

Nichols Design Associates, Inc.

Project: Mt. Pleasant Library Study

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1) Introduction

On March 3, 2010, Nichols Design Associates (NDA) was officially hired by Advisory Neighborhood Commission 1C, located in Ward One of Washington D.C., to evaluate the renovation and expansion plans proposed by the DC Public Library (DCPL) for the historic Mount Pleasant Library.

The contract with ANC-1C specifically requested NDA to examine the efficacy of the proposed accessibility ramp and to examine fire/emergency safety aspects of the plans and how the proposed expansion may affect emergency access to the rear of the library and surrounding properties.

Given only about one month to complete this study, NDA used our experience with accessibility design and analysis of building code to help present important technical findings to ANC Commissioners so they can make informed decisions regarding the Mount Pleasant Library project as proposed by DCPL.

2) Evaluation Objectives and Process

NDA wanted to make sure we addressed the ANC-1C's two major points of concern:

- i) How does the current design for the Mt. Pleasant library meet the community's desire for a welcoming, dignified ground level universal entrance that appeals to the historic nature of the building?
- ii) Analyze the proposed library design with D.C. Code regarding fire and emergency safety guidelines.

To evaluate these two points, NDA used industry standards to determine compliance using binding code documentation as listed in the appendices of this report.

Comparing DCPL's proposed construction plans to the appropriate code documentation has helped NDA declare clear findings and allowed us to suggest potential solutions to discovered problems.

3) Major Findings

- i) **The proposed accessibility ramp *is not* ADA/ADAAG compliant.**

The ADA Standards for Accessible Design ("Standards") apply to public entities such as the library system [see : 28 C.F.R. Part 35.151(c)] given by Federal code authority (5 U.S.C. 301; 28 U.S.C. 509, 510; 42 U.S.C. 12186(b)).

According to Title II (State & Local Publics) and Title III (Public Accommodations) of ADA and ADAAG regulations and 28 CFR Part 36, ADA Standards for Accessible Design, DCPL's proposed accessibility ramp that travels along the northwest side of this historic building fails compliance.

The following components of the ramp are in question:

- *Ramp Slope and Rise* (ADA 4.3.7 Slope; 4.8.1, 4.8.2 Slope and Rise; ADAAG 405.2 Slope; ADAAG 405.6 Rise)
DCPL's proposed accessibility ramp has three ramp runs (see Exhibit 2). According to DCPL's construction documents, "Run2" has a rise measured at 3 feet or 36 inches in elevation. This fails ADA Standards ADA 4.8.2 Slope and Rise, "The maximum rise for any run shall be 30 inches." This same running slope has a ratio of 1:10 which does not comply with the ADA Standard 1:12 maximum slope ratio. Using approximate measurements, it also seems the running slope of "Run3" is right at that 1:12 benchmark. Since this ratio result is so close to the compliance maximum, if our measurement approximations are off even slightly, the slope ratio for "Run3" may also indeed fail ADA Standards.

DCPL has chosen to push the slope ratio of this proposed rampruns beyond the compliance limit. This contrasts with ADA Standards 4.8.2 Slope and Rise, which says "The least possible slope shall be used for any ramp." In addition, according to ADAAG Advisory 405.2 Slope,

“To accommodate the widest range of users, provide ramps with the least possible running slope and, wherever possible, accompany ramps with stairs for use by those individuals for whom distance presents a greater barrier than steps, e.g., people with heart disease or limited stamina.”

- *Ramp Cross-Slope* (ADA 4.8.6 Cross Slope and Surfaces; ADAAG 405.3 Cross Slope)
DCPL's proposed accessibility ramp has three ramp runs (see Exhibit 2). According to ADA Standards, the cross-slope is the slope that is perpendicular to the direction of travel and it “shall be no greater than 1:50” or a 2% rise in elevation. DCPL's cross-slope for most of the ramp seems to fall under 1%, until you reach the top of the ramp. Based on approximate measurements shown on DCPL's Construction Documents (Architectural Plan A1.02 and Grading Plan L.201 – See Exhibit 2), the far end of “Run3” ramps up approximately 4 inches to meet the new rear door landing. The documentation does not portray the cross-slope very clearly here, but approximate calculations show a 1:38 cross-slope ratio or 2.7% cross-slope rise, which would indeed fail the ADA Standards for Cross-Slope maximum rise of 1:50 or 2%.
- *Ramp Curvature and Accessible Routes* (ADA 4.1.7 Accessible Buildings: Historic Preservation; ADA 4.1.7(3) Historic Preservation: Minimum Requirements; ADA 4.1.7(3)(a) Accessible Route; ADAAG Advisory 405.7 Landings; (ADA 4.8.6 Cross Slope and Surfaces; ADAAG 405.3 Cross Slope)
After “Run1” and the first landing on DCPL's proposed ramp (see Exhibit 2), the ramp begins to curve up “Run2” through the second landing and continue curving up “Run3” to the top of the ramp where it curves onto the new rear entry landing. According to ADAAG Advisory 405.7, “Circular or curved ramps continually change direction. Curvilinear ramps with small radii also can create compound cross slopes and cannot, by their nature, meet the requirements for accessible routes.”

NDA believes compound cross-slopes plague more than half of DCPL's lengthy accessibility ramp and thus cannot be considered an accessible route. Thus, this ramp fails ADA Standards which dictate that alterations to historic buildings must provide, “At least one accessible route complying with ADA 4.3 from a site access point to an accessible entrance.”

- *Ramp Landings* (ADA 4.8.4 Landings; ADAAG 405.7 Landings)
DCPL's construction documents show three landings on the proposed ramp, all of which are uneven by as much as .5 inches. According to ADA Standards, “Ramps shall have *level* landings at bottom and top of each ramp and each ramp run,” and ADAAG Advisory 405.7 says, “Ramps that do not have level landings at changes in direction can create a compound slope that will not meet the requirements of this document.” NDA believes the ramp landings fail compliance.
- *Reduction in Access* (ADA Standards 4.1.6(1)(a) Accessible Buildings: Alterations; ADAAG F202.3.1 Existing Buildings and Facilities)
DCPL's proposed accessibility ramp is more 100 feet long from the start of the ramp to the proposed new rear entry and rises up more than 7 feet high. In comparison, the current accessibility ramp at the front of the library building is approximately 40 feet long and eases users down a less than 3 foot decline into the lower-level. NDA believes the current ramp is

mostly ADA compliant as there are only a few minor fixes required to make it fully compliant. In juxtaposition, DCPL's proposed accessibility ramp has several major compliance issues and makes it harder for residents with disabilities to enter the building. According to ADA Standards and the ADAAG, "An alteration that decreases or has the effect of decreasing the accessibility of a building or facility below the requirements for new construction at the time of the alteration is prohibited."

- *Unequal Treatment & Discrimination* (ADA Subpart A, Sec.36.101 Purpose; ADA Subpart A, Sec.36.201(a) Prohibition of Discrimination; Subpart A, Sec.36.202 (a) Denial of participation; Subpart A, Sec.36.202 (b) Participation in unequal benefit; Subpart A, Sec.36.202(c) Separate benefit; Subpart A, Sec.36.203(a) Integrated settings; Subpart A, Sec.36.301(a) Eligibility criteria)

NDA believes that ADA Standards were created to prevent construction projects and building alterations that include elements like DCPL's proposed accessibility ramp. The length and height of this ramp will indeed prevent many residents with disabilities, who don't necessarily use motorized wheelchairs, from accessing the newly renovated library. In addition, DCPL seems to want to take DC residents back to an earlier American culture, where a separate and unequal philosophy prevailed. Their ramp does this by compelling users to traverse an unnecessarily long ramp so they can enter the building through a rear library entrance.

Universal designers will be appalled if this project is built -- the lack of integration symptomatic with the proposed ramp does not empower anywhere near a similar library entry experience that able-bodied library patrons have ascending the grand staircase at the front of the building. This ramp fails compliance as the ADA Standards indicate, "No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any private entity who owns, leases (or leases to), or operates a place of public accommodation."

- ii) **The proposed renovation and expansion plans have *serious deficiencies* regarding fire safety issues and emergency egress from within the library building and property. Plus the proposed expansion *will interfere* with emergency access to the rear of the library threatening the safety of both the library and surrounding properties.**

Fire Safety Compliance Issues – Deficiencies Within the Library

Upon examination of DCPL's proposed construction plans using a compliance framework of the ADAAG checklist and ADA Standards for Accessible Design, NDA has discovered that many requirements for fire/safety within the library property are non-compliant.

According to DCPL's construction documents, "Sheet #G0.02-Egress Plans/Code Summary," the following internal non-compliant components have been identified:

- *Accessible Approach Entrance* (ADAAG: 4.3, 4.4, 4.5, 4.7)
There is no no slip-resistant surfaces noted on the route of travel.

- *Egress:* (ADA: 4.3.10)
Neither DCPL's Construction Documents nor Specifications Documents have created a provision for any accessible space or element that shall also serve as a means of egress for emergencies or connect to an accessible area of rescue assistance.
- *Stairs:* (ADA: 4.9)
Neither DCPL's Construction Documents nor Specifications Documents have created provision of an area of rescue, i.e., the traumatic control button shall be displayed at top of every first step of stairway where the firefighter can rescue a wheelchair user.
- *Two-Way Communication:* (ADA: 4.3.11.4; ADAAG: 4.2,4,10,4.11)
Both visible and audible signals are not provided between each area of rescue assistance and primary entry on every level.
- *Identification:* (ADA:4.3.11.5; ADAAG: 4.30)
There is no signage required to areas of rescue; There is no use of international symbols of accessibility in each area of rescue assistance.
- *Emergency Communications:* (ADA: 4.3.11.4, 4.10.14)
No emergency two-way communication systems are depicted in the plans to be located between the elevator and point outside the hoist way as required in the area of rescue.
- *Alarms:* (ADA: 4.28.2, 4.28.3)
No audible and visual alarms are depicted in the plans as required.

Additional Fire Safety Issues – External to Library Property

NDA believes DCPL's proposed expansion will interfere with fire/emergency access to the rear of the library and surrounding properties.

DCPL's choice to squeeze the size and lateral massing of their proposed expansion into a tiny lot currently behind the library seems to break the scope and intent of DC's Construction Code (DC Construction Code: DCMR 12A; Building Code, Section 101; 101.4.6.3 Scope; 101.4.6.4 Intent) and does not comply with International Fire Code (IFC; 2006 edition; 503.1.1 Building and facilities).

The construction plans show a three story massing wedged into the back of this historic library building – an expansion that extends all the way to the library property line. The property line is approximately eighteen feet from the back walls of the surrounding apartments, thus increasing the likelihood that a fire could jump from the apartments to the library and vice-versa.

It can be argued that the buildings around the library now may be as likely to project fire at the newly renovated library as did the fire coming from the Deauville Apartments in

March 2008. Only two buildings away, the library sustained enough smoke damage to close for cleaning, and the Church behind the Deauville Apartments perished (see Exhibit 4).

In addition, the size and shape of the expansion seals off an emergency access point to the rear of the library from Lamont Street. This access point is only one of the two emergency access points around the library-- it's the wider, more navigable route, best suited for a DC Fire Department fire truck with an aerial ladder and hose that could help protect the back of the new library and the many apartment buildings which line the Mount Pleasant Street/16th Street residential corridor.

Many of these apartments adjacent and behind the library are more than three stories tall requiring truck ladders to save those in an emergency and to conduct raised hose operations (IFC; 2006 edition; Appendix D; Section D105; D105.1 Aerial Fire Apparatus Access Roads).

4) Recommended Solutions/Alternatives

When weighing out solutions to design problems, NDA uses a typical hierarchy of priorities consisting of safety, accessibility and choice, as follows:

- Priority #1: Safety. Providing environments that are safe for all users into the public space through the front library main entrance.
- Priority #2: Accessibility. Providing accessible environments limited only to the degree that they do not compromise safety in the library property.
- Priority #3: Choice. Whenever possible, providing universal design environments that offer choices in how spaces or elements are used.

Establishing these priorities helps make it possible to implement solutions that can satisfy the needs of the greatest number of people, including those with disabilities -- wheelchair users, the young in strollers, elderly citizens, and disabled veterans.

iii) *The proposed ramp, what to do?*

The Mt. Pleasant Library has been designated “historic” by the D.C. Historic Preservation Review Board and was listed in D.C.'s Inventory of Historic Sites effective October 26, 1987. Any public building under going alterations which has been designated historic is given some leeway with regard to meeting ADA Standards (see AD A Sec.36.405 Alterations: Historic preservation), where “Alterations to buildings or facilities that are eligible for listing in the National Register of Historic Places under the National Historic Preservation Act (16 U.S.C. 470 et seq.), or are designated as historic under State or local law, *shall comply to the maximum extent feasible* with section 4.1.7 of appendix A to this part.”

NDA believes that DCPL has not attempted to find a accessibility ramp configuration that

maximizes compliance with the ADA Standards as shown in **Section 3, Major Findings** of this report. DCPL's proposed ramp, designed by CORE Architects, simply is not safe and not welcoming and serves as a form of discrimination to a segment of library users who would be compelled to enter the rear of the library building. The ramp is placed with too great of a distance between the main grand stair entrance and the new rear entry of this historic building, plus is too long and steep to be given the benefit of doubt according to ADA Standards Sec 36.405.

Accessibility specialists, Universal Designers, disabled advocates and lawyers, recognize the importance of building a ramp adjacent to the main entrance, where everyone can see it. They understand the need of people with disabilities from the community and rest of the Washington, DC area to experience equality in one of the most important educational library buildings of the city, the Mt. Pleasant Library. NDA believes the library can become a cultural symbol that expresses how the community of Washington, DC values democracy and addresses the elimination of stigma.

With this, we recommend that the accessibility ramp be located at the front of the building. By doing so, DCPL can ameliorate key ADA compliance issues that DCPL's ramp proposes, such as the discriminatory segregation to the rear of the building and making access to the building physically harder.

NDA has produced four potential ramp alternatives with access at the front of the library building.

According to ADA 4.3.2(1) Location, "At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking, and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance they serve. The accessible route shall, to the maximum extent feasible, coincide with the route for the general public."

Thus, for any of these alternatives to be fully compliant, design arrangements have to be created that allow for existing accessible parking on the street and/or a new accessible parking area, along the current library driveway, direct and easy access to the accessibility ramp.

Accessible Ramp Alternatives:

- *Sketch #1: Universal Entry*
The proposal design consists of locating a new three-way ramp outside the front library to right side of the stairs. The rough stone paver on the ramp is linked to a new sandstone wall with stainless steel hand rail on both two sides each way. This will equalize entry for all library users at the top of the grand staircase.
- *Sketch #2: Upgrade the Current Accessibility Ramp*
The current accessibility ramp at the front of the library leads users through a secondary entrance at the lower-level, where an existing elevator is located next to the vestibule area. This ramp complies with key ADA Standards and ADAAG, but there would need

to be minor technical refinements (Handrails set to the same height; Handrail grip less wide; Door partition reduced to only 1/4" high) to make it fully compliant. It also can be upgraded in terms of approach style and architectural elements which could make it much more welcoming. For example, NDA suggests shortening the ramp to 30 feet long making the trip into the library even faster.

This option allows users to still enter the front of the building in a safe and welcoming way, just next to the grand stairs where able-bodied library patrons and residents with disabilities can see each other and thus helps address Universal Guidelines with regard to experience integration.

- *Sketch #3: Upgrade the Current Accessibility Ramp + Porch Lift*
Upgrade the current accessibility ramp and add the porch lift to provide Universal Access to the main door at the top of the grand stairs. This provides the best of both options and still allows mothers easy stroller access into the lower-level.
- *Sketch #4: Universal Entry + Porch Lift*
In addition to the new three-way ramp on the accessible route, a porch lift may be installed to help library users with disabilities the haste they may need to access the library due to inclement weather. The lift would also take users to the top of the grand stairs.

The idea of adapting an important historical library for accessibility should demonstrate a symbolic shift – one that seeks to combine the emphasis of preserving building elements and environments as they were originally built with the concept of Universal Design and modern accessibility standards.

Inclusive design proposals must provide appropriate settings for meaningful activities. Discrete architectural solutions for inclusive design reduces a negative impact on the general public understanding of accessibility and on the acceptance of innovative technology that truly benefits everyone in the community.

iv) *The proposed expansion, what to do?*

The proposed expansion, does not make the library any more safe. Rather, it increases the chance that a devastating disaster may once again strike this neighborhood.

Mount Pleasant is known to the DC Fire Department as a “trouble spot” -- a location where its harder to fight fires due to density and lesser water availability (see Exhibit 4). Given the history of this neighborhood, it would make sense to limit the size of the expansion, or eliminate it completely, in order to allow for greater emergency access to behind the library and along this highly-compacted residential corridor.

Upon investigation, NDA discovered that DCPL had also considered other expansion designs. NDA believes these past designs could lend to better expansion compromise.

For example, Scheme “G” was created with the assistance of Ward One City Councilmember Jim Graham in May 2009. Back in the Winter of 2008, DCPL was offering plans that had the bulk of their desired expansion situated at the northwest side of the building as a large glass cube. The remaining expansion extends out from the lower level into the library lot at the rear of the building. Adding a green roof to this lower level expansion planned to serve as an aesthetic view from the sunroom, which stays in these plans.

NDA recommends an amalgamation of these earlier attempts to find a potential compromise – a compromise where ultimately the expansion is a bit more realistic in scope, matching the size of the small lot which sits behind the library and thus providing more emergency access to the Mount Pleasant residential corridor (see Exhibit 5).

For example, the historic sunroom can be saved by building an outdoor reading room around the sunroom using weather-stable glass, as an atrium, that follows the contour of a basement-level expansion.

If DCPL absolutely must have a large expansion, NDA recommends they dig down deeper creating more lower-levels, instead of working up and out, to prevent blocking a potential emergency access lane.

See Exhibit 5a & 5b to understand the library design options that were available earlier in the process and also to examine real-world examples of atrium concepts and expanding historic buildings by unpinning those original structure with new lower levels.

NDA's recommendations allow:

- * the library building to be creatively and more realistically expanded to provide more space for DCPL's library-service program, and
- * the library to be renovated without demolition of major components of the original historic building like the sunroom by underground construction below the 1st floor level,
- * DCPL to truly be good stewards in the Mount Pleasant community by looking to safely expand Ward One library services by simultaneously expanding emergency access to library neighbors.

5) Conclusion

Nichols Design Associates appreciates the chance to help analyze a DC Public Library project which affects tens of thousands of DC residents and will for many generations. Our goal was to ensure ANC-1C had our expert technical analysis of DCPL's proposed construction plans to make informed decisions regarding this important project as the process moves forward.

We believe DCPL's proposed plans, if built, will result in a serious mistake. We are highly skeptical that DC's Department of Consumer and Regulatory Affairs (DCRA) will grant construction permits for this project as currently specified. We also believe the City Council will not pay for a project that could spark lawsuits from the disability-advocacy community which in turn may skyrocket the project costs doing the City a disservice during tough economic times.

NDA believes that DCPL can successfully meet all Code compliance concerns with a design that desires to expand Ward One library services by simply considering other design alternatives, such as those suggested in this report, and then conducting financial, environmental, and neighboring impact studies for each alternative scenario.

This project could move rather quickly to completion by using creative design and public consultation about potential expansion and ramp design options, with the result that DCPL can build a slightly larger, more welcoming, and safer library to the fanfare of Ward One residents and the whole City.

[end]