



MEMO

To: Sarah T. Holt, AICP, ASLA  
Senior Planner, Planning Dept., City of Dublin

From: Christine Trebellas, AICP, AIA, LEED Green Associate  
Vivian C. Majtenyi, AIA, NCARB  
Historic Preservation Consultants

Date: March 3, 2023

Re: Stone Retaining Wall located on 40 N High and partially on 38 N High; Review  
of Status, Options and Recommendations

INTRODUCTION AND BACKGROUND

The property at 40 N High Street consists of three areas: the 1950s dentist's office on the west of the lot facing High Street, a gravel parking area in the middle of the lot connected to High Street by single lane drives north and south of the building, and a lower grass and gravel lot separated from the rear parking area by a 76- to 84-inch-tall stone retaining wall. Consisting of dry stone masonry, the wall runs approximately 58 feet north-south with a 22-foot long return west from the southeast corner and a similar return on the northeast corner. There is a short section that runs north and then perpendicular to the neighboring COhatch building. The dry-stone retaining wall is the focus of this memo.

Preservation Designs has reviewed this dry stone wall on three previous occasions. In May 2021 the firm reviewed Korda's structural engineering report and found the wall retains all seven aspects of integrity (location, design, setting, materials, workmanship, feeling and association), as well as meeting Criteria A (associated with important events) and Criteria C (embody the distinctive characteristics of a type, period, or method of construction) the per the National Register of Historic Place guidelines. The next review was in March 2022 as part of the redevelopment design of 36 and 38 N High Street. And in November 2022, Preservation Designs reviewed drawings by Osborn Engineering and a local masonry company. In the last review, we noted some conflicting information and asked several questions for the engineer and the masonry contractor. And the firm felt additional work was needed to fully stabilize the wall, such as repairing the northeast corner and addressing drainage points. It is our understanding that these concerns have not been addressed.

For this review, the City of Dublin Planning Department asked Preservation Designs to provide a series of options with probable outcomes and recommendations for the wall's future. This memo is not a full review but is meant to convey possibilities from a historical preservation perspective. It is specifically limited to the information given or already known and applying this reviewer's understanding of the City of Dublin's historic zoning districts code and its preservation guidelines to this stone retaining wall in making a recommendation on its preservation. To complete this review, Preservation Designs also reviewed preservation strategies used in other localities where historical structures are left to fail without intervention, also called demolition-by-neglect (See the supplement to the report). These comments do not (and cannot) identify every issue that may be of concern to the City of Dublin and its various review boards. As always, the final determination of these issues lies with the City of Dublin.



Figure 1. Photograph of the dry-stone retaining wall taken from 38 N High's rear lot looking north-northwest. The bowing wall can be seen in line with the auto's front wheel, as can the lower stones shifted east just north of the southeast corner. The sewer pipe and dry wall joints infilled with mortar lie to its immediate north. (Preservation Designs, February 8, 2023).

### CURRENT STATUS

The wall shows continued deterioration due to plant infestation and development. Plants growing on or near the wall have compromised its structural integrity. In addition, the wall was not designed to support the weight of cars parking above. And past alterations such as the installation of the sewer pipe near the southeast corner and grouting the area with mortar have further diminished its structure. Other areas of concern include a vertical crack just north of the southeast corner and a visible bulge in the south wall as outlined in the Korda report. (See Photographs 1–4 for further information.) Without substantial additional research, it is impossible to know when errors were made leading to the wall's present deteriorating state. And this information would have no impact on our proposed course of action.

It is important to note that while dry stone masonry has been used for thousands of years, it is not commonly used on a large scale today. Dublin is bit of an exception since its landscape contains many dry stone walls, continuing the tradition of separating agricultural properties from the public ways. However, these walls are free standing and generally limited 36 inches high (some early walls were taller per the HCA). A person with basic masonry training may be able to construct a free-standing stone wall, but a retaining wall seven feet high requires both expert knowledge and experience to design and construct a system resisting the soil and water's lateral thrust while maintaining its own structural integrity. Having the right people with the right expertise for this work is crucial, but finding the right people is not easy. Ideally, an owner would chose an engineer and contractor with expertise in dealing with historical materials and using appropriate means and methods as well as trained in the type of specialized work needed when complying with historic district standards.

This is where the City of Dublin Planning Department may provide guidance with the help of others trained in historic preservation techniques. A soil consultant such as GCI should take test borings to determine the soil quality and its ability to support a masonry wall as well as a parking lot. Any engineer designing improvements to the wall would need this information. A landscape architect should look at the vegetation for invasive, destructive species and recommend a course of action to prevent further deterioration to the wall. An engineer such as Kabil Associates or Shirk & O'Donovan Consulting Engineers who has experience with historic structures should be used to evaluate the structural capacity of the wall as opposed to modern standards. And groups such as the Dry Stone Conservancy can provide trained masons knowledgeable in historic building techniques.

## OPTIONS

The stone wall at 40 N High is a contributing feature of the Dublin Core historic district and helps create the sense of place that makes Dublin unique. Preservation Designs sees three basic options for the treatment of the stone wall with three separate outcomes:

### **Option 1: No ACTION**

Without intervention, the stone wall will fail -- most likely on the south elevation or at the southeast corner. While it is impossible to predict a date of failure since it involves variations in weather, temperature, and usage, regular monitoring by city personnel (such as measuring the growth of the bulge every couple of weeks) could help estimate when and where the failure will occur. For example, photographic comparison might indicate the south elevation's bulge has progressed since May 2021 [Photograph Section, photos 1 and 2].

Without monitoring, it is best to take the most cautious approach and assume failure is imminent, and appropriate *precautions* must take place for life safety. Minimally, the parking lot at the top of the wall and the area at the bottom of wall should be roped off. [See Code of Ordinances 94.03]. Problems may arise since the lower area belongs to a separate owner who would not want to risk damage to their property but still want valuable space. While cordoning the area might prevent immediate life safety issues, building officials must act to protect the public when the deterioration meets the level of health and safety violations, most likely resulting in demolition [Becker 1]. This would be the worst of the three options from a preservation point of view, as it erases Dublin's limestone masonry's past and removes all aspects of its historic integrity [see Preservation Designs' May 2021 Memo]. A No Action alternative would basically lead to demolition by neglect and the loss of an important cultural resource.

### **Option 2: Replace the stone wall with a modern structure.**

Other divisions in the City of Dublin expressed they only feel confidence in using modern materials and methodologies. The planning department conveyed this would mean replacing the existing wall with a modern, reinforced concrete wall with a veneer of dry stone in front, ideally using remnants of the old wall. From a historic preservation perspective, this destroys the wall's historic integrity of design, setting, materials, workmanship, feeling, and association. The wall would no longer have its original design and setting of dry laid stone, its original material with its workmanship, its feeling regarding its aesthetic character, and its association with the Wing family as well as tying back the limestone masons who literally built Dublin in the 19<sup>th</sup> and early 20<sup>th</sup> Centuries.

And if the wall is to be torn down, does it really require replacement in a similar design and location? The proposed development presented in early 2021 showed deference for the wall, but only because it recognized the historic district provisions would require it to remain. Instead, a new retaining wall is no longer restricted to the stone wall's original location, and it might not be required with a revised design.. Preservation Designs investigated the possibility of a modern concrete wall faced in dry stone, but any stone wall facing of that height should tie into the concrete wall with ties and mortar. A new concrete wall could be faced in stone that would be sympathetic to the historic district, but it should NOT be a replica of the original and create a false sense of history. The end result is similar to Option 1's as any false stone wall would be an imposter of the original, and again Dublin loses an important cultural resource.





Figure 2. Photograph of a concrete retaining wall with dry stone facing, taken at the northwest corner of N Blacksmith Lane’s intersection with E Bridge Street, looking west. This retaining wall best represents the outcome if Option 2 were chosen; having a single wythe of dry stone loosely stacked against the concrete would need better detailing (including structural ties) to prevent failure and physical loss (Google Maps Street View, August 2022, downloaded February 25, 2023).

### Option 3: Repair and Preserve the wall.

From a strict preservation point of view, the wall should be repaired to keep as much of its historic integrity as possible. Per the May 2021 Memo by Preservation Designs, this wall retains all seven aspects of integrity: location, design, setting, material, workmanship, feeling, and association. The wall must keep its current location and setting, meaning it cannot be moved and it needs to retain its connection to surrounding elements, such as the stone privy. It also needs to keep its design, the combination of its overall form, plan, structure, and style. The wall cannot be shortened, nor can it be grouted solid as it needs to keep functioning as a dry-stone retaining wall. Similarly, its material would need to remain unchanged, meaning it stays as individual limestone blocks or slabs. Where some pieces have been damaged beyond repair, such as where plant roots break stones into unusable pieces, the stone would need to be replaced in kind with locally quarried limestone of similar size, shape, and texture to match. As much of the original wall as possible should remain to better provide that link back to its original construction.

Keeping the original workmanship may be more problematic as some areas have decayed or have been substantially altered, such as the addition of the sewer line. Ideally, the sewer line would be removed, and the area repaired with dry stone masonry. In order to preserve the whole wall, masons with drystone expertise must create their own workmanship where repair is necessary. Each stone mason’s work is little bit like a signature; using certain sized blocks and the general shaping and fitting can vary from person to person. Photographic documentation taken prior, during, and when finished can also help future generations to distinguish circa 1900 work from early 21<sup>st</sup> Century renovation.

The wall’s feeling comes the previously mentioned integrity aspects. The wall must keep its original method of construction, design, and material while remaining in its present location and setting. This may mean sacrificing or modifying the parking area as the wall was not designed to be a parking structure. Regarding the last aspect,

association, the wall connects to both Dublin's tradition of stone masonry and to the Wing family, the former property owners for whom Wing Hill Lane is named. Preserving the original stone construction *in situ* directly relates to the strength of its association; the more original stonework equals the stronger the connection. While the repairs will have some impact, minimizing replacement would help keep the association and feeling strong.

This option is the preferred option from a preservation point of view. We recommend that Dublin consult the Dry Stone Conservancy, a nonprofit group of masons specializing in dry stone (see Supplement, Appendix A for contact information). In addition to consultation, this group has completed multiple dry stone retaining walls, including those involving modern vehicular traffic; if they are unable to work on this wall, they would have contact information for other experienced dry-stone masons. We highly recommend that Dublin tries to work with the owner to implement these strategies, but we understand that may prove impossible.

The Long Term Strategies, below, as well as those in the attached Supplement, list ideas and research to better shape what and how Dublin can approach preserving this resource. All options would need various amounts of will, planning, effort, and cost. While we hope this wall can continue to remind Dublin of its limestone masonry past, we understand that demolition is still possible; in this case, we recommend documenting the wall prior to its destruction so future generations would have record of this unique structure and its associated history.

#### RECOMMENDATIONS for the LONG TERM (STRATEGIES)

- Consider establishing a special preservation marker or landmark category.
  - Establish information and historic marker system regarding Dublin's past as a limestone quarry and dry-stone masonry "Mecca"
  - This would have to be accomplished gradually and should not interfere with 40 N High's immediate future, but the property could join it later. Initially the Domino's Pizza/Old Shell Station and the stone privy on lot 38 N High should be a part of it.
- Update the Code of Ordinances with tighter language (see Supplement) but also with language specifically for Demolition-by-Neglect.
  - Include enforcement provisions to "ensure that a commission's authority is binding. The ordinance should describe the consequences of failure to follow the law. The ordinance may establish specific penalties for violation or provide for civil remedies."
  - Ensure the local preservation ordinance requires affirmative maintenance and ensure the ARB has "adequate remedies and enforcement authority" (National Trust for Historic Preservation).
  - Review Ohio's enabling legislation to "determine the specific legal authority for affirmative maintenance provisions" (National Trust for Historic Preservation).
  - Make sure the ordinances apply not just to a building but also to the land, and any-and-all structures.
  - Additional information (and References for the Above):
    - <https://www.ohiohistory.org/preserving-ohio/certified-local-governments/local-historic-preservation-ordinances/>
    - <https://forum.savingplaces.org/learn/fundamentals/preservation-law/local-laws>
- Create Incentive Programs and Other Forms of Assistance (National Trust for Historic Preservation)
  - This includes creating local tax incentives, low-cost loans, and grants to help fund necessary maintenance.
  - Consider engaging local preservation groups who would be willing to volunteer their services regarding repair.
- Database or list of qualified designers (historical architects and engineers)
  - Owners have hired architects and designers, some of whom seem not familiar with Dublin's Historic Design standards. This would help address the issue.
  - This would be voluntary option, but perhaps it could be referenced where some projects refuse to follow or adhere the local district guidelines and ARB or Planning's recommendations.

- Database or list of qualified craftsmen or contractors – subdivided by historic skill set such as dry-stone masonry or Masonry Repointing with pre-1900 mortar
  - Reason: this will go a long way to relieving some of the difficulties mentioned in locating suitable contractors.
  - Part of this is being addressed with additions to the Alternate Material’s report. Some of these folks can be found exhibiting at historic preservation conferences.
  - Attending preservation conferences and preservation trade expos is a great way to find and meet designers and engineers who otherwise might remain hidden. Several events are currently planned:
    - Traditional Building Conference in Lake Forest, Illinois, May 10-11, 2023.
    - Preservation Trades Network: Events posted on website: <https://ptn.org>
  - Try making it voluntary for use, but mandatory if insufficient expertise is determined. How to do that would need to be fully defined and made publicly available, perhaps adding a task for the ARB to appraise if a proposed alteration, new build, or demolition demonstrate insufficient understanding of historic design.
  - The National Park Service has a Historic Preservation Training Center. It utilizes preservation projects as the main vehicle for teaching preservation philosophy and building crafts, technology, and project management skills. See <https://www.nps.gov/orgs/1098/index.htm>
  - The Columbus Landmarks Foundation has a Building Arts studio at Fort Hayes Metropolitan Education Center in Columbus, Ohio. The program brings hands on preservation education and training to the curriculum, preparing students for careers in the high-demand historic building trades. See <https://columbuslandmarks.org/building-arts-studio-at-ft-hayes/>



## **PHOTOGRAPHS**

All photos below are by Preservation Designs, unless noted otherwise.



**1) Southeast corner of wall, looking west (May 2021).**



**2) Southeast corner of wall, looking west (February 2023).**

While taken almost two years apart, there is little difference between the two, except the runoff from the base of the bulge appears to have progressed on 38 N High's gravel area. The bulge on the south wall may have increased, but since the photo angle is not exact, this may be a visual illusion. Similarly, the bottom portion of stone at the southeast corner just as the thrust east at the corner may have increased slightly.



**3) North end of wall, facing West (May 2021).**



**4) North end of wall, facing West (February 2023).**

Both photos show the short jog on the wall's north end, and how it runs into the new COhatch building. The COhatch contractor appears to have constructed a partial wing wall of concrete, facing it with local stone and mortar to intersect the older wall. The approximately 3-foot-wide stone leg's condition cannot be easily understood partly due to the moss growing between stones. This entire section feels damp, and excess construction material should be removed.





5) East wall detail, looking southwest (February 2023).



6) East wall detail, looking west (February 2023).



7) East wall detail, looking northwest (February 2023).



8) East wall detail, looking north-northwest (February 2023).

The four images above are meant to show the overall appearance of the wall's east elevation not blocked by the tree or debris. Photos 5 and 6 show a large area of mortared infill on the bottom half of the wall. The large block stones on the top of the wall visible in most of these photos appear to be missing from the south elevation. It is believed the large stones sitting on 38 North High behind the building might correspond to the missing top row of stones from the wall's south elevation.



## **REFERENCES**

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City of Dublin, Ohio. *Code of Ordinances, 2022 S-52 Supplement*, Local legislation current through 6-30-22, and State legislation current through 4-6-22. Reviewed online during February 2023 at [https://codelibrary.amlegal.com/codes/dublin/latest/dublin\\_oh/0-0-0-79702](https://codelibrary.amlegal.com/codes/dublin/latest/dublin_oh/0-0-0-79702)

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State of Ohio. "Section 713.02: Planning commission – powers and duties." *Ohio Revised Code*, Effective Date November 4, 1965. Downloaded February 26, 2023 from <https://codes.ohio.gov/ohio-revised-code/section-713.02>