



the harlow hotel

bill kirkwood and maggie fernandez eco-preservation[false] spring 2009 university of oregon

1882

Aka: The Park Hotel, Muckle Building

720-738 NW Glisan St. Portland, OR 97209

Architect unknown

National Register of Historic Places

Italianate style

Brick on stone foundation with cast iron columns at storefront

6000 sq ft footprint

Gross square footage: Approx. 20,000 sq ft., 3 floors and basement



a) view from NW of storefront



b) view from park blocks looking east



c) view from park blocks looking south east

Originally ornamental details extruded from the parapet wall, slightly overhanging the sidewalk on the north façade of the Harlow building (picture f). These details help establish a hierarchy between the north façade, facing Glisan St. and the west façade facing the terminus of the park blocks.

Each of the windows used in the Harlow building have a slight arch above them, formed and accented by the brick masonry (picture e). At these intersections, the running bond utilized in the wall system turns to sailors, a more vertical bond. This change of brick layout gives importance to the windows, and in turn, the occupants of the rooms they belong to.

From a distance, the Harlow building seems to be constructed of multiple materials (pictures a, m). Though the structure is entirely brick masonry, the ground level of the building has been dressed with a stucco finish. The break between the ground level and the rooms above provide a description as to the change of use between them. The ground level being utilized as retail spaces with storefront glazing, while the hotel rooms above receive more privacy with residential scaled openings.

Other techniques used to establish a front and side entry to the building includes lack of fenestration on the ground level (picture b). While the north entrance has wide openings addressing the street and Federal building across Glisan St., the park blocks to the west are neglected. Today designers often focus on blurring the boundary between outside and in, the Harlow building was originally designed to address, as with many older buildings in Portland, the automobile. Glisan St. is a major conduit for cars leading west through downtown Portland, the large storefront glazing is used to attract shoppers as they drive by the building, rather than the pedestrian strolling through the park blocks.



d) entry marked by pilasters and small pediment



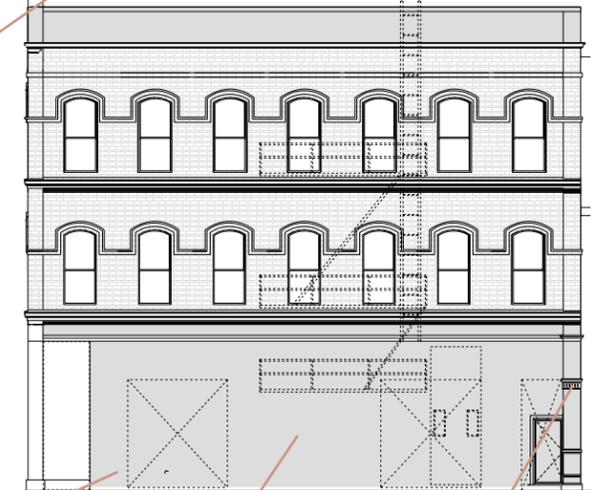
e) typical exterior window of hotel room



f) wooden facade detail



g) north elevation



h) west elevation



i) brick structure supporting concrete slab



j) concrete steps leading to storefront



k) brick structure



l) brick structure



m) stucco finished brick pilaster

architectural character - exterior the harlow hotel



a) brick wall with plaster



b) basement door



c) basement sprinklers

The first floor of the Harlow Hotel is where the building meets the city. Dominated by 5 bays of retail, and providing the only points of access to both the basement and the upper hotel floors, it draws people in, and directs them to where they want to go.

Each retail bay has a main entrance off of Glisan St. and a secondary entrance off of the small rear courtyard (picture f). Large storefront windows (picture d) served to display a shop's goods to passers-by, and an upper strip of clerestory windows provide plenty of light to the interior spaces. Because the main entrance wall is primarily fenestration, cast iron columns act to support the floor above (picture e). Adjacent bays are separated by solid brick walls finished with plaster (picture a).

The modest grand stair is located in the center of the building, which is expressed by a small parapet extension on the building's exterior, leads up to the hotel space on the second floor.

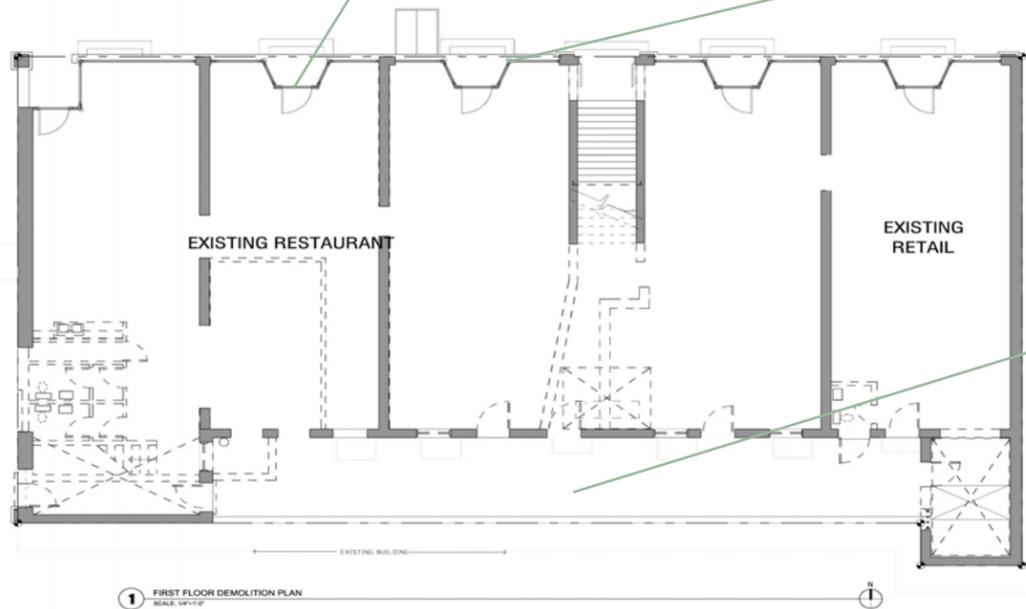
The basement, accessed at the southeast corner of the building shows that the hotel is set on a stone foundation. A full fire sprinkler system attests to the fact that this space has been put to good use over the years (picture c).



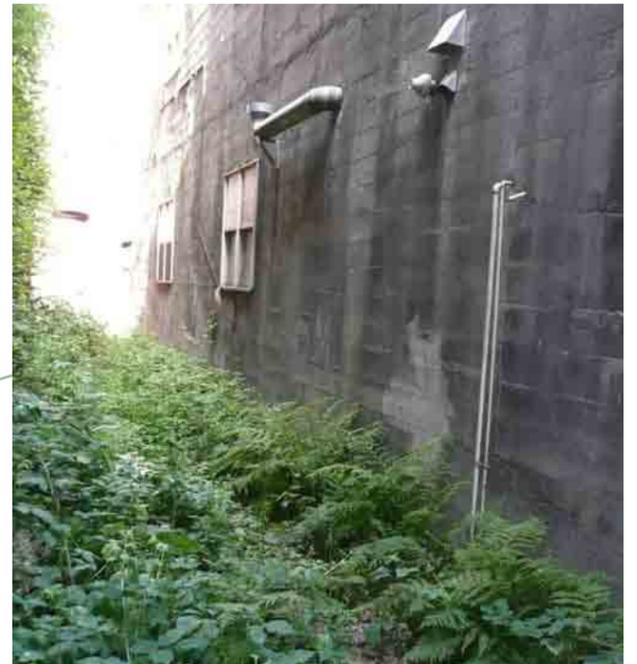
d) storefront



e) cast iron column



1 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8"=1'-0"

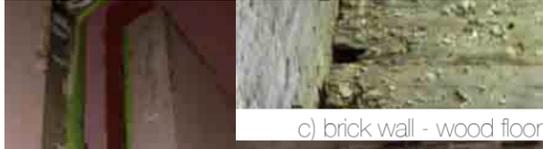


f) courtyard

architectural character - interior - first floor/basement the harlow hotel



a) wainscoting in hallway b) plaster walls/wallpaper



c) brick wall - wood floor



d) decorative hinges e) exposed electrical wiring



f) 4 panel door g) 5panel door



h) wood stove ventilation i) arched window

The character of the upper floors of the Harlow is defined by a unique triple loaded corridor layout, crafted detailing, and various elements that express the functional history of the building.

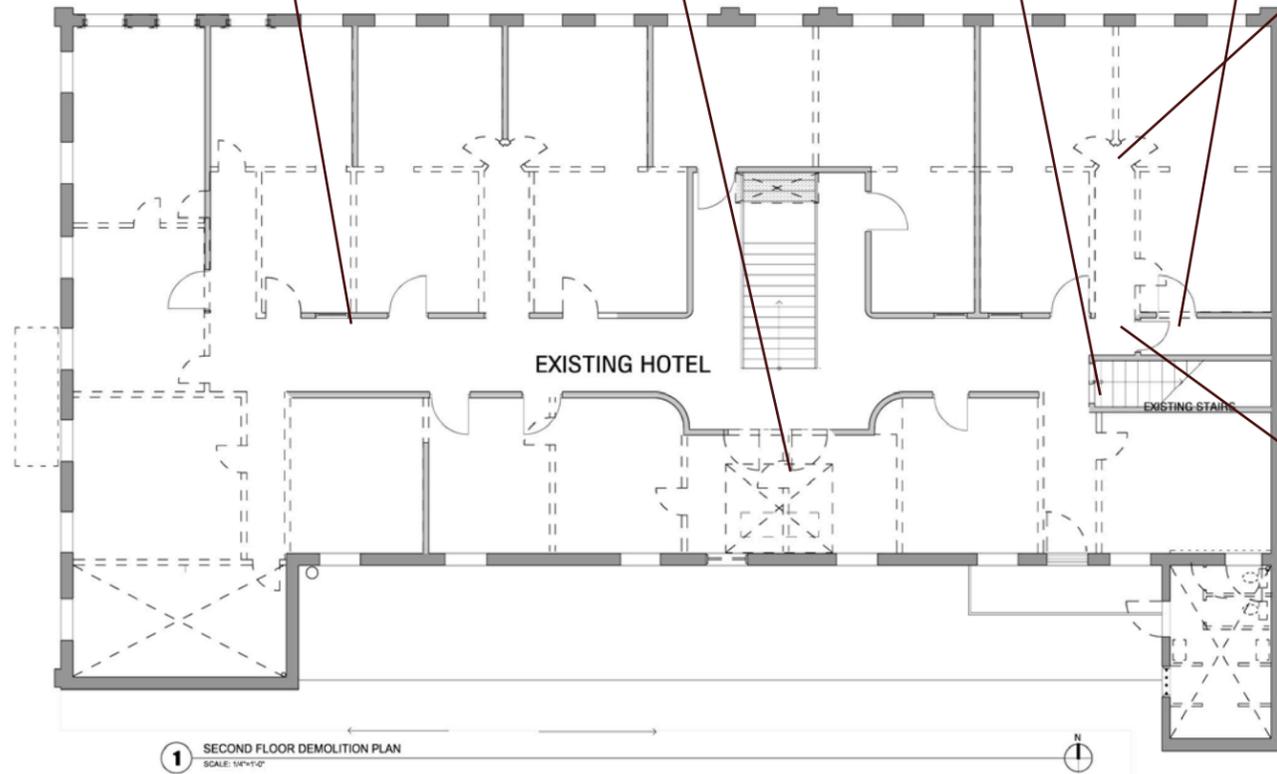
The Harlow's layout might be described as the typical hotel layout, with a twist. A double loaded corridor is actually triple loaded, as the north side of the building is actually stacked two rooms deep, one which has access to the exterior, and one which does not. Exterior rooms are accessed through secondary hallways with decoratively arched thresholds. These hallways lead to angled "tandem" doors, each of which is connected to a separate room (picture n). Each interior room has a token double hung window, leading to the main hallway (picture j). All doors off the hallway are also fitted with a transom window, which allows for room ventilation (picture m).

Throughout the hallways and small rooms, a high level of craft is expressed in wainscoting, window and door trim, hinges and wood flooring, and an ornate stair connects the second and third floors. All interior walls were originally finished with plaster, and subsequently layered thick with wallpaper, and newspaper (picture b).

Remnants of past use give a sense of the hotel occupants' daily lives. A teller window at the top of the entry stairs marks where guest would have checked in (picture k). Traces of stove pipes in the walls show how people kept warm in the winter (picture h), and exposed electrical wiring throughout the building attests to the sheer bravery of the hotel guests (picture e).



j) interior window k) existing teller window l) stairway between 2nd and 3rd floors m) transom window off of hallway

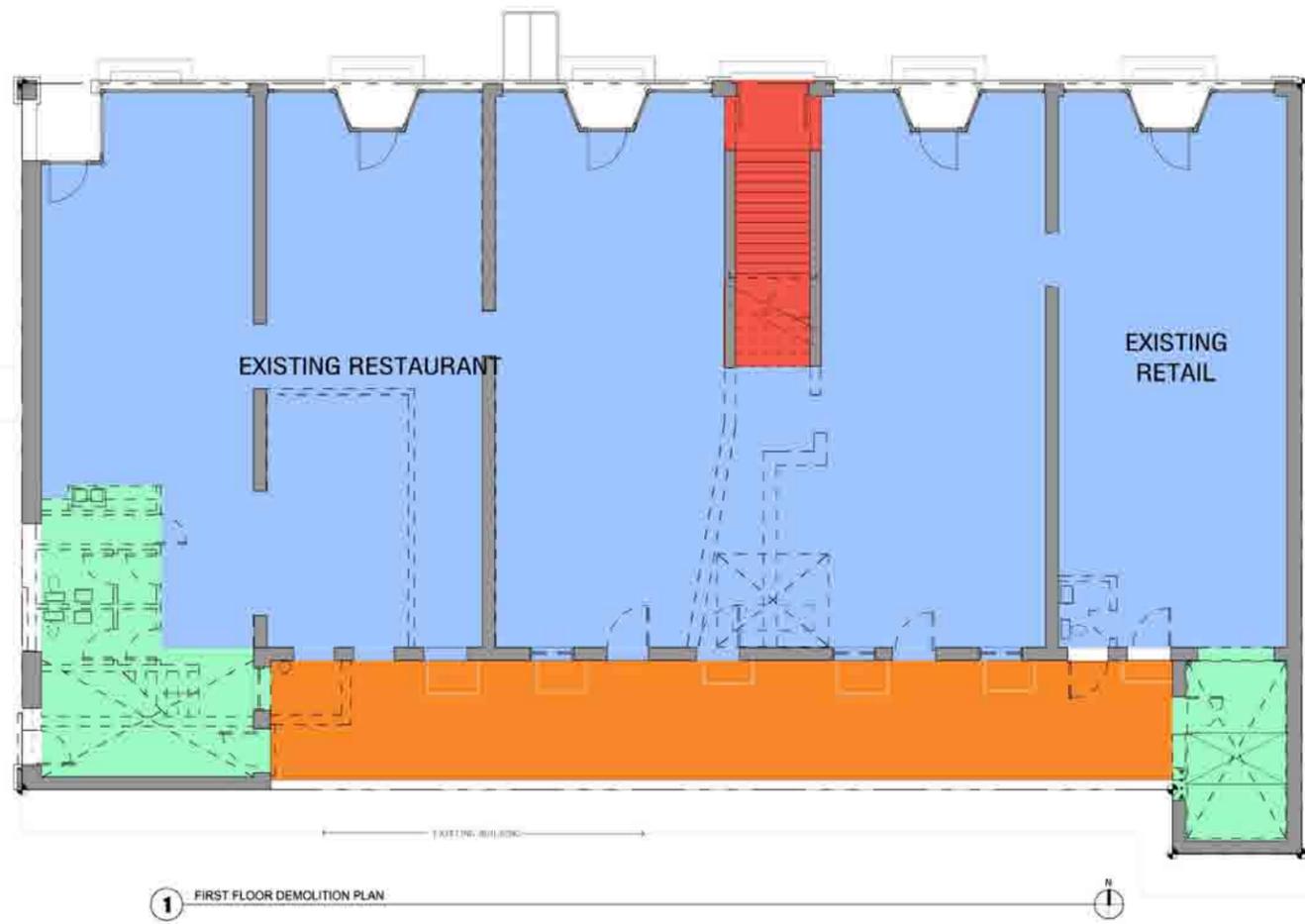


n) tandem doors



o) arched entrance to secondary hallway

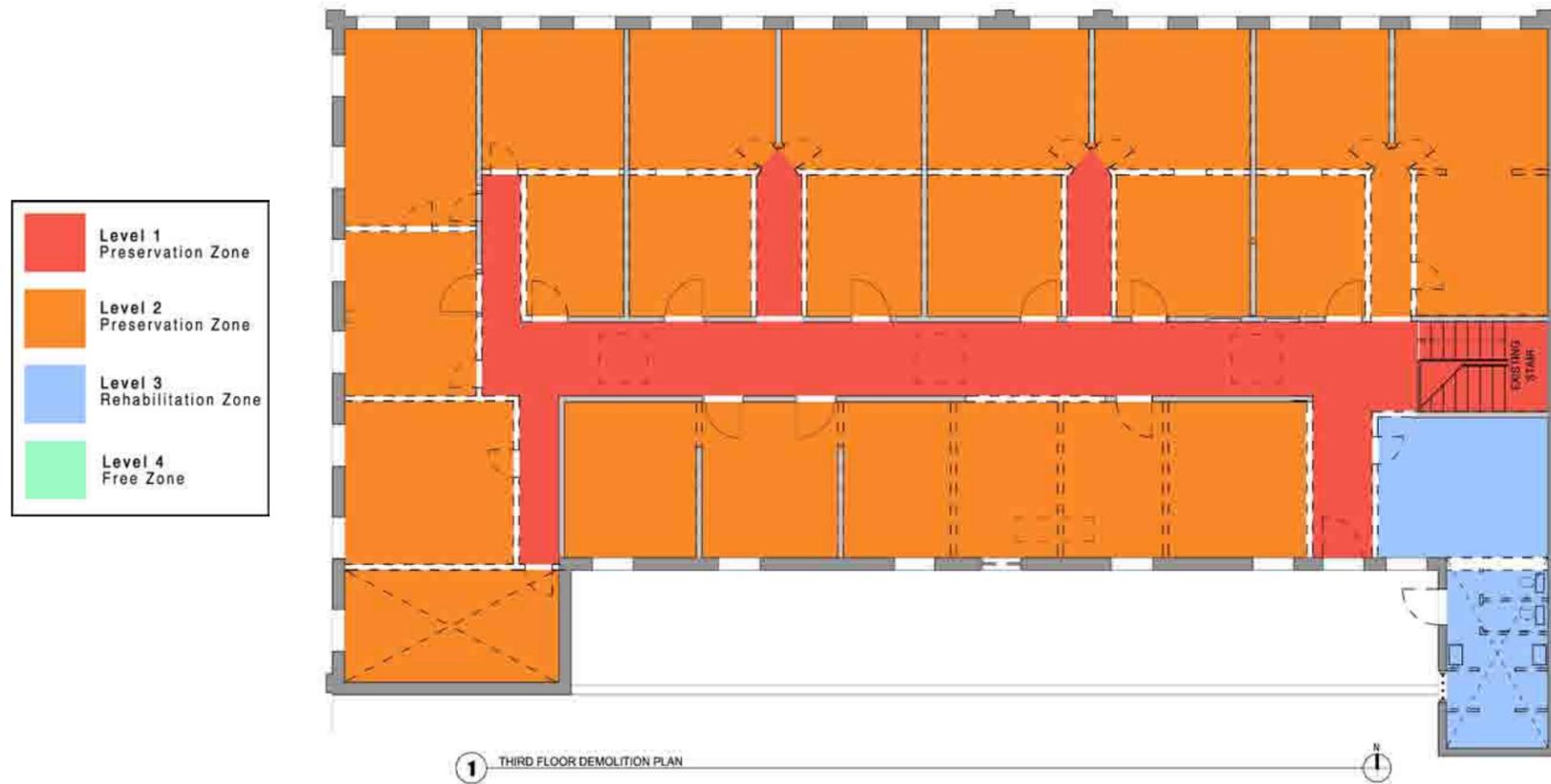
architectural character - interior - second/third floors the harlow hotel



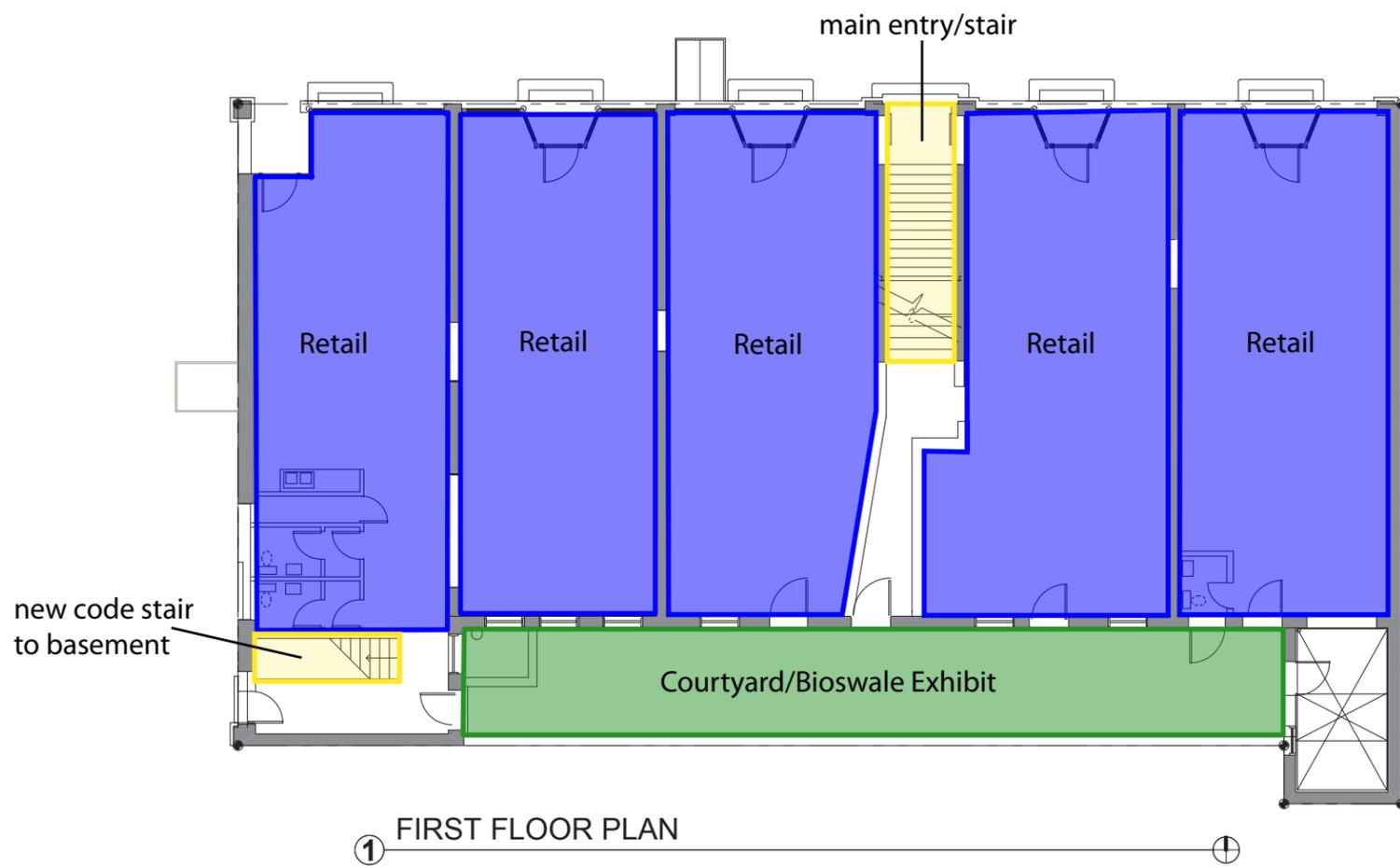
- Level 1
Preservation Zone
- Level 2
Preservation Zone
- Level 3
Rehabilitation Zone
- Level 4
Free Zone



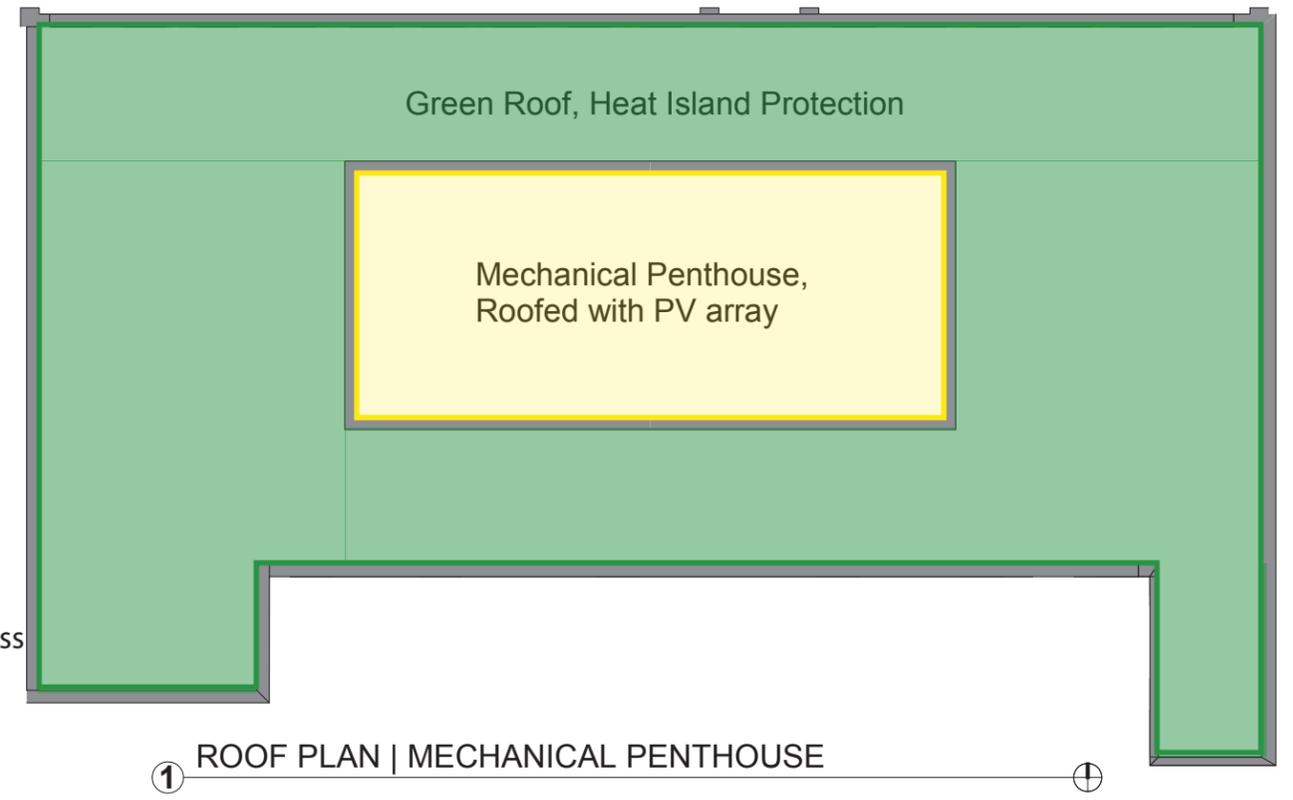
preservation zoning diagram - first/second floors
 the harlow hotel



preservation zoning diagram - third floor
 the harlow hotel



floor plan diagram - first/second floors
 the harlow hotel



floor plan diagram - third floor/roof
 the harlow hotel



LEED for New Construction v 2.2
Registered Project Checklist

Project Name: Harlow Building

Project Address: 720-738 NW Glisan St. Portland, OR 97209

Yes	?	No	Project Totals (Pre-Certification Estimates)	
54	2	10	69 Points	
PLATINUM			Certified: 26-32 points	Silver: 33-38 points
			Gold: 39-51 points	Platinum: 52-69 points

Yes	?	No	Sustainable Sites	
9	0	5	14 Points	

Yes	?	No	Prereq	Requirement	Points
1			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Selection	1
0		1	Credit 2	Development Density & Community Connectivity	1
1			Credit 3	Brownfield Redevelopment	1
1			Credit 4.1	Alternative Transportation, Public Transportation	1
1	0		Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1
		1	Credit 4.3	Alternative Transportation, Low-Emitting & Fuel Efficient Vehicles	1
	0	1	Credit 4.4	Alternative Transportation, Parking Capacity	1
		1	Credit 5.1	Site Development, Protect or Restore Habitat	1
	0	1	Credit 5.2	Site Development, Maximize Open Space	1
1			Credit 6.1	Stormwater Design, Quantity Control	1
1			Credit 6.2	Stormwater Design, Quality Control	1
1	0	0	Credit 7.1	Heat Island Effect, Non-Roof	1
1			Credit 7.2	Heat Island Effect, Roof	1
1			Credit 8	Light Pollution Reduction	1

Yes	?	No	Water Efficiency	
5			5 Points	

Yes	?	No	Credit	Requirement	Points
1			Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1
1			Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1
1			Credit 2	Innovative Wastewater Technologies	1
1			Credit 3.1	Water Use Reduction, 20% Reduction	1
1			Credit 3.2	Water Use Reduction, 30% Reduction	1

Sustainable sites:

Site selection, 1 point.

Description- Renovation of an existing building in a fully developed city core.

Development of Density and Community Connectivity, 1 point.

Description- Previously developed site within walking distance to basic services including residential, retail, office, museum, place of worship, park, post office, supermarket, school, theater, fitness center.

Alternative transportation, public transportation, 1 point.

Description- Located within 1/2 mile of bus, streetcar and light rail.

Stormwater design, quantity control, 1 point.

Description- Vegetated roof, high efficiency stormwater retention/reuse system.

Stormwater design: quality control, 1 point.

Description- courtyard bio-swale naturally filters water and promotes infiltration.

Heat Island Effect, roof, 1 point.

Description- Installation of vegetated roof over at least 75% of total roof area.

Light Pollution Reduction, 1 point.

Description- Existing low reflectance surfaces (brick and concrete facades with small punched openings) will minimize light pollution due to light bounce. Planned addition of safety lighting on west side of site and at entrance will be strictly controlled.

Water efficiency:

Water efficient landscaping, reduce by 50%, 1 point.

Description- Landscaping will consist of self-sustaining bio-swale, no irrigation necessary.

Water efficient landscaping, no potable use or no irrigation:, 1 point.

Description- see above.

Innovative Wastewater Technologies: Low flow fixtures, 1 point.

Description- Stormwater treated on site with high efficiency filtration system.

Water Use Reduction, 20%, 1 point.

Description- Wastewater technologies (listed above) will allow us to use 50% less water than the water use baseline calculated for the building.

Water Use Reduction, 30%, 1 point.

Description- see above.

LEED points - sustainable sites/water efficiency
the harlow hotel



LEED for New Construction v 2.2
Registered Project Checklist

Yes	?	No			
12			Energy & Atmosphere		17 Points
Yes			Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required
Yes			Prereq 1	Minimum Energy Performance	Required
Yes			Prereq 1	Fundamental Refrigerant Management	Required
*Note for EAc1: All LEED for New Construction projects registered after June 26, 2007 are required to achieve at least two (2) points.					
7			Credit 1	Optimize Energy Performance	1 to 10
			Credit 1.1	10.5% New Buildings / 3.5% Existing Building Renovations	1
			Credit 1.2	14% New Buildings / 7% Existing Building Renovations	2
			Credit 1.3	17.5% New Buildings / 10.5% Existing Building Renovations	3
			Credit 1.4	21% New Buildings / 14% Existing Building Renovations	4
			Credit 1.5	24.5% New Buildings / 17.5% Existing Building Renovations	5
			Credit 1.6	28% New Buildings / 21% Existing Building Renovations	6
			--> Credit 1.7	31.5% New Buildings / 24.5% Existing Building Renovations	7
			Credit 1.8	35% New Buildings / 28% Existing Building Renovations	8
			Credit 1.9	38.5% New Buildings / 31.5% Existing Building Renovations	9
			Credit 1.10	42% New Buildings / 35% Existing Building Renovations	10
1			Credit 2	On-Site Renewable Energy	1 to 3
			--> Credit 2.1	2.5% Renewable Energy	1
			Credit 2.2	7.5% Renewable Energy	2
			Credit 2.3	12.5% Renewable Energy	3
1			Credit 3	Enhanced Commissioning	1
1			Credit 4	Enhanced Refrigerant Management	1
1			Credit 5	Measurement & Verification	1
1			Credit 6	Green Power	1

Energy and Atmosphere:

Optimize Energy Performance, 1 point.

Description- Using various envelope upgrades, and taking advantage of the existing thermal mass of the building we have demonstrated a 45% improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004 by a whole building project simulation.

On-Site Renewable Energy, 1 point.

Description- The Harlow renovation design includes addition of photovoltaic panels on the non vegetated portion of the existing roof as well as possible installation of a geothermal system underneath the adjacent park blocks.

Enhanced commissioning, 1 point.

Description- We have designated an independent Commissioning Authority to lead, review, and oversee the completion of all commissioning process activities pertaining to the hotel renovation.

Enhanced Refrigerant Management, 1 point.

Description- No refrigerants are included in the renovation design.

Measurement and Verification, 1 point.

Description- We will be metering energy use throughout the building for the first 2 years of occupancy and comparing usage to the numbers detailed out in our measurement and verification plan, which we have developed using a very high tech energy simulation program.

Green Power, 1 point.

Description- We are working with Portland General Electric to develop a 2-year renewable energy contract, which will ensure that at least 50% of the energy we purchase from PGE will be from renewable sources.

LEED points - energy and atmosphere
the harlow hotel



LEED for New Construction v 2.2
Registered Project Checklist

Yes	?	No		
13			Materials & Resources	13 Points
Yes			Prereq 1	Storage & Collection of Recyclables Required
1			Credit 1.1	Building Reuse , Maintain 75% of Existing Walls, Floors & Roof 1
1			Credit 1.2	Building Reuse , Maintain 95% of Existing Walls, Floors & Roof 1
1			Credit 1.3	Building Reuse , Maintain 50% of Interior Non-Structural Elements 1
1			Credit 2.1	Construction Waste Management , Divert 50% from Disposal 1
1			Credit 2.2	Construction Waste Management , Divert 75% from Disposal 1
1			Credit 3.1	Materials Reuse , 5% 1
1			Credit 3.2	Materials Reuse , 10% 1
1			Credit 4.1	Recycled Content , 10% (post-consumer + 1/2 pre-consumer) 1
1			Credit 4.2	Recycled Content , 20% (post-consumer + 1/2 pre-consumer) 1
1			Credit 5.1	Regional Materials , 10% Extracted, Processed & Manufactured 1
1			Credit 5.2	Regional Materials , 20% Extracted, Processed & Manufactured 1
1			Credit 6	Rapidly Renewable Materials 1
1			Credit 7	Certified Wood 1

Materials and Resources:

Building Reuse, 75% Existing Walls Floors and Roof. 1 point.

Description – The new plan for the Harlow Hotel has not demolished more than 75% of the existing walls, floors and roof material.

Building Reuse, 95% Existing Walls Floors and Roof. 1 point.

Description – The new plan for the Harlow Hotel has not demolished more than 95% of the existing walls, floors and roof material.

Building Reuse, 50% Interior Non-Structural. 1 point.

Description – The new plan for the Harlow Hotel has not demolished more than 50% of the interior, non-load bearing walls.

Construction Waste Management, 50% 1 point.

Description – On-site runoff retention systems ensure our site will not negatively impact surrounding land, while extra time and funding has been allocated in the schedule and budget to sort through all extra materials and waste products to collect those which can be recycled or reused directly, those with need treatment before reuse, compostable materials or those which need to be directed to a landfill. At least 50% of these materials collected will be recycled or reused, either on our project or sent to distributors who provide for other construction projects.

Construction Waste Management, 75% 1 point.

Description – On-site runoff retention systems ensure our site will not negatively impact surrounding land, while extra time and funding has been allocated in the schedule and budget to sort through all extra materials and waste products to collect those which can be recycled or reused directly, those with need treatment before reuse, compostable materials or those which need to be directed to a landfill. At least 75% of these materials collected will be recycled or reused, either on our project or sent to distributors who provide for other construction projects.

Recycled Content, 20%. 1 point.

Description – Verification documents provided ensure at least 20% of materials used were reused from demolished buildings or are recycled scrap material collected from other sites.

Recycled Content, 10%. 1 point.

Description – Verification documents provided ensure at least 10% of materials used were reused from demolished buildings or are recycled scrap material collected from other sites.

Regional Materials, 20%. 1 point.

Description – Verification documents provided ensure at least 20% of building materials (based on cost) are produced or manufactured within a 500 mile radius of the project site.

Regional Materials, 10%. 1 point.

Description – Verification documents provided ensure at least 10% of building materials (based on cost) are produced or manufactured within a 500 mile radius of the project site.

Rapidly Renewable Materials. 1 point.

Description – Cork and Bamboo flooring allows us to create warm environments on the interior of our building while utilizing rapidly renewable materials.

Certified Wood. 1 point.

Description – Extra funds have been allocated for materials such as certified wood to ensure the growth, harvest and transportation of the materials has been done so as sustainably as possible.

LEED points - materials and resources
the harlow hotel

Yes	?	No	Indoor Environmental Quality		15 Points
12	2	3			
Yes			Prereq 1	Minimum IAQ Performance	Required
Yes			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
1			Credit 1	Outdoor Air Delivery Monitoring	1
	1	1	Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan, During Construction	1
1			Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1
1			Credit 4.2	Low-Emitting Materials, Paints & Coatings	1
1			Credit 4.3	Low-Emitting Materials, Carpet Systems	1
1			Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1
1			Credit 5	Indoor Chemical & Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems, Lighting	1
1			Credit 6.2	Controllability of Systems, Thermal Comfort	1
1			Credit 7.1	Thermal Comfort, Design	1
1			Credit 7.2	Thermal Comfort, Verification	1
	1	1	Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1
		1	Credit 8.2	Daylight & Views, Views for 90% of Spaces	1

Indoor Environmental Quality:

Outdoor Air Delivery Monitoring. 1 point.

Description – As a component of a fully automated system analyzing and controlling ventilation in our building, sufficient outdoor air systems will be utilized to provide not only thermal comfort, but clean, filtered air to the occupants to meet ASHRAE standards.

Construction IAQ Management Plan, During Construction. 1 point.

Description – In addition to choosing materials which have minimal off gassing, some is inevitable. To protect the workers from these fumes and gasses, we will be scheduling bake outs in evenings and provide portable, on-site ventilation systems to keep the working environment safe and comfortable.

Construction IAQ Management Plan, Before Occupancy. 1 point.

Description – After all materials have been installed, walls painted, and envelope sealed, we plan on utilizing services of Indoor Air Quality assessment group to verify optimum air quality levels before occupancy.

Low-Emitting Materials Adhesives and Sealants. 1 point.

Description – The materials used will be of the highest natural, sustainable fiber, chosen for minimal emissions without forfeiting performance levels.

Low-Emitting Materials Paints and Coatings. 1 point.

Description – The materials used will be of the highest natural, sustainable fiber, chosen for minimal emissions without forfeiting performance levels.

Low-Emitting Materials Carpet Systems. 1 point.

Description – Carpet selected will be wool carpets which have no synthetic materials or adhesives used in production or installation, ensuring minimum off gassing.

Low-Emitting Materials Composite Wood and Agrifiber Products. 1 point.

Description – The materials used will be of the highest natural, sustainable fiber, chosen for minimal emissions without forfeiting performance levels.

Indoor Chemical and Pollutant Source Control. 1 point.

Description – An automated system analyzing indoor air quality will automatically assess the indoor environments insuring acceptable levels of fresh air are continually circulated through the building.

Controllability of Systems, Lighting. 1 point.

Description – To fully automate a system, lighting and HVAC must be taken into consideration. This system will analyze day lighting levels on the interior of the building, dimming lights when conditions allow, saving energy.

Controllability of Systems, Thermal Comfort. 1 point.

Description – In junction with a system providing thermal comfort inside the building, we have chosen to utilize an automated system capable of analyzing the interior environments and making appropriate changes to the system to compensate for any changes necessary.

Thermal Comfort Design. 1 point.

Description – The new design for the Harlow Hotel will focus on creating a passive ventilation system capable of sustaining appropriate thermal comfort levels in the interior spaces.

Thermal Comfort Verification. 1 point.

Description – We have allocated funds to hire a mechanical engineering firm to verify the performance of our thermal comfort system.

LEED points - indoor environmental quality
the harlow hotel



LEED for New Construction v 2.2
Registered Project Checklist

Yes	?	No		
3		2	Innovation & Design Process	5 Points
1			Credit 1.1 Innovation in Design: Provide Specific Title	1
1			Credit 1.2 Innovation in Design: Provide Specific Title	1
		1	Credit 1.3 Innovation in Design: Provide Specific Title	1
		1	Credit 1.4 Innovation in Design: Provide Specific Title	1
1			Credit 2 LEED® Accredited Professional	1

Innovation and Design Process:

Innovation in Design. 1 point.

Description – Originally used external water closet on the exterior of the building will be relocated to adjacent space in restroom. However, the walkway once used for personal relief will now be an educational walkway with information explaining the more authentic use the building once was designed for.

Innovation in Design. 1 point.

Description – We plan on utilizing the existing light well courtyard as a water retention and treatment center. Water collected on the roof can be diverted to the court level where a bioswale type system may be used to clean and retain water, but allowing it to return to the land rather than a sewer system.

LEED Accredited Professional. 1 point.

Description – We took the test and passed. Neither of us missed a question while completing the exam in under 3 minutes.

LEED points - innovation & design process
the harlow hotel



Where Preservation and LEED meet happily:

Thankfully, the LEED system realizes sustainability works in tandem with eliminating waste, both material waste and lost **embodied energy**. It is the embodied energy or an existing building which drives LEED to granting points for the reuse and maintaining existing walls, floors and roof. Preservationists would also agree keeping as much of a building's character is important. By reusing existing walls, a building's character, use, function and embodied energy are all preserved simultaneously.

Site development can also be an area where Preservation and LEED overlap. While LEED awards points for protecting or restoring habitat, the site conditions of an existing building undoubtedly contribute to the context from which defining characteristics of the building are derived. In preserving the site of an existing project, designers will be protecting what the building once stood for, meanwhile protecting the site from further, invasive development.

Depending on the age of an existing building, **regional materials** could be an important aspect of a renovation or adaptive reuse project. Older projects were often built with materials readily available, celebrating a particular region's unique aspects, climate and environment. This can also be described as critical regionalism, character of a specific region's architecture. In a preservation project, keeping the building's integrity is essential, mimicking materials used and construction techniques will strengthen the connection between new and old, helping preserve a building, restoring it to resemble what it once was.

the pros

the harlow hotel

bill kirkwood and maggie fernandez

eco-preservation[falsetto]

spring 2009

university of oregon



Where Preservation and LEED fight it out:

Optimizing Energy Performance is a big issue bringing conflict to every project dealing with both LEED and preservation. Unfortunately embodied energy does not have any credit in this category with the LEED system, which only focuses on the ending performance of a building. Windows have been chosen by preservationists as one of the most important character defining elements of an existing building. This may be true, but newer windows tend to out perform older windows in relation to insulation and energy efficiency. By preserving the existing windows, the indoor environment of a building may be completely compromised. Even the most advanced heating ventilation and air conditioning system will become an energy hog if the conduction of the windows allows for easy transfer through the walls.

On-Site Renewable Energy is a relatively new technology in the architectural world. Photovoltaics, evacuated tubes and wind turbines will all conflict with the character of older projects. Even in the future, as these technologies evolve, older models will become hindrances to the overall performance of the energy gathering and producing systems. As of now, setting back new renewable energy devices on roofs allow for a building's character to remain relatively "authentic" but at what cost? How much more energy could be harnessed if PV panels could extend to the edges of roofs and beyond?

Controllability of Systems, thermal comfort is a relative issue, based on the existing design. Some older projects perform wonderfully, utilizing operable windows and well designed passive ventilation systems, when operated correctly. If a passive system is not designed in the existing building, or performs poorly, a new HVAC system would be the only way to bring acceptable levels of clean air at comfortable temperatures. These systems would be part of an invasive installation process. Ducting could be difficult, if not impossible, to conceal within existing building structure. New structures to house this equipment may change defining characteristics of a building's interior. Lowering ceilings for ductwork, evaporators on roofs and air handling fans all take up space, space which may not exist within boundaries of existing projects and will need to be designed for.

the cons

the harlow hotel

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