N Public uses (e.g., a farmers’ market timed with Amtrak arrivals) could have good synergies.	N Amtrak ridership would allow for “carless” hospitality, but not much more so than other hotels in Hudson, given isolation. Full-service dining, particularly higher end, could benefit from Amtrak service or added shuttle service, but is likely to attract car owners.



Development Opportunities Assessment, continued

Criteria/Description	Scenario 1: Mixed-use retail and office space	Scenario 2: Broadly defined public space	Scenario 3: Hospitality use or full-service dining
Building Attributes: Existing Building Assessment & Capacity			
Size and Configuration (Suitability of building size/capacity to proposed use)	+ Northern section most suited to retail: full-length openings good as storefront row; subdivisions easily achieved; and potential for facing next building to north would create good retail/dining public space. Southern section good for a mix of assembly, office and/or public spaces.	+ See previous box. Retail could be a combination of	- Hotel: low – too small.
			- Restaurant: medium-low – large for one sustainable restaurant operation.
Zoning and building Code: appropriate attributes for proposed building use	+ CR district envisions mixed uses. FEMA wet floodproofing and sea level rise recommendations for code.	N Potential for flooding risky for certain artifacts/art collections. FEMA wet floodproofing and sea level rise recommendations for code.	- CR district envisions mixed uses. FEMA wet floodproofing and sea level rise recommendations for code.
Building/Site Program: Uses of Space			
Active Usage (Hours, occupancy, foot traffic generated)	+ Potential for longer usage hours	N Could be active, requires ongoing public management/programming for use.	- Less foot traffic, more limited hours of use.
Diversity of Use How the proposed use can diversify or complement existing business/activities downtown?	+ If specific waterfront-related activities are identified.	+ If specific public uses are identified	- Limited diversity of activity.
Public Benefit			
Public Benefit: Access to use of facility	+ As amenity to park; office spaces could include component of public space. Leases could specify public benefits.	+ If managed by HDC, City or non-profit entity with specific public benefits identified for space use (e.g., farmers' market), in addition to private events (e.g., weddings)	- Hotel or restaurant would privatize access.
Potential for Partnerships Identify potential partnerships	+ Possible public-private partnership. Coordination with business association to identify catalytic, complementary activities.	- Could be managed by a non-profit or consortium; requires robust programming for active use.	- Possible public private partnership for hybrid with Scenario 1 or 2.



Development Opportunities Assessment, continued

Criteria/Description	Scenario 1: Mixed-use retail and office space	Scenario 2: Broadly defined public space	Scenario 3: Hospitality use or full-service dining
Market Support: Market Analysis and Interviews			
Local Market Demand Demand within trade area (15 minute drive)	+ Highest demand. In all cases, should be linked to waterfront as destination and success will depend on quality of concept and execution.	N See previous box.	+ Trade area and market demand high; suitability of structure for hotel lower; benefits as catalyst lowest. Opportunity cost for failure highest.
Visitor Market Demand (outside 30-minute trade area)	+ High	+ High	+ High
Local Champion: Identify	N TBD	N TBD	N TBD
Economic Feasibility			
Overall project costs	+ Greater potential to attract grant funds if maintained in some form of public/non-profit or private partnership.	+ Greater potential to attract grant funds if maintained in some form of public/non-profit or private partnership.	- Higher cost build-out; likely private sector.
Sustainability Potential to be self-sustaining/profitable potential	+ High	N Medium; requires good (i.e., "entrepreneurial" non-profit management)	- Frequent failure in hotel and restaurant start-ups. High opportunity cost for future development
Financial Risk to City	Medium-low; construction can be bonded; tax credits and grants available. Diversified spaces for rent with flexibility in leasing can reduce risk	N Spaces could also be diversified; quality management of public spaces needed. Could see small profits or break even (see Catskill Point)	Medium to high (opportunity cost to startup failure or if not catalytic for development). Tax credits and grants available to attract developer.
Building/Site Program: Uses of Space			
Active Usage (Hours, occupancy, foot traffic generated)	+ Potential for longer usage hours	N Could be active, requires ongoing public management/programming for use.	- Less foot traffic, more limited hours of use.
Diversity of Use How the proposed use can diversify or complement existing business/activities downtown?	+ If specific waterfront-related activities are identified.	+ If specific public uses are identified	- Limited diversity of activity.



Development Opportunities Assessment, continued

Criteria/Description	Scenario 1: Mixed-use retail and office space	Scenario 2: Broadly defined public space	Scenario 3: Hospitality use or full-service dining
Public Benefit			
Public Benefit: Access to use of facility	+ As amenity to park; office spaces could include component of public space. Leases could specify public benefits.	+ If managed by HDC, City or non-profit entity with specific public benefits identified for space use (e.g., farmers' market), in addition to private events (e.g., weddings)	- Hotel or restaurant would privatize access.
Potential for Partnerships Identify potential partnerships	+ Possible public-private partnership. Coordination with business association to identify catalytic, complementary activities.	- Could be managed by a non-profit or consortium; requires robust programming for active use.	- Possible public private partnership for hybrid with Scenario 1 or 2.
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Visitor Market Demand (outside 30-minute trade area)	+ High	+ High	+ High
Local Champion: Identify	N TBD	N TBD	N TBD
Economic Feasibility			
Overall project costs	+ Greater potential to attract grant funds if maintained in some form of public/non-profit or private partnership.	+ Greater potential to attract grant funds if maintained in some form of public/non-profit or private partnership.	- Higher cost build-out; likely private sector.
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Financial Risk to City	Medium-low; construction can be bonded; tax credits and grants available. Diversified spaces for rent with flexibility in leasing can reduce risk	N Spaces could also be diversified; quality management of public spaces needed. Could see small profits or break even (see Catskill Point)	Medium to high (opportunity cost to startup failure or if not catalytic for development). Tax credits and grants available to attract developer.



Findings and Recommendations

Because the Dunn Warehouse is isolated at present, limiting it to any one use is not advisable. A diversity of activities is recommended that would at once complement one another, serve as attractions that relate to a waterfront experience, and would not necessarily compete with nor duplicate the Warren Street experience. Furthermore, the two sections of the building lend themselves to a combination of scenarios 1 and 2. In the analysis of market, site, and building, cost, and management issues, the team found that the northern section would be most conducive to a mix of retail and food activities and the southern section would be optimal as a flexible office or public use space.

Of the three scenarios, the research and analysis found that scenario 1 or 2 are feasible for the site. Success of any scenario will depend upon:

How well the space is designed to accommodate a flexible range of uses;

How well the space is managed, including marketing, operations, maintenance and financial management;

Accompanying the adaptive reuse of the building with streetscape, parking and park upgrades;

Prioritizing improved accessibility to the site via foot and vehicle across the Ferry Street bridge and Broad Street railroad crossing.

Supporting improved access to and from the water (e.g., docking and marina facilities; kayaking and other recreational small craft access); and

Assuring well-managed programming (i.e., the uses) of the building and the adjacent park, including a well-publicized calendar of events coordinated with other entities in Hudson.

Retail and shopping would fit well with the northern section for a few reasons:

The structure of the one-story space is **easily dividable** into three, with the partitions located directly under the trusses that divide the bays.

The full-length openings **could serve as a row of storefronts**. Their size and repetition are **conducive to the shopping experience**.

In urban design terms, this façade of the Warehouse could be oriented on **a side street that could eventually face another retail row to the north side** of the street. Retailers find that **this type of public space creates an “outdoor room” that helps retain activity** more than a single-sided street.

The retail and restaurant markets are successful in Hudson for a number of reasons:

- **Dense, mixed-use fabric:** The fabric of Warren Street is relatively dense, serves the mixed use residential and office market directly around it.
- **The Main Street “experience”:** People want to shop in unique places and have a memorable experience; otherwise, they can shop on line. The architecture of Warren Street



has “very good bones”: the ensemble represents some of the best examples of urban architecture in the Hudson Valley, and because it has escaped demolition (for the most part), it keeps the pedestrian experience intact. Sensitivity to the historic fabric, maintaining a sense of scale and good design on the facades and in the storefronts and merchandising all contribute to this. Main streets where excessive demolition has occurred do not have sufficient adjacencies to offer a “Main Street” experience.

- **A regional shopping and dining destination:** Warren Street serves as a regional shopping and dining destination. To understand the extent of market supply and demand, a Drive Time map can be compared with Marketplace Profiles.¹¹ The weekend activity from New York City, which extends from Thursday through Tuesday, is a result of more flexible work arrangements for the “weekend-extendors” and telecommuters. Hudson’s draw as a popular tourism destination further expands the potential for the success of retail and dining in Hudson.

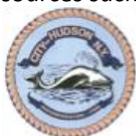
Broadly defined public spaces could also work for the Dunn Warehouse in combination with dining and shopping. The southern portion of the building is more suited as open office configurations or a public assembly space. **Option 1** (page 50) shows the space divided into a 2-story space totaling 5,000 square feet with the potential for flexible, sub-dividable office spaces. **Option 2** (page 50) shows open 2-story height space, with 3,200 square feet. In this second scenario, the construction costs would be lower without an elevator, stairs, or second floor structure. The income potential would also be lower. In both cases, the space – or portions of it – could serve as a multi-purpose space. This is recommended if it can be well-managed for rental uses, as it would maintain a degree of public access that could serve the goal of creating a destination space.

Some examples suggested for this space included an arts incubator facility, sloop club, museum, café/retail, farmers’ market, or a community space available for public meetings, rentals (e.g., for weddings and parties), and exhibitions. In the “benchmarking” section below, some examples are discussed with their associated general costs. The limitations of these uses will depend upon the project financing options available to the City of Hudson and the Hudson Development Corporation.

Use of the entire facility for a public space, such as a museum or aquarium, is not recommended at this time for the following reasons:

- The cost of rehabilitating the entire structure would be prohibitive for a nonprofit operation. The nearest museums – Olana State Historic Site and the Thomas Cole House – accommodate 25,000 and 20,000 visitors annually, respectively, with approximately the same square footage of interior space. However, each of these has significant, internationally-acclaimed collections and each is managed with a sizeable support staff.
- The history of recent storms and flooding (Irene and Sandy) pose a risk for an archival quality collection or museum artifacts. Artifacts would require a specific emergency management plan.

¹¹ These are generated by ESRI, a Geographic Information Services mapping service that combines data from sources such as the U.S. Census and Bureau of Labor Statistics.



- As an isolated site, the Dunn Warehouse would better serve the goal of development catalyst and waterfront amenity as a flexible mixed-use retail and commercial and public space. Within this, a portion of the space as a rental for a non-profit organization for exhibits could be accommodated.

The hotel option is the least appropriate for this site. The site is isolated, the footprint and layout of the building are less conducive to smaller, divided spaces, and the proximity of the train tracks would be too noisy for such a use. However, the Dunn Warehouse can benefit from the wedding destination market through cross promotion with the hospitality industry and efforts to align the park and the building's spaces with the needs of wedding and special events parties. At the time of this study, the Hudson Opera House is conducting a tourism demand study, which can help the sector better prepare and coordinate for a week-long and year-round market.



Master Plan

The City of Hudson understands the importance of the Dunn Warehouse to its history, its economy, and its waterfront. This study was undertaken to identify what uses could best support those goals and how the site and building could accommodate the uses.

Renovation and development of the Dunn Warehouse is a major step toward implementation of two Master Plans commissioned by the City of Hudson. The 1996 *City of Hudson Vision Plan* envisions a reinvigorated waterfront with the Dunn Warehouse serving as the southernmost anchor on Water Street. The undeveloped sites to the north are filled with retail and office uses with parking to the east next to the rail road right-of-way. The City of Hudson Comprehensive Plan developed by Saratoga Associates reinforces the 1996 Plan for mixed-use development on the waterfront. The major difference between the 1996 plan and this proposal is the focus on the waterfront. This proposal locates parking between the Dunn and future development and the railroad tracks to the east.

Returning the Dunn Warehouse to an active and vibrant role in the community is a natural next-step in reconnecting the Hudson River to community life albeit as a recreational and commercial district. The City has developed a wonderful Park directly across Water Street from the Dunn Warehouse which serves as both passive and active recreational activities. Directly to the north is an active marina. To the north east, immediately across the railroad tracks is the Amtrak Station, both an historic and 24/7 facility.

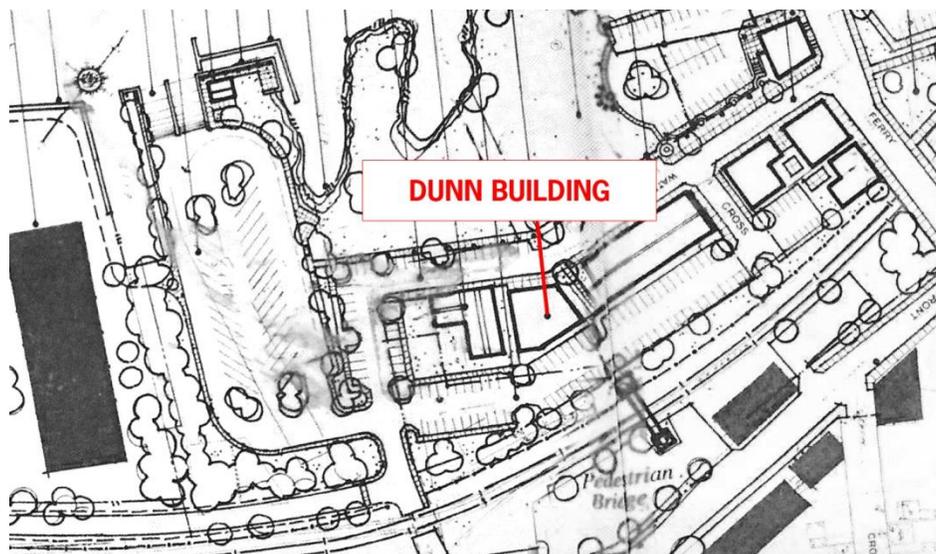


Figure A. Detail of 1996 Vision Plan



- Relocate the historic cast iron jib crane from east of the tracks to the center of the 180 degree turn of the pedestrian paving just west of Water Street. See *Illustration*.
- The close proximity of Dunn to the railroad station presents an opportunity to attract the large influx of weekenders travelling to Hudson from New York City. Train users are now able to walk to the Dunn from the station. However there is no clearly identified path and the pedestrian must walk through the station parking lot to the at grade track crossing and proceed on Broad Street. A wide paved path is proposed heading south on South Front Street to Broad Street and west on Broad Street.



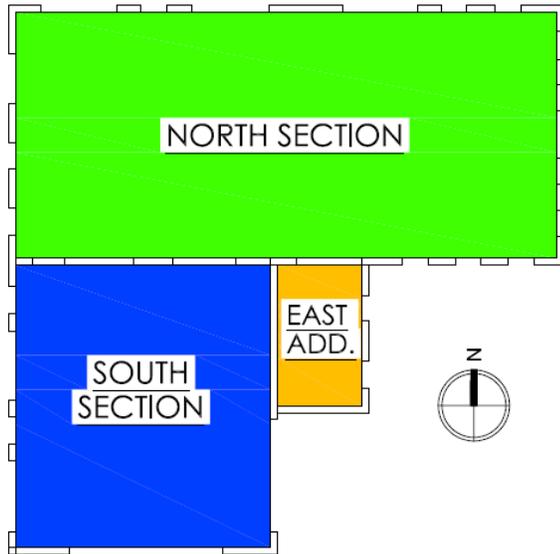
- The renovation and repairs to the Ferry Street Bridge, north of the Dunn should also accommodate pedestrians who wish to visit the newly revitalized waterfront.
- Future development is proposed north of the Dunn and generally adhere to the 1996 Vision Plan. All additional parking is proposed for the location immediately west of the rail right-of-way.



This report was prepared with funding provided by the New York State Department of State under Title 11 of the Environmental Protection Fund.

Schematic Designs

The Dunn Warehouse was constructed in three distinct components as illustrated below. The North section is a relatively low structure of brick and heavy timber construction. Wood trusses span north to south and support a gabled roof and monitor. There are no intermediate supports in the structure allowing for an open and flexible floor plan. The open truss work gives it a very interesting and human-scaled appearance. A small mezzanine located in the easternmost bays is dangerously deteriorated. And should be removed.



The North section has a footprint of approximately 3,200 square feet of flexible space and can readily be developed as one leasable area or subdivided into several. The demising walls in a subdivision could follow the regularly spaced wood trusses.

The South section is one story with approximately 1,750 square feet. The floor to ceiling height is much greater than the north section and could accommodate the insertion of a second floor.

The East section is a single one-story space of approximately 325 square feet.

Two Design Options are presented in order to give the City flexibility in seeking a lessee or developer. It is the intent that the building be secured by the City or the building is renovated to a level where only a fit-up is required by a lessee. Fit-up ready means the entire envelope (walls, windows and roof) be put into a pristine condition; new interior concrete floors installed and new power distributed to circuit panels, exterior wall insulation and finishes, and HVAC unit(s). Basic interior accommodations such as the common corridor, kitchen and restrooms would also be built at this time.



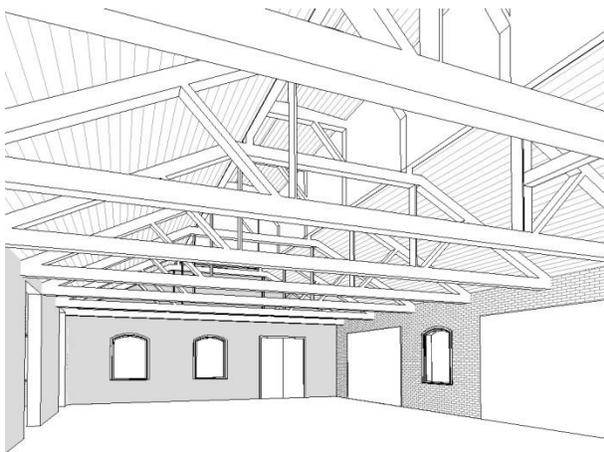
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Design Options

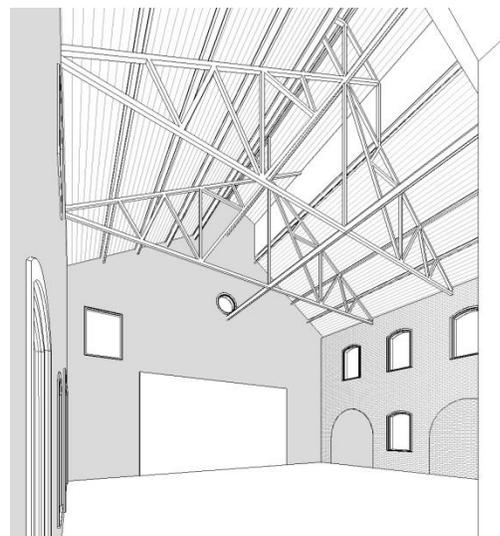
North Section

This section has the best configuration for retail and commercial use and is designed as such in **Options 1 and 2** (page 51). Access to the space(s) will be from the proposed east-to-west paved plaza described above. The interior is a perfect scale for commercial use with the bottom of the heavy timber trusses just ___ off of the floor. Entrances to the space(s) will be through the three large openings now filled with garage doors. The openings can be in-filled with glazed metal store front and door allowing natural light into the interior and affording good window display space. The interior of each retail or commercial space will be lit artificially and through light coming in the large monitor running east to west. Each space can be constructed with an individual restroom or the occupants can take advantage of the common restrooms reached by a common corridor in the rear. Any of the proposed spaces can be fitted out as a café serving patrons on the interior and as weather permits outside on the plaza. An open food-prep area can be incorporated within the space. The quality of the proposed space(s) in the North Section can be intuited from the buildings existing conditions:

- Exposed heavy timber wood trusses dating from the mid-nineteenth century.
- A high monitor running along the peak of the building that will let generous amounts of daylight to flood the retail floor. Multiple studies have shown the natural light from skylights in retail settings increase purchasing.
- Ample visual access through the large available openings for storefronts.
- Large, well-proportioned window openings for additional natural or window treatments.



Interior Perspective – North Area Monitor A



Interior Perspective – South Area Monitor B



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South Section

Soaring twenty four feet from the floor to the bottom of the iron trusses, the South Section is capable of receiving a second floor. Proposed in **Option 1**, an additional floor will add approximately 5,000 square feet of usable space. The new second floor will have a spectacular ceiling made up of the existing iron trusses and the north to south light monitor. The space can be used for open office configurations or as an assembly space. The first floor can be subdivided into small leasable offices for multiple tenants or a one tenant space. The floor can also serve as public/community use for meetings and such.

The addition of a second floor will present the opportunity to structurally support and visually enliven the south façade. A separate entrance to the south section is proposed through a glazed tower that will house an open stair and elevator. An additional stair is required as a second means of egress and will be located on the interior next to the north section. The south section will also have access to the common restrooms and kitchen.

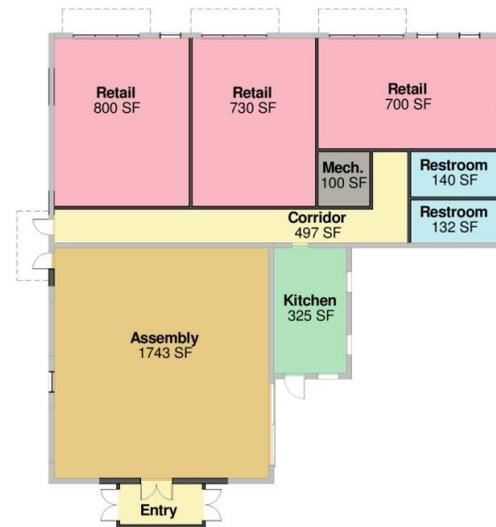
In **Option 2**, the South Section interior is left in its full volume. This dramatic space can be used for mid-size gatherings, an art gallery and an intimate live performance venue. A new entry is proposed on the south wall and, as in Option 1, will add interest and structural stability.

East Section

Option 1 proposes the removal of the 325 square foot east section to accommodate the men's and women's restrooms, a 450 square foot common kitchen and a mechanical room. The addition will allow for greater usable space within the existing building. **Option 2** leaves the original section and proposes converting it to a common kitchen. The common restrooms and mechanical space would be located in the southeast portion of the North Section. All would be accessible by a common corridor.



Option 1



Option 2



Cost Estimates

Detailed cost estimates were prepared for both schematic design options for the Dunn Warehouse. As in *Appendix 8: Detailed Cost Estimate* and summarized below, the cost for Option 1, which incorporates an addition, a second floor, and an elevator, is greater than the cost for Option 2, which maintains the interior of the south section and provides a simpler new entry.

Option 1		Option 2	
Sitework	\$815,455	Sitework	\$815,455
Building	\$1,926,916	Building	\$1,485,739
Subtotal	\$2,742,371	Subtotal	\$2,301,194
OH&P (15%)	\$411,356	OH&P	\$345,179
Contingency	\$548,474	Contingency	\$460,239
Fees	\$548,474	Fees	\$460,239
Grand Total Option 1	\$4,250,675	Grand Total Option 2	\$3,566,851



Final Schematic Design

These final schematic design options for the Dunn Warehouse and surrounding site have taken into account site history, context, and market and community conditions. In the analysis of market, site, and building, cost, and management issues, the team found that the northern section would be most conducive to a mix of retail and food activities and the southern section would be optimal as a flexible office or public use space. Having once been the location of a coal gasification plant the site has been remediated; however, there are restrictions on construction. The goal of the site design concept is to enhance the pedestrian environment and create an enjoyable place to visit, shop, and enjoy the waterfront park.



Best Management Practices

As mentioned in the discussion of Environmental Issues, the Dunn Warehouse site was considered a brownfield and was remediated by then-owner Niagara Mohawk. Remediation included excavation of sediments, stockpiling of removals, trenching, and eventual removal of the stockpiles, followed by site restoration in the area of the waterfront park and the installation of monitoring wells along the railroad tracks. However, it is assumed that residual contamination still exists on the site, particularly in the soils.

In this case, best management practices would include the use of hardscape materials that are *not*



permeable, in order to prevent the penetration of stormwater runoff. Infiltration into the subsoil, and likely leaching from the site, is not recommended for a site with contaminated soils. For the Dunn Warehouse, this is reflected in the use of traditional asphalt, concrete and unit pavers as hardscape. Additionally, at the surface level, the installation of trees, shrubs, and lawn in areas which are currently primarily gravel will help to slow surface runoff and promote evapotranspiration.

Anticipated Impacts and Mitigation

There are no anticipated impacts to State-designated Significant Coastal Fish and Wildlife Habitat areas, to any Scenic Areas of Statewide Significance, to any other Coastal Management Program special management areas, or to other sensitive resources. There are no mapped wetlands present on the site



Project Financing and Marketing

The opportunity of urban revitalization is great; the opportunity costs of delay are even more significant. Despite the higher cost for adaptive reuse of historic structures like the Dunn Warehouse, it is lower than an opportunity that remains fallow.

Financing

The general options for utilizing and financing the property include a **direct sale, a long-term lease, or public management** with shorter-term leases and/or day rental uses. These options should all carry specific conditions for the building and site development and use, given its importance as a catalyst for further development.

The stated goals of the study to identify the greatest public benefit and uses most catalytic for development on the waterfront. The performance of the building will depend greatly on its ability to garner a premium rent. Well-preserved buildings, especially in premiere locations with amenities such as parks and waterfronts, can achieve this.

Conceptual Pro Formas

These preliminary and conceptual Pro Formas have been provided for an approximation of the Costs of Historic Rehabilitation using Historic Tax Credits and a \$500,000 grant for Historic Preservation from the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). Net Operating Income for these options is based on \$10 per square foot, which can be adjusted and is intended for purposes of comparing to debt coverage of bonds or other project financing mechanisms.

Option 1

Sitework	\$815,455
Building	\$1,926,916
OH&P	\$411,356
Contingency	\$548,474
Hard Costs Subtotal	\$3,702,201
Soft Costs	\$548,474
Total Project Costs	\$4,250,675
- 40% QREs *	\$1,700,270
+ HTC transaction costs **	\$255,040
- OPRHP Grant ***	\$500,000
= Cost of Historic Rehab	\$2,305,445

Gross Scheduled Rents *	\$50,000
- Vacancy @5%	\$ 47,500
+ Misc Income	TBD
= Effective Gross Income	\$ 47,500
- Fixed Expenses ⁽¹⁾	\$5,000
- Variable Expenses ⁽¹⁾	\$7,000
- Replacement reserve ⁽¹⁾	\$1,500
= Net Operating Income ⁽²⁾	\$36,500



Option 2

Sitework	\$815,455
Building	\$1,485,739
OH&P	\$345,179
Contingency	\$460,239
Hard Costs Subtotal	\$3,106,612
Soft Costs	\$3,566,851
Total Project Costs	\$4,027,090
- 40% QREs*	\$1,610,836
+ HTC transaction costs**	\$241,625
- OPRHP Grant***	\$500,000
= Cost of Historic Rehab	\$2,157,879

Gross Scheduled Rents*	\$32,000
- Vacancy @5%	\$30,400
+ Misc Income	TBD
= Effective Gross Income	\$30,400
- Fixed Expenses ⁽¹⁾	\$5,000
- Variable Expenses ⁽¹⁾	\$7,000
- Replacement reserve ⁽¹⁾	\$1,500
= Net Operating Income ⁽²⁾	\$18,400

*QREs: See Appendix 9: Qualified Rehabilitation Expenses.

**HTC Transaction Costs: Assuming 99.99% CoH/HDC/developer ownership in syndication vehicle and HTCs sell for \$.85 per credit.

***OPHRP \$500,000 Historic Preservation grant allows HTCs as an eligible match.

(1) Assuming the same fixed and variable expenses and replacement reserve for both options.

(2) Debt financing should be compared with NOI for each option.

Sale of Building vs. City Ownership or Public-Private Partnership

It is strongly recommended that a certain conditions be attached to the sale of the building, if this option is chosen. To avoid the risk of inappropriate uses or delays in implementation, the sale should be conditioned upon specific qualifications that include financial and management capabilities, in addition to a successful track record and viable business plan for the building. The developer would be attracted by the availability of tax credits, but could not benefit from state historic preservation grants, increasing the overall cost of the project.

Historic Tax Credits

The Dunn Warehouse is a good example of the type of project that can benefit from the Historic Tax Credit (HTC) programs at the New York State and Federal levels at 20 percent each, amounting to 40 percent of the “Qualified Rehabilitation Expenditures” (QREs). To claim these credits, the building must be listed on state and federal registers and the work must be certified as conforming to the Secretary of the Interior’s Standards for Rehabilitation by the NY State Historic Preservation Officer (SHPO). The Hudson Development Corporation can utilize HTCs by creating a for-profit subsidiary to be the developer. This can help in raising funds from prospective donors and can be utilized as a match for New York State grant funds.



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An important preliminary step that will determine the future range of options is to have the Dunn Warehouse designated on the State and National Registers of Historic Places so it can be properly preserved with the help of Historic Rehabilitation Tax Credits. This was initiated with assistance from William Krattinger of NY SHPO during the course of this project.

In order for the City to undertake the rehabilitation of the building using tax credits, it would need to bring an investor into the ownership structure of the building so that the investor can claim the credits (and other economic and tax benefits) in exchange for providing equity to the project.. This can help in raising funds from prospective donors and can be utilized as a match for New York State grant funds. Although it is unlikely that the City's approximate \$2 to \$2.5 million investment (after tax credits and grants) would be recouped by a sale or by the costs of rehabilitation, options 1 and possibly 2 would generate a steadier cash flow. Additional incentives or conditions could be offered to attract investors and limit the risk of the building sitting vacant for an extended period of time.



Appendices

Appendix 1: Existing Conditions Maps

Appendix 2: Core Riverfront (C-R) District Zoning and Parking Requirements

Appendix 3: Structural Assessment Report

Appendix 4: Marketplace Profiles

Census Profile

Community Profile

Demographic and Income Profile

Tapestry Segmentation Area Profile

Market Profile

Business Summary

Recreation Expenditures

Restaurant Market Potential

Retail Market Potential

Retail MarketPlace Profile

Appendix 5: Occupation and Industry Clusters, Columbia County 2012

Appendix 6: Traffic Count Map

Appendix 7: Drive Time Map

Appendix 8: Detailed Cost Estimate

Appendix 9: Qualified Rehabilitation Expenses

