

Memo

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To: Plan Commission
City of Madison
215 Martin Luther King Blvd
Madison, Wisconsin 53701

Date: February 20, 2015

Project: 520-24 East Johnson

Bike Parking

This issue has been successfully addressed. In response to concerns raised by staff a Minor Alteration was submitted and approved for the installation in conformance with 28.141(11) of the three bike storage racks required per Table 28I-3. The new bike racks have been in place for two years to the apparent satisfaction of all.

The existing ribbon bike rack in question, though no longer required to satisfy the minimum parking requirement was retained as allowed by 28.141(11) (g) *Bicycle parking not meeting dimensional or access aisle requirements may be installed but shall not count towards a minimum bicycle parking requirement.*

Window Well

It's window well not wells. The single well in question is the one along Blair Street.

As noted in staff's memo the window well has been pulled back to the property line.

The window well is drained via the building's drain tile system and discharges into the City's storm sewer in accordance with good building practice and International Residential Code R310.2.

The approved plan in question is not the PUD-SIP that was reviewed and approved by all including this Plan Commission but a Minor Alteration for the relocation of the accessible ramp from the West to the North side of the building. As a condition of

accepting the Minor Alt that had been reviewed and approved by all the appropriate agencies the Zoning Administrator expressed concern over the use of what the plans characterized as cement stucco as a finish and demanded that the window well along Blair be constructed of concrete. This change to the plans was made under protest with the understanding that this demand would be appealed, which is why we are here.

Stucco, an admixture of fine sand, lime and/or cement and water, was developed independently in civilizations around the world and has been in use since before history. It is seen on buildings from ordinary to the iconic and with appropriate care it lasts for centuries. Attached are photos of recognizable stuccoed buildings in a variety of locales as well as examples of stucco finishes that have been endurance tested on State Street.

Late in the 19th century home builders wishing to mimic the stucco finishes seen in Europe for use in wood frame domestic construction developed a system where stucco was applied in three layers, brown, scratch and finish on thin wood laths affixed to either to sleepers or directly to studs. This approach was widely adopted by among many others Frank Lloyd Wright who used it in 1908 on the Airplane House in University Heights.

The marriage of the stiff 3/8" stucco finish and thin 1/4" flexible lath could not successfully withstand concentrated impact forces and this particular stucco system would not be appropriate in high traffic areas. It is for this reason that Table 28E-1 does not allow hand-laid stucco in the downtown and urban districts.

Construction professionals never consider a material in isolation but rather how it might function as part of a system or assembly. The effectiveness of an architectural finish is dependent on the quality of its substrate, which is in turn protected by the finish and both are dependent on quality of the structural support, which they in turn protect. A finish on a stiff substrate such as cement board will perform markedly different than finish on a flexible one such as wood lath.

The material applied to both the window well and the ground floor wall is a subgenre of stucco referred to formally as an architectural mortar finish and colloquially as parging. It is used and continues to be used extensively below grade as damp proofing and above as weather proofing as well to provide a smooth uniform aesthetic finish over substrates uneven in texture or color. The finish is trowel applied to a thickness of approximately a 1/8" and should it ever be damaged it is readily patched.

The assembly of architectural mortar finish over cement panel over treated plywood on both sides of a treated 2x4 frame is a structure referred to as a sandwich panel. Picture steel I beam with the plywood panels as the flanges resisting compression and tension and the internal framing as the web resisting shear. This is a formidable structural system that

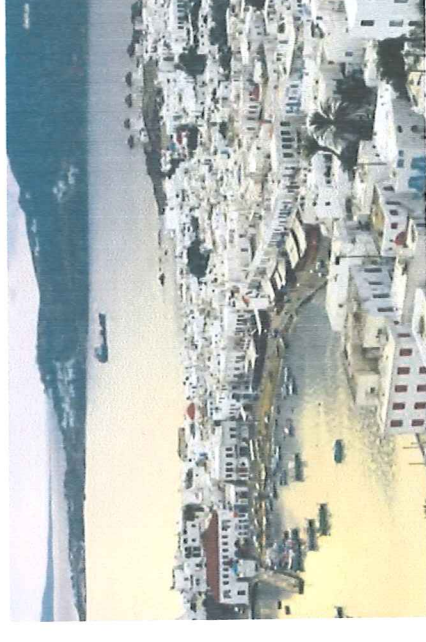
with appropriate care can be expected to last as long as the wood framed building to which it is attached.

Speaking of wood framing. With the exception of Table 28E-1 *Building Materials in Downtown and Urban Districts* the Zoning Ordinance does not speak directly to construction methods or materials, which makes sense as they are governed by a different department and its own whole rich panoply of codes and regulations. Table 28E-1 does specifically allow the use in districts far more intensely trafficked than the 500 block of East Johnson both wood / wood composite and fiber-cement siding panels which are rarely applied over anything other than wood framing. Wood framing is implicitly allowed here and not explicitly disallowed anywhere in the Zoning ordinance.

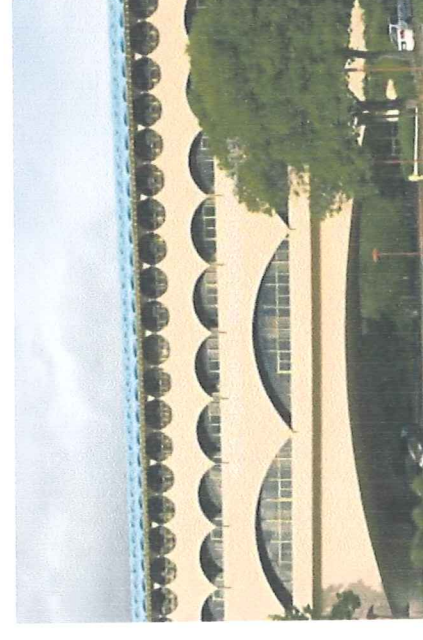
Is the window well as constructed perfect? No, but no construction assembly is. Concrete cracks and spalls, steel dents and inevitably rusts while masonry is particularly inappropriate for this particular use.

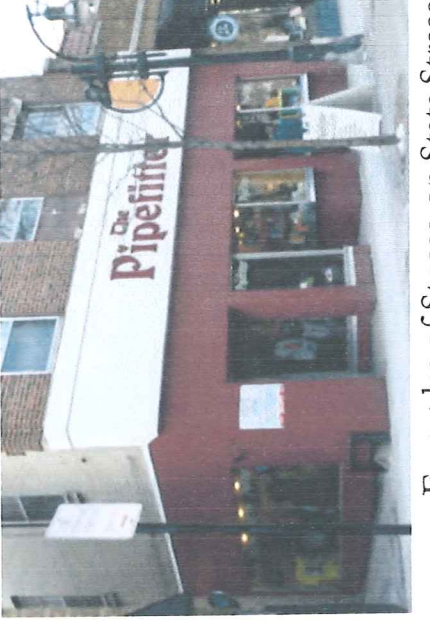
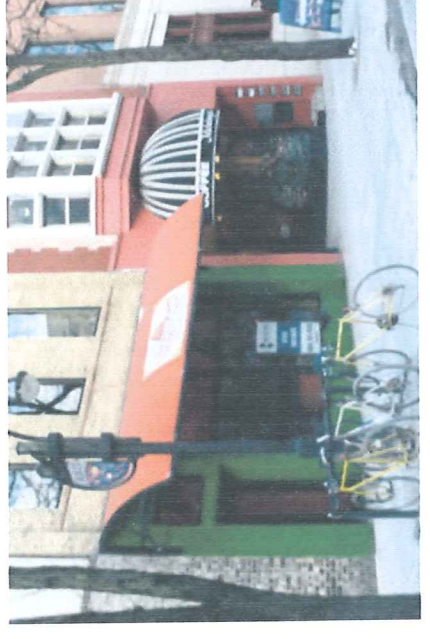
The problem with a masonry wall is the top course. Water is readily shed from the vertical face but will collect on the top of any wall system. Given time sitting water will penetrate down into unprotected brick and/or block and the intervening mortar joints and will cycle through freezing and thawing and the resulting expansion and contraction will in time break up the assemblage. Masonry is held together by gravity. Mortar has considerable compressive but limited tensile strength. The top course is basically simply sitting on the course below it. There is very little other than its weight preventing it from being dislodged. This is why you rarely if ever see masonry walls with unprotected tops and is particularly not recommended for window wells.

There are good reasons that building and zoning are separate divisions. They draw on distinct bodies of experience and answer to different sets of rules and regulations. We have been well served by this separation of powers and will be better off returning to this natural order and retain the evaluation of construction methods and materials with construction professionals.



Buildings with Stucco Finishes





Examples of Stucco on State Street



506 East Johnson



524 East Johnson

